WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

Department of Ecology 1997-99 Overview

Department of Ecology
300 Desmond Drive
Lacey, Washington
(360) 407-6000

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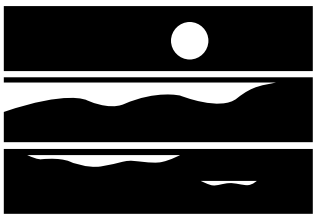

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300 Desmond Drive
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Department of Ecology Mission

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

Goals

Prevent pollution

Clean up pollution

Support sustainable communities and natural resources

Strategic initiatives

Meet current and future water needs of people, farms, and fish

Develop a comprehensive approach to watershed management that covers water quantity, quality, and habitat

Increase efforts to solve pollution problems from small but numerous sources

Message from the Director

Thank you for your interest in the Department of Ecology. I hope this overview will help you gain a better sense of what the Department of Ecology does and a clearer understanding of how we can work with you to serve Washington's environment.

Ecology's mission statement truly sums up what every one of us in Washington must do if we are to continue enjoying the fabulous environmental qualities of the Northwest:

"To protect, preserve and enhance Washington's environment, and promote the wise management of our air, land and water for the benefit of current and future generations."

Our goals are simple — prevent pollution, clean up existing pollution, and support sustainable communities and natural resources.

Most growing pollution problems in Washington come from the combined effect of many small sources. We have a population of 5.4 million, which is likely to grow at a rate of 100,000 net new residents per year for the foreseeable future. We have thousands of wood stoves, 4.5 million cars, 35,000 farms, 336,000 businesses. All of these have a potential for producing small amounts of pollution, which add up to big environmental problems.

Most people want to do the right thing by the environment, if they know what the right thing is. Public education and technical assistance should be the first and dominant tools to gain compliance with our environmental laws and encourage prevention of pollution.

Enforcement, however, is still a critical part of the equation. People who take on the extra cost and effort of protecting the environment want to be assured that someone else won't gain a competitive advantage by ignoring it. We will take consistent and escalating enforcement measures to deal with those who intentionally disregard environmental laws.

Pollution cleanup has been a success story in Washington.

We have one of the top spill prevention and cleanup programs in the nation thanks to Ecology's recent merger with the Office of Marine Safety.

And, we have worked with industry to clean up 40% of all the existing contaminated sites in the state. Cleaning up these sites means

- ❖ industrial sites can be redeveloped, leaving rural lands undeveloped;
- ❖ returning vitality to the community;
- ❖ restoring economic gain to cities and counties.

The long-term view of the environment must include stewardship, with everyone supporting sustainable communities and natural resources. In 1997, stewardship of our state's water and the fish it supports is the most prominent of many calls to environmental action.

A major role of the Department of Ecology is to allocate water rights – to decide who gets to use our state's surface water and ground water for industry, agriculture and homes. The quality and availability of water are the biggest issue we face.

Watershed planning is the key to resolving our many water conflicts. It is a tool for preserving whole ecosystems while letting local residents play a key role in deciding the future of their communities and regions. Ecology will be a key player this year in efforts to promote watershed planning and make it the standard for environmental management statewide.

In the following pages, each program at the Department of Ecology describes how it strives to meet the agency mission and goals and respond to Washington State residents who, in poll after poll, overwhelmingly say that they want both a healthy economy and a healthy environment.

It is our hope that this publication will also be useful to you as a resource tool.

Water Quality Program

Contact: Megan White (360) 407-6405

Program Mission

To protect, preserve, and enhance Washington's surface and ground water quality, and to promote the wise management of water to benefit current and future generations.

Environmental Threat

Threats to water are varied and cumulative. Once polluted, water is extremely costly or impossible to clean up. Continued and rapid population growth in our state threatens our water and affects our ability to maintain clean water for drinking; for industries such as high-tech computer manufacturers, agriculture, and shellfish; and for recreation, fish habitat, and other uses. The Water Quality Program is taking a number of actions to help communities maintain their quality of life by protecting water quality and addressing a variety of threats that could harm our environment, human health, and economy.

In lakes that have been assessed by Ecology, the primary water quality problem is excessive nutrients which cause accelerated algae and aquatic plant growth. In estuaries and streams Ecology has assessed, the primary human-caused water quality problem is fecal coliform bacteria which comes from agricultural activities, inadequate wastewater treatment plants, and failing on-site sewage systems. The bacteria are an indicator of pollution and are pathogens that can cause serious illnesses and threaten our state's commercial and recreational shellfish industries. Elevated water temperature is the leading natural condition water quality problem in estuaries. All of these problems contribute to pollution that threatens salmon and steelhead.

Program Origin and Laws

Chapter 90.48 RCW, Water Pollution Control Act

This act, passed in 1945, created a water pollution control agency, which became a part of the Department of Ecology in 1970. In 1948, Congress passed the federal Water Pollution Control Act. Both the federal and state acts have been amended several times. The Water Quality Program has been in existence since the legislature created the Department of Ecology.

Federal Clean Water Act

Adopted by Congress in 1972, the objective of this act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Requirements include: adoption of water quality standards; water quality monitoring and assessments; development of Total Maximum Daily Loads (pollution loading limits) for waters not meeting water quality standards; certification for federally licensed or permitted projects to meet water quality standards; implementation of the National Pollutant Discharge Elimination System (NPDES) permit program; control of nonpoint sources of pollution; and financial assistance programs.

Federal Safe Drinking Water Act

Passed by Congress in 1974, this act established programs to protect underground sources of drinking water. In 1984, EPA delegated Ecology as the lead for the Underground Injection Control Program to prevent discharges to ground water.

Chapter 76.09 RCW, Forest Practices Act

Passed in 1974, this act requires Ecology to adopt rules for water quality protection in cooperation with the Forest Practices Board.

Chapter 90.70 RCW, Puget Sound Water Quality Authority

In 1985, this act created the Puget Sound Water Quality Authority to develop a comprehensive plan for the protection of Puget Sound. The Authority was replaced by the Puget Sound Water Quality Action Team in 1996. Key features of the Puget Sound Plan implemented by the Water Quality Program are nonpoint source pollution controls.

Chapter 70.146 RCW, Water Pollution Control Facilities Financing Act

In response to declining Referendum 39 funds and the need to support water quality efforts in Puget Sound and statewide, this act was passed in 1986. It created the Water Quality Account, which includes the Centennial Clean Water Fund, to provide water quality grants and loans to local government, Native American tribes, and other public bodies.

Chapter 70.105D RCW, Model Toxics Control Act

Passed by voters in 1988, this act requires all wastewater discharge permit holders to pay permit fees to cover the full cost of processing permits and administrating the program.

RCW 43.21A.650, Freshwater Aquatic Weeds Account

In 1991, the legislature created this account to combat noxious aquatic weeds in state waters. The program provides grants and technical assistance to local communities and calls for an education program.

Chapter 90.64 RCW, Dairy Waste Management Act

Passed in 1993, this act provides direction on implementation of federal wastewater discharge permits for dairies and establishes a system for Ecology and local conservation districts to resolve complaints.

Chapter 90.46 RCW, Reclaimed Water Use

This act, passed in 1995, requires Ecology to develop standards, procedures, and guidelines for direct aquifer recharge using reclaimed water. Ecology is working closely with the Department of Health to implement the act.

Stakeholders and Constituents

The Water Quality Program works with numerous local, state, and federal agencies, business groups, environmental organizations, and citizens. The watershed approach to water quality management encourages the wide participation of all interests within designated river basins to solve water quality problems and prevent pollution.

The Water Quality Program has two advisory committees: Permit Program Partnership and Financial Assistance Advisory Committee. Groups represented on the advisory committees range from environmental organizations and industries to local, state, and federal governments, and Native American tribes.

Under written agreements, Ecology works with several state agencies, including the Departments of Agriculture, Health, and Transportation, the Washington Conservation Commission, and local conservation districts on such diverse issues as aquatic weed control, shellfish and salmon protection, stormwater runoff, and dairy waste management.

Local governments

Ecology is producing some of the earliest and most tangible results of the state's regulatory reform efforts by streamlining its grant and loan programs. Among the improvements are greater flexibility to fund more projects and address local priorities, more payment options, and delegation of engineering reviews.

Performance Partnership

Ecology and EPA are embarking on a fundamentally new and improved partnership, the Performance Partnership Agreement. Within the confines of federal laws and standards, the agreement identifies mutual priorities, strategic goals, objectives, and activities that the agencies will jointly undertake each fiscal year.

Activities

Point Source Pollution Prevention and Management

This is the state's principal program for reducing risks to human health in Washington6s surface and ground water. Its mission is to regulate discharges of pollutants to surface and ground water to ensure pollution does not occur. Education, technical assistance, enforcement, and public access to wastewater and receiving water information help assure risks to health are minimized. Ecology administers wastewater discharge permits through a watershed approach and conducts about 1,000 inspections and site visits per biennium to wastewater discharge permit holders.

Between 1987 and 1991, Ecology averaged 81 individual permits per year. Between 1992 and 1996, Ecology averaged 124 individual permits per year, a 65 percent increase in permit issuance efficiency. In the same five-year period, Ecology increased the number of permitted facilities from approximately 1,000 to more than 4,000. We are currently considering issuing permits for some federal facilities that are now permitted by EPA.

Ecology provides on-site technical assistance to wastewater discharge permit holders. We also prepare pollution prevention and best management practices publications, conduct workshops and hold client-group sessions.

❖ *Technical Assistance For Small Municipalities*

Each year, staff visit approximately 50 small communities, giving them assistance to ensure clean water. The human health and environmental results of those visits are substantial.

❖ *Technical assistance to un-permitted discharges*

Ecology provides assistance to entities that have the potential to harm water quality. Activities include participating in single industry campaigns, such as a current effort focusing on boat yards and marinas.

❖ *Enforcement*

During follow-up on permit violations, the Water Quality Program works with permit holders to achieve compliance. We continue to use enforcement avenues at problem sites.

Results

❖ *Preventing Pollution from Wastewater Discharges*

Since 1991, the total number of wastewater discharge permits has increased by 72 percent, resulting in less pollution in our lakes, rivers, and marine waters. At the same time, Ecology has improved its management of wastewater permits. For example, the percentage of permits that need to be updated or reissued dropped from 55 percent in 1991 to 8 percent in 1997.

❖ *Streamlining the Way We Do Business*
Ecology is working with industries to make the wastewater discharge permitting process more efficient and effective by developing and issuing six general permits rather than numerous individual permits. By the end of June 1997, Ecology had issued general permit coverage to 3,227 businesses and municipalities.

Nonpoint Source Pollution Prevention and Management

Nonpoint pollution threatens basic ecosystem balance and poses one of the most significant health and economic threats to the people of Washington. Through partnerships, Ecology focuses its efforts on solving common nonpoint source problems which threaten salmon, shellfish, drinking water, and aesthetic values, and contribute to flooding and loss of usable land.

Our efforts to address nonpoint source threats include raising awareness, encouraging action, providing tools, and supporting local activities. Working with local decision makers using the watershed approach, Ecology assesses needs and determines level of support.

❖ *Forest practices technical assistance*
Ecology provides assistance to the Department of Natural Resources on water quality issues related to forest management, focusing on watershed analysis, shorelines, water supplies, road management planning, and participation in interdisciplinary team reviews.

❖ *Agricultural technical assistance*
Ecology implements agricultural water quality programs under the Agricultural Memorandum of Agreement among Ecology, Conservation Commission, and 47 of 48 conservation districts around the state. This process allows for referral of farmers to conservation districts for technical assistance and farm planning as an approach to improving water quality. Ecology provides enforcement to assist local conservation districts with non-cooperative farmers.

❖ *Dairy waste permitting*
Ecology conducts inspections in certain geographic areas, responds to complaints, and brings dairies that are having water quality problems under permit. A permit requires a dairy to develop and implement a farm plan to manage dairy waste using best management practices.

❖ *Enforcement*
Ecology provides followup to complaint response and permitting, working with local governments and other agencies to focus on problem sites.

❖ *Local government assistance*
Ecology provides technical and regulatory input to local planning decisions by reviewing Growth Management Act and State Environmental Policy Act documents.

❖ *Water quality assessment, monitoring, and standards*
From selected waters around the state, Ecology collects data and evaluates conditions related to nonpoint source pollution. Ecology provides data to local governments and other decision makers.

❖ *Lower Columbia River National Estuary Program*
Ecology participates in and provides staff assistance to the Lower Columbia River National Estuary Program, a joint Oregon / Washington program established to protect lower Columbia River water quality.

❖ *Federal Nonpoint Source Program (Section 319 of the Clean Water Act)*
Ecology administers the federal nonpoint source pollution prevention and control program, which provides education, technical assistance, financial assistance, and enforcement.

Results

❖ *Dairy Farmer Takes Measures To Clean Up Penn Cove*
Animal waste from a dairy farm, malfunctioning of two sewage treatment plants, and a failing on-site sewage treatment system contributed to excessive levels of bacteria in Penn Cove. This resulted in a prohibition of commercial shellfish harvesting in much of Penn Cove in the mid-1970's. Six years ago, Ecology referred the dairy operator to the Whidbey Island Conservation District. The District assisted the farmer in developing an animal waste management plan which is in place today. The operator is now properly managing the animal waste, water quality has improved, and shellfish harvesting is allowed.

❖ *Lower Columbia River National Estuary Program*
The National Estuary Program is focused on protecting and restoring the health of estuaries while supporting economic and recreational activities. The lower Columbia River is part of the National Estuary Program. Recent technical studies on the river show some contaminants are present in the water, sediments, and fish tissue at concentrations which impair beneficial uses. These uses include swimming, boating, and fishing. The National Estuary Program provides funding and technical and financial resources for development of a long-term management plan for the river.

Working Toward Sustainable Natural Resources

❖ *Watershed Approach*

The cornerstones of this approach include division of the state into 23 water quality management areas and a five-year/five-step process for systematically issuing permits, assessing water quality conditions, focusing staff effort, and developing an improved basis for decision making. Each management area represents a watershed generally consisting of several water resource inventory areas that drain to a common point. The approach is nationally recognized as an effective tool to improve water quality. Using this approach to water quality management to address point and nonpoint pollution allows Ecology to emphasize local service delivery. This approach, which started in 1993, provides an organizational guide to improve coordination of water quality activities, service delivery, protection and prevention activities, and overall improved water quality.

Each year, approximately four or five Water Quality Management Areas begin a process which includes identifying pollution problems and setting water quality priorities with local communities; collecting and analyzing data; developing a technical report of action plans to address the pollution problems; issuing or reissuing wastewater discharge permits; and working with local programs and partners to implement nonpoint pollution strategies.

❖ *Water Quality and Watershed Assessments*

Results of biennial assessments are published in two reports: a water quality assessment report (305b Report) and a report listing waters that do not meet water quality standards (303d list). The water quality assessment (305b) report is the most comprehensive assessment of Washington's waters. The report that lists waters not meeting water quality standards (303d list) is a strong regulatory tool which results in developing management plans to improve water quality. We also review and update state water quality standards through rule making.

Sustainable Communities and Natural Resources

The financial assistance function of the Water Quality Program is aimed at reducing and preventing pollution by providing state and federal grants and low-interest loans to local governments, state agencies and Native American tribes. Funds help pay for water pollution control facilities' protection of surface and ground water quality. Ecology also provides grants and low-interest loans for nonpoint source control projects, including watershed planning, stormwater management, and agricultural best management practices.

Results

Each year, Centennial Clean Water Fund grants and loans help build wastewater treatment plants that remove 61,000 tons of pollution. Since 1988, Centennial funding and technical assistance has helped communities protect water resources. For fiscal year 1998, Ecology offered 26 Centennial grants and loans to local governments and Native American tribes, totaling $38.9 million; and for 1998, Ecology is proposing to offer 53 State Revolving Fund low interest loans totaling $47.3 million.

Major Issues

Endangered Species Act

Endangered Species Act (ESA) listings of aquatic species such as salmon have numerous water quality implications. In August 1997, the National Marine Fisheries Service listed upper Columbia River steelhead as endangered (meaning the species is in imminent risk of extinction) and Snake River steelhead as threatened with extinction. By February 1998, the lower Columbia wild steelhead may be listed. By December 1998, cutthroat trout and several species of salmon, including those in Puget Sound, could make the federal protection list as well.

If Washington state develops an adequate conservation plan for listed species, it can limit federal involvement in water quality standards, Total Maximum Daily Loads (TMDLs), and nonpoint source plans. Ecology is working with the Governor's Joint Cabinet on developing plans to protect aquatic species and their habitat. The goal is to restore healthy fish populations and habitat. The Joint Cabinet's objective is to develop state strategies for healthy fish runs so that we can manage state resources without federal intervention while maintaining a healthy economy.

We are also working with federal agencies on a Habitat Conservation Plan which will meet the requirements of TMDLs and vice versa. Without action by the state, nearly all waters in Washington could have fish species listed as endangered or threatened. Endangered species listings not only pose a significant threat to our ecosystem, but also to our quality of life and economic stability. Agriculture, hydropower, and fisheries are just a few of the industries that could be affected from ESA listings.

Nonpoint Source Water Pollution

Nonpoint source pollution, the diffuse pollution that comes from many sources, is the most prominent source of pollution in our state. Sources include: fecal coliform bacteria from poorly managed dairy farms, failing septic systems, and pet waste; elevated water temperature from clearing trees and shrubs for land

development and forestry practices; and pesticides from agriculture and gardening activities.

Along with water supply and watershed management, nonpoint agricultural activities top Ecology's environmental agenda. Statewide, agriculture accounts for 33% of water pollution problems. In streams not meeting water quality standards, agriculture accounts for 57% of the problem. We will work collaboratively with the agricultural industry to encourage farmers and ranchers to help get and keep our waters clean.

The current dairy waste management program is under funded, complicated, and difficult to administer. If Washington's waters are going to be clean, we must work with the agriculture industry to embrace its tradition of conserving the land's ability to support individual farms, and encourage farmers and ranchers to take steps toward stewardship of entire watersheds. Ecology is working with state legislators, the Dairy Federation, and others to solve this problem.

Waters Not Meeting Water Quality Standards

Every two years, the federal Clean Water Act requires Ecology to identify waters that do not meet water quality standards or are not expected to meet standards within two years of installing technology-based controls. The 1996 list contained 666 waterbody segments (portions of lakes, rivers, and estuaries). The 1998 listing includes 638 water segments and is currently undergoing public review and comment.

After compiling this list, Ecology must prepare management plans or TMDLs to improve the health of the waters. The TMDL includes an analysis of how much pollution a waterbody can receive and still remain healthy for its intended uses and meet water quality standards. Through a public process, Ecology develops control actions to limit water pollution activities. We then set conditions in discharge permits and nonpoint source management plans, and develop and implement a monitoring plan to test the effectiveness of the controls.

In 1991, the Northwest Environmental Advocates and Northwest Environmental Defense Center filed a lawsuit in the Ninth Federal District Court, faulting EPA and Ecology for an inadequate 303(d) listing and TMDL program. The court dismissed Ecology from the suit because EPA has final responsibility to conduct TMDLs. In 1994, dissatisfied with progress on TMDLs, the plaintiffs amended the lawsuit. Since summer 1996, the plaintiffs, EPA, and Ecology have been in settlement negotiations. The parties have now reached agreement in principle on a revised plan. The settlement is significant for three reasons: the TMDL process is vital to improving water quality; the settlement could require significant staffing resources for Ecology; and, if a settlement is not reached, EPA would become directly involved in mandating TMDLs and water quality improvements and protections for Washington state.

Water Quality Standards

Water quality standards are intended to protect surface waters for public health and enjoyment; the propagation and protection of fish, shellfish, and wildlife; and recreation in and on the water. Ecology is currently updating its surface water quality standards to improve the balance between the need to protect the economy and aquatic resources. Assisted by advisory panels and technical workgroups, Ecology is developing two significant proposed changes to the water quality standards.

One of the proposed changes involves the antidegradation process, which is designed to ensure that the water quality of a lake, river, or marine water will not be degraded except when certain conditions are met. One of the most significant components of the state's antidegradation proposal is a 15-year phase-out of mixing zones (areas of waste dilution) for certain pollutants.

The second water quality standard Ecology is proposing to change is the way the beneficial uses of waterbodies are assigned and protected. The proposed change develops a system by which Ecology assigns protected uses to individual waterbodies in a more site specific and scientifically defensible manner. The result may be that some waterbodies receive more protective criteria, while others have the existing level of regulatory protection reduced.

Infrastructure Financing

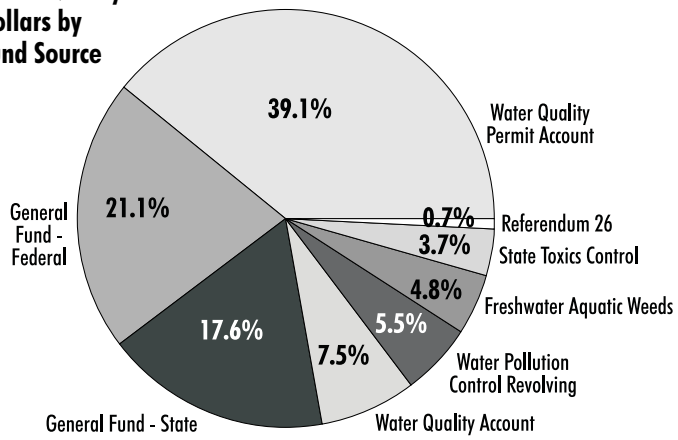
Water quality needs far exceed the funding available to protect and improve our state's waters. Population growth, accompanied by urbanization and ongoing industrial processes, have increased pressure on the infrastructure which is necessary to adequately protect human health and the environment. Demand for wastewater treatment, drinking water, stormwater management, and waste disposal is fast outstripping the capacity of existing facilities. Nonpoint pollution presents additional challenges and costs. Communities requesting funding for 1998 have asked for nearly twice the amount of money available. These funds are for water pollution management projects, such as collection sewers, sewage treatment plants, combined sewer overflows, and stormwater treatment facilities. Ecology is working with its Financial Assistance Advisory Committee and other state agencies to address these problems.

Water Quality Program Budget

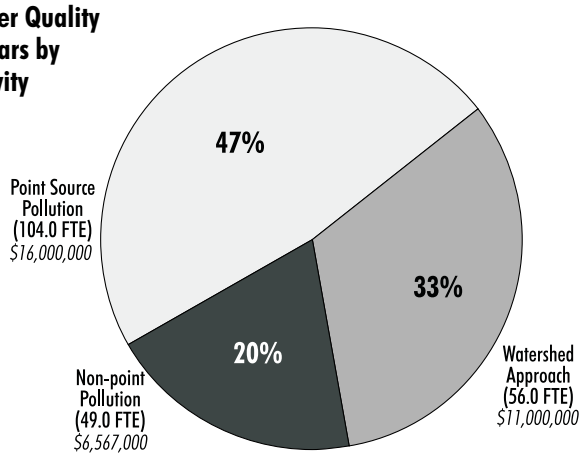
Budget: $33,566,603; Staffing: 209.0 FTEs

Fund	Amount ($)	Sources	Uses
General Fund - State	5,892,942	Multiple	Point source enforcement of permit requirements. Also, Puget Sound Plan activities for shellfish protection; nonpoint watershed management; and stormwater control. Timber, Fish and Wildlife implementation and operator certification program
General Fund - Federal	7,075,793	Federal grants	Numerous EPA grants for point and nonpoint source control; planning and implementation grants to local governments; groundwater protection; and administrative moneys for pass through funds
Referendum 26	246,359	Bond sales, loan repayments and interest payments	Grant and loan management; technical assistance to local governments for wastewater treatment facilities
Water Quality Account	2,516,860	Excise taxes on cigarettes and other tobacco products; sales tax transfer; loan repayments, interest payments; and state general fund transfer	Grant and loan management; technical assistance to local governments for wastewater treatment facilities and nonpoint projects.
State Toxics Control	1,247,438	Hazardous substance tax, recovered remedial actions and penalties collected	Cooperative effort with Oregon and EPA to enhance the health of the lower Columbia River through the National Estuary Program. The Aquatic Plant Management Program assesses human health and environmental risk associated with various aquatic pesticides. Also, work with agricultural community to reduce pesticide and other contamination
Water Quality Permit Account	13,127,223	Fees assessed on the holders of wastewater discharge permits	Issuance and management of federal and state wastewater discharge permits
Freshwater Aquatic Weeds	1,610,799	Fees on boat trailers	Grants to local governments to prevent, remove, or manage invasive freshwater aquatic weeds.
Water Pollution Control Revolving Fund	1,849,189	EPA grant and state match	Administration of a loan program for the construction or replacement of water pollution control facilities. Activities include portfolio management and technical assistance to local governments for point, nonpoint, and estuary projects
Capital Budget Funding: $297,475,143			
Referendum 26	1,256,471 *($1,045,502 reappropriation and $210,969 new appropriation)*	Sale of Bonds; loan repayments and interest payments	Grants/loans for the construction or improvement of public waste disposal facilities
Referendum 39	10,878,199 *(reappropriation)*	Sale of Bonds; loan repayment and interest payments	Grants/loans for the construction or improvement of public waste disposal facilities.
Water Quality Account	108,653,000 *($38,653,000 reappropriation and $70,000,000 new appropriation)*	Excise tax on tobacco products; loan repayments and interest payments	Grants/loan for water pollution control facilities; nonpoint source control and water quality improvement planning and implementation activities
State Revolving Loan Fund	176,687,473 *($75,228,032 reappropriation and $101,459,441 new appropriation)*	Federal; capitalization grants; loan repayments; interest repayments and state match	Loans for the construction or replacement of water pollution control facilities; nonpoint source control activities and estuary management

Water Quality Dollars by Fund Source



Water Quality Dollars by Activity



Water Quality Program Data

Figure 1: Grant Dollars Requested vs Grant Dollars Offered, Fiscal Years 1997 and 1998

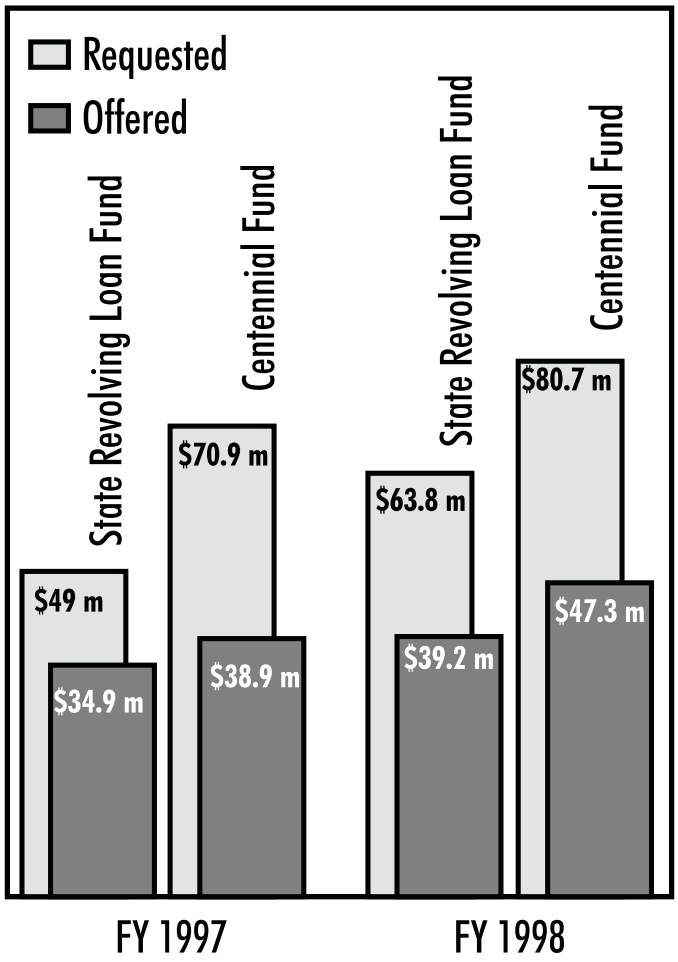


Figure 2: Wastewater Discharge Permit Backlog in Washington State, Number of Backlogged and Current Permits

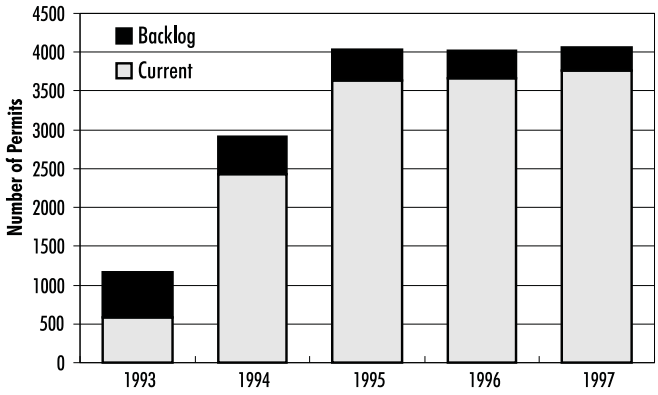


Figure 3: Possible Sources of Pollution in Estuaries Assessed

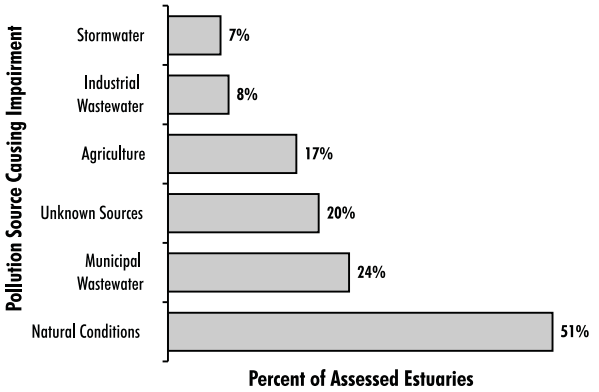


Figure 4: Possible Sources of Pollution in All Streams Assessed

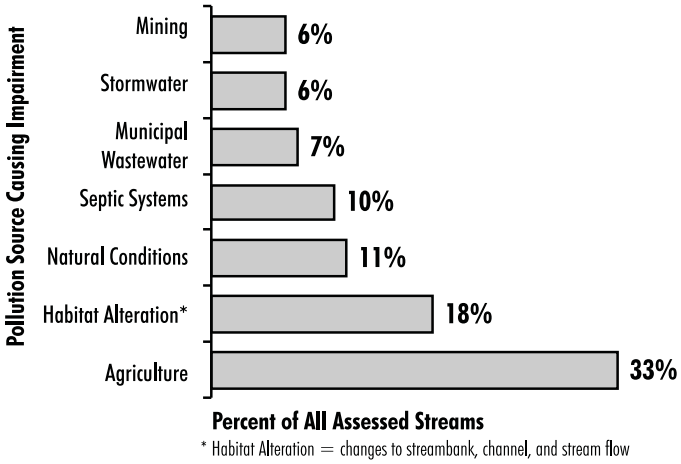


Figure 5: Pollutants Causing Impairment, All Streams Assessed

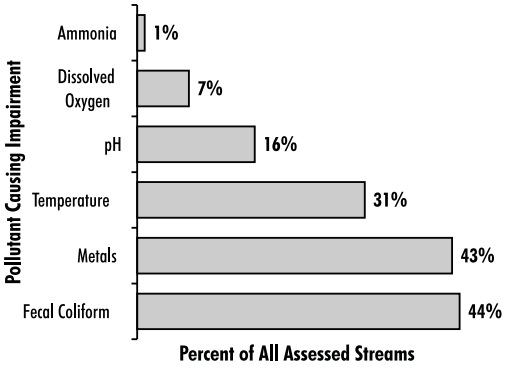


Figure 6: Pollutants Causing Impairment in Estuaries Assessed

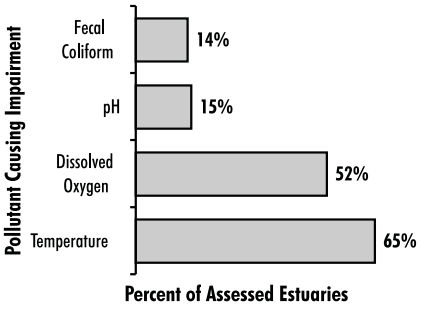


Figure 7: Possible Sources of Pollution in *Impaired Streams Only*

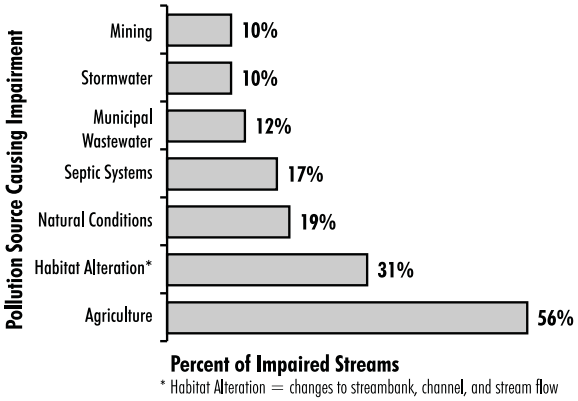
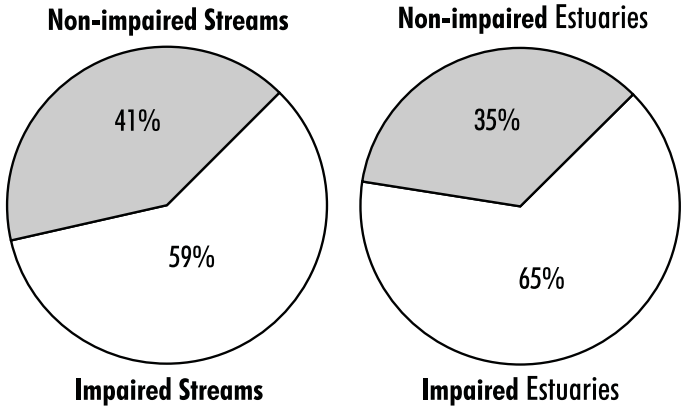


Figure 8: Streams and Estuaries Assessed



Environmental Investigations and Laboratory Services Program

Contact: Bill Backous (360) 407- 6699

Program Mission

To provide objective, reliable information about environmental conditions that can be used to measure agency effectiveness, inform public policy, and help focus the use of limited resources. The Environmental Investigations and Laboratory Services (EILS) Program is responsible for monitoring land, air and water to measure environmental status, trends, and results, assuring that citizens, businesses and local governments have access to environmental information.

Environmental Threats

Environmental threats include both point and nonpoint sources and range from conventional pollutants such as fecal coliform bacteria, nutrients, and temperature to toxic contaminants and invasive aquatic weeds. Most of our monitoring and investigation efforts focus on threats to water or sediment quality, while many of our directed studies are conducted in support of clients in other Ecology programs. The EILS program focus is on the objective assessment of existing environmental conditions. We frequently identify threats or evaluate cumulative or combined impacts stemming from the entire spectrum of environmental threats. Consequently, we provide relevant and useful information to Ecology and other resource management agencies.

Program Origin and Laws

EILS was established as a separate program in 1989. Our monitoring and analytical activities derive generally and specifically from the many Ecology mandates that include environmental monitoring (especially water quality monitoring) as an obligation or requirement of the agency. Below are a few of the more significant mandates.

Federal Clean Water Act

This act and the associated delegation of authority obligate Ecology to monitor and assess the status of state waters, identify impaired and threatened waterbodies, and complete pollutant loading assessments on impaired waterbodies.

Chapter 90.48 RCW, Water Pollution Control

This law is the statutory authority for establishing water quality standards.

Chapter 90.70 RCW, Puget Sound Ambient Monitoring Program

Ecology is responsible for implementing significant portions of the Puget Sound Ambient Monitoring Program, including freshwater, marine water, and marine sediment monitoring in the Puget Sound basin.

Chapter 70.105D RCW, Model Toxics Control Act

Chapter 43.21A RCW, Department of Ecology

This law provides for Accreditation of Laboratories submitting data to the Department. It also establishes an aquatic weeds account and requires Ecology to develop a freshwater aquatic weeds management program that incorporates technical assistance to local governments and citizen groups.

Constituents and Stakeholders

Local government

We support counties, cities, other municipal governments, public utility districts, and conservation districts through direct data sharing; consultation and interpretation of study or monitoring results (e.g., noxious aquatic weed monitoring); participation and technical assistance in watershed scoping and analysis; and through review of grant proposals, sampling designs, draft reports, and management recommendations.

State government

Significant clients or points of coordination include the Departments of Health, Fish and Wildlife, Natural Resources, and Agriculture, the Puget Sound Action Team, Conservation Commission, and Parks and Recreation Commission. Our most important internal clients are the Water Quality Program, the Toxics Cleanup Program, and the Air Quality Program.

Federal government

We coordinate and exchange information with numerous federal agencies, including EPA, Fish and Wildlife Service, National Oceanographic and Atmospheric Administration, Forest Service, Natural Resources Conservation Service, Park Service, Environment Canada, BC Ministry of Environment, and Native American tribes.

Business
We provide monitoring data to numerous private consultants and industry / business representatives. We accredit both private and public laboratories for the tests they perform. Dischargers must use accredited laboratories when reporting results to the Department of Ecology.

Environmental Organizations
We provide monitoring data to various environmental organizations and coordinate with public interest and environmental groups such as the Willapa Alliance, Chehalis River Council, and Yakima River Watershed Council.

Public
We support citizen volunteers who participate in our statewide lake assessment monitoring. We maintain long-term databases and provide data to the public upon request. Our ambient monitoring data and bibliography of current and historical reports are accessible through Ecology@146s home page on the Internet.

Major Activities

Ambient Monitoring
The ambient monitoring network assesses the current status of state waters, identifies threatened or impaired waters, and evaluates changes (trends) in water quality over time. This is accomplished through a statewide network of sampling stations in rivers, streams, marine waters (Puget Sound and coastal estuaries), lakes, and Puget Sound sediments. To maximize coverage and reduce costs, sampling stations are located in coordination with other state, local, and federal agencies. By detecting early changes in water quality, ambient monitoring allows simpler, less expensive solutions to be applied to emerging problems.

Results
In FY 1997, over 2,500 water samples were collected from 82 river and stream stations, 40 marine water stations, 100 sediment monitoring stations, and 74 lakes. We filled over 200 individual requests for data, of which about half were from businesses, local governments, educational institutions, and agencies other than Ecology. Our citizen volunteer monitoring program has engaged over 375 volunteers in cooperative sampling efforts on approximately 150 lakes since that program began in 1989. Ambient monitoring data help to identify and prioritize important watershed and regional water quality issues. It also provides foundation data for long-term measurement of environmental indicators and performance measures.

Pollutant Loading Assessments
EILS conducts pollutant loading assessments on selected rivers, lakes and marine waters. These are generally conducted on degraded waters which do not meet state water quality standards. Assessments are conducted for all or part of a watershed and typically have both a field sampling and an analytical (modeling) component. Assessments quantify loading from both point- and non-point sources and frequently include studies describing the relationship between surface water and ground water quality.

A primary product of these assessments is a calculation of the total maximum daily load (TMDL) of a pollutant that the water body can absorb without causing violations of water quality standards. These assessments estimate the reduction in loading that would be necessary to return the river, lake, or estuary to a condition of acceptable water quality. Additionally, they explore alternative scenarios for pollutant load reduction which may be implemented by Ecology and local partners.

Results
More than 30 watershed-level pollutant loading assessments have been conducted over the last 10 years, many of which have been formally approved by EPA as TMDLs under the Federal Clean Water Act. For example, we worked with local governments to set a TMDL to limit phosphorus loading and associated noxious plant growths in the Spokane River. In addition, we conducted a loading assessment which led to diversion of the Renton wastewater treatment plant discharge to Puget Sound in order to protect aquatic life in the Green-Duwamish River.

Directed Environmental Studies
These wide-ranging projects are individually designed to address known or suspected problems at individual sites or across regional areas. Directed studies span the range from conventional water quality analyses to sampling for toxic chemicals, such as dioxins in fish tissues, pesticides in groundwater, or toxic chemicals in marine sediments. Often, special techniques must be employed or developed. The objectives of these studies vary according to client needs.

Results
From 1990-1996, EILS has published 322 reports describing results from intensive, directed studies. These studies have provided specific information to clients, local and state agencies, and the public regarding: freshwater and marine sediment quality; metals contamination in fish and shellfish; the effectiveness of land treatment for industrial, municipal and agricultural wastewater; discharges of industrial and municipal wastewater to state waters; chemical contamination in fish, surface and ground water; groundwater aquifer characterization; leaking

underground storage tank contamination; stormwater quality; innovative sampling techniques; and bioassays.

Quality Assurance and Scientific Assistance

EILS provides the designated Quality Assurance (QA) Officer for all agency technical activities. The QA Section provides guidance on developing Quality Assurance Project Plans, reviews project proposals, and consults on sampling design requirements and interpretation of results.

EILS staff of scientists, modelers, statisticians, chemists, and other environmental specialists are frequently called upon by other agency personnel to assist with technical interpretations of data and to supply information for critical policy questions. A significant aspect of our work involves both formal and informal scientific review of agency and consultant reports, project proposals, and grant applications. We also provide technical and engineering analyses on request to help assure that water quality permits are based on technically sound evaluations. Analyses include evaluations of dilution zone characteristics, determination of limiting receiving water conditions, and development of water quality-based effluent discharge limitations.

Results

From July, 1996 to June, 1997, EILS provided quality assurance review and scientific assistance on more than 100 projects, most of which were environmental monitoring efforts undertaken by external parties, particularly local governments. For example, we assisted the Quileute Tribe in designing a water quality monitoring program for the Sol Duc River; we helped the Adams Conservation District develop a water quality monitoring plan for the Cow Creek basin; and we worked with the City of Arlington to evaluate mixing characteristics of their municipal wastewater treatment plant discharge.

Laboratory Support

Manchester Environmental Laboratory (MEL) is a full-service environmental chemistry laboratory operated jointly by EPA Region 10 and the Department of Ecology. The laboratory provides technical, analytical, and sampling support for analytical chemistry and microbiology for Ecology. MEL is committed to providing the highest quality environmental information to agency resource managers.

Results

In 1996, MEL completed over 27,000 analyses in support of agency sampling. The lab consistently ranks in the highest performance categories of chemistry labs across the U.S., as measured by external audit samples. To speed and improve access to data, MEL has developed a Laboratory Information Management System that enables the direct electronic transfer of laboratory results and sampling information to interested parties immediately after the completion of sampling. MEL recently developed several state-of-the-art techniques for the analysis of environmental toxicants, including methods for low-level metals detection. These more sensitive methods are being adopted nationwide by EPA and other environmental organizations.

Laboratory Accreditation

Responding to evidence that falsified analytical data were being submitted to Ecology, 1987 legislation authorized the department to establish an Environmental Laboratory Accreditation Program. Accreditation helps assure that accurate and reliable data are available for monitoring water quality and sampling soil and tissue. The program will be expanded to include participation in the emerging National Environmental Laboratory Accreditation Program.

Results

465 labs have been accredited since the program began in 1989. Program successes include discovery, documentation and correction of thousands of potentially significant analytical deficiencies and improved lab performance. To date, the Departments of Natural Resources, Fish and Wildlife, and Transportation, as well as the U.S. Army Corps of Engineers have adopted policies requiring use of Ecology accredited labs. The U.S. Navy requires its Washington State labs to be accredited, even though federal labs are exempted from requirements of the program.

Major Issues

Monitoring environmental results, status, and trends

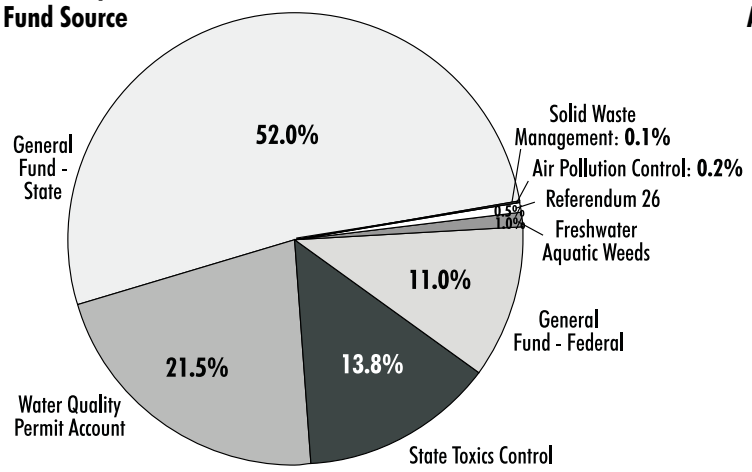
Our current monitoring programs are severely constrained due to limited resources. We presently assess only about 4% of the state's surface waters and even less ground water. As other statewide and watershed-directed monitoring programs are also limited, our ability to provide the breadth of technical support that is needed and requested is seriously challenged. Consequently, we cannot successfully monitor the state's waters, reliably assess status and trends, or properly measure performance or environmental results which have been achieved through state or local water quality management activities.

EILS Program Budget

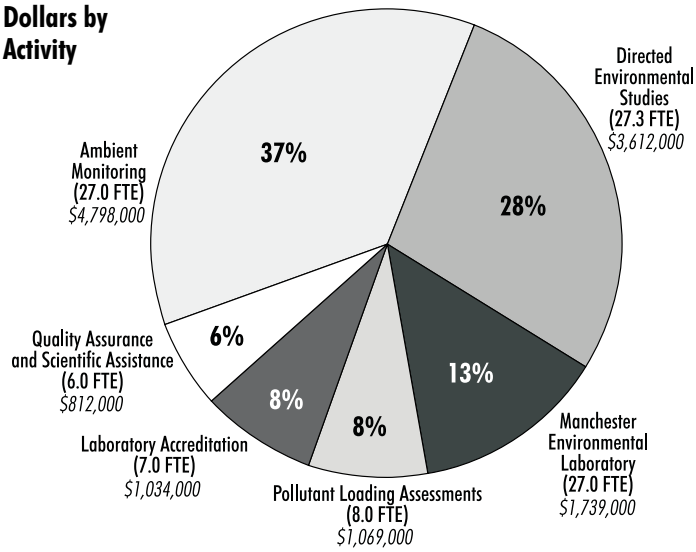
Budget: $13,064,251; Staffing: 102.3 FTEs

Fund	Amount ($)	Sources	Uses
General Fund - State	6,788,760	Multiple	Water quality monitoring; marine sediment monitoring; nonpoint source control; pollutant loading assessment; lab accreditation
General Fund - Federal	1,433,385	Federal grants	Nonpoint source control; water quality monitoring
State Toxics Control	1,797,754	Hazardous substance tax; remedial actions and penalties recovered	Groundwater investigations; surface water investigations; pollutant loading assessments
Water Quality Permit	2,804,959	Fees on wastewater discharge permits	Groundwater investigations; pollutant loading assessments; watershed studies; compliance monitoring
Referendum 26	63,039	Bond sales and loan repayments	Water quality technical assistance
Air Pollution Control	24,584	Fees collected for vehicle license; air registration fees	Laboratory staffing and analytical work
Solid Waste Management	18,860	Fund balance originally from solid waste collection tax	Laboratory staffing and analytical work
Freshwater Aquatic Weeds	132,910	Fees on boat trailers	Technical assistance; monitoring

EILS Dollars by Fund Source



EILS Dollars by Activity



EILS Program Data

Figure 9: Environmental Investigations and Laboratory Services Program

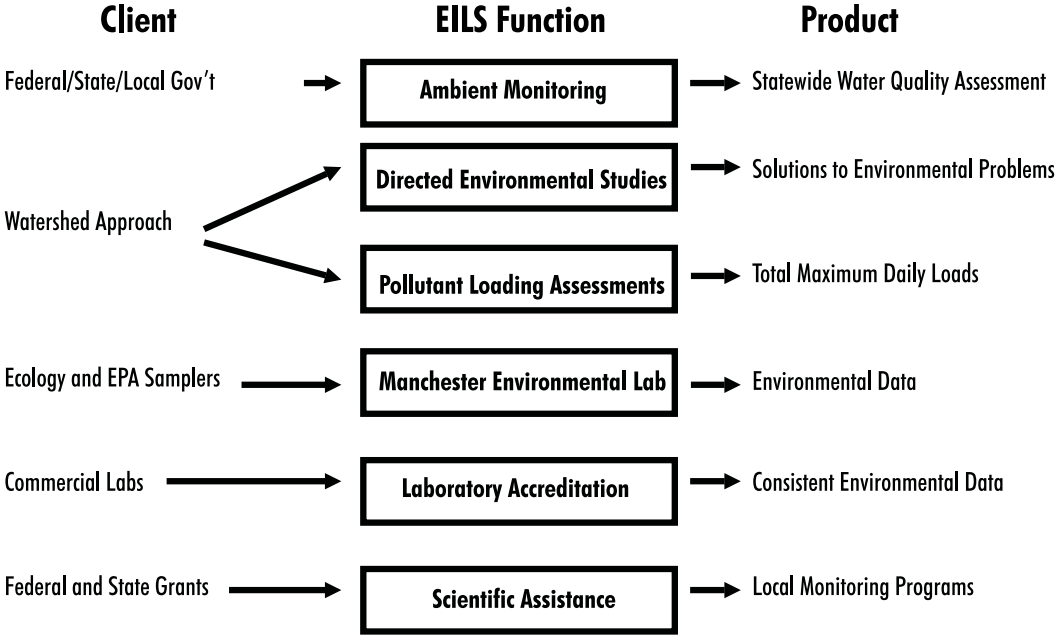


Figure 10: Bacteria Reductions After Fencing Livestock From Deep Creek, Lewis County (USFWS, Lewis CD, Ecology)

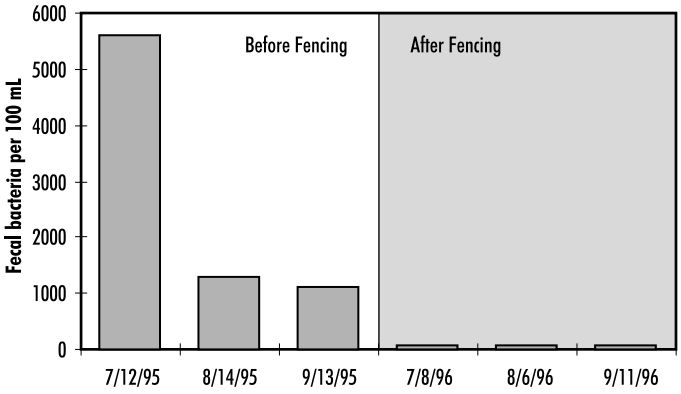


Figure 11: Performance of Accredited Labs in a National Water Pollution Study

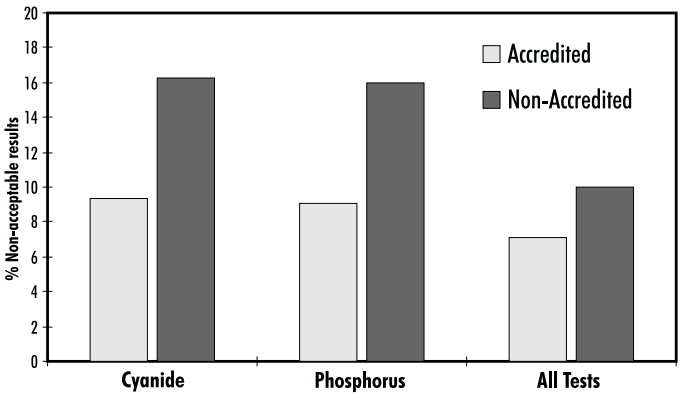


Figure 12: EPA/ERA Lab Quality Study, 1994

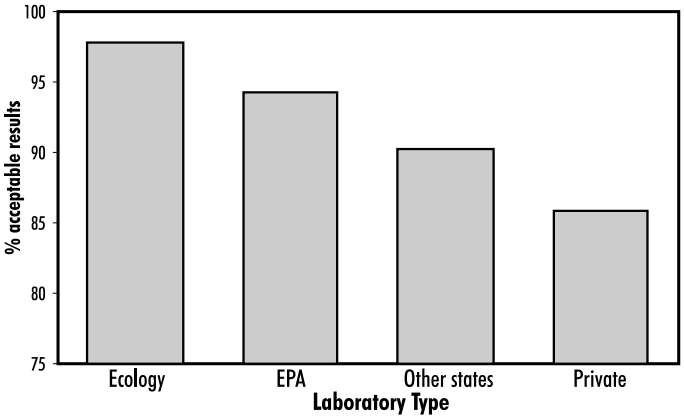


Figure 13: Marine Waters Monitoring Stations in Greater Puget Sound

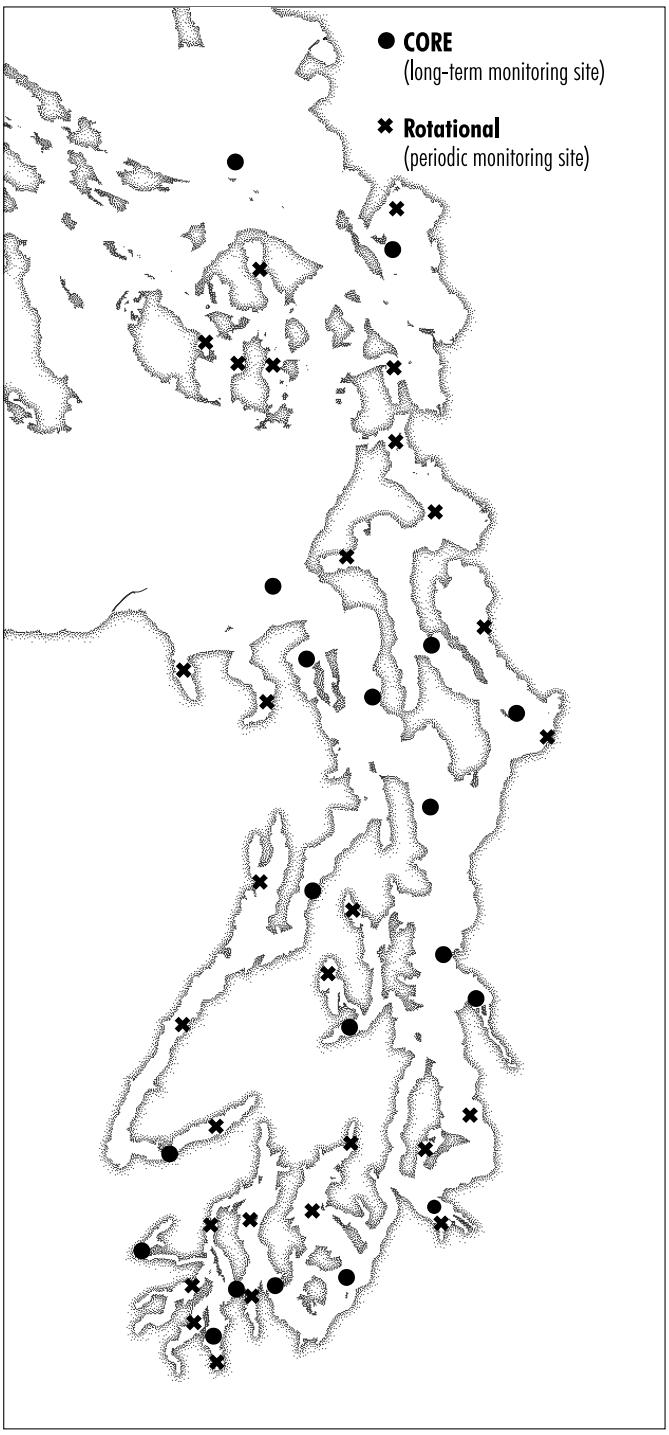
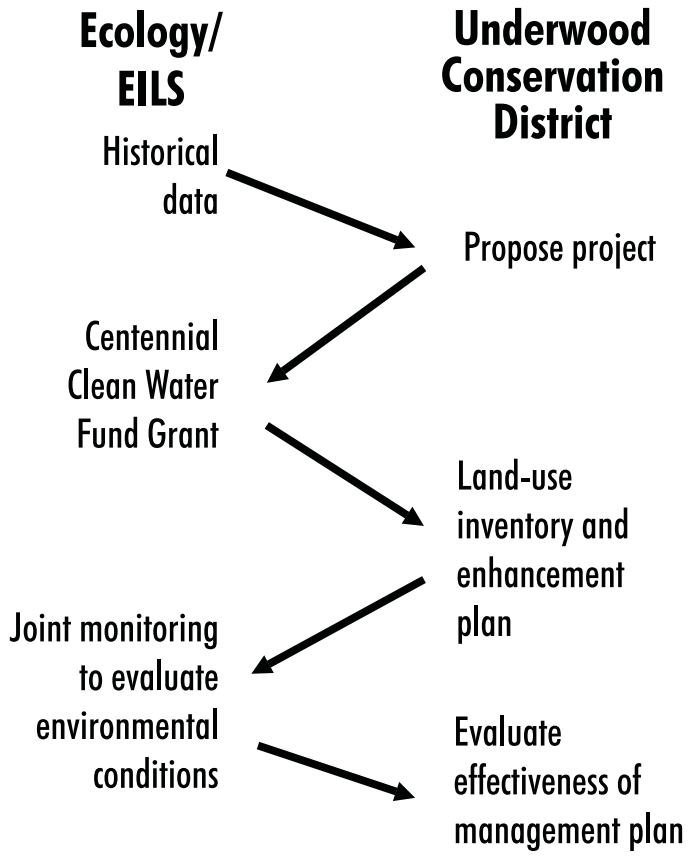


Figure 14: Example of How EILS Works with Local Government



Air Quality Program

Contact: Joe Williams (360) 407-6880

Program Mission

To preserve, protect and enhance the air quality of the state for current and future generations; to return areas with poor air quality to levels adequate to protect health and the environment as expeditiously as possible; and to prevent any areas of the state with acceptable air quality from reaching air contaminant levels that are not protective of human health and the environment.

Environmental Threats

Air quality concerns come in three forms: public health, environment and quality of life. Thirteen areas of Washington state were designated as violating national, health-based, ambient air quality standards for six chemicals known as criteria pollutants. Over 2.3 million people live within these areas. Additionally, special monitoring studies show the potential for violations in several new areas such as Wenatchee, Ellensburg and parts of the Columbia plateau. Although air quality has improved significantly in the state's major urban areas, most remain close to violating one or more federal air quality standards. Population growth, more cars, and economic expansion will continue to push vehicle use and emissions higher. It will take vigilance and the combined effort of citizens, business and government to sustain our air quality gains.

Hundreds of other chemicals, known as toxic or hazardous air pollutants, enter the atmosphere from a wide variety of sources but are not subject to ambient, health-based standards. Because of limited air quality data, the level of public health and environmental damage caused by toxic air pollutants is largely unknown.

Air pollution causes lung disease and worsens existing respiratory and cardiopulmonary disease, sometimes hastening death for persons afflicted with such diseases. Hundreds of studies find that short and long-term exposures to air pollution increase respiratory symptoms, emergency room visits, hospitalizations and medication use; decrease lung function; and create school absences, work loss days, and restricted activity days.

Air pollution increases chronic respiratory illness; increases the overall death rate; increases the likelihood of contracting cancer; and decreases lung function in children, pre-disposing them to chronic obstructive pulmonary disease as adults.

Air pollution affects the environment and quality of life in many ways including: damage to soils, water, crops, vegetation, manmade materials, property, animals, and wildlife; impairment of visibility, climate and weather; and hazards to transportation, as well as adversely affecting economic values and personal comfort and well-being.

Program Origin and Laws

Widespread citizen concerns about air pollution and its effects on public health and quality of life caused Congress and state legislatures to pass broad air quality protection laws. In 1990, Washington residents ranked air pollution the number one environmental threat in the state. More recent polls rank air quality near the top of citizen environmental concerns.

Chapter 70.94 RCW, Clean Air Act

Air quality regulatory authority for Ecology (and other state and local agencies) comes primarily from the state clean air act, which establishes philosophy, goals, and specific control strategies for selected air pollution sources. This law recognizes that there are many and varied sources of air pollution and directs government agencies to approach problems and solutions comprehensively. It directs its attention to four broad categories of air pollution: motor vehicles, industry, woodstoves and fireplaces, and outdoor burning. The law contains detailed, prescriptive programs that specify performance standards, emission limits, fees, and constraints on regulatory agencies.

Chapter 70.120 RCW, Motor Vehicle Emission Control

This law establishes authority for motor vehicle emission testing.

Much of the content of Washington's air quality laws are based on the goals, objectives, standards, and control requirements of the federal clean air act.

Constituents/Stakeholders

Motor Vehicles
Motorists, transportation agencies, oil industry, major employers in the nine most populous counties, auto repair industry

Industry
Large businesses, such as pulp and paper, aluminum, power plants, oil refining, and their associated trade organizations; small businesses, such as dry cleaners, wood products, gasoline marketing, and printers; agriculture, including food processing, grain handling, feedlots, and fertilizer manufacture; and associated trade organizations

Woodstoves
Woodstove users, manufacturers, distributors/retailers, home construction industry

Outdoor Burning
Timber industry, agriculture, developers, homeowners.

Stakeholders also include federal, state and local government; environmental and public health advocates, and the seven local air agencies, which manage a majority of the air pollution sources within their jurisdictions. Ecology provides financial and technical assistance to the local air agencies.

Major Activities

Characterizing Air Quality
Ambient monitoring measures the status of air quality throughout the state to assess trends, compliance with federal and state air quality standards, effectiveness of control strategies and attainment plans, health effects and environmental damage; respond to citizen complaints; evaluate specific geographic or hot-spot air quality concerns; and create environmental indicators.

Emission inventory is the cataloging of sources of air pollution and the emissions from those sources. Inventory data are critical to the understanding of the causes of air pollution problems and creation of appropriate solutions.

Meteorological forecasting and dispersion modeling of air pollutants are essential to understanding the movement and buildup of air pollution; the carrying capacity of airsheds; the interaction of pollutants; and the location of maximum impact of sources of pollution.

Results
High quality air pollution data allow accurate assessment of pollution levels in much of the state. Presently, the data show that air quality trends are improving throughout the state. Continued monitoring will help us track trend changes as population and motor vehicle use grow.

Accurate emission inventories have provided the basis to exempt over 100 sources from the federal operating permit program. Emission inventory refinements have reduced fees and eliminated regulatory requirements for several hundred smaller agricultural and industrial sources.

Technical and Financial Assistance
Technical assistance includes targeted, voluntary, single industry sector campaigns; source specific pollution prevention assessments; permitting and compliance assistance; general information on air quality requirements; and directing sources to the right person or agency to get their questions or issues resolved quickly.

Financial assistance primarily involves federal and state air quality grants to local air pollution control agencies.

Public outreach includes stakeholder, citizen and media education regarding air pollution causes, effects, regulations and responsibilities; public hearings, meetings and workshops; development of brochures, reports and other information or assistance documents; and providing knowledge to citizens that helps them voluntarily choose options that prevent or reduce pollution and minimize the need for regulatory programs.

Results
Assistance and education have reduced the need for regulatory programs. For example

❖ A public awareness campaign in Wenatchee helped local citizens recognize the impact of smoke on air quality. Citizens then took action to curtail woodstove and outdoor burning. To date, these efforts have prevented violations of federal standards and the imposition of regulatory programs.

❖ Single industry, non-enforcement information and technical assistance campaigns for auto repair shops, printers, dry cleaners and others have increased understanding of regulations, reduced emissions, and improved compliance while saving businesses money and reducing the need for enforcement.

Air Resource Planning and Evaluation

Air resource planning includes the preparation of comprehensive plans to achieve and maintain good air quality, clean air strategy identification and evaluation, and rule writing. Specific tasks include: cost/benefit analysis of air quality strategies; identification of control or prevention options and an assessment of their viability; meeting regulatory reform commitments; rule development and modification; research on emission reduction potential; health and environmental effects of pollution; atmospheric chemistry; and risk assessment.

Results

The number of citizens living in areas now measuring unhealthful air as defined by federal standards has been reduced from over 2.3 million to less than 500,000. Of 13 nonattainment areas in Washington, four now fully comply with national requirements and seven more have air quality that meets federal standards. No new nonattainment areas have been identified.

An evaluation of mobile sources of air pollution analyzed 17 methods for reducing pollution from motor vehicles. This analysis helped stakeholders and Ecology identify and select cost effective and least burdensome solutions to carbon monoxide and ozone air quality problems.

Windblown dust studies on the Columbia plateau provided the data to persuade EPA to remove a nonattainment designation for large parts of Benton, Franklin and Walla Walla counties. Ecology successfully argued that those areas should not suffer federal restrictions because of air pollution from natural causes.

Emission Reduction Programs

Emission reduction programs are one of the more traditional regulatory methods for controlling air pollution. Control strategies include motor vehicle emission testing, federal operating permits, new source permits, restricting outdoor burning, and industrial source registration. Emission reduction efforts make up approximately 25% of the program's budget.

Results

The Vehicle Emission Check Programs in the Vancouver, Spokane and Puget Sound areas reduced pollution from cars and trucks by 15%, or 146,000 tons per year, contributing greatly to improved air quality.

In Fiscal Year 1997, industrial permitting programs have reduced or prevented the release of approximately 31,000 tons of air pollution.

Major Issues

Growth Threatens Air Quality Gains

Population and economic growth continue to offset air quality improvements. Because vehicle use has grown 3 times faster than population, the toughest challenge will be to contain vehicle emissions. Without sound clean air strategies, the resulting pollution may overtake and reverse progress. Motor vehicles, which are the source of 57% of air pollution in Washington, also contribute substantially to water pollution, hazardous/solid waste generation and non-sustainable land use patterns. Public education campaigns highlighting the impacts of increased vehicle usage and continued partnering with other state and local transportation agencies to implement clean air strategies can help alleviate problems associated with growth.

Changes to Federal Standards for Particulate and Ozone

EPA adopted new federal fine particulate and ozone standards in July, 1997. Dozens of recent health studies show that historical federal standards for ozone and fine particles were not adequate to protect public health. EPA and health professionals estimate that fine particles cause premature death for over 40,000 Americans each year, more than the number who die from automobile accidents.

New standards mean a new beginning for nonattainment designations and cleanup plans. The Puget Sound area and Vancouver appear to meet the new ozone standard but only by the smallest of margins. Future growth may trigger nonattainment.

EPA created an additional fine particle standard based on even smaller particle size than the present one. Over the next 2 years, Ecology will invest substantial resources to establish ambient monitoring and emission factors for the new standard. Control and pollution prevention strategies will have to be reevaluated in light of the revised standards.

Visibility and Regional Haze

The public responds strongly to clear air or the lack of it. Citizens complain bitterly when their views of Mt. Rainier, the Olympics or the Columbia Gorge are obstructed by air pollution. Regional haze and visibility degradation also affect tourism, restrain economic growth, and diminish the quality of life for Washington residents. Ecology is reviewing its visibility data and the state's federally required visibility protection plan to determine what works well and what changes might be needed to meet the new federal requirements proposed by EPA to improve visibility and prevent regional haze in national parks and wilderness areas.

Urban or regional haze, as opposed to specific health-based pollutants, is just beginning to be addressed as an important air quality problem. Resolution of the problem will require new strategies and multi-state and tribal cooperation. Historical clean air strategies may need to be revised so that healthful and clear air standards are met in the most efficient way possible.

Redesignation of Nonattainment Areas

Nonattainment of federal air quality standards imposes significant economic penalties on communities, including higher pollution control costs for new and existing businesses, economic growth constraints, and compromised public health. Nine areas of the state are still listed as nonattainment. As long as an area remains listed as nonattainment, regardless of its measured air quality, prescriptive federal control measures stay in effect. Violations of the carbon monoxide standard in Spokane in late 1995 mean Spokane will not meet the federal deadline for clean up of the problem. It will also require a new analysis of the attainment plan and the likely addition of more stringent controls. Maintenance plans for the remaining 8 areas should be completed this biennium.

Toxic Air Pollutants

Air quality regulators have traditionally split air pollutants into two categories -criteria pollutants (six compounds for which federal ambient standards have been set) and toxic pollutants. Hundreds of toxic chemicals (totaling millions of pounds) are released into the air each year in Washington. No ambient standards and few emission limits have been established for these compounds. We have limited understanding of the potential effects on human health and the environment, the sources and quantity of emissions, and the ambient concentrations of toxics in Washington's air.

The public reacts emotionally and frequently to possible exposures to toxic air pollutants. Threats of cancer, reproductive disease, brain damage and other debilitating illnesses are associated with various toxic pollutants. Recent public outrage over toxics from industrial facilities has occurred in Northport and Port Angeles. Citizens have opposed the building of incinerators and other industrial plants because of perceived threats from toxics. In Washington, new sources of air emissions are reviewed for their health risks from toxics.

In order to develop a rational strategy for addressing these pollutants, Ecology is now working on a comprehensive evaluation of what we know and don't know about air toxics in Washington.

Grass Seed Field Burning

Ecology decisions to reduce smoke emissions from grass seed field burning continue to generate heated and polarized reaction. Some clean air groups want a total ban now, and some Kentucky Bluegrass growers, primarily through lawsuits, continue to oppose efforts to restrict burning. Ecology continues to defend its rule and to emphasize the certification of practical and reasonably available alternative waste removal methods.

Motor Vehicle Emission Check Program Evaluation

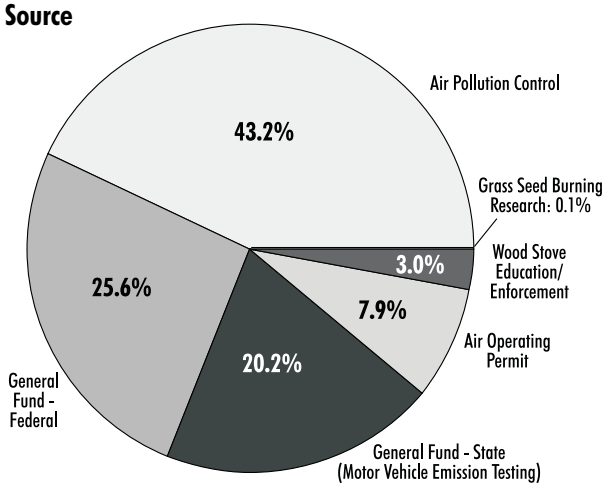
The motor vehicle emission testing program affects nearly 40% of the state's car and light truck owners. Because it affects so many people and requires them to take personal responsibility for their cars and pollution, Ecology has a responsibility to ensure that the program scores high on air quality, cost-effectiveness and public service tests. In early 1997, Ecology initiated a comprehensive review and analysis of the emission testing program. We expect to complete the analysis and, after stakeholder input, develop program modifications in late 1997. The evaluation will identify administrative, regulatory, and, possibly, statutory changes to improve cost-effectiveness, service delivery, public acceptance and air quality.

Air Quality Program Budget

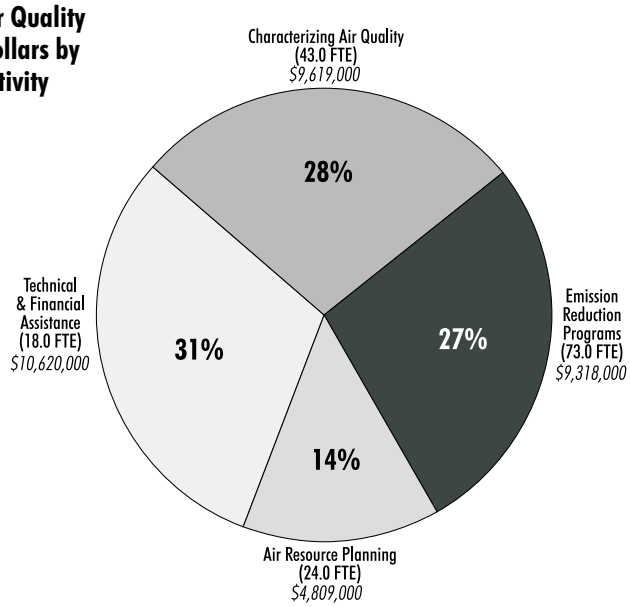
Budget: $34,366,403; Staffing: 158.0 FTEs

Fund	Amount ($)	Sources	Uses
Air Pollution Control	14,841,557	Fees collected for vehicle licenses; air registration fees; agriculture burning permits	Ambient air monitoring; grants to local air authorities; new source permits; modeling and meteorology; emission inventory
General Fund - State	6,957,464	Fees collected for vehicle emission inspections	Vehicle emission testing
General Fund - Federal	8,787,822	Federal grants	Grants to local air authorities for ambient air monitoring; emission inventory; modeling and meteorology
Air Operating Permit	2,718,034	Permit fees collected for air contaminant sources	Issuing permits to major air pollution sources; small business technical assistance
Woodstove Education and Enforcement	1,019,526	Fees on the retail sale of woodstoves and fireplaces	Enforcement and education on proper woodstove use; grants to local air authorities
Grass Seed Burning Research	42,000	Fees on the open burning of grasses grown for seed	Research on alternatives to grass seed burning

Air Quality Dollars by Fund Source



Air Quality Dollars by Activity



Air Quality Program Data

Figure 15: Number of Air Quality Measurements above Federal Health Standards

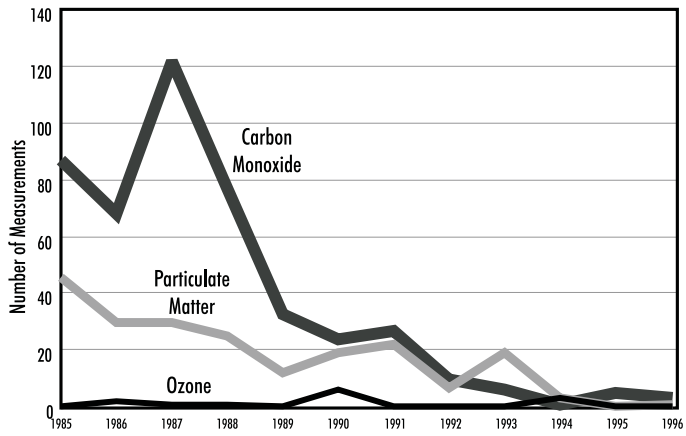


Figure 16: Sources of Air Pollution in Washington State

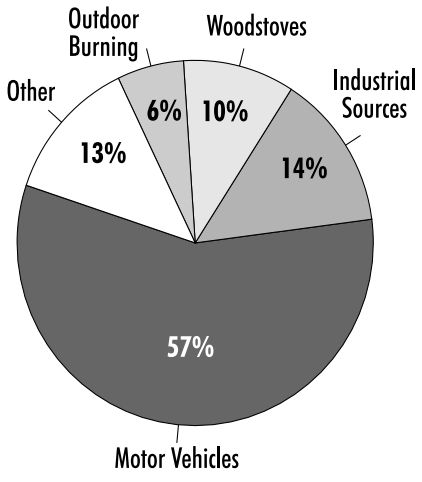


Figure 17: Air Pollution Control Authorities of Washington

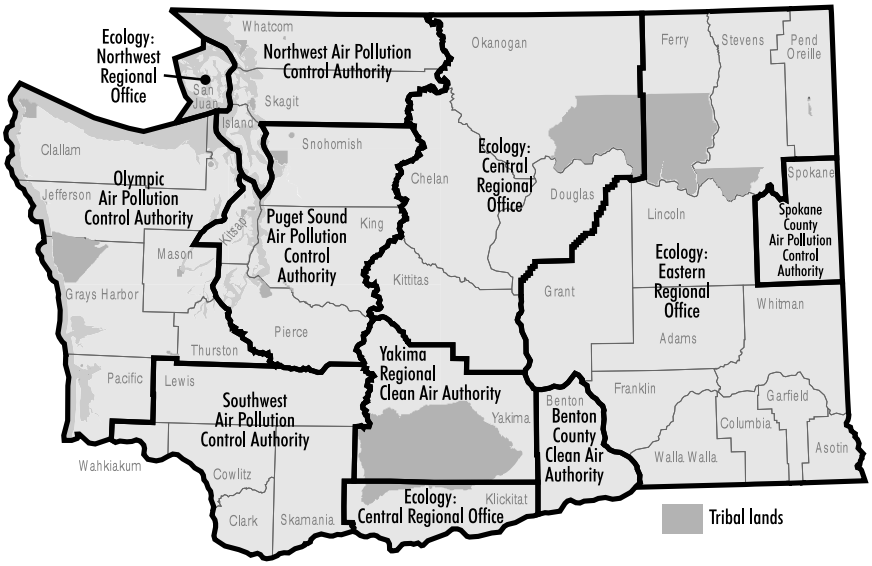


Figure 18: Nonattainment and maintenance areas for air quality

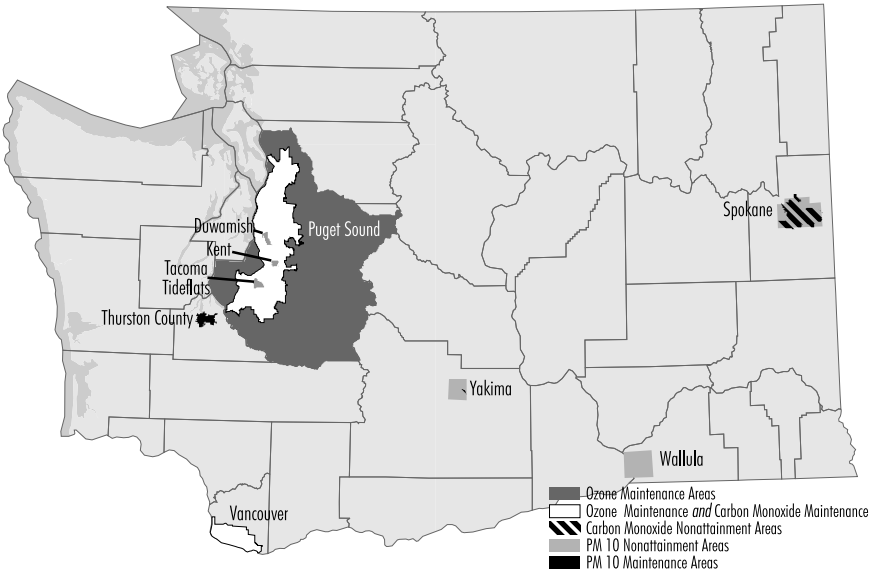


Figure 19: Washington State Visibility Protection (Class I) Areas

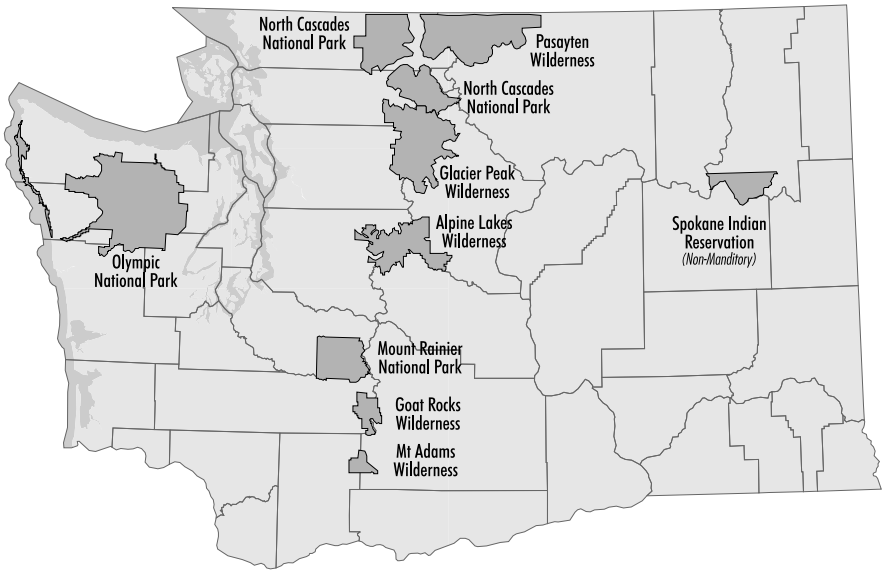
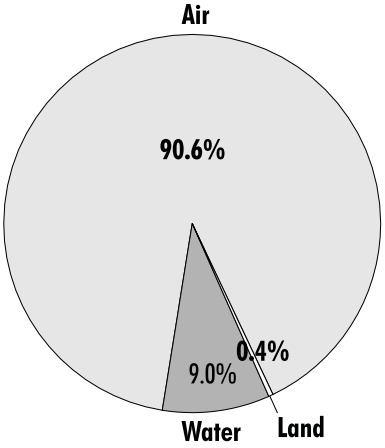


Figure 20: 1995 Washington State Toxics Releases by Environmental Media. Total: 26,287,801 pounds



Hazardous Waste and Toxics Reduction Program

Contact: Greg Sorlie (360) 407-6702

Program Mission

To prevent pollution and promote safe waste management.

Environmental Threats

Currently, over 241 million pounds of hazardous waste are generated annually by over 8,000 generators. These wastes, when improperly managed, can cause severe hazards to the public's health and to the environment through air pollution, water pollution, and soil contamination. Because of its physical characteristics, hazardous waste is often toxic to living organisms, including humans. Many of these wastes remain toxic for a very long time - they are persistent, some building up or bio-accumulating in the food chain. Ecology's Hazardous Waste and Toxics Reduction Program addresses two primary environmental threats: improper hazardous waste handling and disposal; and long-term inherent risks of hazardous waste, even when handled and disposed of properly. Therefore, waste reduction is our top priority. Our second focus is ensuring that hazardous waste that is generated is managed safely.

Program Laws and Origins

Hazardous Waste Management

Chapter 70.105 RCW, Washington's Hazardous Waste Management Act

This act, passed in 1976, defines dangerous wastes as non-radioactive wastes which are disposed of in such quantity or concentration as to pose a substantial present or potential hazard to human health, wildlife or the environment. To implement this act, Ecology adopted Dangerous Waste Regulations in late 1977. These rules empowered Ecology to define, track, and regulate the disposal of extremely hazardous wastes (a subset of dangerous wastes that are higher hazard wastes).

Federal regulations

In May 1980, EPA established federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA). RCRA requires EPA to develop nationwide standards for controlling hazardous waste handling, transportation, treatment, and disposal. It also requires that states that want to operate hazardous waste programs in lieu of the federal program must adopt state regulations which are essentially equivalent to EPA's rules.

In 1980, the Washington State Legislature amended the Hazardous Waste Management Act to give Ecology authority to regulate dangerous waste as well as extremely hazardous waste, and to gain federal authorization for the state's hazardous waste program from EPA. The companion Dangerous Waste Regulations were subsequently amended. In broad terms, the purpose of Washington's Dangerous Waste Regulations is to set out a system for safely managing and disposing of dangerous waste.

While the Dangerous Waste Regulations are consistent with federal regulations, their degree of risk classification system is unique to Washington state. Prior to 1978, the waste classification system used to designate that degree of hazard included assessing wastes by three criteria: level of toxicity, persistence in nature, and potential carcinogenic risk. Wastes were also assessed by their tendency to ignite, corrode, and explode, or to fail EPA's toxicity test.

When updating the Dangerous Waste Regulations in 1978, Ecology designed the regulations to be at least as stringent as federal RCRA standards and added the three criteria mentioned above to supplement the federal system of lists and characteristics, which included the tendency to ignite, corrode, or explode, plus the tendency to leach certain chemicals to groundwater. The result is more wastes being classified as dangerous than by using the federal approach alone, thereby making the criteria for listing the basis of the regulation.

Pollution Prevention

During the late 1980's, pollution prevention gained recognition nationally as a better way to address hazardous waste management. The concept of avoiding waste generation, rather than treating it after generation, made an inordinate amount of sense. Innovative programs that featured planning for source reduction and waste reduction, supported by technical assistance, began to move into the forefront.

Chapter 70.95 RCW, Hazardous Waste Reduction Act
This act, passed in 1990, authorized Ecology's pollution prevention activities by establishing state policies and goals that encourage the reduction of hazardous substance use and hazardous waste. To achieve these goals, the law requires certain hazardous waste generators and hazardous substance users to prepare plans for voluntary reduction of hazardous substance use and hazardous waste generation. These plans must address current hazardous substance use; waste reduction, recycling and treatment activities; analysis of further reduction opportunities; and five-year performance goals.

In addition, the act funds technical assistance services to the affected facilities through fees. Ecology staff provide businesses with advice and consultation on waste reduction and hazardous substance use reduction techniques. Technical assistance specialists help prepare or modify pollution prevention plans, executive summaries, and annual progress reports and provide technical assistance to carry out the plans.

Community Right-to-Know

Chapter 70.102.020 RCW,
Hazardous Substance Information Act
In Bhopal, India, in 1984, a large chemical release to the air killed or injured thousands of people. Similar events have happened elsewhere. A major reason for these catastrophes was that the public was not informed or prepared for such an event. As a result, in 1985, both Congress and the Washington legislature passed Community Right-to-Know laws. The Washington State Legislature also established the Hazardous Substance Information Office, which is located in Ecology's Hazardous Waste & Toxics Reduction Program. The primary duties of this office are to

❖ Facilitate access to existing information on hazardous substances within a community *Request and obtain information about hazardous substances at specific locations and facilities from agencies that regulate those locations and facilities

❖ At the request of citizens or public health / safety organizations, compile existing information about hazardous substances used at specific locations

❖ Provide education to the public on the proper production, use, storage, and disposal of hazardous substances

We receive funding from the Worker and Community Right to Know Fund.

Constituents and Stakeholders

Stakeholders include

❖ Public

❖ Regulated businesses and agencies

❖ Local governments

❖ Tribes

❖ Business groups and associations

❖ Environmental groups

❖ EPA

❖ State Agencies: Department of Agriculture; Department of Health; Washington State University

❖ Local Governments and Other Agencies

Because we regulate agencies that produce hazardous waste, we can also assist them in reducing and safely managing waste.

We work in partnership with local governments since they have jurisdiction over smaller waste generators and provide local governments with the tools (materials, training) they need to regulate and educate these smaller generators. Some local governments can more easily respond to complaints received by Ecology due to geographic proximity.

Funding from EPA allows us to implement the federal hazardous waste program in Washington State and to enhance the state's pollution prevention program.

We work with the Department of Agriculture, Washington State University, and the Department of Health, in addressing waste issues that include pesticides and / or have serious human health implications.

Major Activities

Increasing Contact with Businesses

Over the past five years, Ecology has concentrated efforts on providing information to businesses through personal (face to face) visits. Though concentrating our efforts on larger businesses is important, data show that wastes generated by smaller businesses can also be a significant environmental problem. Reaching smaller businesses through site visits and providing clearly written materials on how to reduce and handle wastes has been very effective and has been appreciated by the business community. The following are some of the major tools we use to reach businesses

❖ *Early Welcome Visits*

Ecology field staff (technical assistance officers) visit new businesses that have notified us that they are generating hazardous waste. The visits are structured to be friendly and educational and to give businesses basic pointers on reducing or handling their waste, as well as on their reporting and management obligations. Whenever possible, Ecology works with businesses to reduce accumulations of waste to a level below that regulated by Ecology. They then become the purview of local government.

❖ *Short Technical Assistance Visits*

Staff in Ecology's regional field offices are making an effort to visit all businesses which handle wastes within either a specific geographic area (county or industrial park) or in a specific business sector (i.e., radiator shops). The goal of these visits is to educate business on safe waste management. These visits are not enforcement-related and no written record of the visit is kept (except for the name of the business for tracking purposes). Last spring, we completed 119 technical assistant visits in the greater Paine Field area and Snohomish County. Seventy-one percent of the businesses had never had a hazardous waste visit by Ecology staff. In evaluations, 56% of respondents indicated that they are more likely to reduce waste and manage waste safely, and 62% are more likely to contact Ecology staff with their dangerous waste questions. Also, in King and Snohomish Counties, 33 Korean-owned dry cleaners were visited. Technical assistant materials were translated into Korean. Business owners are now more aware of dangerous waste requirements and potential worker health risks from chemical exposure.

❖ *Single Industry Campaigns*

Ecology's single industry campaigns are systematic, statewide, on-site technical assistance efforts designed to improve pollution prevention and voluntary compliance with environmental regulations. These campaigns reach hundreds of businesses in a personalized and efficient manner. With the help of easy-to-read handouts and streamlined visits, 1,700 auto repair shops and 1,200 printers and photo processors now are doing a better job protecting the environment. We are currently focusing on three new sectors: schools, hospitals, and boatyards / marinas.

❖ *General Pollution Prevention and Regulatory Assistance*

Ecology field staff respond to ongoing requests for assistance through on-site consultations. Many of these consultations include state of the art technical assistance on process changes that can help a business reduce or eliminate the use of toxic materials that create hazardous wastes. Whenever possible, staff provide pertinent regulatory information regarding compliance with air, hazardous waste, and water regulations.

Results

From July, 1996 through June, 1997, we conducted 1,425 site visits, resulting in businesses managing their hazardous wastes better than ever. Key hazardous waste management problems have decreased dramatically over the past five years. In 1991, a hazardous waste inspector had an 86 percent chance of finding a violation that could harm the environment. Today, the chance of finding a significant environmental threat during an inspection has dropped to 26 percent, while the number of inspections has remained steady. This trend is a strong indicator that Ecology's approach of working with industry is successful.

Safe Waste Management and Industry Partnerships

The following examples illustrate how Ecology has used creativity and common sense to work with business and other stakeholders in addressing problem areas within the Dangerous Waste rules while still protecting human health and the environment.

❖ *Spent Potliner*

Aluminum spent potliner is a dangerous waste generated by the seven primary aluminum smelters in Washington State. Collectively, they generate an average of 30,000 tons of potliner a year, the largest single source of dangerous waste generated in the state. Today, the aluminum smelters manage their potliner by sending it to a dangerous waste landfill in Oregon.

On October 8, 1997, federal regulations will prohibit disposal of potliner on the ground without treatment. The only treatment facility is in Arkansas. For the past three years, Ecology has been working closely with businesses interested in recycling potliner and

providing an in-state option for the aluminum smelters to manage their waste. This cooperative effort between business and Ecology has required an innovative and forward looking approach in dealing with the complexities of the dangerous waste rules. To date, Ecology has issued two favorable recycling determinations which have been instrumental in continuing the momentum toward seeking bold and creative ways to manage dangerous waste generated in the state. It is expected that EPA will soon finalize a letter announcing its decision on recycling of spent potliner, a decision which is in agreement with Ecology's position. The next step will be for the Washington aluminum smelters to conduct business discussions that select a technology to recycle spent potliner and determine a possible site for the facility.

❖ *Antifreeze*

Over a million gallons of used antifreeze per year creates a significant waste stream for the auto repair industry and a significant market for used antifreeze recycling companies. It can also be a dangerous waste. So Ecology asked these two key industry groups to work together to develop a successful system for proper management of this waste. Ecology provided institutional expertise and the caveat that the solution must provide equal or better protection of human health and the environment than that which presently exists. With minor modifications, Ecology accepted the industry recommendation and implemented it through the institution of best management practices, which have recently been proposed as amendments to the Dangerous Waste Rules.

❖ *Regulatory Reform*

Since the rule changes to the Dangerous Waste Regulations were adopted in November, 1995, Ecology has done several things to help small businesses understand and take advantage of the rule changes. We have

—Produced three pamphlets which explain how to transport hazardous waste and hazardous materials, what their requirements are as small quantity generators of hazardous waste, and how the recent regulatory reform rule changes impact them

—Briefed counties, which work closely with small businesses, on the rule changes and worked with them to produce and distribute the above-mentioned pamphlets

—Produced articles on rule changes and what they mean for our quarterly newsletter "Shoptalk," which has a distribution of over 26,000

—Initiated Industry Sector Booklets which summarize dangerous waste requirements and pollution prevention ideas

❖ *Permitting*

Hazardous waste permitting is required for facilities that treat, store, or dispose of hazardous waste. These permits ensure that all facilities are designed, built and operated in such a manner as to protect the public health and environment. To expedite the permitting process, we are currently implementing recent recommendations from permittees, consultants, environmental groups, affected public and Ecology staff.

❖ *Corrective Action and Closures*

Ecology staff conduct site-specific corrective action (cleanups) and closure / post closure work at contaminated sites that have treated, stored or disposed of hazardous wastes. Sites that present the greatest hazards to human health and the environment are addressed first. We are currently working on 28 corrective action sites.

❖ *Information Management/Electronic Reporting of Dangerous Waste*

In an effort to manage information more effectively and efficiently, Ecology, in cooperation with businesses, developed an electronic reporting process called TurboWaste by which dangerous waste annual reporting information is electronically submitted to Ecology.

The benefits of this system include: software that features data validation checks, automatic waste totaling and multi-site / multi-year waste analysis reports that are useful tools in the management, tracking and reporting of dangerous waste activities; businesses saving time and money by reducing paper work, paper waste and storage space; reduction of Ecology staff review and data entry time.

❖ Other Focused Technical Assistance Campaigns

—The Integrated Pest Management (IPM) in Schools volunteer pilot project coupled specially trained volunteers with school maintenance staff with the goal of increasing awareness and use of IPM. Over 60 school visits and numerous presentations were conducted in the four pilot counties.

—The School Sweeps project focused on helping the state's community and technical colleges comply with environmental laws and reduce hazardous waste generation and hazardous product use. Non-regulatory site visits and reports were provided to each college, highlighting the changes they needed to make to comply with environmental laws and suggesting some best management practices. Overall, 87% of the compliance items were corrected, and 75% of the best management practices were implemented. Additionally, in conjunction with the State Board for Community and Technical Colleges, environmental skills standards were drafted for five vocational programs so that environmental management concepts become part of the curriculum.

Promoting Pollution Prevention

Ecology actively promotes reducing waste and chemical use as the best way to protect public health. The following describes our work in this area

❖ *Pollution Prevention Planning and Technical Assistance*
Pollution prevention planning is a system to help facilities examine their current operations in an attempt to reduce waste and chemical use and increase recycling and treatment of waste that is produced. The planning process is a sequential set of steps which lead to identification of pollution prevention opportunities. Facilities are encouraged to establish reachable goals for reduction, recycling, and treatment and to report their progress annually. This information helps the facility recognize its positive environmental actions and helps Ecology measure the effectiveness of the pollution prevention program. Data collected for 1994, and adjusted for changing economic conditions, show a 34% reduction in hazardous waste generation as compared to 1992.

Ecology provides technical assistance in preparing plans and progress reports and during implementation. Many pollution prevention techniques are common to industrial processes and industrial sectors, and Ecology staff are in a unique position to share this information to the benefit of the facilities. Technical assistance can include on-site visits, phone consultations and workshops.

❖ *Toxics Reduction Engineer Exchange (TREE)*
This new project teams Ecology toxics reduction engineers with businesses for an in-depth look at free or low-cost techniques to reduce waste and save money. The first two businesses to benefit from the exchange saved approximately $350,000 and reduced their wastewater discharge by over 80% (78,000 gallons per day).

❖ *Governor's Awards*
On September 15, 1997, eight facilities were given the Governor's Award for Outstanding Achievement in Pollution Prevention in honor of their leadership and innovation in pollution prevention. Honorees included

— *Wrap Pack Corporation* in Yakima, which makes fruit wrap tissue for pears and apples, first met with Ecology staff because management was concerned about worker safety and hazardous waste. They were pleased to learn about pollution prevention process changes that allowed them to eliminate toxic cleaning agents. The unexpected bonus from these inexpensive changes was monetary gain and increased worker satisfaction. The firms' 19 employees benefit from an innovative recycling program because they now refurbish pallets during seasonal slow periods.

— *Production Plating, Incorporated*, a Mukilteo metal finishing shop with 90 employees, made significant improvements in its uses of hazardous materials pollution prevention planning. Ecology technical assistance staff helped the facility identify areas where change would have the greatest gain for the company. For instance, eliminating cyanide in the plating baths greatly reduced the risk of employee exposure to hazardous chemicals.

— *The Washington State Korean Dry Cleaners Association*, a 400-member organization, was recognized for its technical assistance education and outreach program, which brings valuable information to many small businesses throughout the state. The Association works with King County and the Department of Ecology to find the best ways to manage waste and prevent pollution and urges its members to manage both the products and wastes associated with their businesses.

Enforcement When There is No Alternative

Maintaining a credible enforcement capability is essential to keeping our technical assistance program effective. Over the last 4 1/2 years, we have issued 17 penalties, including four to government agencies. We offer technical assistance to help a business correct the problem before resorting to an enforcement action, unless the problem poses an imminent threat to human health or the environment or remains uncorrected on a continuing basis.

The Department of Ecology has two full-time, professional criminal investigators who pursue environmental crimes, such as deliberate, illegal dumping of hazardous materials or intentional pollution which is not authorized by law or regulation. These two investigators serve the entire agency (all media) and are located at EPA offices in Seattle, which allows them to work effectively as a team with federal investigators. Over the last 10 years, these investigative efforts have resulted in several criminal prosecutions for serious environmental crimes.

Keeping the Public Informed

We have several efforts underway that provide information for public use and assist us in measuring our results. We routinely provide all of the below-listed types of information to the public. We are moving into providing this information electronically and via the Internet.

❖ *Community Right-to-Know*
Ecology receives and distributes information on storage and releases of toxic chemicals under federal Community Right-to-Know legislation. The two main reports filed by businesses are

— *Hazardous Chemical Inventory (Tier Two) Reports:* This annual report is filed by 3,500 Washington businesses. These reports, which are filed with fire departments, county emergency management and Ecology, provide information on year-to-year

changes in quantities of chemicals that are being stored in businesses in the state. Communities use this information for hazardous materials planning and emergency response. This information is also used by the State Patrol in emergency 911 centers.

— *Toxic Release Inventory (TRI) Report:* This annual report, which is prepared by Washington's larger manufacturers and federal facilities, provides information on annual releases and waste management activities of certain toxic chemicals. These are typically permitted releases. The public, news media, industry, academic institutions, and environmental organizations find the TRI report especially valuable because the report provides information about releases to air, land, water, sewer. The report also provides information about waste management operations like recycling and energy. This one environmental report is most noted for its impact on encouraging reductions in toxic chemical releases throughout the country.

❖ *Dangerous Waste Reporting*

The hazardous waste data reported to us from businesses is the cornerstone of our information management program. It tells us who, what, how much, where it goes, how it is managed and how much pollution prevention is accomplished and allows Ecology to assess environmental trends and results. We get thousands of requests annually from the public, environmental interest groups, and the regulated community seeking information on waste types and volumes, waste management, hazardous substances and waste reduction. Information on hazardous waste generators is provided to local governments for use in developing or supplementing waste programs at the city / county level.

❖ *Shoptalk*

This program produces and distributes several publications to help businesses reduce and safely manage waste. One example is Shoptalk, a quarterly publication produced in easy-to-read format, which provides the latest information and reminders on ways to deal with waste.

❖ *1-800 Hazardous Substance Line*

We answer approximately 1,500 calls per month from the public requesting assistance with hazardous substance questions. A recent caller needed help getting a material safety data sheet after she had been exposed to a chemical at an amusement park. Another caller requested information on the toxicity of the pesticides that were being used in his apartment. The toll-free line is also used to provide technical assistance to businesses with questions about Community Right-to-Know laws or requesting publications provided by the program.

Major Issues

Pollution Prevention

The requirement for pollution prevention planning continues to be a major stimulus for the successful reduction of hazardous substance use and hazardous waste generation by planning facilities. As we move into the second five-year planning cycle, the following modifications to the planning program have been implemented

❖ Facilities with an Environmental Management System (EMS) can ask Ecology to accept their EMS as an alternative to the traditional pollution prevention plan

❖ Revised guidance manuals for plans and annual progress reports simplify and clarify requirements, guidance and worksheets

❖ Only changes within a facility need to be fully addressed in the five-year plan updates

An increased emphasis on technical assistance is being accomplished through industry sector studies, single industry campaigns and integrated site visits.

Large universe of hazardous waste generators

Approximately 8,000 hazardous waste generators are regulated in Washington state. Approximately 10,000 businesses produce some quantity of dangerous waste. Approximately 200 new regulated generators of dangerous waste are added to the state each year.

New approaches to reach out to more businesses include

❖ Short technical assistance visits

❖ Single industry campaigns

❖ Industry Sector Booklets summarizing agency requirements across the board and pollution prevention ideas

❖ Workshops: this year, more than 800 people attended over 30 workshops that we conducted across the state to help businesses safely manage waste.

❖ Streamlined inspection format

Waste being incorporated in agricultural products for application to land

These include cement kiln dust, electric arc furnace dust, and sludge/flux ban and hydrated elbow residues from metal manufacturing industries.

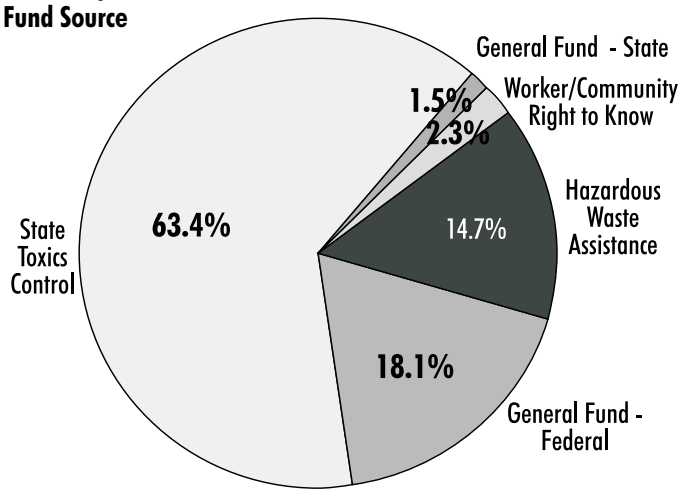
Ecology has tested 36 fertilizer products for metals and is analyzing the results with the US Department of Agriculture (USDA), Department of Health (DOH), and Washington State University (WSU). Results will be available by the end of 1997. In addition, we have worked with Washington State Department of Agriculture, DOH and the Governor's Office to develop an action plan to increase regulatory oversight for all fertilizer products. Some key components of that action plan that have already been implemented are: establishment of a fertilizer advisory workgroup to give the agencies and the Governor's Office input on proposing legislation to address fertilizer labeling, standards and additional research; a request to the heads of EPA and USDA to develop national risk-based standards; and a detailed plan for additional sampling of soils and for sampling dioxins in fertilizer products. We will continue to address this issue as a high priority activity in the coming year.

Hazardous Waste and Toxics Reduction Program Budget

Budget: $18,430,860; Staffing: 133.2 FTEs

Fund	Amount	Sources	Uses
State Toxics Control Account	$11,683,430	Hazardous substance tax; recovered remedial actions and penalties collected	To promote pollution prevention and safe waste management; primarily through technical assistance to businesses; inspections of large quantity generators of hazardous waste and permitted Treatment, Storage and Disposal facilities; and hazardous waste cleanups
Hazardous Waste Assistance Account	2,718,081	Hazardous Waste Fees	Technical assistance to hazardous waste generators and hazardous substance users
General Fund - Federal	3,341,778	Federal Grants	Grant funds received from EPA for implementing federal Resource Conservation and Recovery Act (RCRA); and for pollution prevention
Workers Right-to-Know	415,503	Labor and Industries fee on employers reporting more than 10,400 worker hours per year in designated industries	Dedicated fund used to compile information on hazardous substance use and to make this information available to citizens and other public entities
General Fund - State	272,068	Multiple	To conduct criminal investigations and enforcement actions

Hazardous Waste and Toxics Reduction Dollars by Fund Source



Hazardous Waste and Toxics Reduction Dollars by Activity

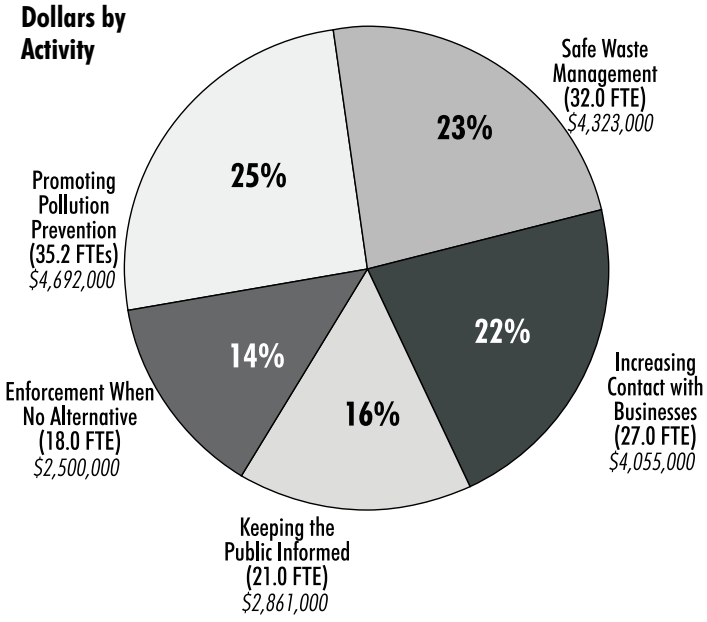


Figure 21: Trends in Hazardous Waste Management Over Time

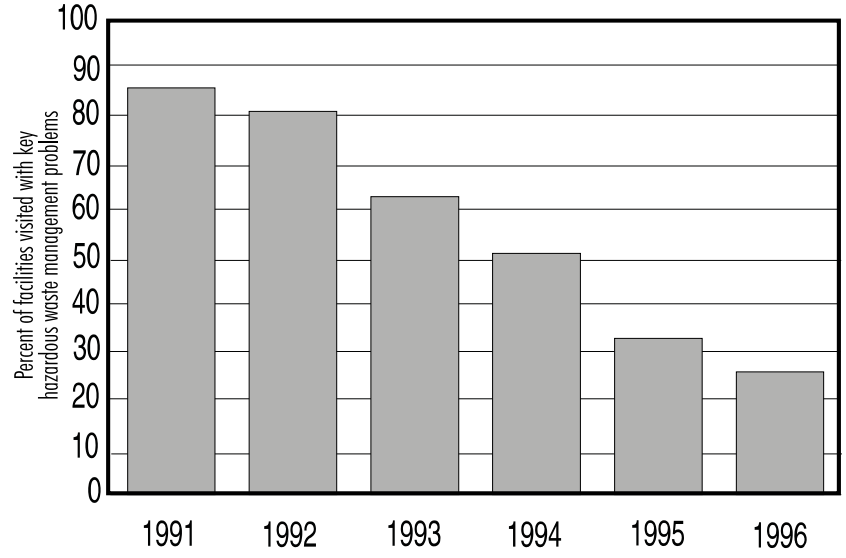


Figure 22: Recurrent Hazardous Waste Generation per Capita, from 1990-1995 as an Environmental Indicator of Change

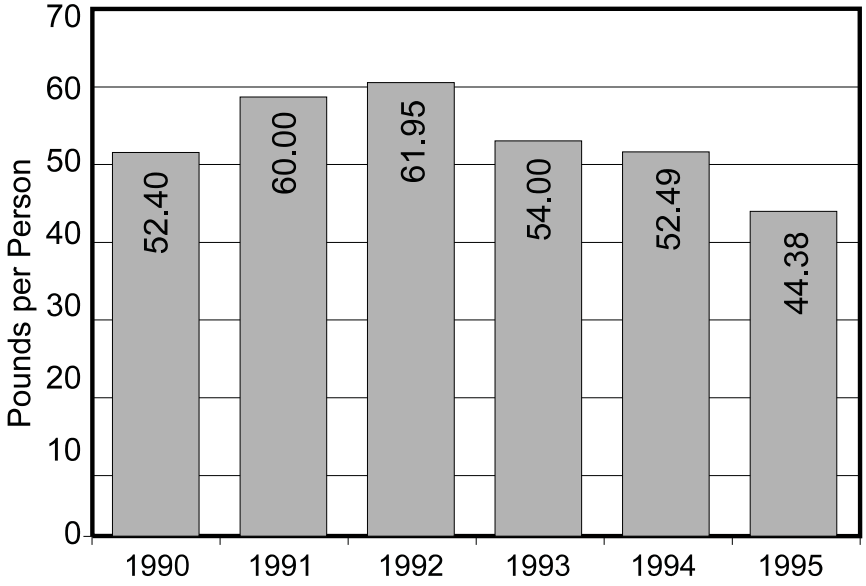
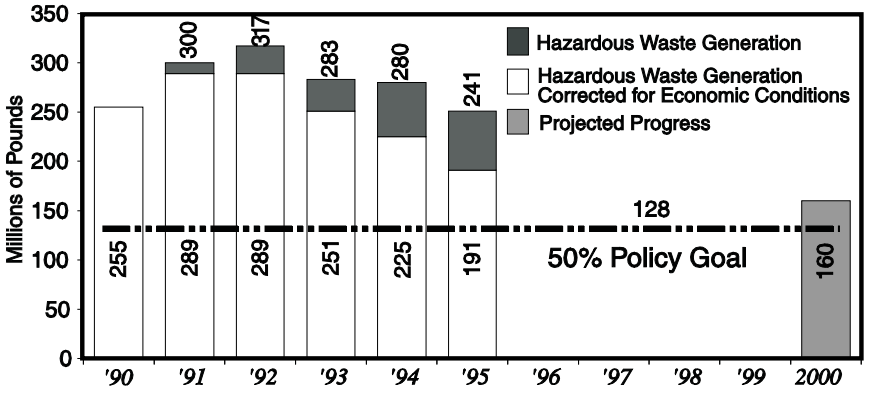


Figure 23: Progress Toward the 50% Hazardous Waste Reduction Goal



Nuclear Waste Program

Contact: Mike Wilson (360) 407-7150

Program Mission

To ensure sound statewide management of mixed waste and to facilitate the effective, efficient cleanup of Hanford. Besides site cleanup, the Nuclear Waste Program must work with other states to address Hanford's role in the storage and stabilization of the nation's nuclear waste and nuclear materials inventory.

Environmental Threats

Hanford's half century of nuclear materials production has created one of the world's most polluted areas. The Nuclear Waste Program addresses the cleanup of the 560 square mile Hanford Site in southeast Washington. The cleanup addresses

❖ Removal of 2,100 tons of leaking fuel rods stored in a basin near the Columbia River

❖ Removal and vitrification of an estimated 55 million gallons of radioactive and chemically hazardous waste in Hanford's 177 underground storage tanks

❖ An estimated 230 square miles of contaminated groundwater which flows toward and eventually enters the Columbia River

❖ Operation and closure of 50 hazardous waste treatment, storage and disposal sites ranging from small demolition sites to half-mile long concrete canyons

❖ Cleanup of 1,500 waste sites ranging from liquid waste disposal ditches to former reactor facilities

Program Origins and Laws

The Nuclear Waste Program was formed in 1989 with the signing of the Tri-Party Agreement (TPA). This landmark agreement between the state of Washington, the U.S. Department of Energy (USDOE) and the U.S. Environmental Protection Agency (EPA) directs the cleanup of the former nuclear materials production site at Hanford. Because USDOE was not required to comply with hazardous waste and air and water pollution standards until the late 1980's, the Tri-Party Agreement will bring the Hanford Site into compliance with the same rules that regulate private industry over the next 30 years. Laws which govern the program include

Federal

❖ Resource Conservation and Recovery Act (RCRA)

❖ Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or Superfund)

State

❖ Chapter 90.48 RCW, Clean Water Act

❖ Chapter 70.94 RCW, Clean Air Act

❖ Chapter 70.105 WAC, Hazardous Waste Management Act

❖ Chapter 70.105D WAC, Model Toxics Control Act

Constituents/Stakeholders

Federal

Ecology has long recognized that the successful cleanup of Hanford is dependent in large measure on an effective national program to cleanup all USDOE facilities. To forge a strong national cleanup program, Ecology has worked with other states hosting USDOE facilities, the Congress, USDOE, EPA, the Nuclear Regulatory Commission, the Defense Nuclear Facility Safety Board, and USDOEs Environmental Management Advisory Board.

Ecology works with EPA on two fronts. As parties to the Tri-Party Agreement at Hanford, Ecology and EPA work closely to ensure a well coordinated and efficient regulatory program. Ecology also works closely with EPA Region X and EPA Headquarters on broad regulatory issues affecting the cleanup of federal facilities such as Hanford.

States

Cooperation with other states occurs primarily through the National Governors Association, the Western Governors Association, and USDOE's State and Tribal Government Working Group. Areas of interstate cooperation include federal legislation affecting cleanup activities, federal appropriations, waste transportation safety, interstate waste shipments, and regulatory streamlining.

Oregon

Given the proximity of Hanford to Oregon, Ecology maintains an active working relationship with the Oregon Department of Energy. The two states discuss not only general issues relating to the cleanup program, but also detailed technical issues, particularly those associated with the Columbia River and groundwater contamination.

Tribes
As the state's lead for natural resource damage assessments at the Hanford site, Ecology works with USDOE, the U.S. Fish and Wildlife Service and the Yakama, Umatilla, and Nez Perce Indian Nations, as well as with the state Department of Fish and Wildlife to ensure adequate consideration is given to natural resource values in planning and conducting cleanup work.

Given the cultural significance of lands on the Hanford Site, Ecology consults on a one-on-one basis with the affected tribes on cleanup goals, priorities, and technical issues.

Local government
Ecology consults with Franklin, Benton, and Grant counties and the cities of Pasco, Richland, Kennewick, Benton City, and West Richland on Hanford issues, including cleanup goals and priorities.

Public interest groups
Public interest groups involved in Nuclear Waste Program activities include Heart of America Northwest, Hanford Watch of Oregon, Hanford Education Action League, Physicians for Social Responsibility, Washington League of Women Voters, Columbia River United, and the Lower Columbia Basin Audubon Society.

Business
Principal Tri-Cities area business and labor groups interested in program activities include the Tri-City Industrial Development Council, the Central Washington Building Trades Council, the Hanford Atomic Trades Council, and the Hanford Family.

Other
Washington is the host state for the commercial low-level radioactive waste disposal facility serving the Northwest Compact, which was established in 1981 and ratified by Congress in 1985. In this capacity, Washington chairs the compact, which consists of Alaska, Hawaii, Idaho, Montana, Oregon, Utah, and Wyoming.

In addition, Washington, through the Department of Ecology, participates in the national low-level waste forum. The forum, which is an association of state and regional compact members appointed by governors and compact commissions, facilitates the implementation of state and regional waste compacts.

Major Activities
The Tri-Party Agreement acts as a framework for Hanford Site cleanup. It contains target dates (or milestones) to accomplish cleanup work and is reviewed and updated periodically.

Major program priorities at Hanford
❖ Clean up contamination near the Columbia River site boundary and work inland

❖ Clean up areas within the Hanford site where groundwater contamination may impact the river

❖ Prevent additional releases to the environment by stabilizing tanks, other structures, and contaminated areas, and improve waste management practices

Selected accomplishments
❖ Reduced annual volume of wastewater dumped into the ground by 75 percent

❖ Reduced volume of tank waste by 8 million gallons

❖ Removed or stabilized hazardous and radioactive material in Hanfords Plutonium Finishing Plant and PUREX facility. Deactivated Uranium Trioxide Plant and began deactivation of B Plant plutonium processing plant.

❖ Reduced radiation levels in K East Basin by 20 per cent. Installed barriers to prevent spread of leaks at K Basins

❖ Treated 23 million gallons of groundwater and excavated approximately 300,000 cubic yards of contaminated soil

❖ Completed cleanup of the Wahluke Slope and Fitzner-Eberhardt Arid Lands Ecology Reserve, allowing nearly half of the Hanford site to be considered for other uses

❖ Issued state permits for major Hanford facilities to discharge liquid waste and to treat liquid waste

The Nuclear Waste Program also issues and oversees permits for the transportation, storage and disposal of hazardous and radioactive waste at the Puget Sound Naval Shipyard and at private companies in the Tri-Cities area

Major Issues

The U.S. Department of Energy (USDOE) Environmental Restoration and Waste Management Program is the largest environmental program in the nation. The cleanup of Hanford is the largest element of this program.

Tank waste cleanup

The cleanup of Hanford underground tanks will be one of the longest and most costly public works projects ever undertaken. A key element of the cleanup work is the retrieval and treatment of tank wastes. Tank waste remediation will take a major step forward in the summer of 1998, when USDOE is expected to issue a contract(s) to a private company(s) to finance, construct, and operate tank waste treatment facilities. Actual waste treatment is scheduled to begin in 2002. Ecology believes this privatized cleanup program should be closely monitored to ensure that the cleanup meets Tri-Party Agreement goals and timetables.

Continuation of Hanford Cleanup progress

Cleanup progress has started on major Hanford facilities. USDOE must be encouraged to continue to seek ways to maintain progress on the stabilization and decommissioning of these facilities to reduce hazards to site workers and the environment. Progress must be maintained on issuance of closure or final operating permits for Hanford sites for waste transportation, storage and disposal.

Protection of the Columbia River

Work must continue to clean up those sites which could add to groundwater or river contamination, including the removal of decaying fuel rods from concrete storage areas located near the river. Groundwater cleanup and close monitoring of liquid waste discharges and cleanup must also continue.

Decisions about additional waste storage or treatment at Hanford

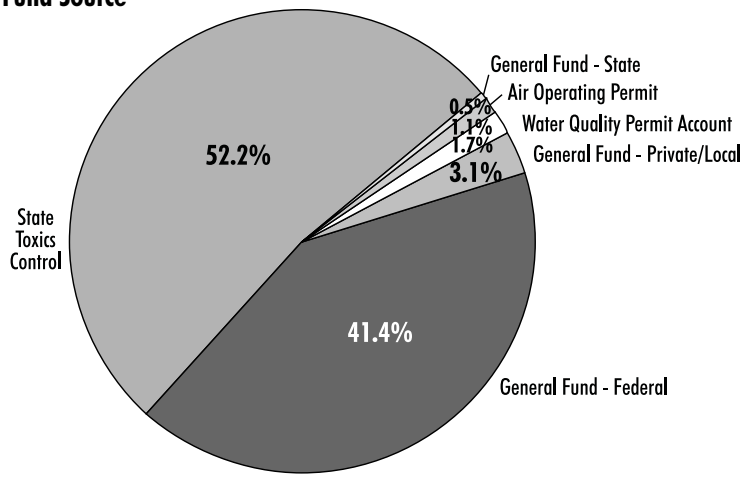
A number of national level decisions are pending regarding the future storage and treatment of hazardous and radioactive waste from foreign and domestic nuclear power plants, decommissioned nuclear warships, defense production site cleanups, and the disposition of surplus weapons materials. Hanford is a potential storage and treatment site for much of this waste. The Nuclear Waste Program plays an active role in helping the state respond to these cleanup plans.

Nuclear Waste Program Budget

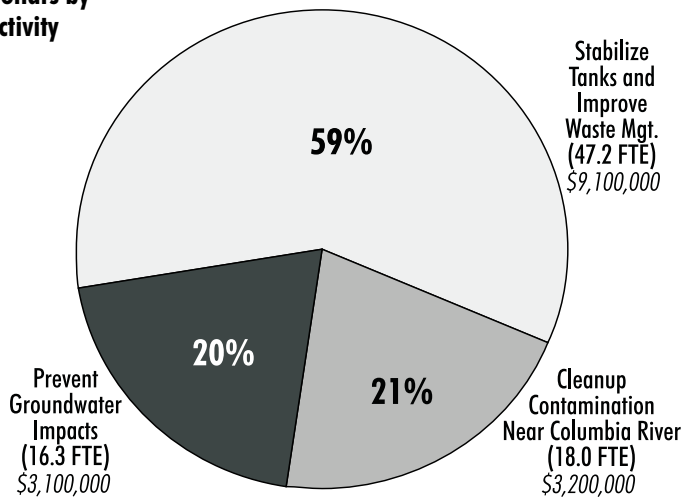
Budget: $15,403,810; Staffing: 81.5 FTEs

Fund	Amount ($)	Sources	Uses
State Toxics Control Account - Mixed Waste Fee	8,039,973	Permit fees for Mixed Waste Facilities	Remove radiological and heavy metal contaminants from soils; remove and store spent nuclear fuel; provide regulatory assistance to USDOE
General Fund - Federal	6,383,734	Federal grants	Remove radiological and heavy metal contaminants from soils; remove and store spent nuclear fuel. Provide regional management of low-level radioactive waste. Educate public on Hanford Environmental DOSE Reconstruction Project
General Fund - State, Private Local	475,130	Site use permit fee for generators, packagers, or brokers using the Hanford Low-Level Radioactive Waste Disposal Facility	Policy oversight of commercial low-level radioactive waste disposal within the state and the Northwest Interstate Compact on low-level radioactive waste management
Water Quality Permit Fees	257,499	Fees collected for wastewater discharge permits	Actions needed to maintain safe facilities which treat wastewater discharges on the Hanford site
Air Operating Permit	164,888	Permit fees collected for air contaminant sources	Actions needed to maintain safe facilities which treat waste discharges on the Hanford site
General Fund - State	82,586	Multiple	Congressional liaison for Hanford cleanup

Nuclear Waste Dollars by Fund Source



Nuclear Waste Dollars by Activity



Solid Waste and Financial Assistance Program

Contact: Jim Pendowski (360) 407-6103

Program Mission

To provide for the proper environmental management of solid waste through waste reduction, recycling and safe disposal; to provide technical assistance, education, planning assistance and regulatory interpretation to local governments who implement solid waste management programs; to assist local governments through grants to develop and implement these programs; and to ensure consistent and effective enforcement of air, water and waste laws for major industries (pulp and paper, aluminum smelters and petroleum refineries).

Environmental Threats

Improper disposal of wastes can result in pollution of ground water, surface water and air. Many of the biggest cleanup sites in our state are former solid waste landfills.

Washington's pulp and paper, aluminum smelting, and oil refining industries produce a tremendous amount of waste water, air contaminants and dangerous waste.

Increased recycling of former waste materials, including composting and land spreading of soil amendments and wastes used as fertilizers, can result in pollution problems if improperly applied.

Constituents/Stakeholders

Local Governments

City and county public works departments and utility districts are responsible for developing and implementing local solid waste plans and are responsible for their facilities. SW&FAP provides technical and financial assistance.

Ports and other local jurisdictions are the responsible party for the cleanup of a number of the hazardous waste sites. SW&FAP provides remedial action grants to local jurisdictions for site cleanups.

Environmental Interests

The Industrial Section works with various environmental groups, including the Washington Environmental Council, Sierra Club, People for Puget Sound, Friends of the Earth, Nature Conservancy, and Washington Toxics Coalition.

Citizens

The Information Hotline (1-800-RECYCLE) provides citizens and businesses with information about waste reduction and recycling.

Citizen groups are eligible to receive grants through the Public Participation Grants program to become informed about activities at hazardous waste cleanup sites and to implement the state's solid and hazardous waste management priorities.

SW&FAP works with various groups in the development of policies associated with recycling and other aspects of solid waste management. These groups include

- Washington Refuse and Recycling Association
- Washington Citizens for Resource Conservation
- Washington State Recycling Association
- Washington Toxics Coalition
- Washington Organics Recycling Council

Private Sector/Businesses

Private owners and operators of solid waste facilities are given technical support through SW&FAP@146s work with local health departments. In some cases, Ecology directly permits and works with the facility to help it meet all environmental regulatory requirements.

The Industrial Section works with the Association of Washington Business, Western States Petroleum Association, Northwest Pulp and Paper Association, as well as oil refineries, pulp mills, aluminum smelters.

State Agencies

Washington Utilities and Transportation Commission and Ecology review draft local solid waste plans, ensuring that plans meet their cost assessment requirements.

The Department of Health (DOH) works with Ecology to identify areas that meet the requirements for drinking water grants. Ecology is currently working with DOH and the Department of Agriculture in dealing with the issue of wastes being used as fertilizers.

Program Origin and Laws

Chapter 70.95 RCW, Solid Waste Management Act

The solid waste program in Washington state began at the State Department of Health and expanded with the passage of the Solid Waste Management Act in 1969. Enabling legislation, which created the Department of Ecology in 1970, moved the functions of the existing solid waste program from the Department of Health to the Department of Ecology.

In accordance with the Solid Waste Management Act, local health departments have primary authority for solid waste permitting and enforcement, and Ecology provides technical assistance through engineering and hydrogeologic services, including permit review. Ecology also provides technical assistance for solid waste facility inspections, enforcement and moderate risk waste plan implementation, and financial assistance through enforcement grants, grants for moderate risk waste programs, and grants for site hazard assessments.

The Industrial Section was formed to assure that the major industries (pulp and paper, aluminum smelters and petroleum refineries) in Washington were given a high priority and consistent focus. Primary laws include Chapter 90.48 RCW, Water Pollution Control, Chapter 70.94 RCW, the Clean Air Act, and Chapter 70.105A RCW, Dangerous Waste Regulation. Under federal delegation from EPA, we implement the counterpart federal air, water and waste laws.

Chapter 43.83A RCW, Waste Disposal Facilities Bond Issue (Referendum 26)

Passed in 1972, this referendum provides grant funding for planning, design, acquisition, construction and improvement of public waste disposal and management facilities. Ecology manages these grants.

Chapter 70.93 RCW, the Waste Reduction, Recycling, and Model Litter Control Act

(Formerly called Model Litter Control and Recycling Act) Also passed in 1972, this act authorizes Ecology to promote and stimulate recycling, encourage litter abatement, and provide employment in litter cleanup and related activities for the state's youth.

Chapter 70.105 RCW, Hazardous Waste Management

This act, passed in 1975, separated hazardous waste management from solid waste management. It requires Ecology to prepare guidelines and approve moderate risk waste management plans prepared by local governments

Resource Conservation and Recovery Act

In 1976, the federal government passed the Resource Conservation and Recovery Act (RCRA), which set standards for the management of solid waste landfills. Ecology received delegation for implementation of the program in the early 1980's. Amendments to federal Municipal Solid Waste Landfills regulations required Ecology to revise its municipal landfill standards in 1993. Ecology received delegation of the new federal program in January, 1994.

Chapter 43.99F RCW, Waste Disposal Facilities (Referendum 39)

This 1980 bond issue provides grant funding for planning, design, acquisition, construction, and improvement of public waste disposal and management facilities. Ecology manages these grants.

Chapter 70.138 RCW, Incinerator Ash Residue

Concerns over potential contamination from municipal solid waste incinerator ash prompted the passage of the Incinerator Ash Residue Act in 1987. This act authorizes Ecology to develop rules requiring Ecology-approved ash management plans and to permit ash disposal facilities.

Chapter 70.105D RCW, Model Toxics Control Act

This act, passed by voter initiative in 1988, directs Ecology to provide grants to local government for remedial actions, implementation of local solid and hazardous waste plans and programs, and for public participation in decisions made at hazardous waste sites.

Chapter 70.95D RCW, Solid Waste Incinerators and Landfill Operators

Passed in 1989, this law directs Ecology to develop rules and establish the operator certification program for all solid waste landfill and incinerator operators.

Chapter 79.95J RCW, Municipal Sewage Sludge (Biosolids)

This law, passed in 1992, directs Ecology to develop a state biosolids management program, including regulations to implement sections of the federal Clean Water Act.

Major Activities

Environmental Monitoring, Permitting and Engineering Services

❖ *Solid Waste Facilities*
Environmental regulations dealing with the siting, design and construction of solid waste facilities are developed by Ecology to protect the air, land, surface and ground water.

❖ *Industrial Compliance*
The Industrial Section manages all regulatory requirements for 29 of the state's largest, most complex industrial facilities. These facilities include pulp mills, aluminum smelters, and oil refineries. Section staff are responsible for assuring compliance with state and federal regulations for air, water and waste management activities. Because of the high profile and national significance of these industries, the section works closely with EPA.

❖ *Incinerator Ash*
Ecology develops rules requiring Ecology-approved ash management plans and permits ash disposal facilities.

❖ *Operator Certification*
Certification programs for landfills and incinerators train operators in the proper procedures to safely operate facilities in compliance with environmental protection regulations.

Results
❖ We provide technical assistance to the permit applicant, facility owner/operator, and the jurisdictional health department for over 300 solid waste facilities. For example, Ecology staff have been providing engineering and hydrogeology technical support to the Adams County Health District in their review of the permit application for the Adams County Regional Landfill proposed by Waste Management. The size of the site and its hydrogeologic regime have produced innovative solutions, the most significant being development of an adequate ground water monitoring system. Adams County Health District has issued a permit, and construction should begin on the 90 million ton facility in spring 1998.

❖ Major industrial facilities in Washington state do a good job of complying with state environmental laws. Only a small number of penalties are issued each year to these facilities for violations detected during self-monitoring and inspections.

❖ Currently, four operating municipal solid waste incinerators have approved ash management plans, and one ash monofill has been permitted for the disposal of incinerator ash.

❖ Since 1993, over 900 operators of landfills and incinerators have been certified.

State/Local Planning, Policy and Reporting

Statewide policy forms a backdrop for local government development of solid waste and hazardous waste plans. Local plans, in turn, form the basis for the permitting systems for solid waste facilities in the state. SW&FAP provides technical assistance to counties in writing, revising, and implementing solid and moderate risk waste plans, participating in local solid waste advisory committees as they develop and implement local plans, and reviewing and approving local solid and moderate risk waste management plans.

Data collection and reporting activities include preparing an annual status report on solid waste, a statewide recycling survey, and quarterly interstate waste tracking reports. Information received assists in developing or modifying policies on various aspects of pollution prevention, recycling, solid waste management and moderate risk waste management.

Results
Most counties have approved local solid waste management plans which include waste reduction and recycling. Thirty-three moderate risk waste plans, representing all of Washington46s jurisdictions, were approved by January 1992, and most have been updated to include used oil amendments. Currently, many counties are amending their local solid waste plans to reflect changes in the solid waste handling system.

Waste Management Grants

The following three grant programs have been developed

❖ *Remedial Action Grants* assist local governments, which are responsible parties for hazardous waste sites study and cleanup. Grants also help local health districts investigate suspected hazardous waste sites. Grants help public water purveyors re-establish safe drinking water supplies where drinking water has become contaminated from hazardous waste sites.

❖ *Coordinated Prevention Grants* provide money to local governments for solid waste planning, enforcement of solid waste regulations, groundwater monitoring wells at landfills, moderate risk waste planning, implementation of moderate risk waste plans, and recycling activities and infrastructure.*

❖ *Public Participation Grants* are provided to citizen groups and not-for-profit organizations to help people participate in the decisions made at hazardous waste cleanup sites. The grants also provide funding for projects that promote proper waste management practices by citizens and businesses.

Results
Since 1972, over $48 million of Referendum 26 funds have been allocated for waste projects, including recycling facilities. Over $99 million of Referendum 39 funds have been allocated for waste projects since 1980, mainly to three waste-to-energy facilities. Over $171 million in grants resulting from the Model Toxics Control Act have been issued since 1988.

Pollution Prevention, Waste Reduction and Recycling

❖ *Pollution Prevention (P2)*
Our pollution prevention activities center around several areas: providing technical assistance to local governments and to contractors, as requested, on methods for reducing and reusing construction and demolition materials; providing grants to support pollution prevention initiatives by local governments, trade associations and citizen groups; providing grants for collecting moderate risk waste from households and small quantity generators, as well as toxicity reduction efforts; providing technical assistance to local governments to implement waste and toxicity reduction; and working with industries in preparing and measuring progress of pollution prevention plans.

Elements of both the Coordinated Prevention Grants Program (CPG) and Public Participation Grants Program (PPG) address pollution prevention issues. The CPG Program categorically provides funding for waste and toxicity reduction activities in local government solid waste management programs. A sizable portion of PPG awards goes to business and trade associations for pollution prevention. Technical assistance to small quantity generators is provided, as well as implementation assistance on plan waste or toxicity reduction elements. Grant project officers also work on local pollution prevention implementation issues.

We work with local government on moderate risk waste efforts, through shop-sweep type campaigns, and with small quantity generators to properly manage/reduce their waste streams. Guidance on used oil management is also provided.

The Industrial Section works with industries to identify and implement pollution prevention, as well as to prepare pollution prevention plans and annual progress reports. In 1997, industries are required to submit five-year updates to their original 1992 Pollution Prevention Plans. Industries may substitute qualifying Environmental Management Systems (e.g. ISO 14001) for pollution prevention plans.

❖ *Waste Reduction and Recycling Assistance*
Ecology staff provide critical assistance in the establishment and continued operation of recycling programs, including technical information on collection and processing of materials, financial data, legal mechanisms, marketing options, educational materials, and policy issues to consider.

We have a toll-free line through which public and businesses can receive advice on recycling and safe disposal of solid wastes and alternatives to using products that produce household toxic wastes. The toll-free line also provides methods and locations for the safe disposal of household hazardous waste, information on small quantity generator events, and locations for the recycling and disposal of construction, demolition and landclearing debris. Referrals are made to companies who offer commercial pickup for business recycling.

Results
❖ In this biennium, $10.6 million in grants has been provided for waste reduction and recycling efforts. About $4.5 million in grants has been provided for moderate risk waste activities.

Criteria developed by the Hazardous Waste and Toxics Reduction Program, with input from the Industrial Section, is being used to ensure that an Environmental Management System substituted for a Pollution Prevention Plan still addresses P2 preferentially. The goal is to get pollution prevention into the business planning and quality management operations of the industry. Over 20 of the required 27 Industrial Section industries have submitted five-year, updated plans. Two industries have opted for the Environmental Management Systems approach.

❖ Preliminary numbers indicate that in 1996, a statewide recycling rate of almost 40% was achieved. In the last two years, about 80,000 callers have been assisted.

Litter Control

❖ *Litter Task Force*
During the 1997 Legislative session, a concern over the increased amount of litter on the state's highways led to additional funds for litter-pickup. Concerns about litter and the use of litter funds led SW&FAP to convene a Litter Task Force to evaluate the best and most efficient methods for picking-up litter in Washington. This task force is composed of representatives of Ecology, the Departments of Transportation, Corrections, Natural Resources, Revenue, the State Parks and Recreation Commission, counties, cities and industries associated with the Litter Fund, legislators or their staff, and others.

❖ *Ecology Youth Corps (EYC)*
**With the additional funds provided by the 1997 Legislature, SW&FAP made some immediate changes in the EYC program. Working spring, summer and fall, median crews that focused on medians, interchanges and on/off ramps were added, as were additional traditional summer crews that work road shoulders and public access areas.*

❖ *Litter Grants for Local Governments*
SW&FAP is currently developing a new grant program for local governments that focuses on the cleanup and disposal of illegal dumping areas.

Results
❖ The Litter Task Force will complete its work by the end of 1997, and will make recommendations for the distribution of litter-pickup funds for the coming year.

❖ In 1996, a total of 20,865 bags of litter and recyclables were collected from over 1,838 miles of roads. So far in 1997, with fall median crews still working, 47,920 bags of litter and recyclables have been collected from 4,535 miles of road.

❖ In order to make this a permanent grant program, changes may be required in Chapter 70.93 RCW, Waste Reduction, Recycling, and Model Litter Control Act, to allow future implementation of the program originally set up in the budget bill.

Other changes include eliminating provisions that are no longer implemented by Ecology, such as providing grants to local governments to provide litter receptacles and providing litter bags to the Department of Licensing for distribution.

Organics Strategy

Organics continue to be a major portion of the waste stream. New methods of handling these materials are being used by the public and private sector. SW&FAP will address several portions of the organic waste stream and new handling methods used for the management of those wastes, which include biosolids, composting, managing wastes from the agricultural industry, and land application of solid wastes.

❖ *Biosolids*
The land application of biosolids, if not done under proper conditions, can contaminate ground and surface water, as well as land, particularly if heavy metals are present. To ensure proper management, SW&FAP is currently developing Chapter 173-308 WAC, Biosolids Management. As part of this new program, Ecology will assume primacy for permitting from EPA. Permitting activities will include review of applications, land application plans, review of technical data on biosolids quality and soils, and verification of agronomic rates. The biosolids rule is scheduled for completion in early 1998.

❖ *Composting*
Composting is essential in meeting the 50% waste reduction and recycling goal. Concerns exist regarding how compost facilities are designed and operated to eliminate leachate and runoff which can contaminate ground and surface water. Concerns also exist regarding air quality, especially odor. We are committed to clarifying existing regulations and recommending best management practice guidance to compost facility operators, health departments, municipalities and entrepreneurs.

❖ *Land Application of Materials/Agricultural Wastes*
Land application involves applying various types of solid wastes to the land as fertilizers or soil amendments. Such wastes may include gypsum wallboard mixed with yard waste, wastewater from chicken processing plants (chicken DAF), by-products from meat packing plants, cement kiln dust, or industrial wastewater treatment plant sludges. It is expected that public awareness, concern, and controversy will increase as the practice of land application increases. Increasing volumes of waste from hazardous waste deregulatory activities and cleanup activities involving sediments, air and water, also make this an important issue.

Agricultural wastes are currently being handled in a variety of ways: landfill disposal, agricultural land application, soil amendment, composting, and illegal piling. Local health departments have noticed an increase of illegal handling of this material. In addition, some generators of this waste stream are getting it registered as a fertilizer through the Department of Agriculture fertilizer registration program. Once these materials are registered as fertilizers, the generators claim that the material is no longer a solid waste and should not be regulated as a solid waste. This adds to the regulatory confusion.

Results
❖ SW&FAP has issued a working draft "Compost Facility Resource Handbook" to assist in facility siting, design and operation to meet all environmental protection standards. The handbook will be revised based on comments received, and completed early in 1998. We continue to provide technical assistance to local health jurisdictions and compost facilities.

❖ Working closely with the Northwest Food Processors Association and the jurisdictional health departments, we provide specific technical assistance on permitting land application of these organic waste materials.

Major Issues

Changes in the Solid Waste Regulatory Structure

In the last 10 years, solid waste management has undergone many changes and improvements. In the past, the majority of waste was disposed of in landfills or by incineration. Landfills were not required to be lined and often contaminated the ground and surface water.

The Solid Waste Management Act establishes the environmental and regulatory requirements for solid waste. It views all components of the solid waste stream as waste. By law, the definition of solid waste includes recyclables, which means recyclable materials and their processing facilities are subject to the same environmental regulations and permitting requirements as other types of solid waste handling, even when there is little or no environmental risk associated with the material.

Solid Waste Permitting System Review

The 1997 Legislature directed Ecology to review the solid waste permit system to determine how the use and reuse of materials can be improved. Areas to be reviewed include alternative statutory definitions, permitting requirements, risk assessment, and the overall solid waste and recyclables regulatory system.

SW&FAP, working with the State Solid Waste Advisory Committee, has held public workshops and is receiving valuable input from a wide variety of interested parties. Final report to the Legislature is due in December, 1997. Specific legislative and regulatory changes to the solid waste permit system will be included.

Revision of chapter 173-304 WAC

Chapter 173-304 WAC, Minimum Functional Standards for Solid Waste Handling, was last revised in 1985. Since that time, there have been many changes in the handling of solid waste. These changes include land application of material for beneficial use, new recycling and reuse methods for woodwaste and demolition wastes, the movement of wastes into the solid waste system from the hazardous waste system through deregulation, and the increasing emphasis on different facilities, such as compost facilities, rather than landfills. In addition, in 1991, Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills set new standards for municipal solid waste landfills. SW&FAP, working with State Solid Waste Advisory Committee, will develop a strategy for revising chapter 173-304 WAC.

Litter Task Force

The Litter Task Force was formed by SW&FAP in response to the concerns over increased road litter and the most effective way to pick it up. The Task Force work will be completed by the end of 1997. Issues include

- ❖ Examining ways to increase litter pickup using the youth employment program or other methods at both the state and local level
- ❖ Evaluating the need for illegal dumping abatement at the local level
- ❖ Determining the most effective approach to public education and awareness for anti-litter campaigns at the state or local level
- ❖ Evaluating other litter related issues as determined by the task force

Some of the Task Force recommendations may require changes in Chapter 70.93 RCW, Waste Reduction, Recycling, and Model Litter Control Act, including changes in the funding percentages for litter collection and waste reduction and recycling activities.

Industrial Activities

Odors, the discharge of dioxin and dioxin-like compounds into water, and the tremendous amount of chemicals used by the pulp and paper industry result in a high degree of public scrutiny, which increases as the state's population grows. The Industrial Section will be working with the pulp and paper industries to implement the new federal air toxic rules and wastewater effluent limits. A key concern of the environmental community is the use of chlorine bleach in the process, which is allowed under EPA regulation. The environmental community wants the state to require chlorine-free bleaching.

For refineries, current NPDES permit effluent limits are tied to production in accordance with federal guidelines. The environmental community does not feel pollution should be tied to production rates, but would rather have set pollution levels that would not increase with an increase in production.

Spent pot liners from the aluminum industry make up one of the largest hazardous waste streams in the state. Though many ideas have been proposed for their reuse and recycling, the environmental community wants them to remain under the dangerous waste permit system rather than being removed from that system if redesignated for beneficial use.

By December 1997, the Industrial Section will issue new Air Operating Permits for the pulp and paper industry and primary aluminum industry. This new permit program is based on federal and state laws established in 1990 and 1991. One of the key issues has been that new limits cannot be set in the new Air Operating Permits. All existing requirements need to be consoli-

dated into one document and system to do the monitoring and ensure compliance. One of the problems is many of the old rules and regulations did not have precise defined limits and now compliance methods must be defined. A template permit has been completed for the pulp and paper industry and one for the aluminum industry is about 90% complete. Once approved, the rest will be quicker and easier to issue.

Privatization of Waste Disposal

Even with today's level of recycling, disposal is still a significant part of the solid waste management system. Large mega-landfills in Eastern Washington and Oregon are now replacing local county landfills. In the next five years, fewer than 20 municipal solid waste landfills will remain in the state.

Local Government's Need for Financial Support of the Recycling Infrastructure

With over 100 programs in Washington state, curbside recycling is now available to over 70% of the population. Several of the traditional commodities, including aluminum cans, glass, and newspaper, are typically collected. A strong collection infrastructure, supported in large part by grants to local governments, has resulted in a private sector willing to invest in the use of recyclables. Limited resources at the local level result in criminal justice and public health taking priority over recycling. Because many counties rely on tipping fees to support recycling programs, landfills moving out of their sphere of control will result in fewer dollars available. Local jurisdictions need a stable funding source for solid waste disposal and recycling.

Public Education

The need for statewide public education regarding correct disposal and recycling techniques continues. Issues include preventative anti-litter education and continuing to increase recycling in new commodity areas and from new generators.

Waste-To-Fertilizer

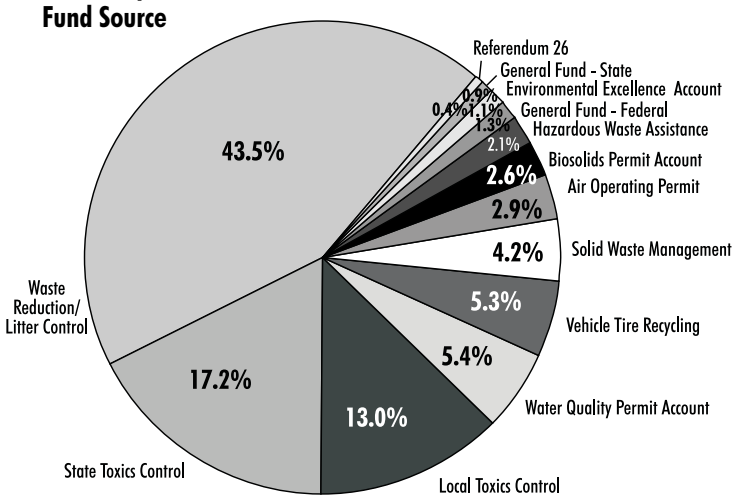
Presently, the law allows reclassification of industrial by-products from solid waste or hazardous waste if legitimately used in a product which has beneficial uses, such as fertilizer. Though current data does not support the perception that use of industrial wastes in fertilizer is unsafe, Governor Locke has asked the Departments of Ecology, Agriculture, and Health to gather information and make a determination regarding its potential as a public health problem.

The Hazardous Waste and Toxics Reduction Program at Ecology is the lead program for this effort. SW&FAP is involved in the process because of certain solid wastes that are used for fertilizer and soil amendments.

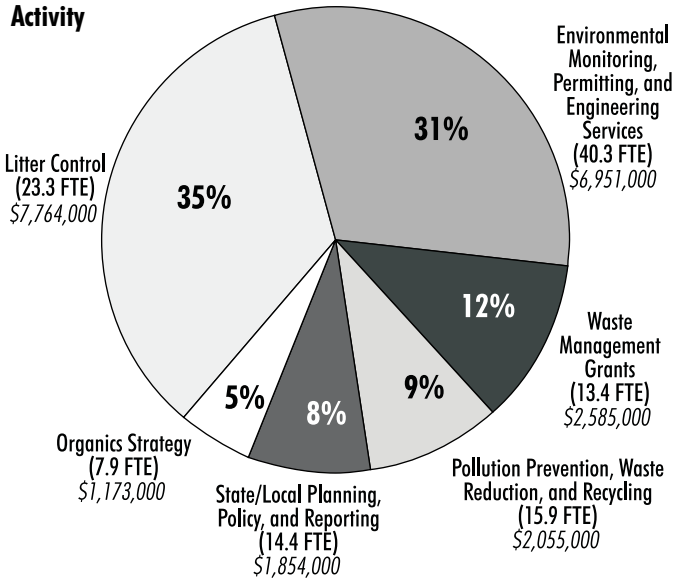
1997 legislation establishes procedures for a person to seek the approval of the Department of Ecology to distribute a wood byproduct, currently a solid waste, as a commercial fertilizer. Once a wood byproduct is approved by Ecology for use as a commercial fertilizer, it is not regulated as a solid waste and may be registered by the Department of Agriculture as a commercial fertilizer.

Governor Locke has also asked the Departments of Ecology, Agriculture, and Health to address such issues as establishing standards for allowable levels of non-nutrient contents, labeling requirements, and funding for a fertilizer monitoring program. A workgroup will make recommendations regarding legislative proposals and rule making on contaminants in fertilizers.

Solid Waste and Financial Assistance Dollars by Fund Source



Solid Waste and Financial Assistance Dollars by Activity



Solid Waste and Financial Assistance Program Budget

Budget: $22,382,166; Staffing: 115.2 FTEs (Operating staff and 13 EYC crew supervisors)

Fund	Amount ($)	Sources	Uses
Local Toxics Control Account	2,907,208	Hazardous substance tax	Administration of grants to local governments for the investigation and cleanup of hazardous waste sites and to implement solid and hazardous waste plans and programs
State Toxics Control Account	3,858,024	Hazardous substance tax; recovered remedial actions and penalties collected	Provide technical assistance to local health departments; pollution prevention initiatives; regulatory reform; industrial dangerous waste and cleanup activities; public participation grants
Waste Reduction/ Litter Control Account	9,738,317	Litter tax	Supports youth hired to clean up litter (50%); 1-800 Recycle Hotline; technical assistance in waste reduction, pollution prevention initiatives and recycling (30%); litter grants to local government (20%)
Vehicle Tire Account	1,190,970	Fund balance originally from fees on new tires	Clean up unauthorized tire piles
General Fund - Federal	295,390	Environmental Protection Agency	Watershed Biosolids Grants; develop Environmental Excellence program, public education and outreach
Water Quality Permit Fees	1,217,766	Permit fees collected for wastewater discharge permits	Industrial water quality permit activities; sediment source control
Solid Waste Management Assistance	941,178	Fund balance originally from solid waste collection tax	Administrative support, operator certification program, and waste reduction/recycling technical assistance
Hazardous Waste Assistance	472,056	Hazardous Waste Fees	Grants to local governments to provide technical assistance and education to small businesses on proper hazardous waste management
General Fund - State	196,317	Multiple	Water quality permitting, inspection, enforcement
Air Operating Permit	637,926	Permit fees collected for air contaminant sources	Industrial air quality permitting, inspections, enforcement
Biosolids Permit	577,930	Fee on sewage treatment facilities	Develop and implement the biosolids program
Environmental Excellence	252,044	Fee collected from applicant	Agency activities to develop Environmental Excellence agreements
Referendum 26	97,040	Sale of bonds; loan repayments and interest payments	Program administrative support
Capital Budget Funding: $69,890,291			
Local Toxics Control Account	63,824,149 *($20,780,149 Reappropriation and $43,044,000 new appropriation*	Hazardous substance tax	Grants to local governments for remedial action; coordinated prevention program and public participation
Referendum 26	2,983,247 *(reappropriation)*	Sale of bonds; loan repayments and interest payments	Grants to local governments for coordinated prevention program - waste reduction and recycling facilities
Referendum 39	3,082,895 *(reappropriation)*	Sale of bonds; loan repayments and interest payments	Grants to local governments for coordinated prevention program - waste reduction and recycling facilities

Shorelands and Environmental Assistance Program

Contact: Gordon White (360) 407-6977

Program Mission

To protect, preserve, and enhance the soil, air and water resources of the State of Washington by promoting their wise management and use through: citizen education and technical assistance; integrated and collaborative implementation of environmental management and stewardship.

The major goals of this program include

❖ Reducing sediment contamination

❖ Managing the environmental impact of government growth plans and new private party development proposals

❖ Researching and monitoring to provide important tools for coastal management

❖ Educating the public and local governments on coastal hazards and environmental health in the coastal zone

❖ Protecting lives and property by minimizing flood damage and reducing flood hazards

❖ Protecting Washington's shoreland resources

❖ Managing and protecting wetlands

Environmental Threat

Shorelands

The biggest threat to Washington's shorelands is uncoordinated and piecemeal development along rivers, lakes and marine waters, which results in

❖ Loss of industry and commerce that depend on and are related to water

❖ Loss of public access to waters of the state

❖ Interference with the public's right to navigate upon and use the water areas of the state for commerce, recreation, and transportation

❖ Property damage due to flooding and erosion

❖ Diminishing property values due to loss or impairment of views, incompatible uses and environmental degradation

❖ Diminishing or loss of environmental productivity through incremental degradation of fish and wildlife habitat and water quality

Contaminated Sediments

High levels of toxic chemicals are found in sediments in many parts of the state. Toxic chemicals reach the sediments from several sources, including unpermitted discharges, stormwater runoff, and permitted point sources. Contaminated sediments can pose a threat to biological resources and human health. They also increase the costs and complexity of maintenance dredging by ports and businesses, and can adversely impact commercial and recreational fishing.

Programs Origin and Laws

Shoreline Management

Chapter 90.58 RCW, Shoreline Management Act

This act passed the Washington State Legislature in 1971 and was approved by voters in a referendum in the fall of 1972. The Act establishes a cooperative program between local and state governments, in which local government develops and administers local Shoreline Master Programs, and state government provides policy guidance, technical assistance and oversight.

Coastal Zone Management

Coastal Zone Management Act

This act was passed by Congress in 1972 in response to many of the same issues that led to passage of Washington's Shoreline Management Act. Congress responded with a voluntary program that provides resources to the coastal states and territories for planning and management of coastal economic and environmental resources. States may receive funds once they establish a federally approved program to manage their coastal resources.

Washington's coastal zone management program, approved in 1976, is based on the states Shoreline Management Act. It applies within the 15 counties with saltwater shoreline. In addition to the financial resources that come from having an approved plan, the federal law provides authority for states to review federal activities for consistency with the state's approved coastal zone management plan.

In cooperation with the states, the Act also established a system of estuarine research reserves for estuarine protection, long-term research, education and interpretation. In Washington State, Ecology manages the Padilla Bay National Estuarine Research Reserve

in Skagit County. This includes ownership of tidelands and uplands, plus research, educational and interpretive facilities at the Breazeale / Padilla Bay Interpretive Center.

The Act was reauthorized by Congress in May of 1996 with unanimous votes in both the House and the Senate.

Floodplain Management

Chapter 86.16 RCW, Floodplain Management Act
Originally the Flood Control Zones Act, it was passed in 1935 in response to a series of catastrophic flood events. This law set up a system of state permits for development in floodplains. In 1987 and 1989, the law was extensively amended to provide a system of state coordination and oversight of flood management activities of local government in response to federal mandates pursuant to the Federal Flood Insurance Program.

Chapter 86.26 RCW, State Participation in Flood Control Maintenance
The Flood Control Assistance Account Program is derived from a 1951 law which has been extensively amended over the years. It provides grants to local governments for flood hazard planning and construction of flood damage reduction projects.

Wetlands Management

Chapter 90.58 RCW, Shoreline Management Act
This act, and the state's responsibilities under Section 401 of the Federal Clean Water Act, are the primary drivers for Ecology's wetland management activities. The Shoreline Act applies to wetland areas associated with streams, lakes and marine waters that are designated as shorelines. Section 404 of the Federal Clean Water Act requires that projects that propose to discharge dredge or fill material in water areas and wetlands obtain a permit from the Corps of Engineers. As a part of our responsibilities as the state agency designated as responsible for implementation of the Clean Water Act, we issue Section 401 water quality certifications for those projects seeking 404 permits. The area covered by 404 authority includes shoreline and non-shoreline wetlands.

Chapter 90.71 RCW, Puget Sound Water Quality Protection
This act prescribes actions needed for the maintenance and enhancement of Puget Sound water quality. Ecology has responsibility for implementing the wetlands activities outlined in the plan, including assisting local communities in using non-regulatory methods to protect wetlands, and developing and implementing the Puget Sound Wetlands Restoration Program.

Washington Conservation Corps (WCC)

Chapter 43.220 RCW,
Washington Conservation Corps
In 1983, this law created the WCC at Ecology as well as six other state agencies. The goals of WCC are conservation, rehabilitation, and enhancement of the states natural and environmental resources while providing educational opportunities and meaningful work experiences for the state's youth.

Sediments

Sediment contamination was identified as a significant environmental threat in the

1980's. The Sediment Management Program evolved based on early experience with Commencement Bay cleanup activity and Puget Sound Dredged Disposal Analysis program (PSDDA is a national model for a multi-agency cooperative dredged disposal program). Authority is derived from several laws: Chapter 90.48 RCW, Water Pollution Control Act, Chapter 70.105D RCW, Model Toxics Control Act, and Chapter 90.71 RCW, Puget Sound Water Quality Protection.

Permit Coordination

Chapter 90.48 RCW, Water Pollution Control Act
This act authorizes Ecology to implement Section 401 of the Federal Clean Water Act which requires states to evaluate and certify that water-related construction projects comply with water quality laws and regulations prior to the issuance of applicable federal permits.

SEPA/GMA

Chapter 43.21C RCW, State Environmental Policy Act
Adopted in 1971, this act directs state and local agency decision makers to consider the environmental consequences of their actions. The law was amended in 1995 to better integrate the provisions of SEPA and the Growth Management Act. Other enabling legislation includes the National Environmental Policy Act (42 USC 4321 et.seq.).

Permit Assistance

Chapter 90.60 RCW, Environmental Permit Assistance Act
Passed in 1995, this law established the Permit Assistance Center to help citizens comply with environmental permitting requirements. The concepts underlying the law are similar to those in the Environmental Coordination Procedures Act (ECPA) of 1973, which was repealed by the Legislature in 1995.

Constituents/Stakeholders

Local Government
Cities and counties, water and sewer districts, ports

State Government
Departments of Fish and Wildlife; Natural Resources; Community, Trade, and Economic Development; and Health, and the Puget Sound Water Quality Action Team

Federal
Corps of Engineers, EPA, Fish & Wildlife, National Marine Fishery Service, National Oceanic Atmospheric Administration, Federal Energy Regulatory Commission, Coast Guard

Tribes

Business
Developers, ports, industrial and commercial interests, agriculture, business associations, and industrial associations

Environmental
Washington Environmental Council, Sierra Club, People for Puget Sound, Friends of the Earth, Nature Conservancy, Washington Toxics Coalition

Public
Homeowners, business owners and operators, boat owners, waterfront property owners, recreational organizations, the agricultural community, and citizens seeking permit information

In administering the Shoreline Management Act, we serve both as support and oversight to local government. Over the years, our emphasis has been on providing technical assistance and training and on working cooperatively with communities. Disagreement with our local counterparts on particular permit issues or on proposed changes to local Shoreline Master Programs presents occasional challenges that require increased communication and negotiation as we work toward balancing local and statewide interests in our shorelines.

Ecology has established and/or participated in a variety of intergovernmental bodies for the purposes of coordination, technical review, or collaborative decision-making. A few examples include the Interagency Wetlands Review Board, the Puget Sound/Georgia Basin International Task Force, the Wetlands Restoration Interagency Technical Work Team, and the Interagency Levee Task Force.

Major Activities

Washington Conservation Corps (WCC)
WCC primarily performs watershed restoration projects in economically distressed communities throughout the state. WCC creates partnerships and sponsorships with federal, state and local agencies, private entities and non-profit groups to restore watersheds. WCC provides jobs and training for disadvantaged youth and displaced timber workers. Each corps member is eligible for 15 college credits of training and on-the-job experience as well as a $4,725 post-graduate Americorps Scholarship. Displaced timber workers are hired as crew supervisors and paid a family wage.

Results
From July, 1995 to June 1997, WCC performed 4,800,000 square feet of bio-engineering work on upper watersheds, including installation of bio-degradable erosion matting, seeding, fertilizing, and mulching. Other restoration methods included log terracing, brush layering, and brush matting of more than 240,000 linear feet. WCC crews performed clean up of non-native vegetation and other debris of over 2,300,000 square feet.

Other activities included construction of over 200,000 feet of fencing to keep cattle out of streams, planting over 300,000 trees, constructing over 200 campsites, and building 56,000 erosion control, wildlife habitat, and in-stream structures. The WCC served more than 3,300 hours on emergency response.

Permit Coordination
Ecology issues 401 Water Quality Certifications and Coastal Zone Management Act (CZMA) Concurrence Determinations for water-related construction projects. Our goals are to minimize environmental impacts by ensuring these projects comply with state environmental requirements, and to provide a coordinated state response on federal permitting actions by working closely with several federal, state, and local agencies.

Permit Assistance Center
The Permit Assistance Center (PAC) provides assistance and information on environmental permitting to businesses, the public, and other government agencies. Our goal is to provide high quality service by improving the timeliness and effectiveness of the environmental permitting process. The PAC works with federal, state, and local permitting agencies to facilitate timely and coordinated project permitting, and works closely with other state agencies to ensure that PAC services address all state environmental permitting requirements.

Results
Since June 1, 1995, the PAC has served over 2,000 customers. Responses on customer survey cards and letters indicate that people find PAC services timely and effective. The PAC has also facilitated the permitting of eight development projects and negotiated one coordinated permit schedule and agreement (Crown Jewel Mine).

SEPA/GMA

Activities include managing the preparation of environmental impact statements for major projects; providing training and guidance for local agencies and the public; preparing rule amendments and interpretation guidance; and managing a statewide information clearinghouse. We work closely with federal, state, and local agencies to implement SEPA, and with federal agencies in preparing documents under the National Environmental Policy Act (NEPA).

Sediments

Our activities include technical support to source control permit writers and cleanup site managers; updating sediment management standards based on current scientific information; maintaining the sediment information database; participating in a multiagency effort to select and construct a disposal facility for contaminated sediments; and implementing guidelines for disposing of relatively clean sediments. We also manage a multiagency sediment cleanup pilot project which is designed to integrate cross-agency actions and accelerate sediment cleanup.

Results
The Puget Sound Dredge Disposal Analysis is an example of a multi-agency partnership which has established guidelines and procedures for managing relatively clean sediments. This interagency partnership (involving Ecology, Department of Natural Resources, EPA, and the Corps) has served as a model for regional dredging teams in other parts of the country. These four agencies, together with the Department of Transportation and the Puget Sound Action Team, are also working closely to improve programs for managing contaminated sediments.

Padilla Bay National Estuarine Research Reserve

Management of this Reserve includes

❖ Managing the 11,500-acre Reserve and extensive support facilities, in cooperation with the National Oceanic and Atmospheric Administration

❖ Conducting long-term estuarine/coastal research and monitoring critical habitats and species

❖ Establishing research projects to address policy, regulatory, and resource issues

❖ Providing educational programs to teachers, students and the public on estuarine, coastal zone management, watersheds, water quality and ground water

Results
❖ Careful management and stewardship of tidelands, important to fish, shellfish, migratory waterfowl, and shorebirds

❖ More than 250 educational programs per year, reaching more than 10,000 participants with information that increases their understanding of estuaries

❖ Increased understanding of controlling spartina

Coastal Processes

Ecology staff provide technical assistance on coastal erosion issues to landowners, local governments, and other state agencies by

❖ Providing a point of contact for property owners concerned about property erosion, coastal hazards and bluff stabilization

❖ Maintaining knowledge of work being completed nationwide so that Washington's shoreline policies reflect current knowledge and are based on sound science

❖ Protecting the natural characteristics, resources, and ecology of the shorelands and coastal zone from the direct and cumulative adverse effects of human activities

❖ Coordinating the Southwest Coastal Erosion Study to assess coastal erosion and navigation hazards along the coast and at Willapa Bay, Grays Harbor and the Columbia River

Results
Land owners are now better informed about options for protecting their land, and agencies have better information upon which to base management decisions.

Flood Plain Management

Ecology administers the Flood Control Assistance Account Program through providing grants to communities for flood damage reduction and comprehensive flood hazard management planning. We also

❖ Review and approve local Comprehensive Flood Hazard Management Plans

❖ Inspect construction of flood damage reduction projects

❖ Develop and implement statewide policies on floodplain management

❖ Provide technical assistance to local governments and agency staff

❖ Coordinate with local governments on the National Flood Insurance Program

Results
These activities result in good Flood Hazard Management Plans and flood damage reduction projects which help mitigate losses from flooding. A post-flood evaluation of some of the areas flooded clearly demonstrated the value of flood hazard reduction measures such as critter pads (elevated land for cattle), elevation of structures (e.g. homes and businesses), and land-use restrictions in areas that receive severe inundation.

Shorelands Information Management

The Shorelands and Environmental Assistance Program is working to make improvements in how we manage and provide access to our environmental resource information. We

❖ Develop and maintain information necessary for making timely and sound decisions in shorelands, wetlands, coastal, and floodplain management

❖ Link clients (i.e. staff, public, businesses, local governments) to integrated, usable information management systems in order to manage growing demands for information

❖ Provide support for watershed-based information requests, data analysis and map making through the geographic information system

Results
We have completed a shoreline permit tracking system to better serve citizens who want information about permit status. We have assessed some Puget Sound watersheds to identify potential sites for voluntary wetlands restoration. We work cooperatively with state and federal agencies to acquire information needed to effectively manage shorelands resources.

Shorelands Policy and Planning

To help manage the state's shorelines, we

❖ Develop and update policies, procedures, and guidance to integrate shoreline management with growth management

❖ Develop the annual Coastal Zone Management Grant and report to the National Oceanic and Atmospheric Administration

❖ Coordinate with a variety of land management organizations including local jurisdictions and various associations, and other state and federal agencies

❖ Represent the state in various federal efforts, including National Marine Sanctuaries, offshore oil and gas, and the Coastal States Organization

Results
Updated rules, policies, and procedures are needed to implement recent changes to the Shorelines Management Act. Well-conceived rules will reduce litigation of shoreline decisions and enhance protection of the shoreland resource. Coordination with other agencies enables Ecology to participate in broader initiatives (i.e. salmon policies, growth management, wetlands mitigation) and provides for more efficient government services. Evaluating and responding to federal coastal initiatives allows the state to have a say in activities that can have significant environmental or economic impacts to the region.

Local Master Programs/GMA/ Watersheds Assistance

Shorelands and Environmental Assistance staff offer shoreline and growth planning assistance to local governments at their request. This includes

❖ Working with local staff and citizen groups to assess shoreline resources, upland and shoreline development patterns, and future needs in planning for shoreline management, protection, and public access

❖ Providing technical and financial assistance to local governments in preparing, amending, and administering shoreline master programs and Critical Area Ordinances for wetlands

❖ Working towards consistency between plans and watershed management strategies of other local jurisdictions and state agencies

Results
Providing policy and technical assistance helps produce local plans that meet the intent of state laws.

Shorelands Permit Review

Assisting local government in administration of the Shoreline Management Act includes

❖ Participating in pre-application conferences

❖ Making site visits for the most significant substantial development permits

❖ Determining the extent of shoreline jurisdiction and locating the ordinary high water mark

❖ Providing training to local administrators

❖ Interpreting shoreline regulations and policies

❖ Providing technical specialists in shoreline processes and hydrology

❖ Ensuring that development of the state's shorelines conforms with the Shoreline Management Act goals through an approval process

❖ Providing expert testimony to the Shorelines Hearings Board

Results
Our technical assistance (e.g. wetland or hydrology) helps local governments make scientifically-based decisions without the financial burden of retaining their own technical staff. By reviewing conditional use permits and shoreline variances, Ecology ensures a minimum level of resource protection and implementation of Shoreline Management policies.

SMA Enforcement

Ecology carries out its shoreline enforcement responsibilities by

❖ Assisting local governments in ensuring compliance with the SMA

❖ Providing enforcement training and guidance to local governments

❖ Responding to public inquiries and complaints

❖ Coordinating with other resource management agencies on enforcement actions and performing field investigations

❖ Negotiating voluntary compliance and, if necessary, negotiating settlements of regulatory actions

❖ Tracking enforcement actions and providing liaison to the Office of the Attorney General

Results

Shoreline enforcement reduces unpermitted and unlawful development of the shorelands to protect against adverse effects to the shoreline resource. Ecology strives to achieve compliance without resorting to formal action and has been able to avert many potential enforcement actions.

Wetlands Management

Activities include

❖ Assisting and coordinating with local, state, and federal agencies in reviewing projects involving wetlands

❖ Assisting local governments in developing and supporting Critical Area Ordinances

❖ Providing technical assistance to sustain multiple environmental benefits, including aquifer recharge, water quality, flood reduction, and fish and wildlife habitat protection

❖ Developing new approaches and methods for managing and restoring wetlands and other aquatic resources (i.e. wetland restoration program, watershed-based management plans, voluntary landowner restoration)

❖ Developing a wetlands stewardship program to provide multi-agency expertise and non-regulatory alternatives for wetlands protection to communities

❖ Enhancing public awareness and understanding of the benefits of preserving and restoring wetlands

Results

Educating landowners about wetland values and stewardship practices reduces wetlands loss without the need for regulation. The Puget Sound Wetlands Restoration Program has been a successful model of a landowner / government partnership and has been well-received by a wide array of participants. The non-regulatory program was piloted in the Stillaguamish Basin and is now moving into the Nooksack basin.

Major Issues

Sediment Management

Improving Sediment Cleanup Programs

We are working with federal, state, and local agencies to improve the efficiency and effectiveness of sediment cleanup programs. This includes a pilot project to integrate and streamline sediment cleanup decision making, and identifying and siting a Multi-User Disposal Site (MUDS) for contaminated sediments.

Updating Standards based on New Scientific Information

The Sediment Quality Criteria developed in 1991 are the foundation of the Sediment Program. We are working to update sediment quality criteria based on new scientific information and to establish human health criteria values.

Strengthening Inter-Agency Partnerships

Ecology is working to improve overall government effectiveness and efficiency on sediment related issues through the Cooperative Sediment Management Program, which is designed to build upon strengths and integrate multiple activities.

Information Management

Large amounts of information are required to support sound decision making on sediment cleanup, source control, and sediment quality criteria. Continued improvements in our information management capabilities will be needed to support agency decision making and evolving interagency working relationships.

SEPA/GMA

In October, 1997, Ecology will adopt amendments to the SEPA regulations which will fulfill the Legislature's directive to integrate requirements under SEPA and the Growth Management Act. Implementation of these amendments will result in the following issues and challenges

❖ Education and Training

❖ Technical assistance to local governments

❖ Integration with permit processing

❖ Information Access

Permit Coordination/Assistance

Permit Streamlining
Ongoing efforts to streamline state permit procedures include revising the Joint Aquatic Resource Permit Application (JARPA); streamlining the permitting of sediment cleanup projects; and preparing a report to the Legislature on statutory and regulatory conflicts and inconsistencies.

Coordination with local agency efforts
The Permit Assistance Center is exploring ways to coordinate with local permit assistance.

Coordinated Permit Process
Ecology negotiated a coordinated permit schedule and agreement with four companies and other state agencies. Battle Mountain Gold Company was the first test of this permit process.

GMA/SMA Integration

We are working closely with the Land Use Study Commission on the issue of how the Shoreline Management Act and the Growth Management Act work together. The Commission established a subcommittee composed of representatives from a wide variety of interests. The subcommittee conducted a thorough review of the SMA and is developing recommendations on changes to the SMA and, possibly, other statutes. The subcommittee will also provide clarification of the relationship between the two laws and will make improvements in both efficiency and effectiveness. We anticipate that the result will lead to legislative recommendations by the Land Use Study Commission.

Southwest Washington Coastal Erosion

The Southwest Washington coast is a multi-use resource. Over the past century, the shoreline area has increased, providing expanding land favorable to development. Recently, however, this trend has slowed and reversed in certain areas, causing dramatic erosion and threatening several hundred million dollars in property damage. Millions of federal and state dollars have been spent and are scheduled to be spent for protection from continuing erosion. Some of the critical erosion problems include: channel migration and deterioration of navigation facilities at the Port of Grays Harbor and Willapa Harbor; undercutting of public highways; threats to the cranberry industry; threats to homes and property at Cape Shoalwater and Ocean Shores; and losses to the City of Westport and to State Park land and facilities. Other chronic erosion sites include Cape Disappointment, Leadbetter Point, Bay Center, North Bay Grays Harbor, and the mouth of Conner Creek.

The coastal dynamics of the region are not yet understood. Will the shoreline continue to erode at the same rate? Which areas are at risk? Why do recent trends indicate accelerated erosion? What are the appropriate and lasting solutions? Coastal communities have questioned whether a substantial reduction of sediment supply from the Columbia River, combined with the disposal of dredged material in deep water, are responsible for the recent shoreline erosion trends. The urgency of finding answers to these questions resulted in congressional approval of a Washington coastal erosion study by the US Geological Survey Marine and Coastal Geology Program, with substantial participation from state and local communities. In 1997, the Washington State Legislature allocated $1 million for the study and abatement of coastal erosion in the regions of Willapa Bay, Grays Harbor, and the Lower Columbia River. The focus area of the study is the Washington coast from the Columbia River entrance to Point Grenville.

Ecology will carry out certain research tasks, primarily involving investigating shoreline change and beach morphology, and will be responsible for data development, integration and management. We will link federal and local efforts and assist in technology transfer to local communities.

Flooding

Flooding is increasingly common, serious, and costly in Washington State, one of the most flood-prone states in the nation. Flood damage includes loss of life and property, damage to infrastructure, suspension of economic activity, and other intangible effects.

Much of the development in our state has occurred in or near floodplains, which can increase the scale and likelihood of flood damages in two ways. First, new developments near a floodplain add to the structures and people in danger of flood damages. Second, new construction can alter storm flows by either diverting water to new courses or increasing the amount of water that runs off impermeable surfaces. Because of the relationship between the location of structures and flood hazards, many local governments have enacted land use regulations and construction standards. We will continue to provide assistance to communities regulating land use in the floodplain.

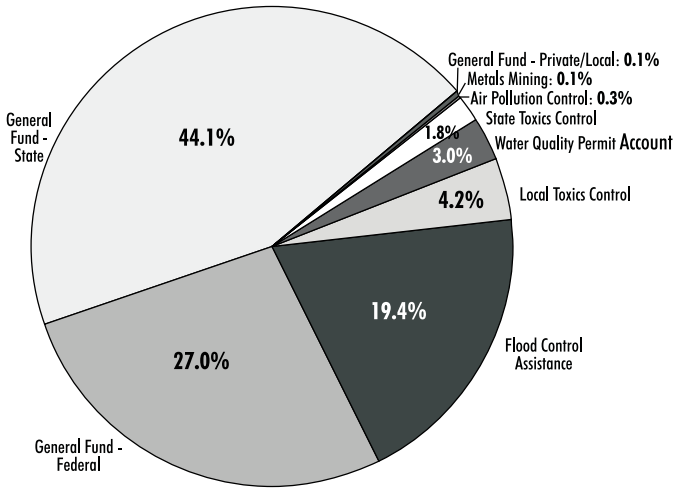
There is an ongoing need to reduce vulnerability to flood damage. This can be accomplished in many ways, including coordination of flood hazard management planning efforts with growth management planning efforts, improved design and construction standards, and a variety of non-structural and structural solutions. We will continue to work toward mitigating flood hazards by providing Flood Control Assistance Account grants and technical assistance to local governments.

Shorelands and Environmental Assistance Budget

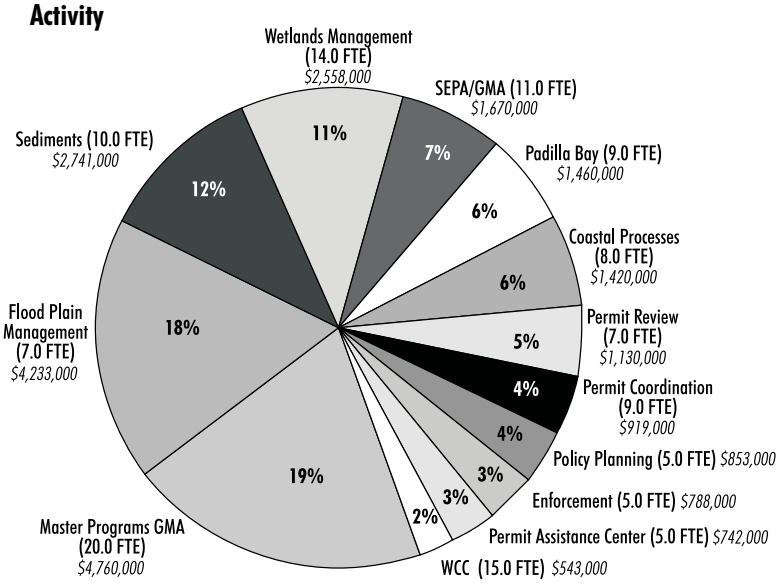
Budget: $23,816,909; Staffing: 125.4 FTEs

Fund	Amount ($)	Sources	Uses
General Fund - State	10,492,358	Multiple	Shoreline management planning; implementation enforcement and technical assistance to local governments. Implementation of the Governor's Executive Order on Wetlands and PSAT Plan implementation requirements. Match for federal grants. SEPA; Permit Assistance Center; enforcement safety; the SW Washington Coastal Erosion study
General Fund - Federal	6,432,539	Federal grants	Primary grant - NOAA Coastal Zone Management. Coastal zone management planning; implementation; enforcement and technical/financial assistance to local governments. EPA grants for Wetlands. Various Padilla Bay operating and data collection and analysis grants. Sediment cleanup. WCC
General Fund - Private	12,592	Donations and other miscellaneous income	Padilla Bay operations
Flood Control Assistance	4,611,792	Treasurer transfer from the State General Fund	Administer Flood Control Assistance program. Grants to local governments for comprehensive flood mitigation projects; repair of damaged dikes and levees
Local Toxics Control	1,007,267	Hazardous substance tax	Siting a multi-user disposal site for contaminated sediments
Water Quality Permit	711,115	Fees on wastewater discharge permits	Sediment source control
State Toxics Control	440,171	Hazardous substance tax; remedial actions and penalties collected	Sediment cleanup activities
Air Pollution Control	76,568	Fees collected for vehicle license; air registration fees	Permit Assistance Center
Metals Mining	32,507	Fee collected from active metals mining and milling operations	Inspections required by metals mining act

Shorelands and Environmental Assistance Dollars by Fund Source



Shorelands and Environmental Assistance Dollars by Activity



Water Resources Program

Contact: Keith Phillips (360) 407-6602

Program Mission

To support state and local actions to manage water resources on a watershed basis to provide sufficient water to people, farms and fish.

Environmental Threats

Washington is experiencing a combination of unprecedented population growth, a vibrant and changing economy, shifting public values, a re-defining of government roles, and an increasing demand for water. Our ability to manage water resources and protect the environment in the face of these new realities is seriously hampered by outdated laws and regulations, inadequate water supply and demand information, years of policy gridlock, and reduced funding.

Virtually all Washington residents have clean, cheap and sufficient water, in what is viewed as a water-rich state. Thus, the growing issue of water resources has remained widely unrecognized except by a knowledgeable and engaged circle of interests who traditionally follow water issues closely. Increased stress on the environment, as evidenced by the Endangered Species Act salmon listings, costly delays and uncertainty for water rights applicants, increased exempt well drilling, and the shift to the courts as the venue of choice for resolution of water issues, are all serving to broaden the interest and urgency in addressing the many water problems.

The availability of water helps determine the pattern and density of human settlement and, in turn, the rate and extent of alteration of the natural environment. Inappropriate development of surface or ground water can significantly alter natural water features by dewatering or diminishing streams, lakes, wetlands, and aquifers. Inappropriate development may also interfere with existing senior water rights and risk the continued survival of fish.

Wells drilled in violation of standards and good practice leave groundwater vulnerable to pollution, can affect public health, and threaten the availability of nearby water sources. Dams that are inadequately built or maintained also pose safety risks both to people and the environment.

Program Origin and Laws

Water use and water resources management are regulated by an increasingly complex web of common law (made by courts) and statutory law (passed as legislation). These laws include

English Common Law

While still a territory, Washington adopted the English common law in all matters not otherwise specified by the legislature. This included use of the English riparian doctrine of water law. Under the riparian doctrine, those lands abutting a water course have the right to the reasonable use of the waters of that water course. All riparian users own correlative (equal) rights to the water, and, in times of shortage, all riparian users must reduce their use.

1917 Water Code

(Now codified as Chapter 90.03 RCW, Water Code) On former federal lands patented into private ownership, courts ruled that the appropriation doctrine of water law was applicable. Beginning in the 1870's, the territory and then the state, increasingly recognized appropriation as the dominant water law doctrine. This culminated in the 1917 Water Code which grandfathered in existing riparian rights but required that any new rights be acquired by appropriation through a state administered permit system. Being adjacent to a water course is not necessary to establish an appropriative right. Under prior appropriation, the first in time is the first in right, and a person must make continuous use of water to retain the right to it. This code also established the process of general adjudication of water rights to resolve water right disputes on a watershed basis.

In addition, the 1917 Water Code established state authority to regulate dams for protection of life and property in the downstream valley.

Water resources management at the state level was born with passage of the 1917 Water Code. Washington was one of the later states in the west to adopt a water code establishing a state permit system for water development. Prior to that, one merely had to establish an intent to develop water, post a notice at the site, and begin construction. As population density increased in the early 1900's, this system was no longer effective because people were increasingly coming into conflict over water use and development. For example, the natural flows of the Yakima River were

fully appropriated by 1900. The Courts were increasingly flooded with complaints among neighbors and rival water suppliers and users. Water management at the state level was initiated to reduce or at least manage these conflicts. The permit system and the adjudication process called for in the code required professional management and administration of water.

The water code established the position of supervisor of water resources (in other states, this position was called the state engineer) to oversee the operation of the permitting, enforcement, dam safety and adjudications functions. Over the years, this function was transferred to the State Department of Conservation (until 1967), then to a State Department of Water Resources (1967-70), and finally to the Department of Ecology (1970 to present). The supervisor's functions are now assigned to the Director of the Department of Ecology, who delegates much of the actual responsibility to the Water Resources Program Manager.

Chapter 90.44 RCW, Regulation of Public Ground Waters

This 1945 groundwater code brought groundwater into the appropriation system. Previously, groundwater was viewed in a similar manner to riparian rights (i.e., correlative and in existence as a coincident of land ownership wherever groundwater occurred).

Chapter 90.14 RCW, Water Rights Registration

This 1967 statute required the filing of claims of rights vesting prior to the water codes and also codified the states "use it or lose it" policy.

Chapter 90.22 RCW, Minimum Water Flows and Levels

This 1969 law required Ecology to establish minimum flows by rule.

Chapter 90.54 RCW, Water Resources Act

This 1971 act established fundamental water resources policies, required better data management, and mandated establishment by rule of a state water resources management program

Chapter 18.104 RCW, Water Well Construction Act

This act, also passed in 1971, established standards for the construction and proper abandonment of water wells and required the licensing of well contractors.

Chapters 90.38 RCW, Yakima River Basin Trust Water Rights Program, and Chapter 90.42 RCW, Water Resources Management Trust Water Rights Program

These laws, passed in 1989 and 1991, respectively, permit the state to establish trust water rights for instream and out-of-stream purposes.

Many other minor water laws and amendments have been passed over the years that are too numerous to list. Noteworthy among them are repeated, unsuccessful efforts, starting in the late 1980's and ongoing, to update state water laws and funding to accommodate the new realities of rapid population growth, a dynamic economy, increased water demand, and increased stress on the environment. In 1994, the stalemate on water resource issues resulted in major cuts to Ecology water rights permit staff funding, during a time that service demand increased. A facilitated legislative and executive effort is currently under development to break out of the stalemate and address increasingly critical water issues.

The Courts continue to impact water law through decisions made on individual cases. Hundreds of water law cases have been tried at various levels over the years. Litigation is becoming a more frequent feature of water decision-making driven by increased competition over water coupled with lagging policy and service capacity. It also increases costs and slows service. Several important court decisions that have been made in the 1990's affect instream flows (the Elkhorn case); state regulatory authority (the Sinking Creek case); beneficial use and waste (the Grimes case); the relation between groundwater and surface water, known as hydraulic continuity (the Hubbard case); and water right permit decisions on a watershed basis (the Hillis case).

Constituents/Stakeholders

Government

Counties, cities and special purpose districts with interests in water are concerned that water may not be available to support the levels of growth anticipated by state population forecasts and for which they have responsibility under the Growth Management Act.

❖ *Cities and utilities*

Cities and utilities are major holders of existing water rights and a number of issues exist regarding the status of water rights for municipal and community domestic purposes. Some of these issues are currently in litigation. Although this has created some past friction between Ecology and utilities, we are working closely to address both local and statewide problems. One major success story has been the delegation of portions of well drilling inspection (especially surface seals) to willing counties. Currently, 13 counties have accepted delegation. They receive one half of the fees Ecology collects for the drilling of wells. With more county inspectors, the quality of well drilling and protection of aquifers has improved.

❖ *Indian Tribes*
Tribes have multiple interests in water. Water development is important for tribal economic development on reservations. Conversely, tribes also support the establishment and protection of instream flows to protect fish and wildlife resources. Tribes possess what are arguably the earliest priority rights to water in the state for both on-reservation use and for flows related to treaty fishing rights. However, for the most part, the specific rights of tribes have not been verified and quantified by a court. Indian rights could have a significant effect on water rights established under state law. Disputes occasionally arise regarding whether the state or a tribe (or both) have jurisdiction over non-Indian use of water on Indian reservations. Case law is mixed on this issue, so more case law may be necessary over time to provide clarity. State / tribal / federal negotiations on this issue are currently underway regarding the Lummi reservation in Whatcom County.

❖ *State Agencies*
We coordinate our efforts with the state Joint Cabinet which represents state agencies dealing with endangered species and related water resource issues. We also work with the following state agencies on water resource issues: Office of Financial Management; Department of Fish and Wildlife; Department of Health; Department of Community, Trade and Economic Development; Department of Agriculture; and the Washington Conservation Commission.

❖ *Federal Agencies*
The principal federal agencies with which Ecology water resources personnel interact include the Bureau of Reclamation, Federal Energy Regulatory Commission, Fish and Wildlife Service, National Marine Fisheries Service, Bonneville Power Administration (Department of Energy), and the Army Corps of Engineers.

Non-Government

❖ Water right holders

❖ Water and power utilities

❖ Agricultural groups

❖ Business and industry

❖ Real estate development community

❖ Well drillers

❖ Sport and commercial fisheries

❖ Environmental organizations

❖ Recreational water users

❖ People near dams

Major Activities

Water Resources Policy & Implementation Support

Ecology staff have the responsibility to

❖ Develop and provide information regarding new legislation and support legislative and executive development of a clear framework of water law that can be implemented efficiently

❖ Support efforts to address future water supply needs, including alternatives for water supply and demand management

❖ Develop and update statewide rules, policies and procedures to improve water right decision making and watershed planning. Develop and update watershed-specific rules to set instream flows and to implement the recommendations of watershed management plans.

❖ Refine framework for basin assessments to support water resource management and water rights decision making

❖ Integrate watershed planning internally and coordinate with external partners, including the Joint Cabinet, on endangered species issues

❖ Provide litigation and enforcement services to protect water users with senior rights and to support watershed health

Results
These activities are vital to the development of creative and efficient alternatives that meet competing and growing water needs, while protecting the environment, instream uses, and senior water rights. These activities contribute to sound statutes, rules, policies, and watershed planning for effective state and local water resource management and certainty in decision making.

Funding and Data

❖ Grants and loans for local watershed assistance, including planning and implementation, are available through Ecology. We fund agricultural conservation measures which result in water conservation and restoration of streamflows. Ecology monitors water conditions and, in the event of a declared drought, provides grants and loans for acquiring water to alleviate emergency drought conditions.

❖ Ecology manages water supply and use information in support of local and state resource management planning and decision making, including the Water Right Application Tracking System, the Notice of Intent to Drill System, and the Water Right Information System.

❖ Ecology conducts instream flow studies used to determine whether flows are sufficient to preserve and protect fish, wildlife, recreational, and aesthetic uses of streams and to determine whether flow capacity exists to meet additional out-of-stream needs. We also collect hydropower fees used to fund U.S.Geological Survey gauging of stream-flows.

Water Right Decision-making

Ecology staff are responsible for

❖ Providing outreach, general information, and technical assistance services to people regarding water rights and supply alternatives and communicating with applicants on the status of their applications

❖ Using basin assessments to determine water availability and use and participating in regional water supply and water resource management planning

❖ Properly processing completed applications for additional water supply or changes to existing uses

❖ Visiting the proposed site, if needed, and collecting, analyzing, and summarizing the data required to make decisions

❖ Preparing a report of findings on whether or not a proposed use is beneficial, has water available, would impair any existing water rights, and would be detrimental to the public interest. Water rights permits indicate where water is taken, where water is used, what purpose it is used for, how much is used, and use conditions, like seasonal limitations.

❖ Defending decisions that are appealed and working with applicants to identify creative alternatives and sources to mitigate for adverse effects

Results

In 1996, nearly 430 water right application and change in use decisions were made. Currently, there are approximately 5,400 water right and change in use applications pending statewide. To date, over 48,000 water rights certificates have been issued. The data collected to support water right decision making also serves to educate the public and provide the background information needed to do land use planning or begin comprehensive watershed planning.

Adjudications and Water Right Claims

❖ An adjudication is a judicial determination of existing water rights and water right claims, including federal, tribal and non-tribal claims. The largest adjudication in the state's history is currently in progress in the Yakima River Basin. When this adjudication is completed, over 20 percent of the state's surface water will be adjudicated. The agency filed this adjudication in 1977, and, at the current level of effort, it is estimated that the adjudication will be substantially complete in the year 2000.

❖ Ecology is implementing a bill which reopened the water rights claim process for a period of nine months from September 1, 1997 through June 30, 1998. This will add to the existing inventory of over 165,000 water right claims, the vast majority of which have not been adjudicated.

Results

❖ To date, over 80 adjudications, which determine who is entitled to how much water and their priority date, have been completed. This provides certainty for the water users. Completion of the Yakima River Basin Adjudication will provide the foundation for long-term solutions to managing water uses and needs in the basin, which encompases approximately ten percent of the land in the state.

❖ The reopening of the claims period will help clear up the extent of existing water uses in the state and will give us an opportunity to provide information assistance to the state's water users.

Dam Safety

Ecology staff oversees the safety of the state's dams by

❖ Inspecting over 260 existing dams situated above populated areas, focusing primarily on structural integrity and flood and earthquake safety

❖ Engineering review, approval, and inspection of new construction and repair of existing dams

❖ Taking regulatory, enforcement, or emergency actions to require repair of unsafe structures as needed

Results

Dams are inspected on a regular basis, and improvements are made to any high risk problems. The program's goal for each year is to guarantee correction of all problems of that year's ten most unsafe dams, which are identified during the periodic inspection program.

Well Drilling

Ecology carries out its well drilling responsibilities by

❖ Administering the well driller's licensing program, including fee collection, resulting in approximately 1,200 active drillers who are currently licensed

❖ Ensuring consistent interpretation of drilling regulations

❖ Investigating complaints and approving variances

❖ Administering the delegation program to counties which provides counties with the ability to enforce well sealing, decommissioning, and tagging compliance

❖ Providing technical assistance to local governments with delegation; conducting construction compliance investigations

❖ Adopting innovative well drilling rules that will improve environmental protection and simplify compliance by being more understandable

Results
The well drilling and licensing program protects the health and safety of the public from ground water aquifer contamination by ensuring wells are properly located, constructed, and sealed. Over 8,500 water supply wells are drilled annually by licensed well drillers. We have entered into partnerships with 13 counties to share in administration of the well drilling program.

Major Issues

Water Resources Management Plans
It is generally agreed that water resources management plans should be developed on a watershed basis with greater local involvement and representation of varied interests. There are a number of watershed management and implementation efforts underway, including the legislatively-approved Methow and Dungeness/Quilcene watershed pilot projects. The enactment of some portions of a watershed bill (ESHB 2054), passed in the 1997 legislative session, resulted in additional funding which we are currently making available for local watershed planning efforts. In preparation for the 1998 session, and in coordination with the Joint Cabinet, we Ncontinue to work toward development of legislation that will guide and fund implementation. Some of the issues remaining include who should be represented in the local efforts, the scope of the watershed management plans, and how decisions should be made.

Municipal Water Supply and Use
There is often a disconnect between proposed new development and water availability. The Growth Management Act (GMA) requires local jurisdictions to develop growth plans to meet the projected population as determined by the Office of Financial Management. Due to rapid growth in the state and policies within the GMA and other statutes, municipal water utilities are under pressure to expand service. Because new water sources are difficult and expensive to develop, utilities would like to expand the use of existing water rights to new growth areas. However, in order to curb speculation, existing common law generally prohibits the transfer of unused water to another location. Any movement of the water from the original intended place of use first requires Ecology's approval. Ecology, in coordination with the Joint Cabinet, is setting up a stakeholder group to develop recommendations on these policy issues.

Hydraulic Continuity
The connection between ground water and surface water is known as hydraulic continuity. Limitations in the supplies of surface water, coupled with increased demand for groundwater and concern over impacts on senior water rights holders, have served to elevate hydraulic continuity as a key water issue. Specific issues include technical methods for assessing hydraulic continuity, determining when streams are harmed (impairment), and methods of mitigation. Ecology, in coordination with the Joint Cabinet, is setting up a group to examine the technical aspects of the issue.

Declining Fish Populations
The recent Endangered Species Act listing of salmon has underscored the urgency of addressing water resource issues. Many anadromous fish runs all over the state have suffered steep declines in the number of adults returning to streams where they hatched. This is thought to be the result of numerous factors, including loss of habitat (such as lower instream flows). Fisheries interests want instream flows established on more streams and existing instream flow levels increased. They also want the state to re-acquire water rights to improve flows. We are working with the Joint Cabinet to coordinate our water resource and salmon restoration efforts across agencies.

Overreliance on Exempt Wells
About 90 percent of wells drilled each year are exempt from the requirement to get a water right permit. Some of these wells are the best or only possible source of water for a residence. However, in some cases, wells are drilled to bypass the permit process, avoid drinking water regulations, or as a cheaper alternative to water supplied by an existing utility. Such wells can undermine the intent of the Growth Management Act, which is to concentrate growth in or near existing urbanized areas, and can severely deplete the groundwater resource.

Regulatory Authority
In the Sinking Creek decision, the State Supreme Court ruled that Ecology does not have authority to regulate and determine the validity and relative priority of water rights and claims that are in dispute. Only the Superior Court can make such a determination through the process of general adjudication of water rights. To date, approximately ten percent of the state has been adjudicated. Because adjudications are time-consuming and expensive, this effectively prevents Ecology from attempting to resolve disputes among water users. The Legislature has considered, but not passed, several possible solutions.

Agricultural Water Spreading

Many irrigation water rights were issued in generous quantities. Over time, new technology has enabled irrigators to use less water while growing more crops on the same land. Irrigators would like to be able to use their water savings on new land or sell the savings to others. Some irrigators have already engaged in this practice, otherwise known as spreading. A bill was enacted in the 1997 legislative session allowing limited water spreading.

Unauthorized Water Use

Unauthorized water use has been found in many areas of the state, due, in part, to a lack of knowledge of the law and the long waiting period for water rights decisions. In addition, insufficient funding and competing priorities have limited Ecology's ability to ensure compliance with state water laws, which may also contribute to illegal use. Enforcement of permit conditions is likely to become more important. New permits increasingly include conditions which allow permit applicants to meet their needs and protect senior water rights holders and the environment.

Unquantified Federal and Indian Water Rights

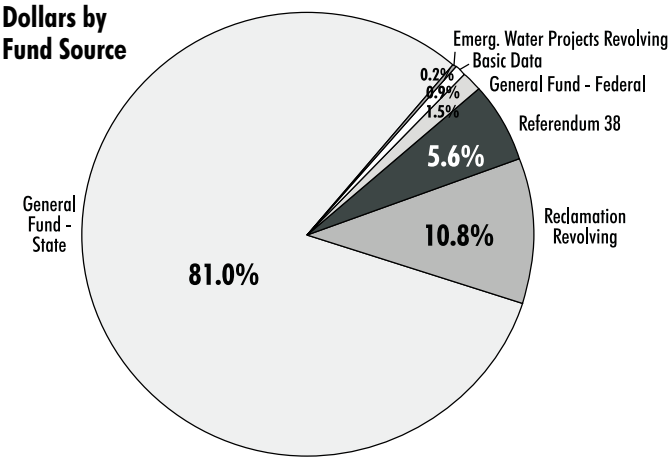
Over the last century, federal case law has established that when the federal government set aside certain lands for specific purposes (e.g. national parks, military posts, or Indian reservations) it, by implication, also reserved a sufficient amount of water necessary to accomplish the primary purposes of that set aside. Much of Washington remains in federal ownership. Twenty-seven Indian tribes in Washington are federally recognized. These federal and Indian reservations have unquantified water rights, which, when quantified and confirmed, could significantly alter state issued water rights. Indian tribes are also recognized as having some form of instream flow rights within their ceded lands related to their treaty fishing rights. Such rights can be quantified through state or, potentially, federal court adjudications of water rights.

Water Resources Budget

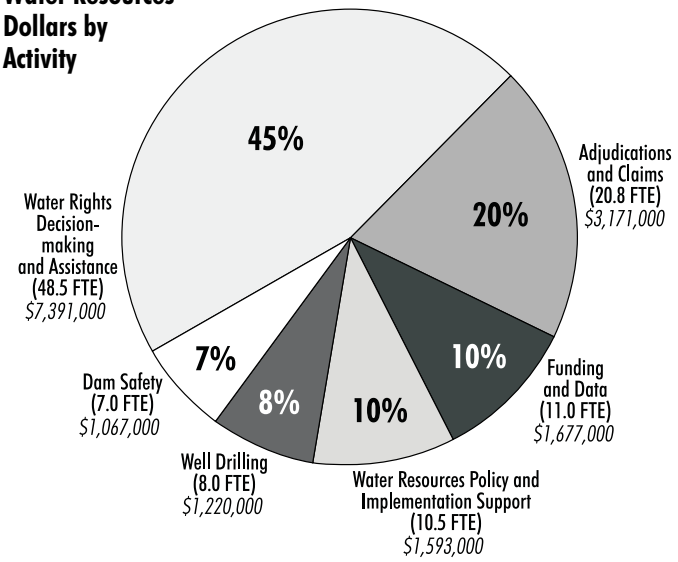
Budget: $21,119,475; Staffing: 105.8 FTEs

Fund	Amount ($)	Sources	Uses
General Fund - State	12,115,332	Multiple	Water right decision-making; enforcement, data management; dam safety; Yakima adjudication and one time court costs
	5,000,000	Multiple	Watershed planning grants and technical assistance in areas receiving grants
General Fund - Federal	39,148	Federal grants	This is an appropriation carry forward from a 1993 federal grant for data collection. Authority will not be used during the 1997-1999 biennium
Reclamation Revolving	2,273,076	Well construction fees; well operators' licenses, and hydropower fees	Administration of the well driller's licensing program; including grants to local governments and a 50/50 revenue share for counties that have delegated well construction management authority. Contact with the USGS for stream gauging.
Emergency Water Projects	320,678	Bond sales; loan repayment and interest payments	Assist with the development and implementation of drought relief activities
Referendum 38	1,189,241	Bond sales; loan repayments and interest payments	Adminstrative suport for grants and loans for the improvement and/or construction of agricultural water supply facilities. Provide technical assistance to irrigation districts concerning conservation and water use efficiency. Operation and maintenance of Zosel Dam.
Basic Data	182,000	Contributions for hydrographic data	Pass through to the US Geological Survey for stream gauging data collection
Capital Budget Funding			
State Emergency Water	7,377,883 (reappropriated)	Sale of Bonds; loan repayments and interest payments	Grants and loans for emergency drought relief activities
State Building Construction Account	102,689 (Reappropriated)	Sale of Bonds	Methow Basin Water Conservation
State and Local Improvements Revolving Account	7,249,066 ($6,763,571 reappropriation, and $485,495 new appropriation)	Sale of Bonds; loan repayment and interest payments	Grants/loans for agricultural water supply facilities

Water Resources Dollars by Fund Source



Water Resources Dollars by Activity



Does not include $5.0 million provided for 2SHB2054

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Water Resources Program Data

Figure 24: Water Use in Washington State

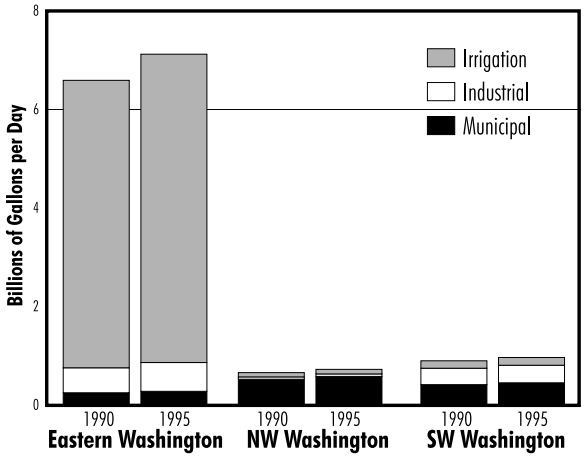


Figure 25: Pending Applications; Who wants water?

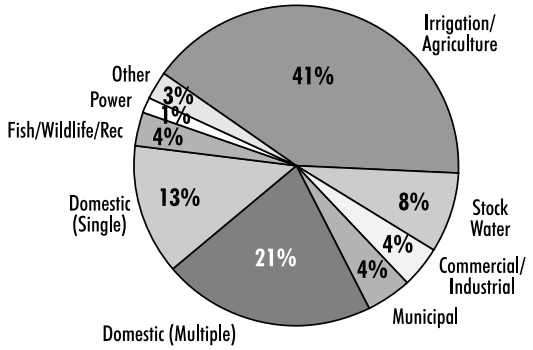


Figure 26: Pending Applications; How Old Are They?

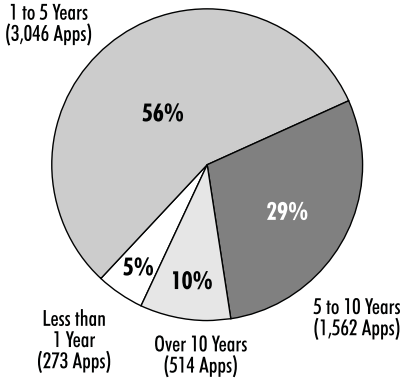


Figure 27: Pending Applications, Active Permits and Certificates, Registered Water Right Claims

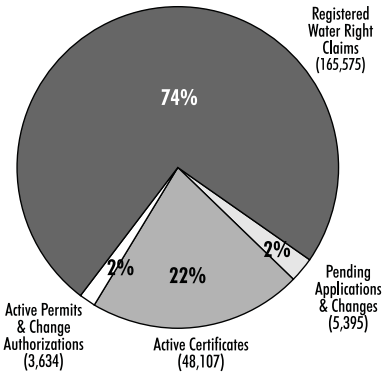


Figure 28: Water Right Permitting Trends; Water Demand Is Increasing

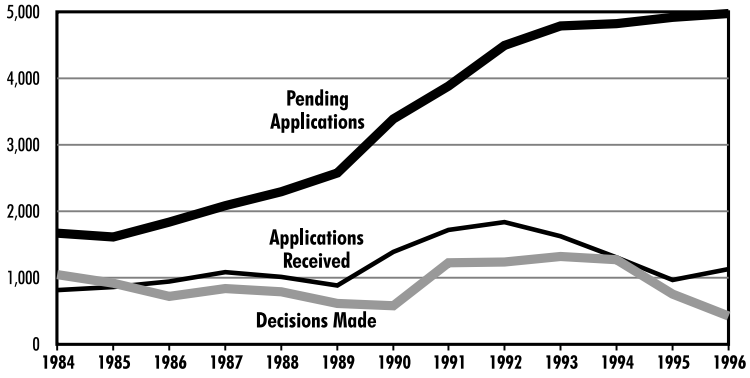


Figure 29: New Exempt Wells Outnumber Permitted Wells

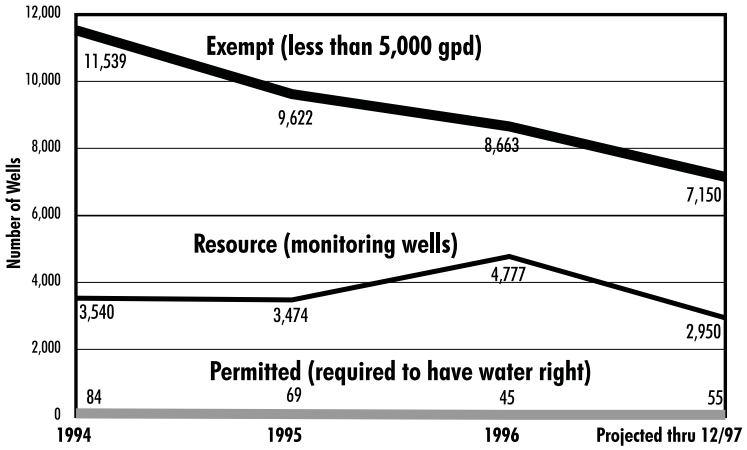
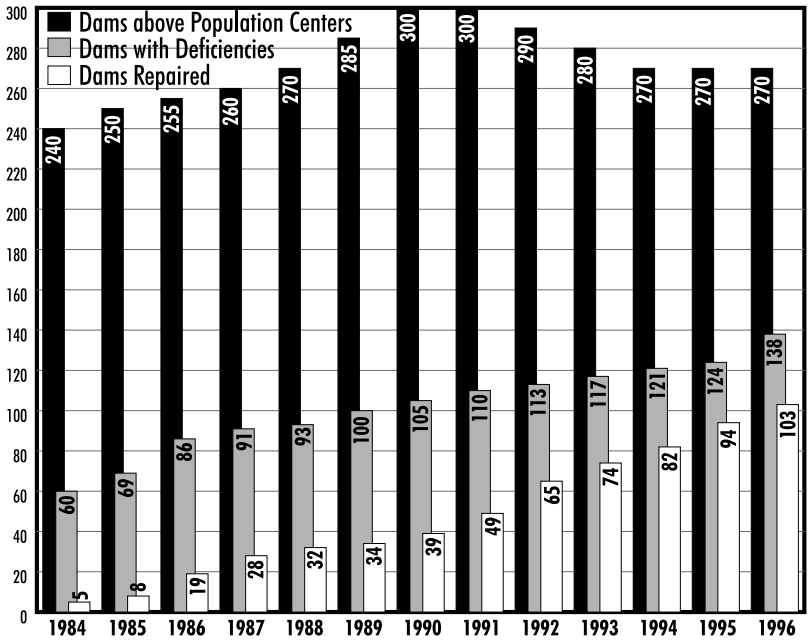


Figure 30: Dams Inspected and Repaired



Spill Prevention, Preparedness, and Response Program

Contact: Joe Stohr (360) 407-7450

Program Mission

To protect Washington's environment and public health and safety through a comprehensive spill prevention, preparedness, and response program. The Spills Program focuses on prevention of oil spills to Washington waters and land and on effective response to oil and hazardous substance spills whenever they occur.

Major Goals

❖ Prevent oil spills and mitigate damage from oil and hazardous substance spills that do occur

❖ Provide leadership on all oil spill issues, with particular focus on prevention

❖ Develop strong partnerships with public and private stakeholders

❖ Promote environmental stewardship and voluntary compliance through education and outreach

❖ Seek fairness in enforcing state laws and rules

❖ Maintain credibility and program effectiveness through established expertise in marine safety, oil spill prevention, spill preparedness, and spill response

Environmental Threats

The Spills Program is concerned with releases of oil and hazardous waste material to air, land, and water. In particular, releases into the waters of our state result in threats to some of the richest and most diverse ecosystems in the world. These ecosystems support hundreds of plant and animal species. Impacts from a large oil or hazardous substance spill can range from immediate destruction to a multitude of more subtle effects to habitats, fish, and wildlife. Aggressive prevention measures are paramount to the long term health and survival of many species. (Figure 31, entitled "Oil Movement in Washington State," illustrates the large quantities of oil moved by various transportation modes throughout Washington on a daily basis.)

Program Origins and Laws

A number of major oil handling facility spills, the 1988 tank barge *Nestucca* spill off Grays Harbor County, and the 1989 Alaskan *Exxon Valdez*^*X*O*A* tanker spill, precipitated several spill prevention and response bills in the state Legislature between 1989 and 1991, the most significant of which created a new agency, the Office of Marine Safety.

The Spill Prevention, Preparedness, and Response Program was created on July 1, 1997, by the merger of the Office of Marine Safety (OMS) with Ecology's Spill Management Program. Other major laws governing this program are Chapter 88.40 RCW, Financial Responsibility, and state hazardous waste cleanup laws.

Chapter 88.46 RCW, Vessel Oil Spill Prevention and Response

This law seeks prevention of vessel oil spills through three efforts. First, it requires oil spill prevention plans for all oil tankers and tank barges. These plans must demonstrate compliance with Washington's Best Achievable Protection Standards and Chapter 317-21 WAC, Tank Vessel Oil Spill Prevention Plans.

Second, this law requires annual inspections for tank vessels to ensure compliance with state prevention plans and federal requirements. Cargo and passenger vessels greater than 300 gross tons are screened to identify vessels that may pose a substantial risk. Vessels may be boarded to mitigate that risk.

Third, vessel refueling practices are monitored to ensure compliance with Washington standards.

Chapter 90.56 RCW, Oil and Hazardous Substance Spill Prevention and Response

Under this law, all of Washington's 43 regulated oil handling facilities and transmission pipelines must submit oil spill contingency plans. Once reviewed and approved, these contingency plans must be tested through a rigorous drill and exercise program to prepare vessel crews, facility personnel, and local, tribal, state, and federal agency personnel. Ecology is the lead state agency for the spill drill program.

Ecology is also responsible for prevention of spills at the state's 43 largest oil handling facilities and transmission pipelines. The program is implemented through four complementary rules: 1) Chapter 173-180A WAC, Facility Operations and Design Standards, establishes minimum performance standards for oil transfer, storage and monitoring activities; 2) Facilities are required to document these operational proce-

dures under Chapter173-180B WAC, Facility Operations Manual Standards; 3) Chapter 173-180C WAC, Facility Personnel Oil Handling Training and Certification, requires established and documented operational procedures to be reflected in each facility's training program; 4) After the prevention rules are implemented, Chapter173-180D WAC, Facility Oil Spill Prevention Standards, allows Ecology to look at each facility as a whole and to address concerns not covered by previous rules.

Under this law, Ecology works closely with other state and federal agencies, local governments, tribes, industry, and members of the spill response community to develop Geographic Response Plans that prioritize booming and collection strategies and identify natural and logistical resources within a certain region.

Chapter 90.48 RCW, Water Pollution Control

This law requires Ecology to adopt procedures for Natural Resource Damage Assessments of environmental losses from an oil spill. Ecology chairs the Natural Resource Damage Assessment Committee which brings together state natural resource agencies to determine environmental losses and identify restoration projects.

Other Laws

The authority to ensure comprehensive response and cleanup to oil and hazardous material spills that pose an immediate threat to public health and safety and the environment is found under numerous state laws, including Chapter 69.40 RCW, Uniform Controlled Substances Act; Chapter 70.94 RCW, Clean Air Act; Chapter 70.105 RCW, Hazardous Waste Management Act; Chapter 70.105D RCW, Model Toxics Control Act; Chapter 70.136 RCW, Hazardous Materials Incidents; Chapter 88.46 RCW, Vessel Oil Spill Prevention and Response; Chapter 90.48 RCW, Water Pollution Control Act; Chapter 90.56 RCW, Oil and Hazardous Substance Spill Prevention and Response; and Chapter 90.76 RCW, Underground Storage Tank Act.

Constituents/Stakeholders

To undertake effective education and outreach, the Spills Program works with a number of stakeholders including local, state and federal agencies, Indian tribes, business interests, the oil spill response community, resource user groups, environmental groups, shipping and transportation companies, the petroleum industry, and the general public. Depending on the circumstances, Ecology's constituents include

Local Government

City and county environmental health departments, waste management departments, public works departments, HazMat teams and fire departments, law enforcement agencies, ports, economic development councils, elected officials, and emergency management departments. Due to the high number of participants, contact with this constituent group is most important and the most difficult to maintain.

State Government

Governor's office; Washington Departments of Fish and Wildlife; Natural Resources; Health; Agriculture; Community, Trade, and Economic Development; Transportation; the Military Emergency Management Division; Washington State Patrol; Utilities and Transportation Commission; Puget Sound Water Quality Action Team; and Parks and Recreation Commission

Federal Agencies

Environmental Protection Agency, Coast Guard, National Oceanic Atmospheric Administration, Fish and Wildlife Service, Department of the Interior, Park Service, National Marine Fishery Service, Federal Emergency Management Agency, Department of Transportation, Department of Defense, Office of Pipeline Safety, and Corps of Engineers

Tribes

All Washington tribes and the NW Indian Fisheries Commission are important stakeholders since oil or hazardous material spills can affect tribal lands or resources.

Businesses/Industry

Western States Petroleum Association, American Petroleum Institute, Independent Liquid Terminals Association, oil-handling facilities, marine industry associations, vessels, marinas, and marine resource user groups

Environmental Community
Washington Environmental Council, People for Puget Sound, Friends of the Earth, Sierra Club, Audubon Society, Nature Conservancy, Surfrider Foundation, Ocean Advocates, Greenpeace, Center for Marine Conservation, National Coastal Alliance, and Washington Toxics Coalition

Public
Homeowners, business owners and operators, boat owners, waterfront property owners, and interested citizens

Other States
Activities are coordinated through the States/B.C. Oil Spill Task Force for West Coast States, and the National Governors Association Oil Spill Work Group

Foreign Countries
Canada and the International Maritime Organization

Media
Newspaper, television, radio, newsletters, and the Internet

Academia
Universities, school districts, and community colleges

Major Activities

Prevention
❖ *Prevention Plans*
Vessel oil spill prevention plans submitted by tanker and tank barge owners and operators are reviewed for compliance with Best Achievable Protection Standards and Chapter 317-21 WAC, Tank Vessel Oil Spill Prevention Plans. Tankers and tank barges are then inspected to ensure compliance with approved prevention plans.

The state's 43 largest oil handling facilities and oil transmission pipelines are also required to submit oil spill prevention plans. We work closely with state regulated oil handling facilities to ensure compliance with facility spill prevention rules. This includes conducting courtesy inspections. We are also working with the Coast Guard on a national pilot project that will mesh federal and state spill prevention plan activities and allow facilities greater flexibility in meeting prevention plan requirements.

❖ *Accident and Incident Investigations*
Accident and incident investigations assist in evaluating the risk a vessel, vessel activity, oil facility or oil facility activity may pose to Washington resources. Staff conduct investigations and complete investigation reports, prevention bulletins, safety advisory bulletins, and other appropriate reports. Publications distributed to the regulated community and other interested parties detail prevention lessons learned which aid in preventing similar incidents.

❖ *Vessel and Facility Inspections*
Marine Safety Field Office staff inspect cargo, passenger, and fishing vessels over 300 gross tons to determine if they pose a substantial risk of harm to public health and safety and the environment. In 1993, a screening process was developed to predict risk and prioritize vessels for inspection. This screening process involves researching vessel information, such as physical characteristics, ownership, casualty and spill history, and previous inspection information. The inspection process is also used to inform vessel crews about safe maritime practices and to verify compliance with state laws. Vessels are also inspected to evaluate compliance with Washington's rules for safe bunkering (refueling), reducing the likelihood of oil spills occurring during bunkering operations. We continue extensive efforts to inform the industry about safe bunkering practices, including the production of an educational video and information packets in seven languages. Oil handling facilities are inspected by Regional Spill Unit personnel and facility prevention planners to inform and educate facility personnel and to verify compliance with state law.

Results
❖ Recent trends involving oil spills greater than 10,000 gallons indicate a substantial decrease in the frequency of tank vessel oil spills, suggesting that prevention programs have made a difference. (Figures 32 and 33, entitled "Major Oil Spills over 10,000 Gallons in Washington State," shows the volume of oil spilled in major spills over a 14-year period and the geographic distribution of those major spills.) Requiring compliance has encouraged the creation of new safety technology, such as emergency towing systems. Such policies are still controversial. Though Washington has received national and international acclaim for developing the world's most comprehensive tank vessel safety program, INTERTANKO has sued the state for allegedly overstepping its legal authority.

❖ Technical publications with recommendations for improved vessel and facility operations have received positive industry response. The Nautical Institute, a prestigious international maritime association, has reprinted one such publication in their monthly journal *SEAWAYS*. Lloyd's List, an international daily newspaper, called attention to Washington6s aggressive maritime safety and spill prevention program through an article summarizing the findings and recommendations of a prevention bulletin. Data on the nature and number of incidents are collected and reviewed for the purpose of developing better spill prevention strategies and for focusing spill prevention efforts.

❖ Follow-up substantial risk inspections of vessels indicate that approximately 80 percent have improved their operational and management practices. Washington has not experienced a major bunker spill since the adoption of the bunkering rules and the establishment of the inspection program in the fall of 1994.

Preparedness

❖ *Northwest Area (Washington, Oregon, and Idaho) Contingency Plan*

A steering committee made up of member agencies coordinates research and recommends information to be included in the Northwest Area Contingency Plan. Workgroups, which include representatives from all stakeholder groups, address specific subjects and unique problems.

❖ *Contingency Plan Review and Oil Spill Drills*

All major oil handling facilities, tank vessels, and cargo and passenger vessels 300 gross tons and larger, must have an approved oil spill contingency plan to operate in Washington waters. These comprehensive plans are submitted to the Spills Program for review and approval. Plans must be updated and resubmitted every five years following approval. Contingency plan holders are required to perform oil spill drills to ensure readiness in the event of an oil spill.

❖ *Natural Resource Damage Assessment*

The Spills Program may take a wide range of actions against those responsible for an oil spill. We may fine the responsible party for allowing or causing oil to enter state waters, seek reimbursement for state costs surrounding the spill response, and assess damages for any natural resources that were affected by the spill. Ecology chairs the state Resource Damage Assessment Committee, develops damage assessment claims for oil spills in state waters, and manages the State Coastal Protection Fund / Restoration process.

❖ *Interagency Coordination*

The purpose of the States / B.C. Oil Spill Task Force is to develop a coordinated and consistent approach to oil spill prevention, preparedness, and response activities among the states and provinces along the West Coast. Activities include developing mechanisms for mutual aid during major spill responses, as well as developing uniformly consistent rules for prevention planning, contingency planning, and response command structure. The Task Force also serves as a clearinghouse for exchanging spill prevention, preparedness, and response information.

❖ *Education and Outreach Activities*

Ecology's Spills Program is engaged in a wide range of education and outreach activities. During spill incidents and drills, these activities include taking public and media calls, writing press releases, and coordinating and conducting media interviews. The program also undertakes long- and short-term communications strategies to identify audiences and reinforce messages. Other education and outreach activities involve working directly with stakeholders and other constituents on advisory committees, conducting training sessions, and holding public workshops, meetings, and hearings. Our quarterly newsletter, *Spill Scene,* is distributed worldwide, along with annual activity reports and other technical outreach documents.

Results

❖ Workgroups chaired by Ecology have developed guidelines for alternative response technologies (in situ burn, dispersants, decanting) and contacts with the public, press, and electronic media through the Joint Information Center Manual. Geographic Response Plans (GRPs) identify sensitive public resources and prioritize protection strategies for a particular region. GRPs are the operative planning document during the initial response phase of an oil spill. Eighteen GRPs have been developed for Washington marine waters and the Columbia / Snake river system. A training and outreach program on GRPs is being initiated to provide technical assistance and public outreach to local and tribal governments and other stakeholders.

❖ We design, conduct, and evaluate more than 60 oil facility spill drills each year. In addition, 68 vessel plans have been submitted for approval since July 1, 1992. Ten Shipboard Notification Drills, five No Notice Two-hour Response Drills, and fourteen Preparedness for Response Exercise Program drills have been conducted in Washington since 1993. (Figure 34, entitled "Number of Drills per Year," illustrates the dramatic increase in Washington spill drill activity since 1993.)

❖ Since the adoption of state resource damage assessment regulations in 1992, nearly $6 million in oil spill damages have been collected. While $5.2 million of this amount reflects a settlement for the major 1991 *Tenyo Maru* oil spill, the state compensation schedule has successfully resulted in damage payments for over 100 small / moderate spills. These funds are used for several major habitat restoration projects, including a recent effort to help remove the invasive grass, Spartina, from Puget Sound mudflats.

❖ Many Spills Program clients are mobile (particularly the tank and cargo vessels) and visit other West Coast states. Therefore, it is imperative that we coordinate with, learn from, and be as consistent as possible with, other states. Assertion of state's rights to protect sensitive habitats and commercial values from the environmentally damaging effects of oil spills is also facilitated by Task Force participation.

❖ During a spill incident, the program strives to keep the media and the public informed regarding what is being done by the state, by the responsible party and by federal authorities to contain and clean up the spill and assess and recover damages to natural resources. More in-depth communication strategies have been developed for long-term issues, such as in situ burning, merger of the former OMS into Ecology, and the INTERTANKO lawsuit.

Response

The Spills Program responds to oil and hazardous materials spills to minimize risk to public health and safety and damage to the environment. Response goals are to work with industry, federal, state, local, and tribal agencies to prevent spills from occurring and to respond quickly and effectively to spills that do occur. Program staff work closely with the oil and transportation industries in developing proper handling procedures to prevent spills, and developing and maintaining spill contingency plans to ensure preparedness for spills. We also work closely with the U.S. Coast Guard regarding marine oil spills, and with city and county government agencies and the EPA regarding hazardous materials spills.

Results

Regional spill teams respond to over 800 spills each year. Overall, the size and number of oil and hazardous materials spills in the state has declined slightly due, in part, to state regulatory programs and industry efforts to prevent and minimize spills. However, we are responding to a growing number of clandestine drug lab cleanup operations at the request of state and local law enforcement agencies. Ecology's role is to remove suspected hazardous substances using state cleanup contractors or when appropriate, Ecology cleanup and disposal equipment. We responded to 98 drug lab cleanup requests in 1996, and to 126 requests through August, 1997.

Major Issues

Puget Sound Risk Assessment

Ecology has seized the opportunity presented by the Office of Marine Safety / Spills Management merger to assume a leading role in the development and implementation of a comprehensive Risk Management Plan for Puget Sound. The plan will be based on credible risk assessment that includes both verifiable incident data and simulated data for low probability, high impact oil spills. The risk assessment is expected to begin in 1998 and will take more than a year to complete.

The INTERTANKO Lawsuit

On July 19, 1995, the International Association of Independent Tanker Owners (INTERTANKO) filed suit in federal district court in Seattle claiming that Washington's statute and rules requiring best achievable protection from the harm of tanker oil spills were preempted by federal law and regulations. In November 1996, U.S. District Court Judge Coughenor issued an order upholding Washington's law and rules. In December 1996, INTERTANKO appealed to the Ninth Circuit Court of Appeals. Briefs by all parties are filed but no date has been set for oral argument.

Spill Drills and Contingency Plans – Next Cycle

1997 marks the end of the first three-year drill cycle for oil handling facilities regulated by Ecology. During the past three years, agency drill and exercise evaluations have enabled staff to assess the effectiveness of facility oil spill contingency plans and the ability of plan holders to implement these plans. We will seek input from the regulated community and other stakeholders as part of an effort to refine and provide a new focus to the drill and exercise program for the next three-year drill cycle.

Contingency Plan Coverage For Canada-Bound Vessels

Vessels bound for British Columbia ports through Washington waters are currently meeting Washington State contingency plan regulations by enrolling with the Washington State Maritime Cooperative (WSMC). WSMC has provided free coverage to these vessels for several years. Canadian law requires vessels leaving Washington ports on their way out to sea through Canadian waters to have oil spill coverage. Ecology is working with the shipping industry to find a way to allow reciprocity of oil spill coverage for those vessels transiting Washington and British Columbia waters so they won't be charged for oil spill coverage both ways.

Alternate Response Technologies (In Situ Burning and Dispersants)

The use of dispersants continues to be an area of interest for response contractors. An Environmental Impact Statement (EIS) prepared for dispersant use described areas for pre-approval, case-by-case approval, and no-use scenarios. This year, the issue will be revisited by all parties to see if better technology may provide new opportunities for use.

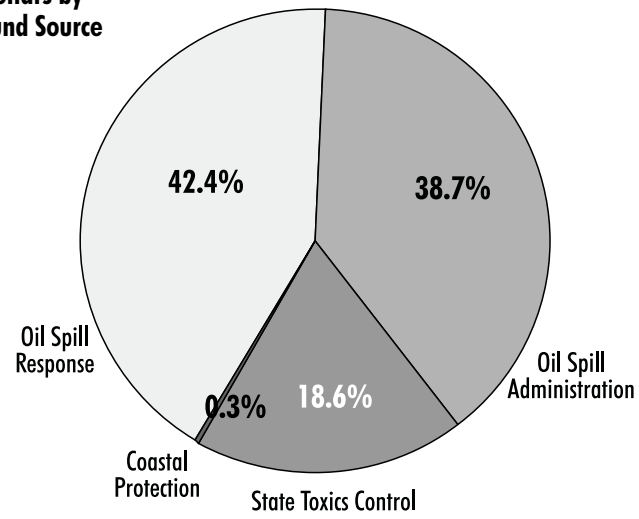
After the public expressed significant concerns, Ecology and other Northwest Area Committee members canceled development of an EIS and any further plans for an open water in situ test burn. A number of implementation issues, such as boom design and personnel training, still need to be addressed before in situ burning can be considered an effective oil spill tool in Washington. Plans are underway to work on these issues through projects such as major non-discharge deployment drill and developing test protocols for accidental spills-of-opportunity. New federal air quality standards will soon require a reexamination of the existing in situ burning policy.

Spill Prevention, Preparedness, & Response Program Budget

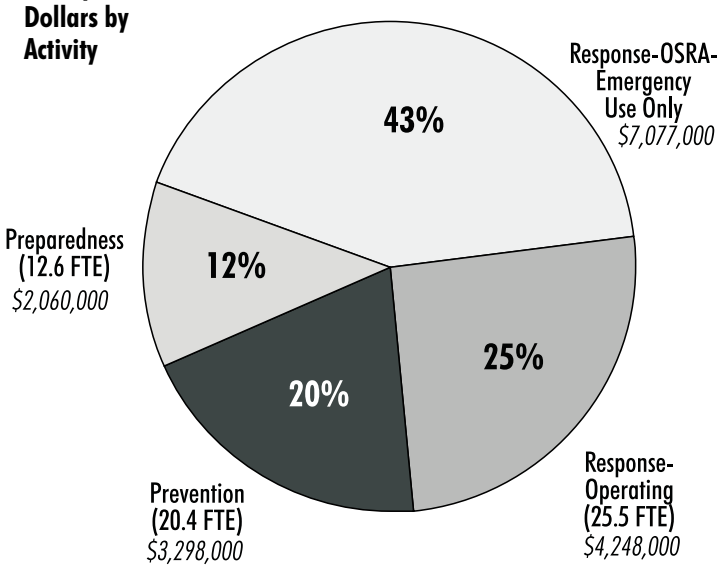
Budget: $16,683,268; Staffing: 58.5 FTEs

Fund	Amount ($)	Sources	Uses
State Toxics Control	3,103,304	Hazardous substance tax; remedial actions and penalties collected	Spill response
Oil Spill Administration	6,459,360	Oil Spill Administration tax	Oil spill prevention
Oil Spill Response	7,076,617	Oil Spill Response tax	Major oil spills costing more than $50,000
Coastal Protection	43,987	Spill damages and penalties collected; charge on Marine Use Tax Refund claim	Restoration of natural resources related to oil and hazardous materials spills

Spill Prevention, Preparedness, & Response Dollars by Fund Source



Spill Prevention, Preparedness, & Response Dollars by Activity



Spill Prevention, Preparedness & Response Program Data

Figure 31: Oil Movement in Washington State
(figures in thousands of barrels per day)

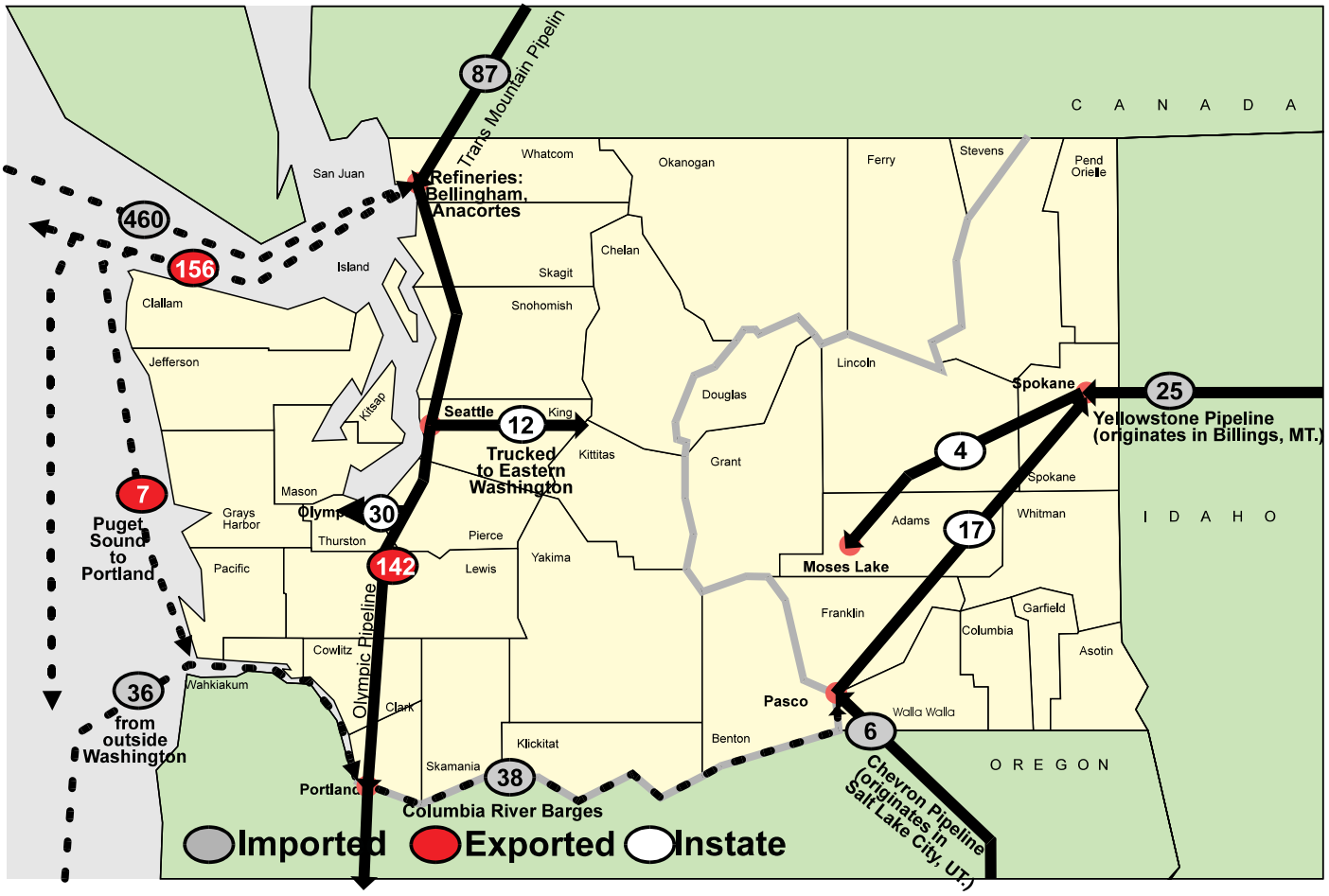
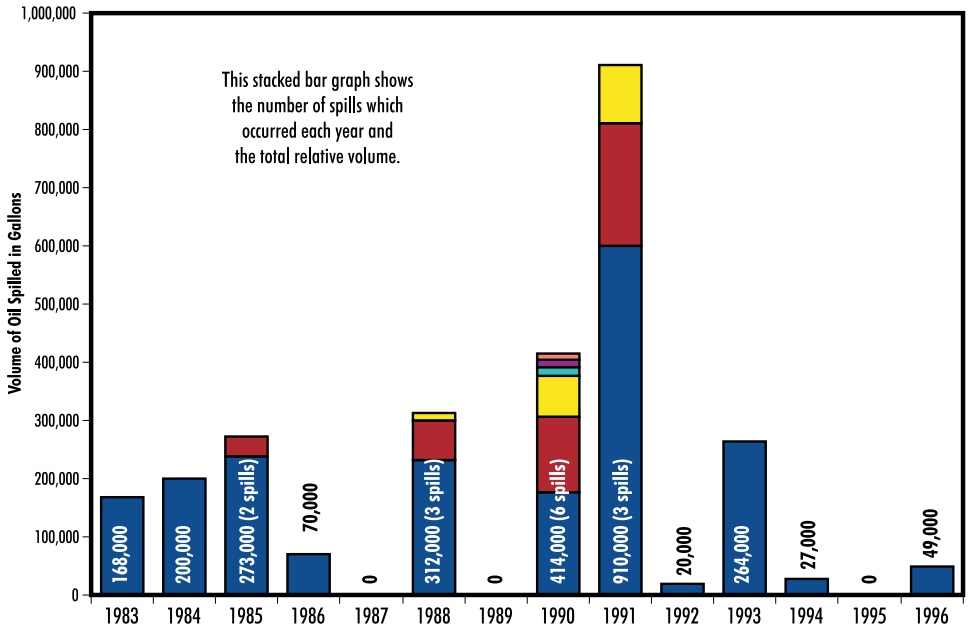


Figure 32: Major Oil Spills Over 10,000 Gallons in Washington State;
Volume of Oil Spilled Per Year in Gallons



SPILLS

Figure 33: Major Oil Spills in Washington Over 10,000 Gallons

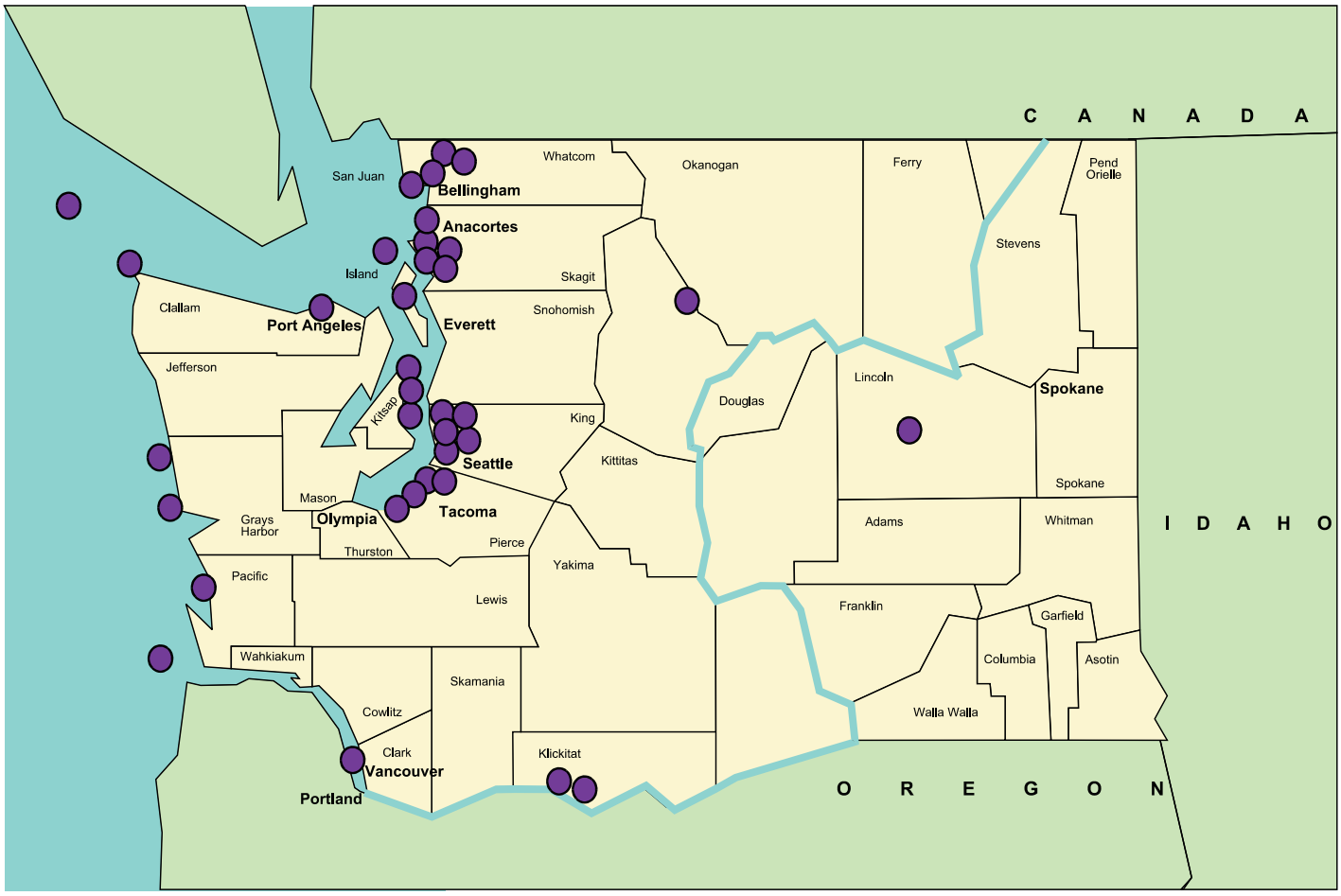
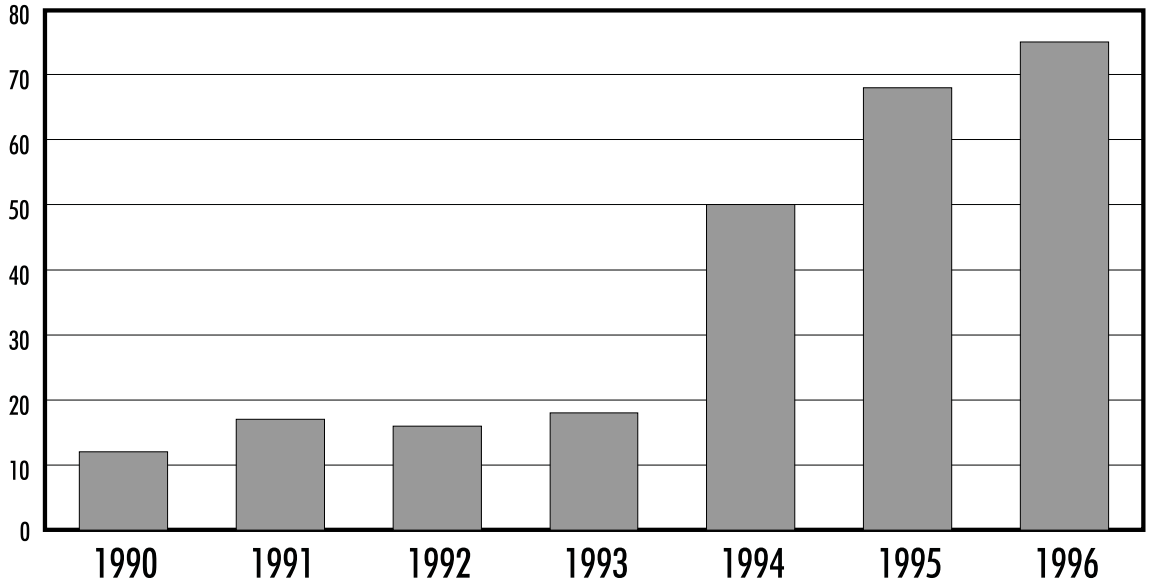


Figure 34: Number of Spill Drills Per Year



Toxics Cleanup Program

Contact: Mary Burg (360) 407-7177

Program Mission

To get contaminants out of the environment and keep contaminants out of the environment.

Environmental Threats

We know that there are more than 7,100 contaminated sites across the state. Approximately 5,000 of the contaminated sites statewide are a result of leaking underground storage tanks. Approximately 2,300 sites impact ground water and threaten drinking water.

Each site is unique and poses a different type and level of risk to public health and the environment. Contamination at sites can be localized or widespread. For example

❖ Soils that are contaminated by toxic chemicals, like arsenic, have been discovered in school playgrounds and in backyards, as well as at industrial facilities.

❖ Fish and shellfish living on chemically contaminated sediments can accumulate certain toxins in their flesh. People eating these fish and shellfish may, in turn, be exposed to the toxic chemicals. Also, contaminated sediments can contribute to declining fish populations and damage state fishery resources.

❖ Contamination can affect drinking water sources and expose people to chemicals in the water they drink and use at home.

We need to remove contaminants from these sites to protect public health and the environment. Cleaning up contaminated sites also helps the state's economy by restoring sites to productive use and by preventing further decline of state resources such as fish and shellfish habitat.

Our objectives are to minimize the public health and environmental risk at the worst of the contaminated sites by the year 2001, and to make substantial progress to return low risk sites to productive use by the year 2000.

Program Origin and Laws

Contaminated Site Cleanup

Contaminated site cleanup activities in Ecology were first funded by the legislature in 1983, with the aim of enabling the state to participate in federal Superfund cleanups.

Chapter 70.105D RCW, Model Toxics Control Act
In 1988, citizens passed Initiative 97. This initiative created a state-specific cleanup law which gives Ecology the authority to order cleanups at contaminated sites and established a tax on hazardous substances sold in the state. These funds pay for cleanup and pollution prevention activities. More than half of the funds are directed to local governments to help pay for cleanup of publicly owned contaminated sites.

Underground Storage Tanks

Chapter 90.76 RCW, Underground Storage Tanks
This law, passed in 1989, requires Ecology to establish standards for the proper installation, operation, and maintenance of underground tanks used for the storage and dispensing of hazardous substances and fuels, primarily at gas stations. It was passed, in part, to provide the state with the authority to implement a program in lieu of one implemented by the EPA. The law is currently scheduled to sunset July 1, 1999.

Constituents and Stakeholders

An important element of the Model Toxics Control Act is including the public and other stakeholders throughout the process of cleaning up contaminated sites and developing new initiatives. Ecology's Toxics Cleanup Program continues to build partnerships among government, industry, and citizens. Our constituents and stakeholders include

❖ The Legislature

❖ Federal Government

❖ State Government

❖ Conservation and environmental groups

❖ Businesses engaged in the cleanup of contaminated sites

❖ Local governments

❖ Insurance companies

❖ Tribes

Contaminated Site Cleanup constituents also include

❖ Lenders, developers, realtors

❖ Owners of contaminated sites

❖ Water purveyors

❖ Citizens affected by contaminated sites

Underground Storage Tanks (USTs) constituents also include

❖ Tank owners / operators

❖ Homes and businesses affected by leaking USTs

❖ Petroleum companies

❖ UST service providers

Major Activities

Contaminated Site Cleanup

To ensure that those sites posing the greatest risk to public health and the environment are cleaned up, we focus our resources on the most highly contaminated sites first. These sites are characterized by

❖ Imminent threat to drinking water

❖ Extreme quantity and toxicity of contaminants

❖ Nearby population or surface water

❖ Shallow depth to ground water

These sites range from complex, highly industrialized properties to corner gas stations where a leak from an underground storage tank has occurred. Many of these sites have contamination in soil, sediments, ground water, and / or surface water. Most of these sites are cleaned up through a formal process with Ecology oversight.

Cleaning up high priority sites allows us to address low risk sites where contamination has less chance of human or environmental exposure beyond site boundaries. Many of these sites are cleaned up independent of Ecology oversight.

Results

Of the 7,100 sites statewide, 38% have been cleaned up and require no further action, 42% are in some stage of the cleanup process, and 20% are waiting for further investigation or cleanup to occur.

Voluntary Cleanup Program

Based on the success of a number of innovative pilot programs, Ecology's Toxics Cleanup Program developed the Voluntary Cleanup Program. As of October 1, 1997, the Voluntary Cleanup Program provides services to site owners or operators who initiate cleanup of their contaminated sites. Voluntary cleanups can be conducted in a variety of ways: completely independent of Ecology; independent with some Ecology assistance or review; or with Ecology oversight under a signed legal agreement (an agreed order or a consent decree).

Because approximately 80% of all cleanups are conducted voluntarily and because most are independent cleanups, changes were made to the state cleanup law to allow Ecology to provide more assistance to persons conducting voluntary cleanups. Ecology may now provide site-specific advice to persons who are conducting, or are interested in conducting, an independent cleanup. While Ecology is authorized to recover the cost of providing this assistance, some level of service will continue to be provided without charge.

Ecology's Voluntary Cleanup Program services include

❖ One-hour free consultation on administrative or technical issues related to compliance with the state cleanup law for independent investigation or cleanup

❖ Consultation for a fee on site-specific technical or administrative issues before, during, or after a cleanup

❖ Prepayment Agreement: Ecology's oversight costs are provided in advance of issuing an order or decree that has been requested by a responsible party

❖ Prospective Purchaser Agreement: Ecology's oversight costs are provided in advance of issuing an order or decree that has been requested by a prospective purchaser who wishes to redevelop or reuse the property

❖ Brownfields Redevelopment: a specially targeted cleanup effort, aimed at getting abandoned or underused properties (brownfields) back into productive use

Underground Storage Tanks

Activities

❖ Currently Ecology regulates approximately 14,400 active tanks on 5,200 different properties, including gas stations, industries, commercial properties and government agencies. These tanks must be installed and operated under a permit which is issued as part of the Master Business License by the Department of Licensing.

❖ Our Underground Storage Tank program is working to ensure that tanks are installed, managed, and monitored in a manner that prevents releases. Tanks must meet all state and federal requirements by December, 1998, or be permanently taken out of service (closed).

❖ Compliance inspections: We conduct inspections on about 500 sites per year, most with multiple tanks.

❖ Technical Assistance: To achieve compliance with the Underground Storage Tank regulations, we are emphasizing technical assistance to tank owners. This provides face-to-face, site-specific service to the tank

owners so that the owners do not have to carry the entire burden of understanding the Underground Storage Tank regulations. Ecology has about 10 employees who spend the majority of their time providing technical assistance to owners and operators in the field or over the phone. Tank owners can request penalty-free technical inspections and submit Ecology's documentation of the visit to insurance carriers. Some insurance carriers will reduce premiums up to 10% for sites with low risk of releases.

Results
As a result of our Underground Storage Tank Unit program

❖ The rate of releases reported annually is less than a quarter of what it was in 1990

❖ About 70% of the tanks are in compliance with leak detection requirements

❖ All licensed tank owners have documented their ability to pay the costs of cleaning up releases in order to obtain operating permits

❖ Over half of all tank owners are already in compliance with 1998 overfill protection and corrosion protection requirements

Data and Information

A major effort of the Toxics Cleanup Program is to turn data into usable information for the purpose of helping to direct work, ensure what we do has value, and to know that what we do is supported by our stakeholders.

The Toxics Cleanup Program has recently completed an evaluation of how to better manage our data and deliver even more useful information. Staff has begun implementing high priority recommendations for improving delivery of information to the program and outside interests.

Our goal continues to be better cleanups through

❖ *An informed and involved public*

❖ *Good decisions based on solid data*

❖ *Making useable information* more available to the public

❖ *Knowledgeable communities* (including multi-lingual translations)

❖ *Environmental Indicators:* An area where the program has taken a leadership role is in measuring environmental results with environmental indicators. Three years ago, we created a pilot project which resulted in five indicator groups. Data are tracked annually for each cleanup site. The summary information is now a part of our annual report to the legislature.

In these early stages of information collection and scrutiny, we have not seen clear trends in all of the information. We will continue to monitor which contaminants have been treated, removed, recycled, or isolated at a site. Eventually, we should be able to measure environmental status and trends at cleanup sites.

In 1996, the following volumes were cleaned up in Washington state

— *Soils:* 4,621,655 cubic feet (enough fill an average 65 passenger, 1,500 cubic foot school bus to the roof nearly 3,000 times)

— *Ground water:* 2,144,281,704 gallons (enough to fill Atlanta's 1,000,000 gallon, Olympic sized swimming pool at least 2,000 times)

— *Drinking water:* 847,328,334 gallons

❖ *Data Management:* The Toxics Cleanup Program has developed several systems to manage our data. These include the Site Information System, the Underground Storage Tanks/Leaking Underground Storage Tanks database, and several smaller systems that do specific tasks. These systems are essential for taking raw data and turning it into useable information to help guide our Program's effort.

Results
People can access information readily; information systems are helping in the decision-making process; and our environmental indicators provide information about cleanup successes. Toxics cleanup information is available on the Internet at:
http://www.wa.gov/ecology/tcp/cleanup.html. We have just recently added even more information to this site.

Federal Agency involvement

Department of Defense
Ecology's Toxics Cleanup Program is a national leader in the cleanup of military sites. Through partnering with the Department of Defense, the Toxics Cleanup Program has overseen cleanup decisions for more military sites than any other state. The first military site delisted from the EPA's National Priorities List was in Washington state. A total of seven federal facilities with multiple cleanup sites have completed cleanups at their bases.

Environmental Protection Agency
❖ Washington is the only state approved by the EPA to be lead regulator, with no federal involvement, for a number of landfill cleanup sites.

❖ In a landmark agreement in October, 1994, EPA and Ecology divided up additional military and Superfund sites, including privately owned sites. This redefinition of state and federal roles eliminates duplication and leads to more efficient cleanups. The agreement has received national recognition as a model of intergovernmental cooperation.

State Agency Involvement

Ecology has signed Memorandums of Understanding with the Department of Health, Department of Transportation, Department of Natural Resources, and the Pollution Liability Insurance Agency. Each of these documents serves to define, in part, how the respective agencies will perform their responsibilities for the cleanup of sites throughout the state.

We recognize that the success of a Brownfields Initiative is dependent upon the coordination and cooperation of many state agencies. Ecology has played a key role in the coordinating this effort with the Department of Community Trade and Economic Development, the Office of the Insurance Commissioner, and the Department of Revenue.

Local Government Involvement

Under the Model Toxics Control Act, persons conducting remedial actions under a consent decree, order, or agreed order are exempt from the procedural requirements of many state and local permits. Ecology has the responsibility of ensuring compliance with the substantive requirements of these permits and works with state agencies and local governments to ensure that necessary measures are taken.

Ecology is working with several Port Districts to clean up contaminated properties and to help ports prepare for the future.

Major Issues

Statute and Rule Changes

To implement the recommendations of the Model Toxics Control Act (MTCA) Policy Advisory Committee, the statute was amended in a number of areas to facilitate faster, better, cheaper cleanups. Ecology has established an external advisory workgroup to review and advise the agency on draft rule language. Except for legislative members, the same interest groups that participated on the Policy Advisory Committee are assisting Ecology on the external advisory workgroup. Key issues being addressed by this proposed rule amendment include

❖ Providing for increased use of site specific information in conducting risk assessments

❖ Developing a new method to evaluate petroleum contamination

❖ Defining processes for protecting ecological aspects of the environment

❖ Providing clarification to the remedy selection process

❖ Establishing a citizen technical advisor or "ombudsperson" program

❖ Facilitating the redevelopment of "brownfield" sites through clearer administrative procedures

Sunset of the Underground Storage Tank Program

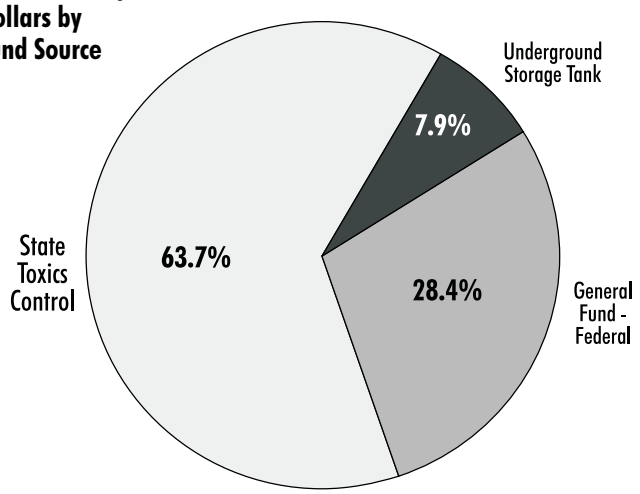
The state's underground storage tank program will sunset in 1999. Ecology is nearing completion of a year-long dialogue with a wide range of stakeholders on the future of the state program. The committee's recommendation is to reauthorize the program and to make some program improvements. Ecology plans to propose agency request legislation in the 1998.

Toxics Cleanup Program Funding

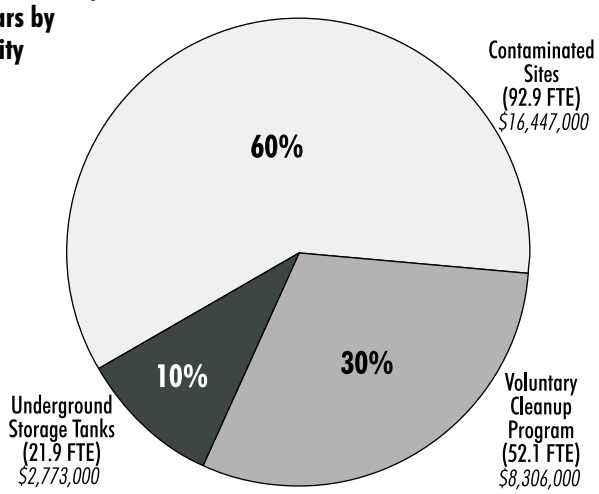
Budget: $27,525,975; Staffing: 166.9 FTEs

Fund	Amount ($)	Sources	Uses
State Toxics Control Account	15,531,295	Hazardous substance tax; recovered remedial actions and penalties collected	Cleanup of toxic sites; investigation and ranking of new toxic sites; prepayment cleanup; technical assistance; site information management; and natural resource damage assessment
	2,000,000	Hazardous substance tax; recovered remedial actions and penalties collected	Cleanups conducted at orphaned sites; at sites with mixed-funding agreements, or where liable parties are unwilling to act
General Fund - Federal	7,825,235	Federal Grants	Grant funds received from EPA and Dept. of Defense for cleanup at National Priorities List sites and federal Superfund sites at military facilities; and technical assistance/cleanup related to leaking underground storage tanks
State Underground Storage Tank Account	2,169,445	Annual tank fees	Pollution prevention; inspection and permitting activities related to underground storage tanks

Toxics Cleanup Dollars by Fund Source



Toxics Cleanup Dollars by Activity



TCP

Toxics Cleanup Program Data

Figure 35: Toxic Cleanups Started

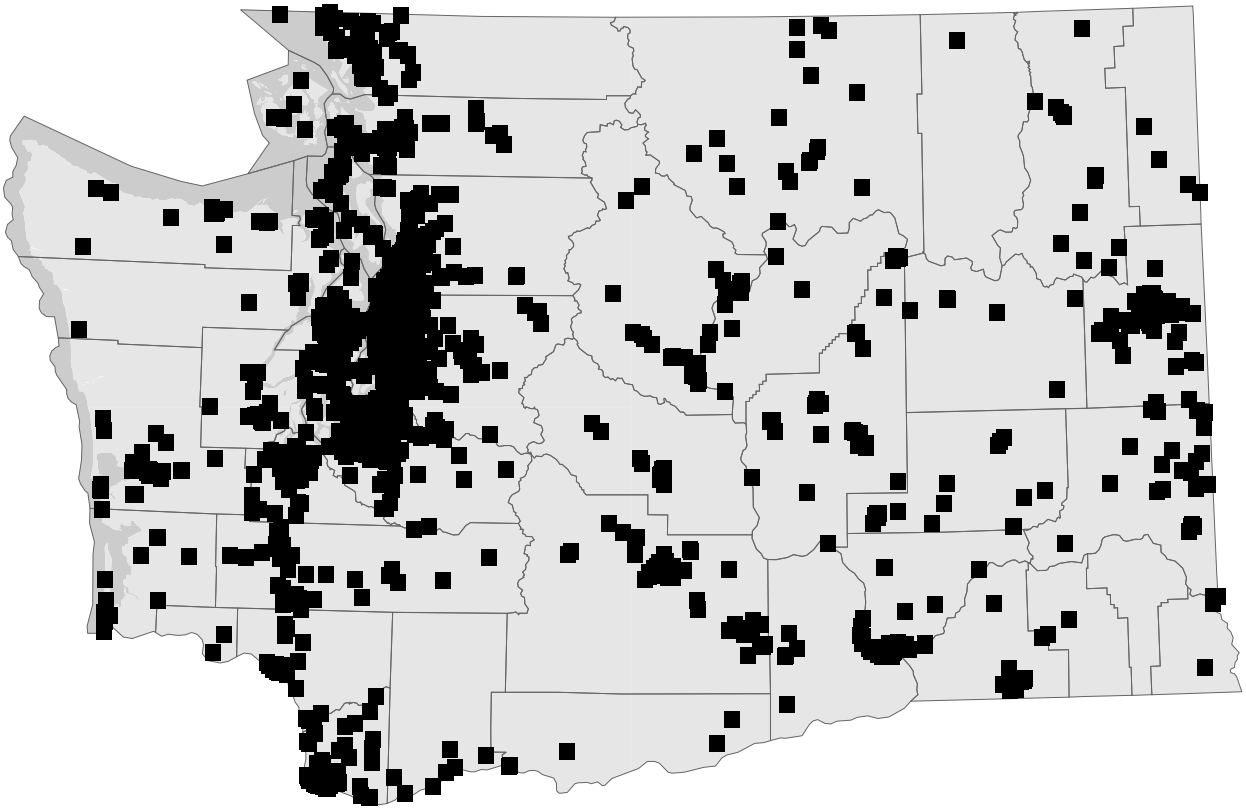


Figure 36: Number of Leaking Underground Storage Tanks

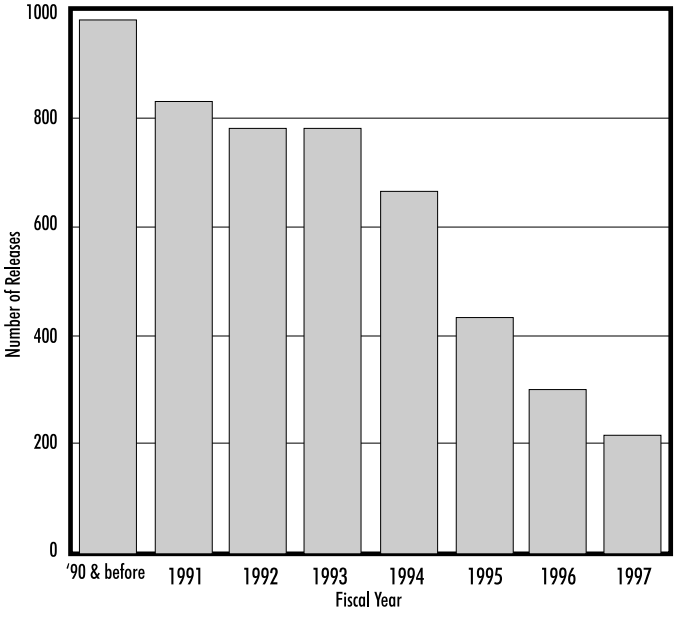
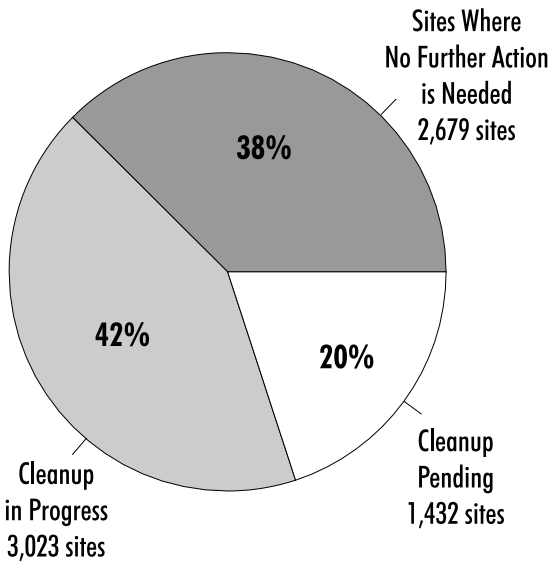


Figure 37: Known and Suspected Contaminated Sites
Total: 7,134 sites



Agency Administration

Contacts: *Legislative and Intergovernmental Relations:* Bill Alkire (360) 407-7003
Information and Education: Sheryl Hutchison (360) 407-7004
Financial Services: Nancy Stevenson (360) 407-7005

Program Mission

To support the agency in accomplishing its mission to protect, preserve and enhance Washington's environment, and promote the wise management of our air, land and water for the benefit of current and future generations.

Environmental Threat

The Administrative Program assists agency programs in providing information and education to citizens about the environmental threats addressed by Ecology. Management of our environmental data is critical to this effort.

Currently, Ecology manages its information in several of different ways, which allows us to meet individual project needs quite well. However, it has not allowed us to respond in a comprehensive and effective way when addressing environmental threats. Two years ago, we began the Information Integration Project, which is a long-term effort to evaluate, design and construct a system to store and access agency information.

Program Origin and Laws

Chapter 43.21A RCW, Department of Ecology

In 1970, this law created the Department of Ecology to consolidate water, air, solid waste and other environmental management protection and development programs authorized by the legislature. Sections 090 through 150 state the powers, duties and functions that allow the director of Ecology to create administrative divisions within the agency.

Throughout Ecology's history, the following agency-wide services have been centrally located in the Administrative Program

- ❖ Fiscal, accounting and budget
- ❖ Records, mail and warehouse
- ❖ Employee services
- ❖ Public education and information
- ❖ Intergovernmental relations

Constituents and Stakeholders

- ❖ Internal management and staff
- ❖ The legislature and legislative staff
- ❖ Office of Financial Management
- ❖ Other natural resource agencies (Departments of Natural Resources, Health, Agriculture, Transportation)
- ❖ Joint Natural Resources Cabinet
- ❖ General Administration
- ❖ State Treasurers Office, Auditors Office and Revenue
- ❖ Federal agencies (for instance, US Environmental Protection Agency)
- ❖ Local governments and the federal government (grant management)
- ❖ Tribal governments (communication and coordination)

Ecology has established Local Action Teams, which incorporate a locally-driven, priority setting process, resulting in actions that assure the long-term environmental health of a given location. The Local Action Teams support and participate in local collaboration building and coordination with other agencies and local governments, and acts as a liaison with local interest groups.

We also have a Bellingham Field Office which takes a watershed-based approach to addressing natural resource issues in the Nooksack River watershed in cooperation with local governments, tribes, interests groups and other state and federal agencies.

Major Activities

Office of Communication and Education

Management support

❖ Writes and advises on speeches for management

❖ Advises management on education and information or involvement aspects of environmental issues

❖ Prepares public information and education strategies for major agency issues

Education and information strategies

❖ Assists programs in designing education and outreach plans, tools, materials and activities

Media and public issues

❖ Responds to media and public inquiries

❖ Arranges news conferences, tours and on-location media opportunities

Publications and graphics

❖ Designs, writes, edits and/or produces publications

❖ Creates displays and presentation graphics

❖ Provides publications to citizens, businesses and local governments

Intergovernmental Relations

❖ Leadership, policy support and coordination for federal and state legislative issues, as well as issues effecting local government and tribes

❖ Rule development assistance and coordination

❖ Economic analysis, including Small Business Economic Impact Statements, cost/benefit studies, and agency fee and cost management guidelines

❖ Research regarding possible statutory conflicts

❖ Clear writing advice

❖ Assistance regarding rule implementation and success measures

Employee Services

❖ Provides a core training program that reinforces Ecology's goals.

❖ Implements the Mentoring Program to enhance career development skills of employees.

❖ Trains and provides skilled facilitators to the Agency

❖ Provides mediators for human resource problem resolution

❖ Assists in creating a supportive work environment that reflects the diversity of the community Ecology serves

❖ Responsible for ensuring that appointments, recruitment, classification and pay, corrective/disciplinary actions, reduction-in-force actions, and grievances are in compliance with civil service laws, merit system rules, and agency policy

❖ Provides the full scope of human resources functions, including safety and training and development, to support organizational requirements and needs

Regional Offices

❖ Executive management representation within Ecology's four regional offices

❖ Outreach through information and assistance to local communities

❖ Cross program coordination and management of large, multiple-program environmental review and permitting projects

❖ Core administrative support to regional office staff in the areas of reception, mail, records management, complaint tracking and central library

Information Integration Project:

❖ Multi-media information integration across program areas (air, water, land)

❖ Cross-functional integration of information (for example, between enforcement and release data)

❖ Linkage between Ecology expenditures, activities, and environmental conditions and results

❖ Geographic-based analysis (the ability to display and evaluate information by location)

Executive and Administrative Services

❖ Direction and leadership

❖ Centralized services (fiscal, accounting and budget) including

— Timely maintenance of revenue and expenditures

— Identifying trends, verifying fund balances, assisting programs with grants and allotments

❖ Centralized forms, records and mail services

❖ Security for agency staff, facilities and property

❖ Strategic planning and environmental indicator development

❖ Purchasing/inventory

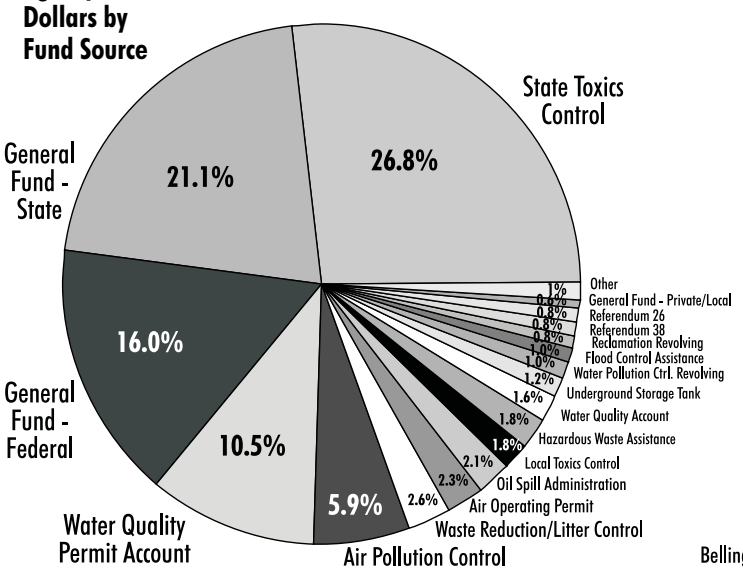
❖ Books, periodicals, and research: manages extensive library resources at headquarters and in regions

❖ Information management

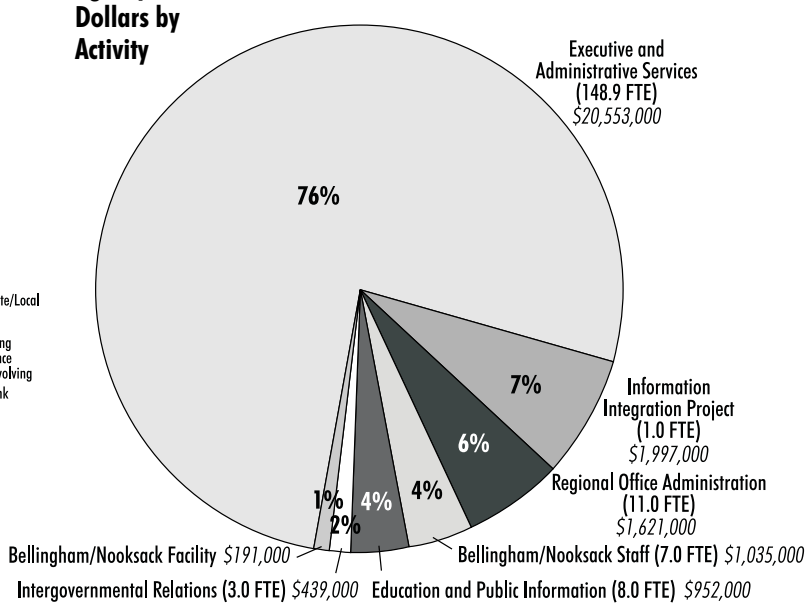
❖ Facility and building management

The Administrative Program is funded primarily through an indirect rate charged to the operating programs within the agency. The indirect rate is applied to salaries and benefits only. Therefore, the indirect rate is applied to all agency funds that support FTEs in the operating programs.

Agency Administration Dollars by Fund Source



Agency Administration Dollars by Activity



ADMIN

Figure 38: Ecology Operating Budget by Fund Source

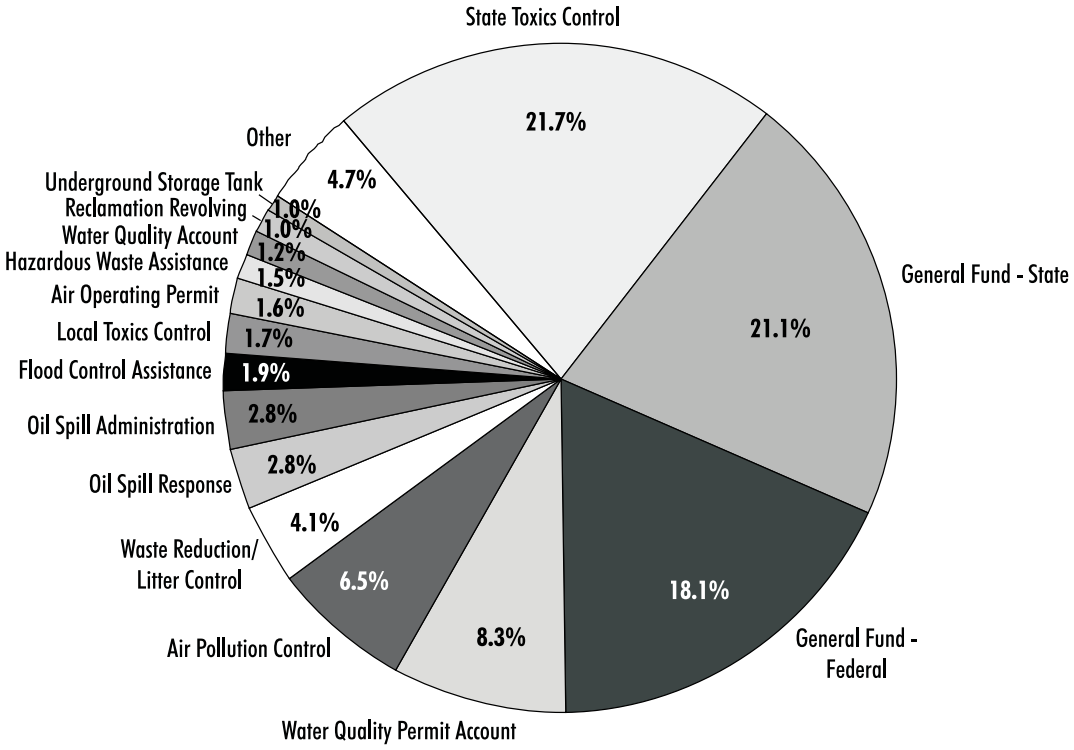


Figure 39: Ecology FTEs by Program

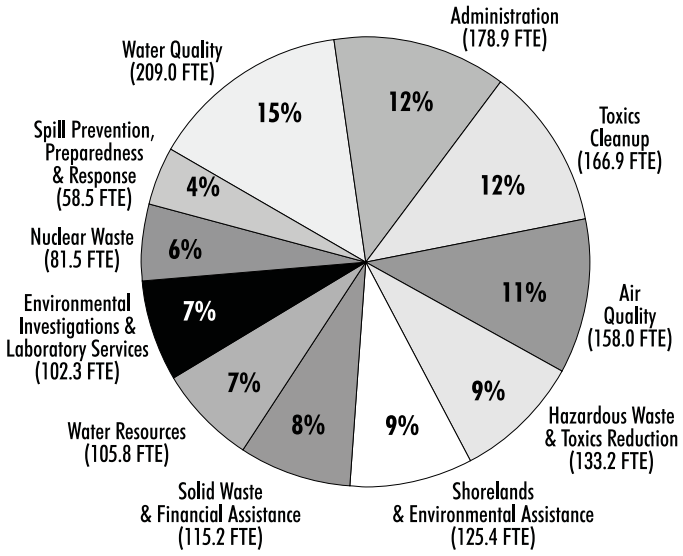
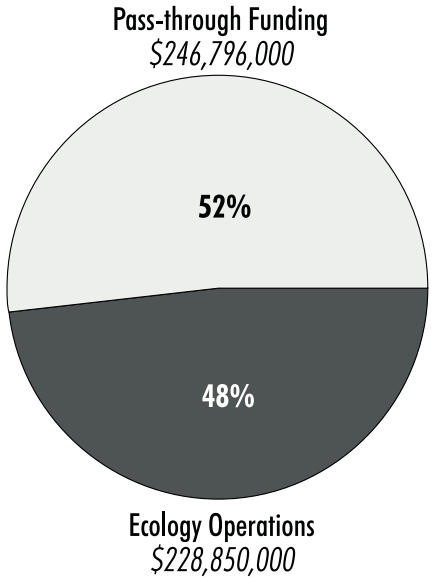


Figure 40: Ecology Pass-Through Funding to Local Governments and Communities



Footnote: *Total includes operating budget and new capital budget appropriations. Ecology will commit new capital funding to new projects. In addition, Ecology's capital budget includes $167 million in reappropriated pass-through funds (not shown). These funds are for projects Ecology committed to funding in prior biennia.*

AGENCY

Figure 41: Ecology's Regional Offices

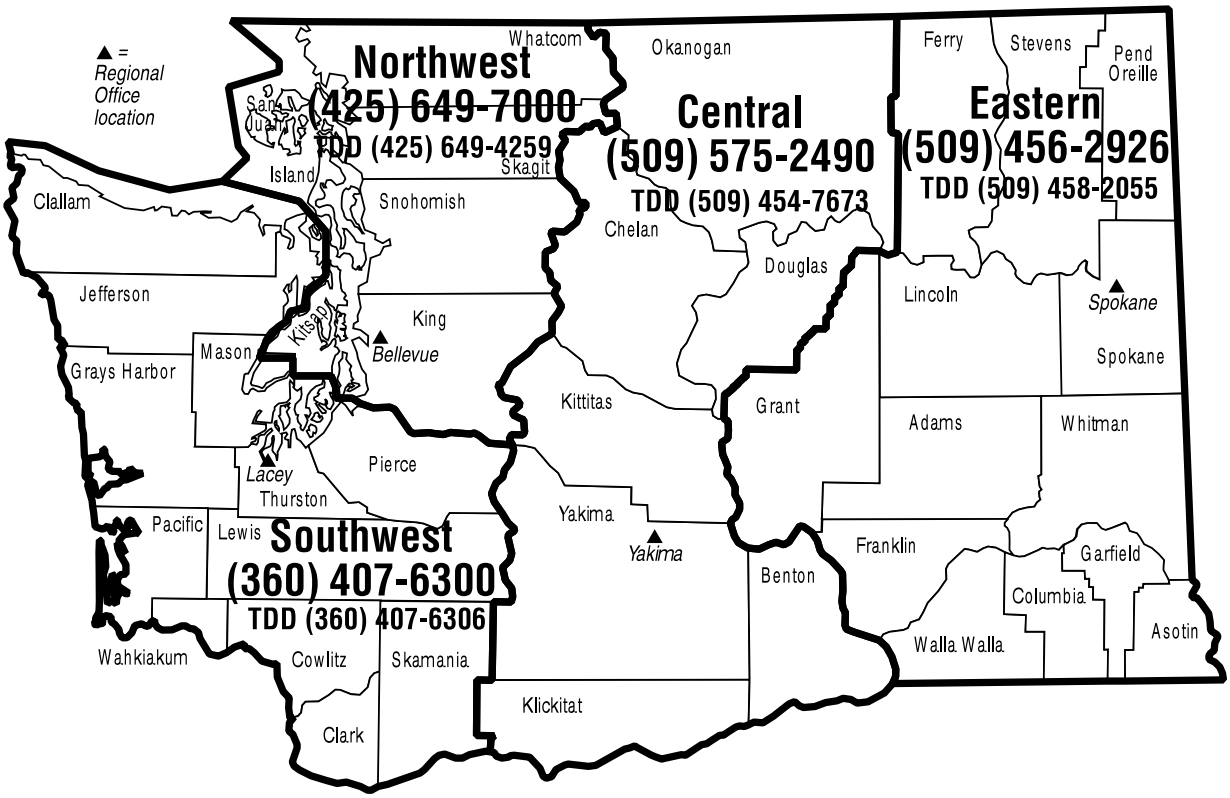


Figure 42: Department of Ecology Organizational Chart