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WASHINGTON STATE DEPARTMENT OF ECOLOGY

Hazardous Waste Cleanup Program

1988 Annual Report

Environmental Excellence: Simpson Tacoma Kraft Cleanup

Hailed as a model of cooperation among environmental groups, private industry and local governments, the Simpson Tacoma Kraft project was the first cleanup negotiated and completed under the 1987 Hazardous Waste Cleanup Act.

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A Message From the Director

In passing the landmark 1987 Hazardous Waste Cleanup Act, the Washington legislature recognized that:

"The beneficial sterwardship of the land, air, and waters of the state is a solemn obligation of the present generation for the benefit of future generations."

Since its inception in 1970, the Department of Ecology has been charged with protecting the state's natural environment. By 1988, environmental issues have become more complex and require greater attention than many realized they would 18 years ago. More particularly, and the subject of this report, 1988 may be known as the year people of Washington state committed themselves to cleaning up hazardous waste sites and taking control of the waste issue for the future.

The stakes are high. Our water, a very basic element upon which all life depends, is threatened by contamination. Most of today's environmental problems can be traced to past inappropriate waste disposal practices and our culture's unprecedented comsumption of commercial goods.

Our state has been left with several hundred sites contaminated by hazardous chemicals and other wastes. These sites will take decades to clean up and will cost millions, if not billions, of dollars. In addition, 44 years of nuclear weapons production at Hanford has resulted in disposal of massive amounts of chemical and radioactive wastes. The costs of the cleanup are estimated in the many billions of dollars.

Solid wastes have been disposed of by burying in unlined landfills. Unfortunately, problems with contamination of nearby domestic wells and escaping gases have developed. These landfills have had to be cleaned up and in the case of unlined landfills, closed. Municipal governments face a crisis of population increases which add additional challenges to waste management and prioritization of other services.

To date there still is no major in-state disposal facility for hazardous wastes. Much of the waste is stored temporarily, treated or shipped off to disposal sites in Oregon, Idaho and other states. These temporary measures only postpone our state's need to find permanent solutions to the problem.

In passing the 1987 Hazardous Waste Cleanup Act (Ch. 70.105B RCW), the legislature wisely articulated two major objectives: correction and prevention. Our state lawmakers can be proud of legislation that allocated resources for cleaning up our mistakes of the past while preventing a recurring scenario by aggressive investment in waste reduction and recycling.

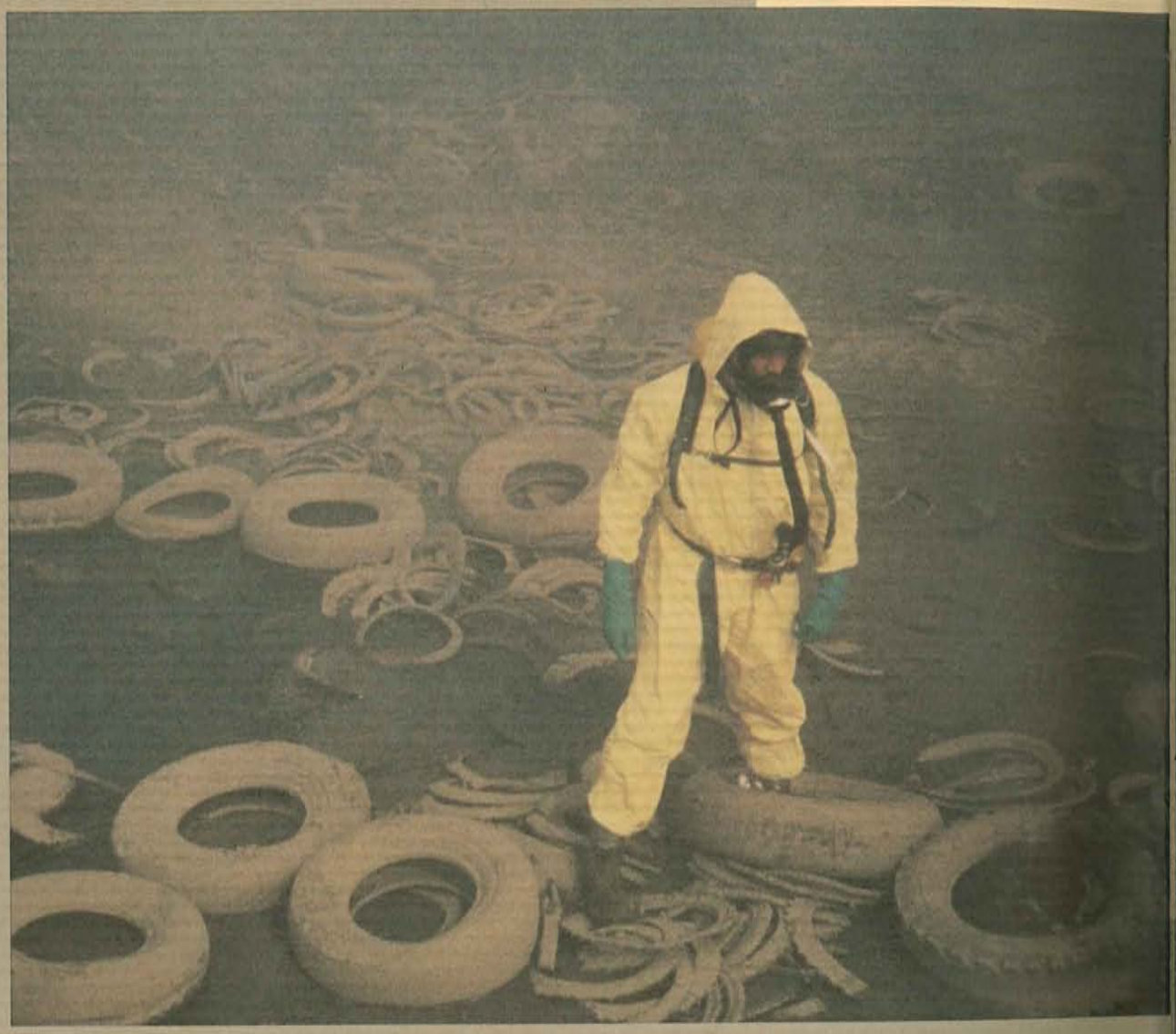
In 1988, Ecology continued work on more than 125 contaminated sites and began implementing the Act. In November, 1988, Washington's voters approved a new law aimed at hazardous waste cleanup, Initiative 97, which takes effect March 1, 1989, and replaces Ch. 70.105B RCW. The two cleanup laws share far more similarities than differences and Ecology takes seriously our citizens' mandate to clean up toxic waste.

Ecology is aiming its efforts toward building partnerships among diverse constituencies and educating the public about waste reduction and recycling. Together, we can create environmental enhancement and protection programs that are models for the rest of the nation.

Sincerely,

Christine O. Gregoire

Christine Gregoire
Director
Department of Ecology



Executive Summary

The 1987 Hazardous Waste Cleanup Act established two accounts for cleaning up and managing hazardous and solid wastes in Washington state. These accounts are the State Toxics Control Account and the Local Toxics Control Account.

A total of $8,962,900 was spent to implement the cleanup law in FY 1988 by the Departments of Ecology, Agriculture, Community Development, Revenue and Social and Health Services.

From the state account, $4,464,275 was spent for hazardous waste investigations and cleanup, $ 4,030,000 for solid and hazardous waste management, $20,000 for waste reduction and recycling, and $448,625 for related programs in other state agencies.

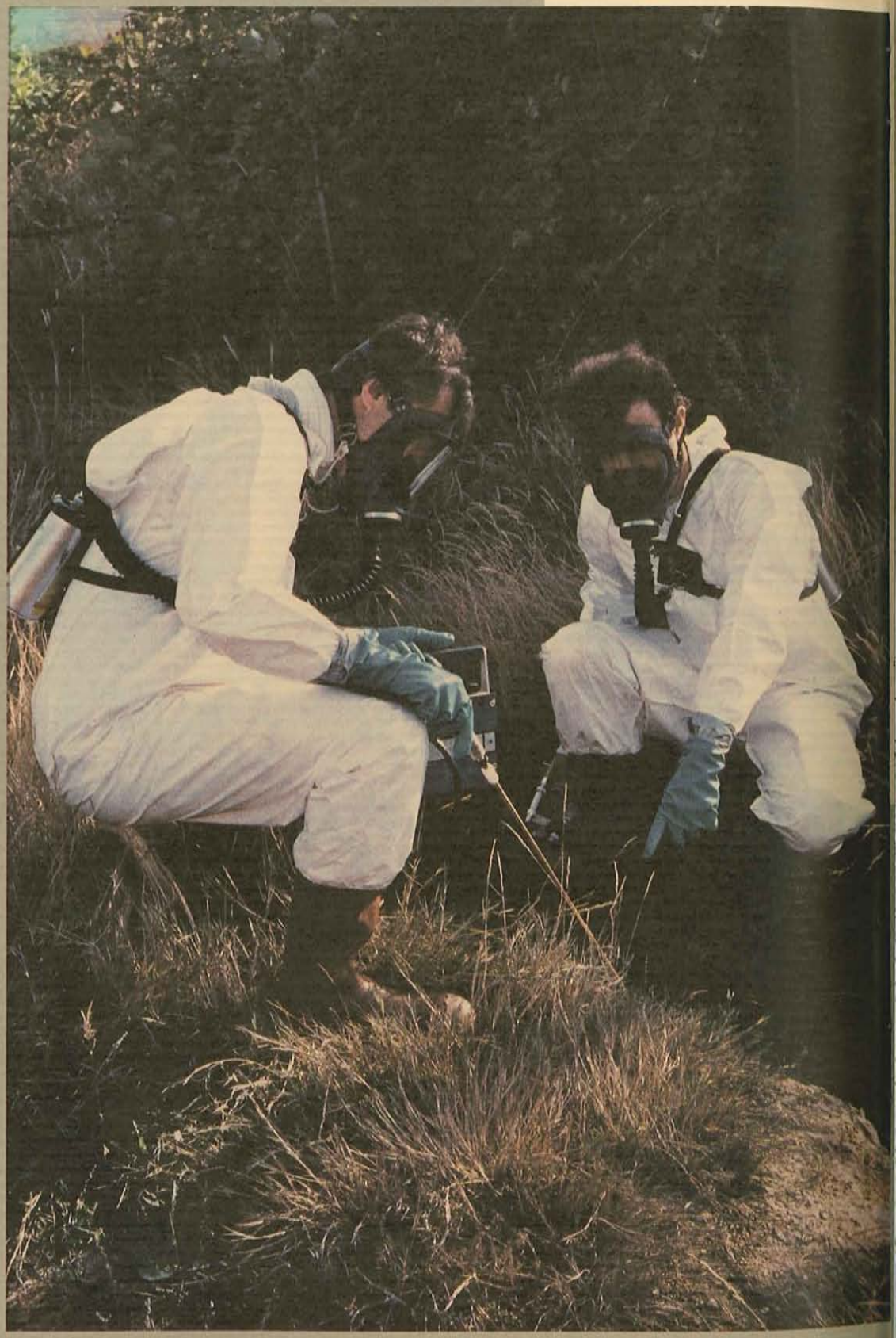
Approximately $ 1,773,585 from the local account was spent for grants to local governments for cleaning up and managing hazardous and solid wastes.

Funds from the toxics accounts allowed Washington state to:

- Continue cleanup activities at more than 125 contaminated sites.
- Sign six consent decrees under the new cleanup law and actively negotiate for cleanup of 20 additional sites.
- Provide technical assistance and more than 50 grants to local governments for cleaning up landfills and managing hazardous and solid wastes.
- Aggressively pursue waste reduction and recycling programs for government agencies, businesses and industries.
- Collect and safely dispose of 25 tons of waste agricultural pesticides.
- Train more than 4,500 local firefighters in hazardous materials emergency response.
- Test and monitor more than 30 potentially contaminated public drinking water supplies.
- Negotiate with the federal Department of Energy and EPA to clean up the Hanford nuclear reservation.
- Pursue cost recovery actions against parties responsible for contaminated sites and manufacturers of EDB.
- Continue permitting, inspection and enforcement of 70 hazardous waste treatment, storage and disposal facilities.

Alternatives to Dumping

Developing markets for waste tires is one way Ecology is meeting its top management priorities of waste reduction and recycling. Pictured is toxic residue and serious air pollution from an Everett tire fire. 1984



Preface

The Hazardous Waste Cleanup Act and the Model Toxics Control Act both require the Department of Ecology to "provide the legislature and the public each year with an accounting of the department's activities supported by appropriations from the state toxics control account, including a list of known hazardous waste sites and their hazard rankings, actions taken and planned at each site, how the department is meeting its top two management priorities under RCW 70.105.150, and all funds expended under this chapter."

Passed by the legislature in October 1987, the Hazardous Waste Cleanup Act, Ch. 70.105B RCW, created a program that will help this state clean up and manage its solid and hazardous wastes. Programs defined in Ch. 70.105B RCW are funded by a tax on hazardous substances.

In November 1988, Washington voters enacted Initiative 97, the Model Toxics Control Act, which will become effective March 1, 1989. Initiative 97 will replace the Hazardous Waste Cleanup Act.

This report summarizes major program accomplishments funded by the toxics control accounts under the Hazardous Waste Cleanup Act. Five state agencies and several programs within the Department of Ecology manage programs under the cleanup law. Although future annual reports of toxics control accounts expenditures will focus on fiscal years, this publication includes activities through October 1988—the first anniversary of the Hazardous Waste Cleanup Act's passage. The FY 1989 annual report will include information about programs under the Model Toxics Control Act, Initiative 97.

Field testing of the hazard ranking model will be completed in April 1989. Therefore, the "list of known hazardous waste sites and their hazard rankings" will refer to those sites that Ecology actively addressed this year, without the benefit of formal ranking scores.

The Department of Ecology gratefully acknowledges the contributions to this report by staff of the Departments of Agriculture, Community Development, Revenue, and Social and Health Services. Ecology staff contributions originated from programs including Hazardous Waste Investigations and Cleanup, Solid and Hazardous Waste Management, Waste Reduction and Recycling, Regional Offices and Central Operations.

Soil, air and water sampling are among the first steps in cleaning up a site. Pictured is air sampling at Tacoma tide flats. 1985.

Implementing the 1987 Hazardous Waste Cleanup Act

Implementing the Hazardous Waste Cleanup Act (Ch. 70.105B RCW) was among Ecology's top priorities in 1988.

Funded by a tax on hazardous substances, the cleanup law created programs that allowed for:

- Expedited cleanups through such incentives as mixed funding, voluntary settlements and covenants not to sue;
- State-initiated cleanups when liable parties cannot or will not take action;
- Grants to local governments for cleanup of municipal landfills;
- Solid and hazardous waste recycling pilot projects and planning grants;
- Grants to citizen groups for involvement in site cleanup and facility siting negotiation;
- An enhanced hazardous waste regulatory program;
- The state to provide matching funds to EPA for cleaning up federal Superfund sites;
- Technical assistance to local governments for solid and hazardous waste planning, household hazardous waste collection programs and priority waste management methods;
- The Departments of Community Development, Social and Health Services, Agriculture and Revenue to undertake hazardous substance emergency response, water monitoring and health assessment, waste pesticide collection and tax administration.

To implement the Act, Ecology engaged in negotiated rulemaking to develop regulations and policies.

Public Involvement in the Process

Public involvement in the rulemaking process allowed Ecology to receive broad citizen review of proposed regulations and policies. Through advisory boards, work groups, mailings, public workshops, hearings and informal consultation, Ecology was able to achieve a high degree of consensus in its policy direction. Throughout every phase of rule development, citizens had easy access to information and the process.

Between January and October 1988, Ecology held more than 20 public workshops and hearings on proposed regulations, and regular work group meetings. Numerous updates on proposed rules were mailed nearly every month to 1,200 interested persons.

Science Advisory Board

In February 1988, then Ecology Director Andrea Riniker announced the appointment of 11 members to the Science Advisory Board. "I'm impressed with the quality of scientists who are willing to share their expertise with the public by serving on this board," Riniker said. The board has advised Ecology on such technical issues as the hazard ranking system, cleanup levels determination and sediment standards.

Members of the Science Advisory Board

Dr. Gilbert Omenn, Board Chairman, Dean of the University of Washington's School of Public Health and Community Medicine. Ph.D., Genetics, University of Washington; M.D., Harvard Medical School.

David Lincoln, senior risk assessment manager at CH2M Hill in Bellevue. Ph.D., Biochemistry, University of Oregon.

H.H. Cheng, professor of soils at Washington State University, Pullman. Ph.D., Agronomy, University of Illinois, Champaigne-Urbana.

Henry Landau, president and principal engineer of Landau Associates, Edmonds. Ph.D., Civil Engineering, Purdue University.

One option for large landfills such as the Tacoma Landfill is constructing waterproof liners to prevent contaminants from leaching into the water table. Pictured is the seaming of filter fabric which acts as a protective layer for the liner material. 1987.

Ronald Kendall, director of the Institute of Wildlife Toxicology at Western Washington University, Bellingham. Ph.D., Fisheries and Wildlife Science, Virginia Polytechnic Institute and State University in Virginia.

Donald Wood, fellow scientist with Westinghouse Hanford, Richland. Ph.D., Physics, Northwestern University.

Al Bourquin, vice-president for research and development for ECOVA Corp., Redmond. Ph.D., Microbial Biochemistry, University of Houston.

David Eaton, director of the toxicology program at the University of Washington School of Public Health and Community Medicine, Seattle. Ph.D., Pharmacology, University of Kansas Medical Center.

KNona Liddell, associate professor of chemical engineering and coordinator of the hazardous substances research group at Washington State University, Pullman. Ph.D., Chemical Engineering, Iowa State University.

Kathryn Kelly, president of Environmental Toxicology International, Seattle. Ph.D., Public Health, Columbia University.

Kenneth Hartz, staff engineer with the waste technology center at Batelle NW Laboratories, Richland. Ph.D., Civil and Environmental Engineering, University of Wisconsin.

Settlements Policy Work Group

Central to Ecology's negotiated rule-making process has been the involvement by representatives of local governments, environmental groups, business, industry and agriculture.

Meeting bi-monthly since February 1988, the settlements policy work group has advised Ecology on the settlement process, liability issues, mixed funding, public participation and notification, initial investigation, and property notification.

Ecology is grateful for the significant contributions made by members of the settlements policy work group who include: John Daniel Ballbach, Jim Brewer, David Bricklin, Lynda Brothers, Rod Brown, Kathleen Collins, Don Cordell, Errett Deck, Loren Dunn, Jay Geck, Kris Hendrickson, Ted Hunter, Randy Scott and Ken Weiner.

Implementing the Hazardous Waste Act:
Regulation and Policy Development

Voluntary Settlement Procedures

One of the key features of the Hazardous Waste Cleanup Act is its emphasis on liable persons voluntarily taking responsiblility for cleaning up their contaminated sites.

In March 1988, Ecology filed a regulation for voluntary settlement procedures (Ch. 173-340 WAC). The regulation defines the process for potentially liable parties and Ecology to negotiate cleanup agreements.

As of October 1988, six consent decrees were signed under the Act and active settlement negotiations for 20 more sites were underway.

Accompanying the settlement procedures are policies on covenants not to sue, certification of completion, de minimis settlements, reopeners and amendments to settlements.

Hazard Ranking System and Initial Investigation

Rules defining the evaluation criteria for the Hazard Ranking System (HRS) (Ch. 173-338 WAC) and procedures for Initial Investigations (Ch. 173-336 WAC) were adopted in July 1988. The HRS will provide a consistent and objective method for evaluating and ranking sites based on their relative threat to human health and the environment.

Currently being field tested, the HRS scoring model will be available in late spring 1989. A site's score will be among criteria used by Ecology to prioritize site cleanup activities. It will also provide a tool for managing resources to carry out the goals of the cleanup program.

The Initial Investigation regulation defines how Ecology must respond within 90 days to a complaint about a suspected hazardous substance site.

Mixed Funding

Ecology's proposed regulation on Mixed Funding (Ch. 173-341 WAC) establishes criteria for determining whether a potentially liable person is eligible to receive public funds for cleaning up a site. Mixed funding can be made available only in circumstances where it will enhance and expedite final cleanup.

Cleanup Standards

Cleanup standards will provide guidance in setting site cleanup levels to protect human health and the environment. At a minimum, cleanup levels must meet the requirements of all existing applicable rules and laws. A compendium of potentially applicable federal and state laws and regulations has been compiled as an initial reference for determining cleanup levels.

Further research on best available treatment technologies and risk and environmental damage assessments is underway. Interim guidance on cleanup levels will be developed in July 1989. Final rules are scheduled for completion in December 1989.

Meeting Ecology's Top Two Management Priorities:
Waste Reduction and Recycling

Ecology's Office of Waste Reduction, Recycling and Litter Control spent $20,000 in four months of FY 1988 to encourage citizens, businesses and government agencies to voluntarily reduce:

- Solid wastes
- Hazardous substances and wastes
- Air pollutants
- Water pollutants

To meet that goal, the Office of Waste Reduction has:

- Co-sponsored seven workshops for local government recycling coordinators.

- Funded a League of Women Voters study of industry solid waste reduction and recycling efforts.

- Co-sponsored the 1988 Washington State Recycling Association conference.

- Helped state agencies develop waste reduction practices.

- Co-sponsored a statewide plastics recycling conference.

- Hosted hazardous waste reduction workshops for small quantity generators.

- Fielded several thousand calls each month on the Recycling Hotline.

On-going activities include:

- Implementing HB 1684—Best Management Practices for Solid Waste.

- Implementing ESB 6446—the Recycled Products Procurement Act—by working with the Department of General Administration to provide state agencies a listing of available products that contain recycled materials.

- Participating in the Government Options to Landfill Disposal Task Force.

- Responding to Recycling Hotline calls.

- Working with the Joint Select Committee on Preferred Solid Waste Management Practices.

- Developing recycling markets for waste tires.

- Developing waste audit systems for state agencies and private industry.

- Tracking statewide waste streams and recycling rates.

- Funding a hazardous waste reduction technical resource center.

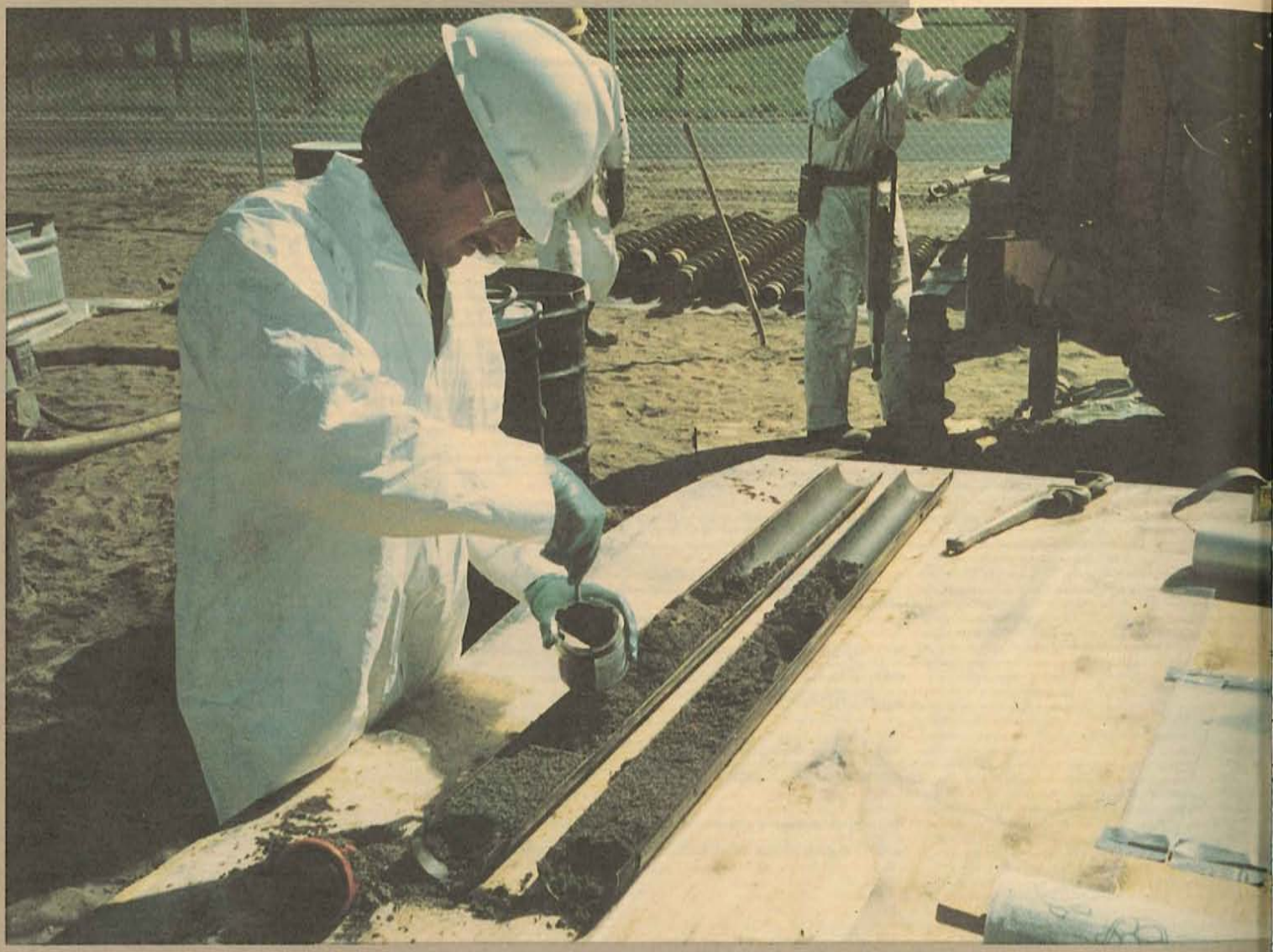
- Developing a multi-media technical resource center.

- Providing waste reduction technical assistance to local governments and business.

- Publishing and distributing a waste reduction manual for business.

- Participating in the EPA Region 10 Hazardous Waste Advisory Council.

- Conducting audits of four hazardous waste generating industries and hosting informational workshops on waste reduction.



Hazardous Waste Investigations and Cleanup Program

During FY 1988, Ecology's Hazardous Waste Investigations and Cleanup Program spent $4,464,275. Major budget categories are reflected below.

Note: The expenditures on Hanford from the hazardous substances tax were $47,788 and spread over the objects of expenditures noted below.

Staff salaries and benefits *(includes site project managers and administration)*	$2,204,908
Cleanup contracts *(includes site cleanup, emergency spills and drug lab response)*	1,602,243
Goods and services	220,782
Travel	83,250
Capital and non-capital furnishings and equipment	353,042
Total	**$4,464,275**

In 1988, Ecology continued work on more than 125 contaminated sites while implementing the Hazardous Waste Cleanup Act. Under the Act, consent decrees were signed for six sites and active settlement negotiations proceeded for 20 additional sites. Some of Washington's hazardous sites are ranked among the most highly contaminated in the nation.

The following descriptions provide an overview of Ecology's cleanup activities at various types of sites throughout the state:

Hanford—Technical and support staff have been partially funded by monies from the hazardous substances tax to negotiate the Hanford cleanup process with EPA and the Department of Energy. Forty-four years of nuclear weapons production on the Hanford reservation has resulted in more than 50 million gallons of highly radioactive and chemical liquid wastes and 4.3 billion cubic yards of contaminated soils.

Industrial Wastes—At the 16-acre Western Processing site in Kent, contaminated soil and groundwater resulted from 30 years of industrial recycling practices that discharged chemicals to the environment. More than 200 liable parties negotiated the cleanup with Ecology and EPA. Removal of highly contaminated soil and sludges was completed last summer. Cleanup and treatment of soil and groundwater has begun and will continue for at least seven years. When this is completed, groundwater monitoring will continue for 30 years.

Agricultural Wastes—Pesticides, herbicides and fertilizers are being cleaned up at the Walla Walla Farmers' Co-op with technical oversight and guidance being provided by Ecology. Agricultural chemical contamination has occurred from spills and wastewater disposal over several years. Mill Creek and the Walla Walla River were potentially threatened due to permeable soil conditions at the site.

Technicians analyze soil samples to determine the extent of contamination at a North Market Street site in Spokane. 1987

EDB Contamination—Legal action against Great Lakes Chemical Company continues and a trial is likely to proceed in late 1989. Ecology is seeking recovery from Great Lakes, the manufacturer of EDB (ethylene dibromide), for costs the department incurred in providing alternate drinking supplies to more than 500 people in Whatcom, Thurston and Skagit counties. EDB, now banned, was used as a fumigant for such crops as strawberries, potatoes and raspberries.

Puget Sound—At Commencement Bay in Tacoma, Ecology is working with EPA, local governments and industries to identify the extent of contamination and select cleanup remedies. As part of the Puget Sound cleanup effort, citizens are helping Ecology develop guidelines on sediment cleanup levels and technology.

One of the sites, Simpson Tacoma Kraft, has already undergone cleanup and source control. Five million dollars will be spent by private parties on the cleanup and long-term monitoring. The project will restore 17 acres of intertidal and shallow water habitat while creating about 1,400 feet of new intertidal beach *(see cover photos)*. In April 1988, the project received an Environmental Excellence Award from Governor Booth Gardner and Ecology Director Christine Gregoire, on behalf of the state Ecological Commission.

Public Drinking Water—In Sunnyside, near Yakima, approximately 9,000 residents were potentially affected by drinking water contaminated with unusually high levels of perchloroethylene, a toxic degreasing solvent. Ecology worked with the Department of Social and Health Services and local health department officials to complete investigations that prompted an alteration in Sunnyside's drinking supply. Ecology is continuing efforts to identify the source of contamination.

Columbia River—Ecology has been working with the Port of Vancouver to complete an investigation of Columbia River contamination caused by copper ore spills at a ship loading facility.

Areas in the Tacoma Landfill were lined with a specially constructed filter fabric and liner to prevent groundwater contamination. 1987

Oil Spills—Ecology and other state and federal agencies spent nearly one month on the Anacortes oil spill in January 1988 when a partially sunk barge spilled an estimated 46,200 gallons of crude oil in Rosario Strait. The long term environmental damages from that spill have not yet been fully determined.

Mining Operations—Elevated concentrations of arsenic, chromium, lead, nickel and zinc have been found in on-site soil samples at the Silver Mountain Mine in Loomis, Washington. The site is an inactive, five-acre gold and silver mine. Previous mining operations, dating back to 1928, created approximately 2,500 tons of crushed ore tailings. In 1980, sodium cyanide and caustic soda were poured over the crushed ore in an effort to extract precious metals. While the extent of contamination is still being determined, the tailings have been contained by a liner and cap to prevent further leaching.

Landfills—Ecology reached a $14 million agreement with Spokane County, Keytronics Corp. and the U.S. Air Force for cleaning up contaminated groundwater at the Colbert Landfill outside of Spokane. That agreement is expected to be lodged in federal court in early 1989.

At the Mica Landfill, also near Spokane, the county signed a consent decree with Ecology for the remedial investigation and feasibility study to determine the extent of groundwater and surface water contamination at the site. This was the second consent decree signed under the new cleanup law.

At Thun Field Landfill in Pierce County, Ecology provided oversight on two studies that revealed contamination of groundwater beneath the landfill. A gas extraction system has been installed and planning is underway for lining the landfill and installing a leacheate collection system.

At the Midway Landfill in South King County, 17 groundwater monitoring wells have been installed as part of the remedial investigation. Ecology worked with the City of Seattle to install and operate gas extraction wells and monitoring probes. The landfill has been capped with clay soil to reduce oxygen and rainfall filtration.

In Clark County, investigations of cleanup remedies at the Leichner Brother's landfill are concluding and selection of the apropriate cleanup technology will follow.

Emergency Spill Response—In addition to addressing major hazardous waste sites, Ecology works with local fire departments in response to emergency spills. In 1988, more than 120 incidents, including leaking or overturned diesel and chemical tankers, demanded Ecology's prompt response.

Drug Labs—Following its mandate in the HWCA, Ecology has assisted law enforcement agencies in chemical cleanup and disposal for 38 sites involving controlled substances — primarily chemical residues from clandestine drug laboratories.

Contractors

Ecology, through the Hazardous Waste Investigations and Cleanup Program, selected four consultant teams to perform remedial activities at hazardous waste sites throughout Washington state. These consultants were selected in compliance with state and federal procurement laws to respond within relatively short time frames to environmental cleanup needs by Ecology.

A selection committee of a hydrogeologist, civil engineer, toxicologist, environmental engineer and environmental planner chose the contractors in a two-step process. First, requests for qualifications were published for nationwide response. Then, a list of the 28 applicants was narrowed down to nine, from which the finalists were chosen.

The consultants perform a variety of services ranging from preliminary site investigations and work plan development through design and construction management of cleanup remedies. Their contracts expire June 30, 1989, with three one-year options to renew.

One of the priorities of Ecology's cleanup program is responding to emergencies and spills such as this overturned fuel truck in Lewis County. 1984

Solid and Hazardous Waste Management

Under Ch. 70.105B RCW, the legislature appropriated to the Solid and Hazardous Waste Program $4,030,000 for toxic waste prevention and regulation. Programs for local governments included $311,000 for solid waste technical assistance and $340,000 for hazardous waste technical assistance.

Solid Waste Technical Assistance

In 1988, $249,000 was spent to provide planning and technical assistance to local governments for local solid waste management planning.

A "best management practices" study outlining a strategy to implement solid waste reduction and recycling in Washington state is being completed by a team of Ecology staff and private consultants. (Referendum 26 funds are supporting the study.) The study will allow Ecology to focus its efforts toward the greatest benefit. Ecology is working with 26 counties which have applied for $1.6 million in solid waste planning grants. Local governments have received assistance through a series of workshops sponsored by the Office of Waste Reduction, Recycling and Litter Control.

Hazardous Waste Technical Assistance

Approximately $226,000 from the hazardous waste technical assistance account has funded planning resources to help local governments develop:

- Hazardous and moderate risk waste management plans.
- Household waste collection programs.
- Small business waste reduction and recycling.

Thirty local government applicants, whose grants from Ecology total $2.5 million, are receiving assistance to develop strategies for effectively managing moderate risk waste. Moderate risk waste includes wastes that exhibit the properties of hazardous waste but are below regulated quantities. Moderate risk wastes also include household hazardous substances.

With assistance from Ecology, four counties have held household collection day events and eight more are planned for early 1989. Final guidelines on how to conduct collection events will be completed in February 1989.

Businesses are receiving hazardous waste reduction and recycling information through the Office of Waste Reduction, Recycling and Litter Control. Ecology has also hosted six industry-specific workshops.

Resource Conservation and Recovery Program (RCRA)

State Toxics Account funds of $3,595,000 enabled the state to resume management of the federal RCRA program, which emphasizes "cradle to grave" regulation of transport, storage and disposal of hazardous waste. In early 1987, the state reduced its participation in the RCRA program due to limited resources and to focus more on state priorities of waste reduction and recycling, technical assistance and inspections of small quantity generators.

The hazardous waste regulatory program's highest priority has been to provide field staff to ensure environmental compliance. New positions in 1988 provided additional inspectors, technical and engineering support, and personnel responsible for RCRIS (Resource Conservation and Recovery Information System) — a new national tracking system of hazardous waste generators and disposal operators. New staff are also working on facility siting standards and hazardous waste permitting.

New headquarters staff provide technical expertise to regional offices on spent potliner (aluminum smelter) waste and review petitions from industry for regulatory exemptions. Additionally, staff are developing an implementation plan for the federal Hazardous and Solid Waste Amendments (HSWA) to RCRA.

Site Management Information System

Ecology is required to prepare and periodically update a list of known or suspected contaminated sites. Development of the computerized Site Management Information System (SMIS) was completed in 1988. Quality assurance of data for more than 500 sites will be completed in June 1989 when site information will be made available to the public.

The system tracks such information as a site's location, owner/operator, affected environments (air, water, soil), types of contaminants, how the contamination occurred, and the stage of investigation or cleanup. When the Hazard Ranking System is fully operational, a site's hazard ranking score will also be included in the data base.

For the purposes of this report, the list contained in the appendix includes those sites that are currently being addressed by Ecology. A site's name, county location, and major activities completed and planned by Ecology are included in the listing.

Hazardous waste contamination isn't confined to urban industrial areas. It's estimated that there are more than 500 potential toxic sites in Washington—some in rural areas such as the R. Rosch site in Pierce County. 1987

Local Government Grant Programs

The legislature appropriated $18,685,000 from the Local Toxics Control Account for developing and implementing local government grant programs for the 1987-89 biennium. Sixteen million dollars were to be directly available for grants. Approximately $140,000 was spent on grants administration and initial program development in FY 1988. Within a year of the Act's passage, $1,633,900 were awarded in grants to local governments. The majority of grants activity will occur in the second half of the biennium.

In April 1988, Ecology adopted interim regulations that defined eligibility requirements and criteria for local government grant funding. In June, the grant application process was explained to local government officials at public workshops and hearings. Through the end of the fiscal year, Ecology's efforts were directed toward program development.

Between July and December 1988, Ecology's Solid and Hazardous Waste Management Program awarded 51 grants in response to 134 applications, outlined below:

Grant Type	Applications Received	Funds Requested	Grants Awarded	Funds Awarded
Household Hazardous Collection Days	4	$120,706	2	$90,010
Citizen Proponent Negotiation	1	1,500	1	1,500
Solid Waste Enforcement	25	560,702	24	535,702
Ground Water Monitoring Wells	26	919,425	15	567,351
Local Hazardous Waste Planning	23	1,652,692	8	383,108
Pilot Projects	7	285,711	0	0
Public Participation	1	50,000	0	0
Remedial Action	7	20,228,225	1	56,230
Recycling Facilities	18	2,114,686	0	0
Local Solid Waste Planning	22	1,482,848	0	0
Totals	**134**	**$27,416,496**	**51**	**$1,633,901**

Department of Revenue:

Hazardous Substances Taxpayer Education and Collection

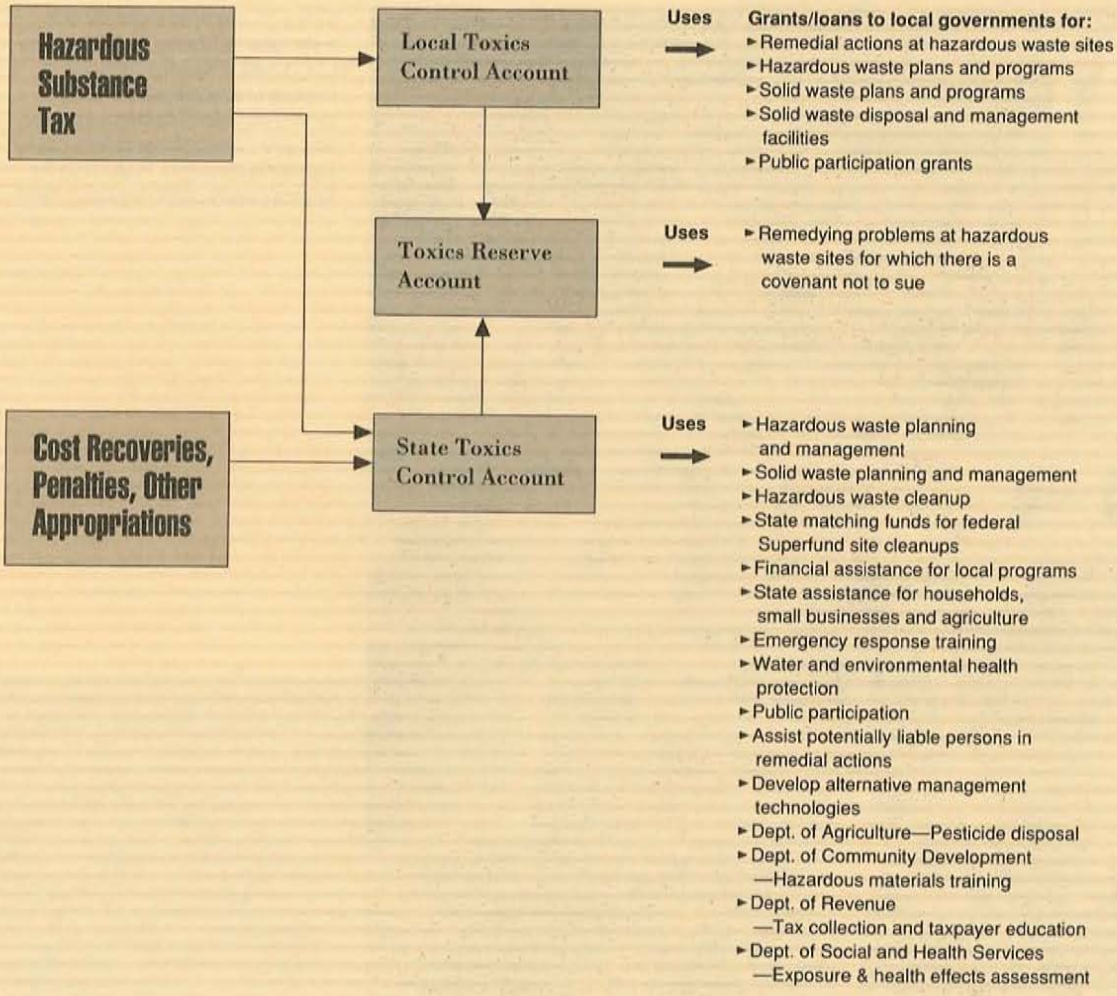
The Department of Revenue spent $41,035 to administer the hazardous substance tax which funds programs defined in the 1987 Hazardous Waste Cleanup Act. The tax is imposed on the first in-state possessor of hazardous substances at the rate of .8% ($8 per $1000), applied to the wholesale value of the substance.

Taxable hazardous substances include:

- Approximately 8,600 pesticide products listed in the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).
- Approximately 700 chemicals listed in the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).
- Certain petroleum products.
- Possible additional substances to be designated by the Ecology Director following public review. No substances were proposed for addition in 1988.

To implement the hazardous substances tax, the Department of Revenue:

- Promulgated regulations defining products subject to the tax and persons responsible for the tax.
- Collaborated with Ecology, Agriculture, and taxpayer representatives to develop public education materials.
- Developed and distributed more than 300,000 tax bulletins, booklets and notices.



Department of Agriculture:
Waste Pesticide Identification and Disposal Project

The Department of Agriculture spent $238,000 to complete its pilot waste pesticide identification and disposal project in three Washington counties.

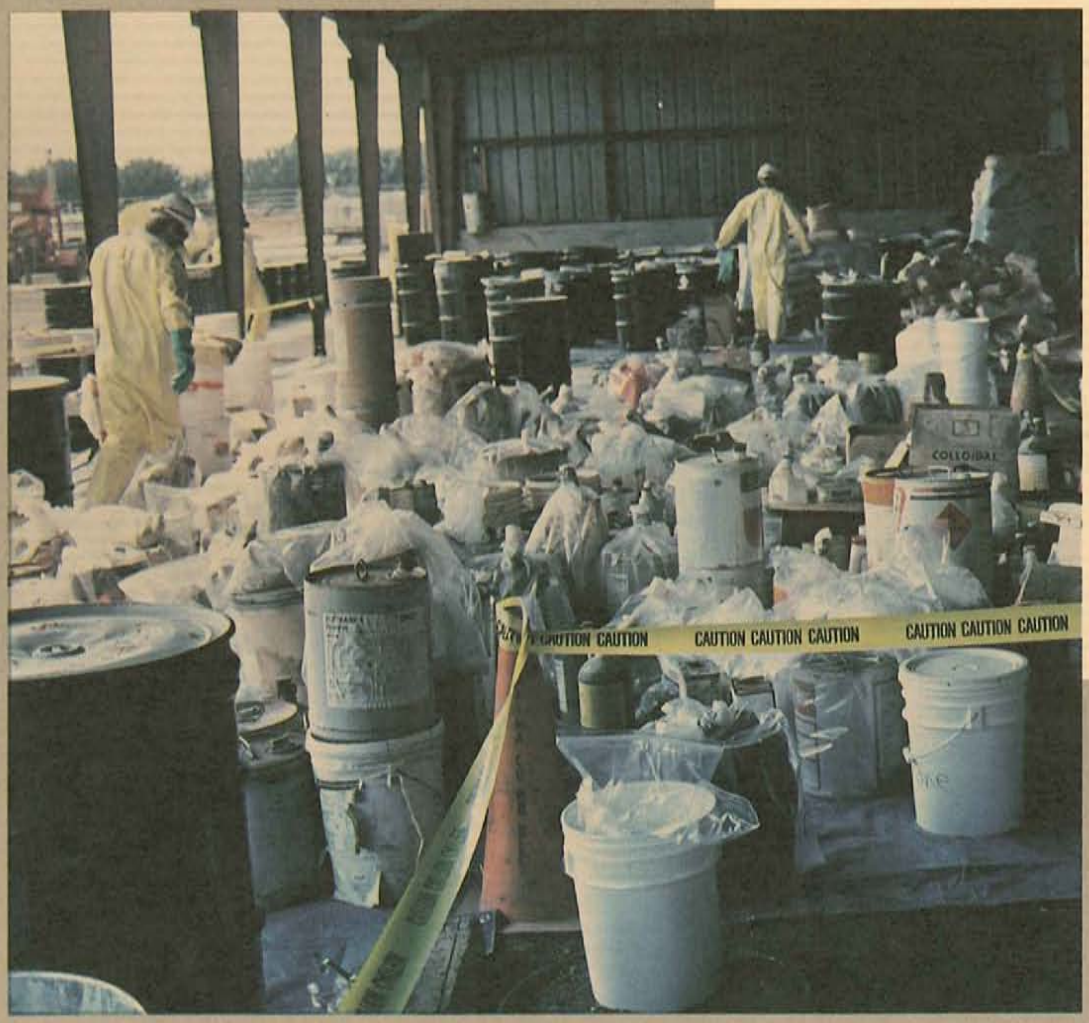
In addition to collecting 24.9 tons of waste pesticides from 137 participants, Agriculture was able to mount a solid public education effort. The program was open to farmers, private foresters, Christmas tree growers and nurseries. The service was free to participants.

- In Yakima County, 21.88 tons of waste pesticides were collected from 101 participants.

- In Whatcom County, 2.41 tons of waste pesticides were collected from 18 preregistered participants.

- In Pacific County, 1,353 lbs. of waste pesticides were collected from 18 preregistered participants.

Initially, Whitman County was also selected for a pilot project. However, the projects in Yakima, Whatcom and Pacific Counties exhausted available program funds. Agricultural interests throughout Washington enthusiastically support continuation and expansion of the program.



Nearly 25 tons of waste pesticides were collected during the Department of Agriculture's pilot project. By working to educate citizens about correct disposal of hazardous wastes, costly contamination problems can be avoided in the future. Pictured is the Yakima County collection event. 1988

Department of Social and Health Services:
Assessing Exposure and Health Effects from Hazardous Waste Sites

The Department of Social and Health Services spent $61,347 to:

- Monitor drinking water supplies potentially affected by hazardous waste releases.
- Conduct health assessments, health monitoring and information services for communities near sites.
- Test public drinking water supplies for organic chemicals.

Initial program development included:

- Staff hiring and training from EPA, Agency for Toxic Substance and Disease Registry (ATSDR) and Ecology.
- Developing a drinking water monitoring quality assurance program.
- Awarding laboratory contract for drinking water analyses.

Program Implementation

Following program design, implementation began in September 1988. Clients included Ecology, local health departments, community groups and EPA. The DSHS Hazardous Waste Program has completed:

Services	Number
Water Systems Analyzed	132
Water Systems Monitored	11
Health Consultations	13
Preliminary Health Assessments	4
Epidemiological Health Studies	3
Health Information	5
Exposure Registry	1
Additional Consultation Services	10

Department of Community Development:
Hazardous Waste Training

In FY 1988 the Department of Community Development (DCD) spent $108,243 to carry out hazardous waste training for fire fighters.

More than 4,500 firefighters received training in 232 classes that were offered by the Washington State Hazardous Materials Training Program through DCD's Division of Fire Protection Services. Funds from the State Toxics Control Account covered expenditures for curriculum development, course delivery and administration.

The hazardous materials program is designed to include academic and "hands-on" training for first responders to hazardous chemical incidents. Emergency preparedness planning and response skills were taught through such classes as:

- Recognition and Identification of Hazardous Materials
- Hazardous Materials Awareness for the First Responder
- Incident Command Systems
- State Notification Procedures
- Hazardous Materials Tactical Consideration
- Pesticides Challenge
- Clandestine Drug Labs

A five-year training model anticipates the addition of courses in emergency medical services, hazardous materials chemistry, and mitigation techniques.

The Department of Community Development trains local fire fighters to respond to a wide range of hazardous waste incidents. Pictured is a toxic fire-fighting drill sponsored by the Chehalis Fire Department. 1984

Appendix

Hazardous Waste Investigations & Cleanup Program

Program Plan Sites with their Major Activities

Beginning July 1, 1987

County	Site Name	Site Activity	Current Status *as of 2/89*	Completion Date
Adams	Burlington Northern (Othello)	Remedial Investigation	Planned	07/30/89
		Feasibility Study	Planned	09/30/89
	CMC Real Estate (Othello)	Remedial Investigation	In Process	02/28/89
Benton	Benitz Farm Dump	Initial Investigation	Completed	10/01/88
Chelan	Cascade Helicopter	Initial Investigation	Completed	03/01/89
		Remedial Investigation	In Process	09/01/90
Clallam	Daishowa America Company Ltd.	Initial Investigation	Completed	10/01/88
		Site Inspection	Completed	10/01/88
		Feasibility Study	In Process	05/31/89
		Preliminary Assessment	In Process	06/01/89
		Remedial Investigation	In Process	06/01/89
	Lincoln Square Apartments	Initial Investigation	Completed	07/20/88
		Site Inspection	Completed	10/01/88
		Remedial Action/Construction	Planned	09/01/89
		Long-Term Monitoring	Planned	10/30/89
Clark	ALCOA—Vancouver	Consent Decree RI/FS	In Process	04/30/89
		Consent Decree RD/RA	In Process	04/30/89
	Columbia Marine Lines	Initial Investigation	Completed	11/06/88
		Long-Term Monitoring	In Process	12/30/89
	Frontier Hard Chrome Inc	Remedial Design	In Process	09/01/89
	L & C Deli	Remedial Investigation	Completed	10/01/88
		Expedited Response Action	Completed	01/31/89
		Consent Order (RI/FS)	Planned	02/28/89
		Remedial Design	Planned	04/30/89
	McCall Oil	Site Discovery	Completed	04/02/88
		Initial Investigation	Completed	04/02/88
		Preliminary Assessment	Completed	08/31/88
		Site Inspection	Planned	04/01/89
	McClary Columbia Corp	Consent Order (RI/FS)	Completed	08/30/88
	Pacific Northwest Plating	Preliminary Assessment	Completed	07/31/88
	Port of Vancouver	Site Inspection	Completed	08/30/88
		Preliminary Assessment	Completed	08/30/88
		Remedial Design	In Process	09/30/89
	Vancouver Ice & Fuel	Site Discovery	Completed	07/30/88
		Initial Investigation	Completed	09/30/88
Cowlitz	Reynolds Metals—Longview	Initial Investigation	In Process	04/01/89
	Weyerhaeuser Company—Longview	Preliminary Assessment	Planned	07/01/89
		Initial Investigation	Planned	07/01/89
Douglas	Inland Air Service	Site Discovery	Completed	09/01/88
		Initial Investigation	In Process	03/16/89
Franklin	Port of Pasco	Feasibility Study	Planned	02/01/90
		Remedial Design	Planned	06/01/90
		Remedial Action/Construction	Planned	09/01/90
		Operation and Maintenance	Planned	06/30/95
Grays Harbor	Roderick Timber Co.	Site Inspection	Completed	08/31/88
		Feasibility Study	In Process	02/28/89
		Remedial Investigation	In Process	03/30/89
		Remedial Design	Planned	11/30/89
Island	US Navy-NAS Whidbey Is—Ault	Remedial Investigation	In Process	12/01/90
	US Navy-NAS Whidbey Is—Seaplan	Remedial Investigation	In Process	12/09/90
King	Alaska Pacific Fisheries	Site Discovery	Completed	11/30/88
		Initial Investigation	In Process	03/30/89
		Site Inspection	Planned	04/01/89
		Preliminary Assessment	In Process	06/30/89
		Feasibility Study	Planned	04/01/90
		Remedial Investigation	Planned	04/01/90
		Remedial Action/Construction	Planned	10/01/90
		Operation and Maintenance	Planned	10/01/91
	ARCO—Tank Farm	Remedial Investigation	In Process	03/01/89
		Remedial Investigation	Planned	06/01/89
	Boeing Company Renton	Remedial Action/Construction	In Process	06/30/89
	Bronson Way Texaco	Site Inspection	In Process	03/30/89
		Operation and Maintenance	In Process	12/30/89
	Central Painting	Remedial Action/Construction	Completed	11/14/88
		Operation and Maintenance	In Process	12/31/89
	Corliss Landfill	Remedial Action/Construction	Completed	08/01/88
		Operation and Maintenance	Completed	10/01/88
	Custom Circuit Technology	Site Inspection	Completed	02/10/89

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County	Site Name	Site Activity	Current Status *as of 2/89*	Completion Date
King	DOT Landfill	Remedial Investigation	In Process	07/01/89
		Feasibility Study	In Process	07/01/89
		Remedial Action/Construction	Planned	12/01/89
		Operation and Maintenance	Planned	12/01/90
	Gas Works Park(Wa Ntl Gas)	Site Inspection	Completed	06/21/88
	Harbor Island	Remedial Investigation	In Process	01/01/89
		Remedial Investigation	In Process	06/30/89
		Remedial Investigation	Planned	06/30/90
		Remedial Investigation	Planned	06/30/91
	Hobart Landfill	Remedial Design	Completed	11/01/88
		Remedial Action/Construction	In Process	04/01/89
		Operation and Maintenance	In Process	12/01/89
	J H Baxter & Company Inc	Remedial Investigation	In Process	01/01/90
	Kent Highlands Landfill	NPL Nomination	Completed	06/24/88
		Remedial Investigation	In Process	02/26/89
		Feasibility Study	In Process	08/26/89
		Expedited Response Action	In Process	09/30/89
		Expedited Response Action	In Process	12/30/89
	Kenworth Truck Company	Remedial Investigation	Completed	08/30/88
		Feasibility Study	In Process	03/30/89
		Remedial Design	Planned	06/30/89
	Lake Washington School Dist.	Operation and Maintenance	Planned	12/01/89
	Maralco	Expedited Response Action	In Process	03/30/89
		Site Inspection	In Process	06/15/89
		Remedial Investigation	In Process	06/30/89
	Metro South Base	Remedial Action/Construction	Completed	12/30/88
		Operation and Maintenance	In Process	07/01/90
	Midway Landfill	Remedial Investigation	Completed	08/22/88
		Feasibility Study	In Process	06/15/89
		Record of Decision	Planned	04/15/90
	Mobil Station—Renton	Operation and Maintenance	In Process	12/31/89
	Monterey Apartments	Remedial Investigation	Planned	12/30/89
	Non-Ferrous Metals	Remedial Investigation	In Process	06/30/89
		Feasibility Study	Planned	03/30/90
		Remedial Action/Construction	Planned	03/30/91
		Operation and Maintenance	Planned	03/30/96
	Pacific Car & Foundry Co	Remedial Investigation	In Process	04/30/89
		Feasibility Study	In Process	12/30/89
	Queen City Farms	Consent Order (RI/FS)	Completed	05/15/88
		Consent Order (RI/FS)	Completed	06/21/88
		Remedial Investigation	In Process	09/01/90
		Remedial Investigation	In Process	12/15/90
		Feasibility Study	In Process	06/15/91
		Record of Decision	Planned	06/30/91
		Record of Decision	Planned	06/30/91
	Quendall Terminals	Remedial Investigation	In Process	01/01/90
	Seattle Iron & Metals	Remedial Investigation	In Process	07/01/89
		Feasibility Study	In Process	07/01/89
		Remedial Action/Construction	In Process	07/01/90
		Operation and Maintenance	Planned	12/01/90
	Shell, Old Tank Farm	Remedial Investigation	In Process	03/30/89
		Remedial Investigation	In Process	06/30/89
	Sternoff Metals	Remedial Action/Construction	Planned	06/01/89
		Operation and Maintenance	Planned	06/01/90
	Texaco	Remedial Investigation	In Process	06/30/89
		Remedial Investigation	Planned	06/30/90
	Unocal—Seattle Marketing Term.	Feasibility Study	Completed	09/30/88
		Remedial Design	In Process	12/30/89
		Remedial Action/Construction	In Process	06/30/94
	Value Plating & Metal Pol	Remedial Investigation	In Process	06/30/89
	Western Processing Co Inc	Remedial Design	Completed	01/10/88
		Remedial Action/Construction	In Process	06/30/89
	Zandt Brass Foundry	Remedial Investigation	Planned	06/30/89
		Feasibility Study	Planned	12/30/89
Kitsap	Bainbridge Isl LF	Site Discovery	Completed	07/30/88
		Site Inspection	Planned	06/01/89
	Eagle Harbor (Wyckoff)	Remedial Investigation	Planned	06/30/89
	Strandley/Manning Site	Feasibility Study	In Process	06/01/89

County	Site Name	Site Activity	Current Status *as of 2/89*	Completion Date
Kitsap	US Navy Undersea Warfare St	Remedial Investigation	In Process	02/01/90
	US Navy—Bangor Submarine Base	Remedial Investigation	In Process	06/30/89
Kittitas	Mid-State Aviation	Initial Investigation	In Process	03/01/89
Lewis	American Crossarm & Conduit	NPL Nomination	Completed	06/24/88
		Emergency Action	Completed	01/25/89
	Grange Supply—Chehalis	Initial Investigation	Completed	06/30/88
		Site Discovery	Completed	06/30/88
		Site Inspection	Planned	02/28/89
		Preliminary Assessment	In Process	03/31/89
		Remedial Investigation	Planned	04/15/89
		Feasibility Study	Planned	05/30/89
Okanogan	Arden's Country Store	Emergency Action	Completed	03/12/88
		Remedial Investigation	In Process	12/30/89
	Oroville Dump	Expedited Response Action	Completed	11/30/87
		Remedial Investigation	In Process	11/01/89
	Silver Mountain Mine	Remedial Investigation	In Process	10/01/89
		Feasibility Study	Planned	01/01/90
Pierce	American Lake Gardens	Feasibility Study	In Process	10/01/89
		Remedial Investigation	In Process	08/01/90
	American Plating	Remedial Investigation	Completed	07/31/88
	ASARCO Inc.	Feasibility Study	In Process	09/01/89
		Remedial Investigation	In Process	01/01/90
	B&L Woodwaste Fill	Remedial Investigation	Completed	11/30/88
		Consent Decree (RI/FS)	In Process	02/28/89
		Remedial Investigation	Planned	02/28/89
	Cascade Poles Inc/McFarland	Feasibility Study	Planned	04/30/89
		Remedial Action/Construction	Planned	06/30/89
	Cascade Timber #1	Site Inspection	Completed	11/01/88
		Feasibility Study	Planned	04/30/89
	Comm Bay—Nearshore	Feasibility Study	In Process	01/31/89
		Record of Decision	In Process	06/30/89
	Comm Bay—Ruston/Vashon	Expedited Response Action	Completed	09/30/88
	DuPont/Weyco	Feasibility Study	Completed	12/30/88
		Consent Decree (RI/FS)	In Process	03/31/89
		Consent Decree (RD/RA)	Planned	06/30/89
		Remedial Investigation	Completed	08/01/89
		Remedial Action/Construction	Planned	01/30/90
	D. Street Petroleum	Consent Order (RI/FS)	Completed	01/01/89
		Site Inspection	Planned	03/31/89
	Fife Mobil Station	Site Inspection	Completed	11/30/88
		Remedial Action/Construction	Planned	03/31/89
	General Metals	Remedial Investigation	In Process	04/30/89
		Feasibility Study	In Process	05/15/89
		Remedial Design	Planned	05/30/89
		Remedial Action/Construction	In Process	10/31/89
		Operation and Maintenance	In Process	12/30/89
	Kaiser Aluminum & Chem Corp	Remedial Investigation	Completed	09/04/87
		Site Inspection	Completed	07/26/88
		Initial Investigation	Completed	07/26/88
		Preliminary Assessment	Completed	09/01/88
		Remedial Design	Planned	12/31/89
	Lakewood/Ponders Corner	Operation and Maintenance	In Process	06/30/89
	Louisiana Pacific	Remedial Investigation	Completed	12/30/88
	McChord AFB (Wash Rack Area)	Remedial Investigation	In Process	12/01/90
	McNeil Island	Remedial Investigation	In Process	03/31/89
	Pennwalt Corporation	Feasibility Study	Completed	07/31/88
		Site Inspection	Completed	09/30/88
		Remedial Investigation	Completed	11/30/88
		Site Inspection	Planned	06/30/89
	Petarcik	Site Inspection	Planned	06/01/89
	Portac	Remedial Design	Completed	07/31/88
		Consent Decree (RI/FS)	Completed	09/30/88
		Remedial Action/Construction	In Process	03/31/89
		Operation and Maintenance	Planned	06/30/89
		Remedial Design	In Process	08/31/89
	Reichhold Chem Inc	Site Inspection	Completed	11/30/88
	Simpson— Tacoma Kraft Co.	Operation and Maintenance	In Process	01/01/18

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County	Site Name	Site Activity	Current Status *as of 2/89*	Completion Date
Pierce	Tacoma Landfill	Remedial Investigation	Completed	12/18/87
		Feasibility Study	Completed	12/22/87
		Record of Decision	Completed	03/31/88
		Consent Decree (RD/RA)	In Process	12/15/89
	Tacoma Spur/24th and A	Operation and Maintenance	In Process	06/30/89
	Tacoma Swamp	Remedial Investigation	In Process	07/22/89
		Feasibility Study	In Process	06/01/90
	The Music Machine	Consent Decree (RI/FS)	Planned	06/30/89
		Remedial Action/Construction	Planned	08/30/89
		Long-Term Monitoring	Planned	09/01/09
	Thun Field Landfill	Consent Order (RI/FS)	Completed	08/27/87
		Remedial Investigation	In Process	04/27/89
		Remedial Investigation	Planned	04/27/90
		Record of Decision	Planned	03/30/91
	US Army-Fort Lewis—Ldfl No5	Remedial Investigation	In Process	12/01/89
	Wasser Winters	Consent Order (RI/FS)	Completed	10/31/88
	Well 12-A	Consent Decree (RD/RA)	Completed	10/01/88
		Remedial Action/Construction	Completed	01/15/89
		Remedial Design	In Process	07/01/89
		Operation and Maintenance	In Process	06/25/98
Skagit	EDB 2 Skagit County	Remedial Action/Construction	In Process	06/30/89
	Sedro Wooley Gas Spill/Leak	Operation and Maintenance	In Process	06/30/89
Snohomish	Everett Tire Fire	Consent Order (RI/FS)	Planned	06/30/89
Spokane	Colbert Landfill	Record of Decision	Completed	09/29/87
		Consent Decree (RD/RA)	In Process	02/28/89
		Remedial Design	Planned	03/01/90
		Remedial Action/Construction	Planned	09/01/92
		Operation and Maintenance	Planned	09/01/11
		Long-Term Monitoring	Planned	05/01/16
	Greenacres Landfill	Consent Order (RI/FS)	Completed	10/02/87
		Remedial Investigation	In Process	04/02/89
		Feasibility Study	In Process	10/02/89
		Record of Decision	Planned	12/31/89
	Kaiser Aluminum & Chem. Corp.	Feasibility Study	In Process	04/01/89
		Consent Decree RD/RA	Planned	06/01/89
	Mica Landfill	Consent Decree (RI/FS)	Completed	03/15/88
		Remedial Investigation	In Process	06/15/89
		Feasibility Study	In Process	12/18/89
		Record of Decision	Planned	03/30/90
	Northside Landfill	Consent Order (RI/FS)	Completed	03/16/88
		Feasibility Study	Completed	09/30/88
		Record of Decision	Planned	06/30/89
Thurston	Cascade Pole Inc—McFarland	Consent Order (RI/FS)	Planned	04/01/89
	Restover Truck Stop	Remedial Investigation	Completed	02/01/88
Walla Walla	Walla Walla Farmers Coop	Remedial Investigation	In Process	03/30/89
		Feasibility Study	Planned	06/30/89
		Remedial Design	Planned	12/30/89
		Remedial Action/Construction	Planned	08/01/92
Whatcom	EDB 3 Whatcom County	Remedial Action/Construction	In Process	06/30/89
	Northwest Transformer-Slvg	Feasibility Study	Completed	08/30/88
	Thermal Reduction Landfill	Site Discovery	Completed	08/01/88
		Initial Investigation	Completed	12/31/88
Yakima	Evergreen Products	Initial Investigation	Completed	12/30/87
		Site Inspection	In Process	10/01/89
		Remedial Investigation	In Process	12/01/90
	Richardson Airways, Inc.	Initial Investigation	Completed	06/15/88
		Remedial Investigation	In Process	09/01/90
	Sunnyside Municipal Well	Remedial Investigation	In Process	06/30/90
	Yakima Valley Spray Co.	Initial Investigation	Completed	06/29/88
		Remedial Investigation	In Process	12/30/89

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Major Site Activities

Glossary

Consent Decree: A legal document, approved and issued by a judge, that formalizes an agreement reached between the state and potentially liable parties (PLPs) on sites for which PLPs will perform all or part of a site investigation and cleanup. The consent decree describes actions that PLPs are required to perform during a particular phase of cleanup (Remedial Investigation, Feasibility Study, Remedial Design or Remedial Action/Construction). A consent decree is subject to a public comment period prior to judicial approval.

Consent Order: A document similar to a Consent Decree except that it is issued administratively, rather than entered with the courts. The consent order describes actions (Remedial Investigation, Feasibility Study, Remedial Design or Remedial Action) that potentially responsible parties are expected to perform.

Cost Recovery: The actions taken by Ecology to recover the department's costs for investigation and cleanup activities. The costs can include but are not limited to contractual costs, agency staff costs, and laboratory costs associated with performing the remedial investigation/feasibility study, remedial design, remedial action, long-term monitoring at cleanup sites, and emergency cleanup/response.

Emergency Action: Actions necessary to mitigate an immediate threat to human health or the environment posed by the release or threatened release of hazardous substances.

Expedited Response Action (ERA): A cleanup action at a site in which there is an obvious solution to a threat or potential threat of a release prior to the completion of the Remedial Investigation or Feasibility Study. An ERA must be consistent with the final cleanup plan. This is the implementation of a Removal Action (action taken over the short-term to address a release or threatened release of hazardous substances).

Feasibility Study (FS): A study which describes and evaluates the technical options available for correcting the problems identified during the Remedial Investigation. The FS and remedial investigation reports are the documents which are the basis for final recommendations for remedial actions to be taken at a site.

Hazard Ranking Score (HRS): Methodology used to objectively assess the relative degree of hazard to human health and the environment. The site score is based on the types and amounts of hazardous substances found at the site, and the proximity of the site to populated areas or sensitive environments (e.g. sole source aquifers, water bodies).

Initial Investigation: Includes a site visit, possibly the collection of a limited number of samples, completion of documentation, and the determination as to whether further work is needed at the site.

Long-Term Monitoring: Monitoring may begin at the Operation and Maintenance (O&M) phase of cleanup and can continue long after O&M is complete. It is a way of assuring that cleanup levels have been maintained. Long-term monitoring may include such activities as field visits, sampling, and/or document review.

NPL Nomination: These are sites that are proposed for the Superfund National Priority List (NPL) and subject to public comment.

NPL Final Listing: These NPL-nominated sites have gone through the public comment process and are officially designated as final by EPA.

NPL Delisting: Removing an NPL site from the Superfund site list because cleanup was completed, or because all remedial actions are complete and no further work is necessary.

Operation and Maintenance (O&M): Activities conducted at a site after a response action occurs, to ensure that the cleanup or containment system is functioning properly.

Preliminary Assessment (PA): The process of collecting and reviewing available information about a known or suspected hazardous waste site or release. This information is used to determine if the site requires further study. If further study is needed, a site inspection is undertaken.

Record of Decision (ROD): A public document that explains which cleanup alternative(s) will be used at National Priorities List sites. The Record of Decision is based on information and technical analysis generated during the remedial investigation/feasibility study and consideration of public comments and community concerns.

Remedial Action/Construction (RA): This is the actual construction or implementation phase that follows the remedial design of the selected cleanup alternative at a site. Under state law, Remedial Action can also mean any action taken or expenditure consistent with the purposes of state law(s) to identify, eliminate, or minimize any threat or potential threat posed by hazardous substances to human health or the environment.

Remedial Design (RD): An action taken where the selected remedy is clearly designed and/or specified in accordance with engineering criteria. For example: plans and specifications in a bid package that enable implementation of the remedy.

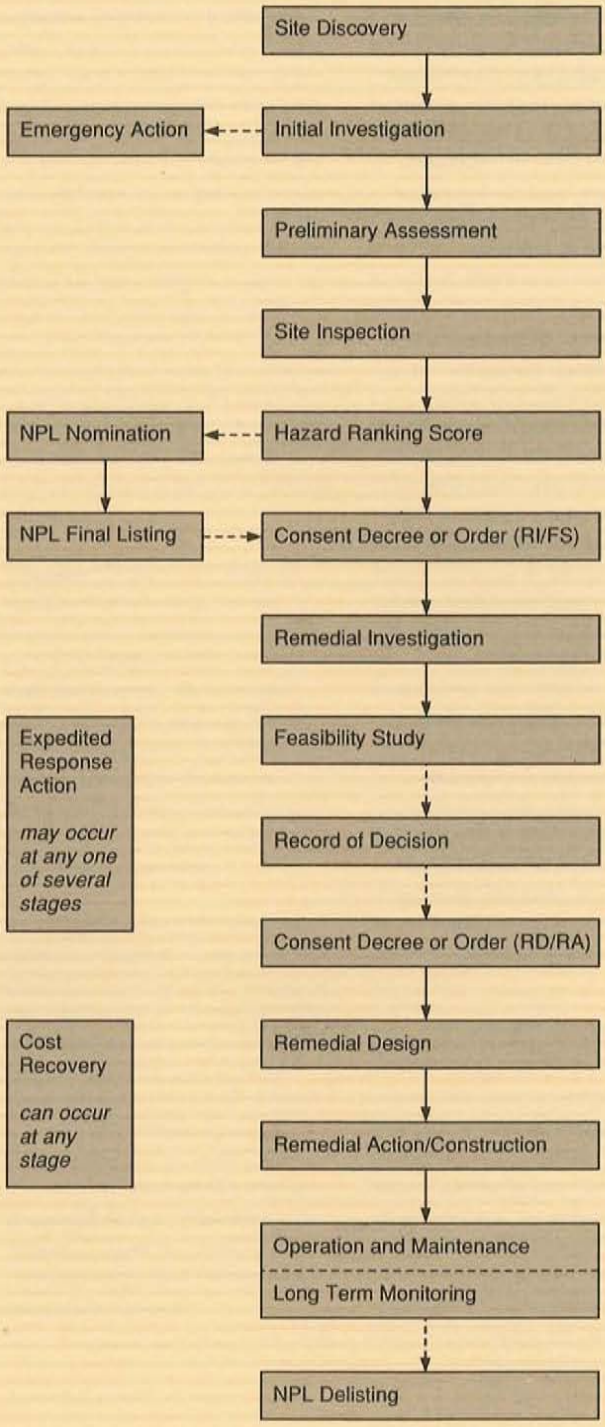
Remedial Investigation (RI): Those actions taken to gather the data necessary and sufficient to: determine the nature, extent, and magnitude of a release or threatened release of a hazardous substance, and to determine what actions may be necessary to mitigate or correct the problem.

Site Discovery (SD): Site discovery is a comprehensive attempt to identify and inventory potential hazardous waste sites throughout the state that may have been overlooked by existing regulatory agencies. The site identification methodology utilizes historical research, review of current local and state governmental agency records and files, and local interest.

Site Inspection (SI): A technical phase that follows a preliminary assessment and is designed to collect more extensive information on a hazardous waste site. The information is used to score the site with the hazard ranking system to determine whether response action is needed.

Hazardous Waste Investigation & Cleanup Program

Major Site Activities



Not all sites go through all these steps or in this exact order. However, this is representative of the process followed to investigate and cleanup a site.

Local Toxics Control Account

Grants Status Report

As of December 31, 1988

Project Category Description	Grantee Name	Grant Status	Project Cost	(S) Signed Ecology Share[1]	(A) Unsigned Ecology Share[2]	Project Start Date
Citizen Proponent Negotiation	Washington State University	S	$1,500	$1,500	$0	12/04/88
TOTAL			$1,500	$1,500	$0	
Ground Water Monitoring Wells	Adams County	S	$158,797	$50,000	$0	01/05/89
	Asotin County	S	110,000	50,000	0	11/21/88
	Carnation, City of	S	43,380	21,690	0	11/21/88
	Cashmere, City of	S	21,673	10,836	0	12/15/88
	Chelan County	S	95,000	45,000	0	12/14/88
	Clallam County	S	48,193	24,097	0	11/21/88
	Clark County	A	30,500	0	15,250	
	Douglas County	A	56,036	0	28,018	
	Electric City, Town of	S	83,380	41,690	0	12/29/88
	Garfield County	A	40,000	0	20,000	
	Grandview, City of	A	96,600	0	47,300	
	Grant County	S	75,900	37,950	0	12/01/88
	Kittitas County	S	151,191	50,000	0	12/19/88
	Klickitat County	S	119,200	50,000	0	12/07/88
	Lincoln County	A	41,507	0	20,753	
	Lincoln County	S	43,080	21,540	0	01/01/89
	Monroe, City of	S	36,200	17,600	0	12/22/88
	Odessa, Town of	A	56,194	0	28,097	
	Okanogan County	S	114,831	50,000	0	12/01/88
	Skagit County	S	95,896	46,948	0	12/01/88
	Snohomish County	A	51,563	0	25,781	
	Stevens County	A	60,550	0	30,275	
	Tacoma, City of	A	120,820	0	50,000	
	Thurston County	S	140,412	50,000	0	12/14/88
	Whitman County	A	73,200	0	36,600	
	Yakima County	A	411,309	0	50,000	
TOTAL			$2,375,412	$567,351	$352,074	
Household HW Collection Days	Cowlitz County	A	$40,000	$0	$15,000	
	Hood Canal Coordinating Council	S	125,000	60,000	0	08/15/88
	Tacoma, City of	S	68,830	30,010	0	09/01/88
	Yakima County	A	32,891	0	15,696	
TOTAL			$266,721	$90,010	$30,696	
Local HW Planning	Asotin County	A	$65,000	$$0	$48,750	
	Bellingham, City of	A	39,438	0	31,550	
	Clallam County	S	102,000	76,500	0	11/18/88
	Grays Harbor County	A	80,000	0	60,000	
	Jefferson County	S	69,019	51,764	0	11/10/88
	* Kitsap County	S	101,286	21,668	0	11/16/87
	Kittitas County	A	66,425	0	49,819	
	Klickitat County	A	72,200	0	54,150	
	Lewis County	S	58,458	43,843	0	10/07/88
	Mason County	A	73,746	0	55,310	
	* Municipality of Metropolitan Seattle	S	135,000	33,754	0	11/16/87
	Okanogan County	A	101,200	0	75,900	
	Pacific County	S	66,000	49,500	0	10/01/88
	San Juan County	A	20,415	0	15,312	

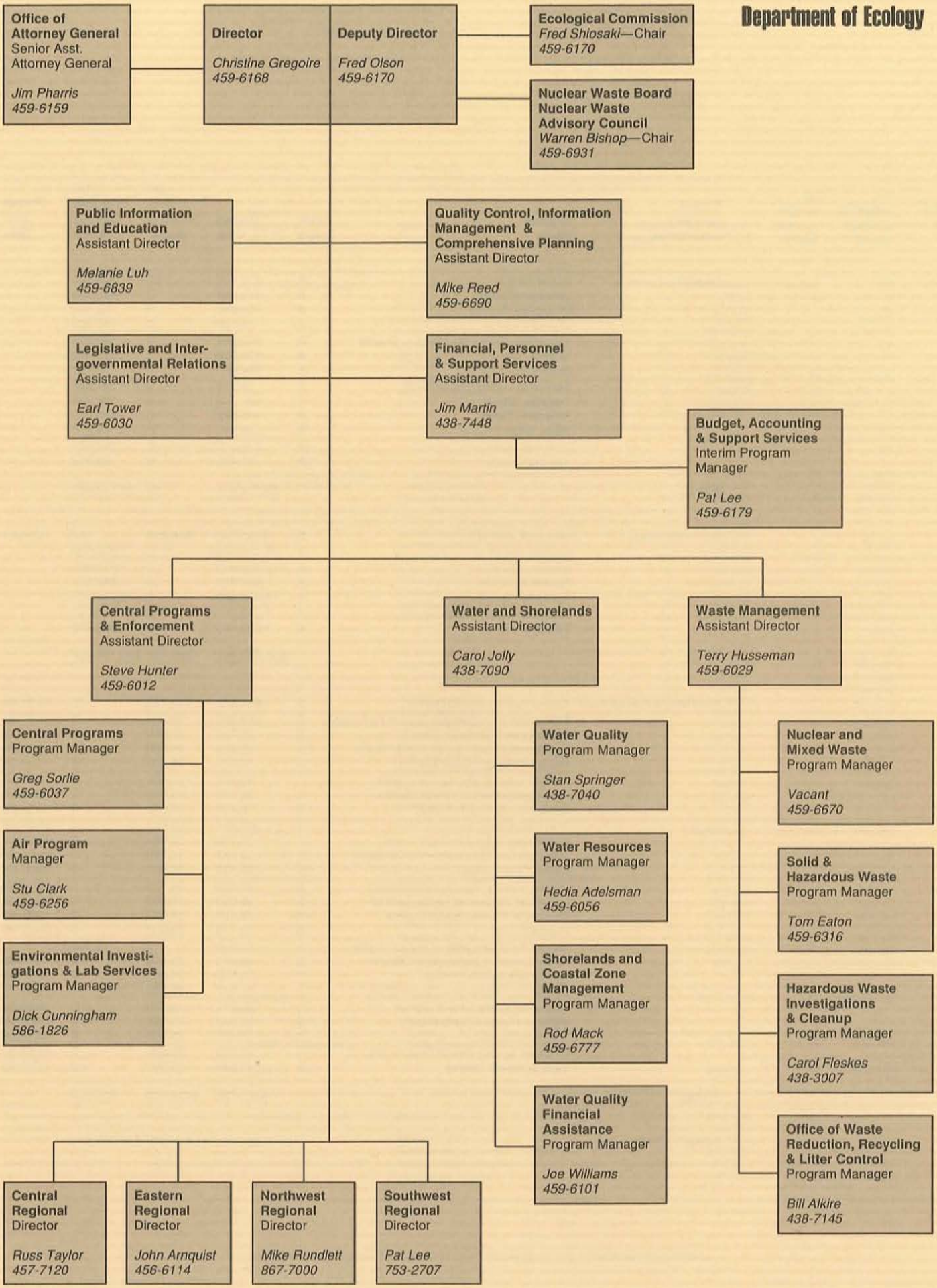
(1) Grant Status (S) is for signed agreements. Ecology is providing the amount listed in column 5.
(2) Grant Status (A) is for pending applications. The proposed Ecology match is listed in column 6.

Project Category Description	Grantee Name	Grant Status	Project Cost	(S) Signed Ecology Share[1]	(A) Unsigned Ecology Share[2]	Project Start Date
Local HW Planning	Seattle, City of*	S	$216,000	$54,000	$0	11/16/87
	Seattle-King County Dept. of Pub. Health*	S	76,600	19,450	0	11/17/87
	Skagit Council of Governments	A	62,500	0	46,875	
	Snohomish County	A	353,823	0	230,000	
	Spokane Regional SW Disposal Project	A	312,500	0	257,500	
	Stevens County	A	81,000	0	60,750	
	Thurston County	A	197,023	0	147,768	
	Whatcom County	A	46,000	0	32,400	
	Yakima County Public Works	A	138,000	0	103,500	
TOTAL			$2,533,633	$350,479	$1,269,584	
Local SW Planning	Asotin County	A	$29,700	$0	$14,850	
	Clallam County	A	46,000	0	34,500	
	Clark County	A	110,386	0	55,193	
	Douglas/Chelan Counties	A	88,298	0	44,149	
	Garfield County	A	12,000	0	6,000	
	Grandview & Prosser, Cities of	A	27,000	0	11,500	
	Grays Harbor County	A	40,000	0	20,000	
	Island County	A	203,060	0	101,530	
	Jefferson County	A	54,814	0	27,407	
	King County	A	2,906,835	0	110,000	
	Kitsap County	A	147,990	0	73,995	
	Kittitas County	A	56,005	0	28,003	
	Klickitat County	A	65,000	0	37,150	
	Lewis County	A	314,700	0	157,350	
	Mason County	A	75,330	0	37,665	
	Okanogan County	A	104,000	0	52,000	
	Snohomish County	A	773,930	0	386,965	
	Spokane, City of	A	237,157	0	118,579	
	Stevens County	A	75,600	0	37,800	
	Thurston County	A	146,988	0	71,494	
	Whitman County	A	50,000	0	25,000	
	Yakima County Public Works	A	65,438	0	31,719	
TOTAL			$5,630,231	$0	$1,482,849	
Pilot Projects	Intergovernmental Resource Center	A	$41,500	$0	$20,750	
	Island County	A	101,028	0	50,000	
	King County	A	72,000	0	36,000	
	King County	A	275,000	0	50,000	
	Seattle, City of	A	227,900	0	50,000	
	Seattle, City of	A	102,000	0	50,000	
	Thurston County	A	57,923	0	28,962	
TOTAL			$877,351	$0	$285,712	
Public Participation	Pacific Energy Institute	A	$60,000	$0	$50,000	
TOTAL			$60,000	$0	$50,000	
Recycling Facilities	Clallam County	A	$84,000	$0	$63,000	
	Clark County	A	25,275	0	19,024	
	Grandview & Prosser, Cities of	A	143,000	0	107,250	
	Grays Harbor County	A	49,000	0	36,750	
	Hoquiam, City of	A	27,367	0	19,500	

**Additional funding for these projects is provided through the Water Quality Fund.*

Project Category Description	Grantee Name	Grant Status	Project Cost	(S) Signed Ecology Share[1]	(A) Unsigned Ecology Share[2]	Project Start Date
Recycling Facilities	Island County	A	$38,400	$0	$28,800	
	Jefferson County	A	310,906	0	233,180	
	Okanogan County	A	89,252	0	63,188	
	Olympia, City of	A	40,000	0	30,000	
	Pierce Co., King Co., Tacoma, Seattle	A	463,000	0	320,000	
	Seattle, City of	A	530,000	0	397,500	
	Snohomish, City of	A	154,085	0	80,700	
	Swinomish Utility Commission	A	29,159	0	24,878	
	Tacoma, City of	A	131,740	0	98,356	
	Thurston County	A	446,692	0	335,019	
	Walla Walla County	A	26,340	0	15,850	
	Whitman County	A	244,375	0	183,281	
	Yakima County	A	81,420	0	58,410	
TOTAL			$2,914,011	$0	$2,114,686	
Remedial Action	Hoquiam, City of	S	$162,710	$56,230	$0	10/16/87
	Seattle, City of	A	27,135,000	0	7,395,000	
	Seattle, City of	A	49,685,000	0	7,790,000	
	Spokane County	A	1,684,348	0	842,177	
	Spokane County	A	14,400,000	0	3,252,500	
	Spokane County Public Works	A	1,063,763	0	531,881	
	Tacoma, City of	A	1,230,095	0	360,437	
TOTAL			$95,360,916	$56,230	$20,171,995	
Solid Waste Enforcement	Adams County Health District	S	$31,672	$23,754	$0	09/21/88
	Bellingham-Whatcom Co.Dept.of Pub.Health	S	69,546	25,000	0	09/21/88
	Benton-Franklin Health District	S	33,333	25,000	0	09/21/88
	Bremerton-Kitsap County Health Dept.	S	42,950	25,000	0	09/21/88
	Chelan-Douglas Health District	S	33,333	25,000	0	10/10/88
	Clallam County, Div. of Env. Health	S	28,523	21,392	0	10/03/88
	Cowlitz-Wahkiakum Health District	S	33,333	25,000	0	10/03/88
	Grant County Health District	S	8,100	6,075	0	09/21/88
	Grays Harbor County Env. Health	S	63,974	25,000	0	09/01/88
	Island County Health Department	S	33,333	25,000	0	10/03/88
	Jefferson County Environmental Health	S	15,161	11,370	0	09/21/88
	Kittitas County Health Department	S	33,333	25,000	0	09/21/88
	Lincoln County Environmental Health	S	33,330	25,000	0	09/13/88
	Northeast Tri-County Health District	S	16,000	12,000	0	10/10/88
	Okanogan County Health District	S	25,535	19,152	0	10/20/88
	Pacific County	S	50,716	25,000	0	09/21/88
	Seattle-King Co. Dept. of Public Health	A	53,002	0	25,000	
	Skagit County Environmental Health	S	36,925	25,000	0	10/03/88
	Snohomish Health District	S	33,333	25,000	0	09/21/88
	Southwest Washington Health District	S	36,312	25,000	0	10/03/88
	Spokane County Health District	S	22,612	16,959	0	10/03/88
	Tacoma-Pierce County Health	S	33,333	25,000	0	10/03/88
	Thurston County	S	33,400	25,000	0	10/18/88
	Whitman County Health Department	S	33,333	25,000	0	11/08/88
	Yakima Health District	S	33,333	25,000	0	10/03/88
TOTAL			$867,755	$535,702	$25,000	
GRAND TOTAL			$110,887,530	$1,601,272	$25,782,595	

Department of Ecology



Mission Statement

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.

12-Point Strategy

To accomplish this mission, the department will:

- Recognize its most valuable asset as its dedicated and committed employees and it will provide necessary support, training and professional development.

- Promote prevention and conservation as the most effective ways to preserve our natural resources and protect the environment.

- Enforce environmental laws and regulations in a fair and firm manner.

- Provide public education programs to promote wise use of our natural resources and sound environmental protection.

- Offer information, technical and financial assistance to help the public, governments, businesses and industries comply with environmental laws and regulations.

- Promote the recognition that compliance with environmental laws and regulations is compatible with a sound economy.

- Provide meaningful public involvement in the development of rules, regulations, and new initiative.

- Provide leadership in addressing emerging problems and strive to bring public agencies and diverse interest groups together to address environmental issues.

- Use an integrated approach to resolve environmental issues.

- Place special emphasis on educating and working with youth to create a strong environmental ethic.

- Help state agencies set an example in environmental protection.

- Work with the executive and legislative branches to promote sound environmental policy.

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ECOLOGY

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