

Year 2002 Report
on
Activities to Implement
**Washington State's Water Quality Plan
to Control
Nonpoint Source Pollution**

February 2003



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Year 2002 Report

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Washington's
Water Quality Management Plan
to Control
Nonpoint Source Pollution

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Department of Agriculture (Agriculture)
Department of Community Development (OCD)
Conservation Commission (CC)
Washington State University, Cooperative Extension (WSU)
Department of Ecology (Ecology)
Department of Fish and Wildlife (F&W)
Department of Health (Health)
Department of Natural Resources (DNR)
Parks and Recreation Commission (Parks)
Puget Sound Water Quality Action Team PSWQAT)
Department of Transportation (DOT)

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Part 1- Introduction

During the second year of implementing Washington's Water Quality Plan to Control Nonpoint Source Pollution, several milestones were reached that indicate successful momentum toward improving water quality. Improved communication and cooperation among state agencies, local government involvement, and increased monitoring and enforcement were hallmarks this year.

This report fulfills requirements under section 319 of the Clean Water Act, but it goes beyond that by reporting on other nonpoint activities, as much as practical, in Washington State. The target audience for this report are water quality managers, federal, state, and local decision makers, landowners, and others interested in improving water quality.

There has been tremendous history and effort to control nonpoint sources of pollution in Washington State. The plan was built, as much as possible, on capturing and documenting the many programs and activities already going on. The plan was designed to accelerate the implementation of these programs and activities through:

- Seeking opportunities for synergism between various state programs through increased inter-agency coordination,
- Providing opportunities for technology transfer of various successful methodologies between appropriate agencies and groups,
- Developing necessary infrastructure to streamline service delivery of programs to reduce nonpoint pollution,
- Supporting efforts for water quality improvement at the watershed level.

A major thrust of this year's effort was to start linking with other state planning efforts. We increased coordination with the Puget Sound Plan and the state's Salmon Strategy, with an opportunity to link with other state programs. We will build upon that impetus by trying to link with some federal programs; specifically with some Columbia Basin initiatives.

Federal consistency will take a more prominent role. Activities are underway to understand the full range of activities and programs by federal agencies that impact water quality, or help control nonpoint sources of pollution.

Compiling the range of local programs was a major undertaking this year. We updated and improved Appendix A (Water Quality Summaries of the 62 Water Resource Inventory Areas of Washington State). Five thousand letters requesting information, and numerous phone calls yielded a wealth of information about local programs.

Our annual year-end-report identifies, as best as possible, what has been done in the previous year to control nonpoint source pollution. This report follows the outline of Chapter 12 of the State Nonpoint Plan. In Chapter 12 we ask the questions:

1. Is Water Quality Improving?
2. Are Programs Identified in the Plan Effective?
3. Is the Nonpoint Source Management Plan Effective?
4. What Changes in Strategy are needed to Improve Effectiveness?

The year-end report summarizes individual activities, but we are attempting to answer the question “is water quality improving.” We are getting documentation that water quality is improving, but only at site specific locations. Our current documentation is included as success stories. However, until the state fully develops a coordinated water quality monitoring program, and even after implementation begins, the larger question will still be unknown for some time.

In the meantime, partnerships, projects, financial assistance, and success stories are a part of this years report. Hopefully, in succeeding years, more time in this report will be spent on reporting successes.

Providing Grants and Loans for Local Control of Nonpoint Source Pollution

How much money is spent on nonpoint source pollution control? In 1999, we reported that the state spent around \$45.8 million dollars for nonpoint source control, watershed restoration, and salmon recovery efforts. Federal expenditure was about \$91.3 million. Of that, \$49 million was for conservation reserve programs; \$25 million was for federal salmon recovery efforts. The remaining \$17.3 million funded other local or state nonpoint control efforts.

We will attempt this year to compile the full range of expenditures from all state and federal agencies for nonpoint source controls. For this report though, we have only documented local grants and loans provided by Washington State's Department of Ecology.

Ecology's Grant and Loan Program

Ecology's Water Quality program administers three major funding programs that provide grants and low-interest loans for projects that protect and improve water quality in Washington State. Ecology acts in partnership with state agencies, local governments, and Indian tribes by providing financial and administrative support for their water quality efforts. As much as possible, Ecology manages the three programs as one; there is one funding cycle, application form, and offer list. The three programs share guidelines, a single application, and a common funding cycle.

The Centennial Clean Water Fund

CCWF provides grants and low interest loans to fund related activities to reduce nonpoint source pollution.

The State Revolving Fund

SRF provides low-interest loans for treatment facilities and related activities to reduce nonpoint sources of water pollution.

Section 319

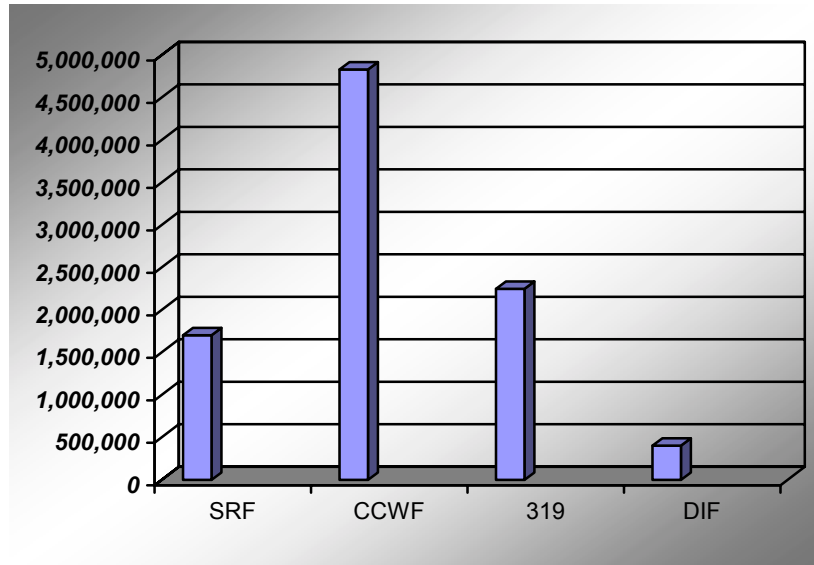
319 grants provide funds to reduce nonpoint sources of water pollution

Section 319 Direct Implementation Fund

Provides funds for state agencies to directly implement the nonpoint plan.

The SFY2003 funding cycle provided the following percentages for nonpoint grants and loans:

SRF	\$1,700,000 = 19%
CCWF	\$4,828,869 = 53%
319	\$2,245,892 = 24%
DIF	\$400,000 = 4%



The following grant and loan requests were funded in SFY03:

- Project Sponsor:** Lummi Nation Service Organization
Project Title: Marietta Slough Riparian Project
Total Grant: \$144,600
Source of Funds: CCWF
WRIA: 1

Project Description: This proposal is to establish a 180-foot riparian buffer stand along 6,800 feet of the Nooksack River left bank immediately downstream of the Slater Road bridge. This will be part of a comprehensive watershed restoration project for the entire area between Slater Road and Marine Drive stretching from the river to Silver Creek.

- Project Sponsor:** Nooksack Salmon Enhancement Association
Project Title: Restore Lower Nooksack Tributaries
Total Grant: \$179,800
Source of Funds: 319
WRIA: 1

Project Description: Water quality and riparian functions will be improved in four degraded Lower Nooksack River tributaries in Whatcom County. Livestock exclusion, riparian restoration and LWD placement will result in over 6000 linear feet of improved riparian and instream habitat, reducing solar, contaminant, and fine sediment inputs within project area.

3. **Project Sponsor:** Nooksack Salmon Enhancement Association
Project Title: South Fork Nooksack Tributaries Restoration
Total Grant: \$185,800
Source of Funds: 319
WRIA: 1

Project Description: Water quality and riparian functions will be improved in South Fork Nooksack tributaries currently degraded by agricultural land use. Livestock exclusion, riparian restoration and LWD placement will result in over 6000 linear feet of improved riparian and instream habitat, reducing solar, contaminant, and fine sediment inputs within project area.

4. **Project Sponsor:** Skagit Conservation District
Project Title: Bayview Community Clean Water Pilot Project
Total Grant: \$200,625
Source of Funds: CCWF
WRIA:

Project Description: The Bay View Community Clean Water Pilot Project is a comprehensive community education, involvement, and implementation project to inspire and foster sustainable behavior and to reduce the cumulative impacts of individual actions that have potentially led to Bayview State Park being listed as "prohibitive" for commercial and recreational shellfish harvesting due to high fecal coliform and the listing of three of the watersheds primary freshwater drainages on the state's 303(d) list.

5. **Project Sponsor:** Stillaguamish Tribe of Indians
Project Title: Jorgenson Slough Restoration
Total Grant: \$163,500
Source of Funds: 319
WRIA: 5

Project Description: This project will focus on the Jorgenson Slough reach of Church Creek within the Stillaguamish watershed; a waterbody that has 303(d) violations for fecal coliform, and lead (along with a potential temperature listing). This project will seek to remedy these violations through riparian restoration and the replacement of an undersized tidegate.

6. **Project Sponsor:** Stillaguamish Tribe of Indians
Project Title: Portage Creek Subbasin Restoration
Total Grant: \$187,500
Source of Funds: CCWF
WRIA: 5

Project Description: This project will focus on Portage Creek within the Stillaguamish watershed. This sub basin has past 303(d) violations for fecal coliform, dissolved oxygen, and turbidity. This project will seek to remedy these violations through riparian restoration, locating failing septic systems, and fencing livestock.

7. **Project Sponsor:** Snohomish Conservation District
Project Title: Agricultural BMP Implementation in Island County
Total Grant: \$242,250
Source of Funds: 319
WRIA: 6

Project Description: Snohomish Conservation District (SCD) and Whidbey Island Conservation District (WICD) join in this project for the purpose of protecting, enhancing, and restoring water quality and stream resources in Island County. This project will provide landowners with technical, educational, and cost share assistance to implement BMPs. WICD will provide services to Whidbey Island landowners and SCD to Camano Island landowners. Actions to achieve project objectives will include several forms of public outreach such as web pages, project fact sheet, newsletter articles, and workshops. Other activities include a windshield farm survey, mailings, site visits, farm plans, and water quality monitoring.

8. **Project Sponsor:** Snohomish County
Project Title: Snohomish River Pollutant Diagnosis/Implementation
Total Grant: \$359,080
Source of Funds: CCWF
WRIA: 7

This project identifies water quality problems (dissolved oxygen, temperature, sediment, bacteria, nutrients, and metals) and implements corrective actions along the Snohomish mainstem and large tributaries. Addressing problem areas is critical given ESA listings and rapid population growth. Actions will include BMPs for businesses and farms, riparian enhancement and support for salmon conservation planning.

9. **Project Sponsor:** Snohomish Health District
Project Title: Drainfield Awareness Implementation Project
Total Grant: \$60,000
Source of Funds: CCWF
WRIA: 5 and 7

Recognizing that proper operation and maintenance (O&M) of on-site sewage disposal systems can reduce the quantity of nonpoint source pollution, the Snohomish Health District is proposing the Drainfield Awareness Implementation Project, as a proactive program specifically designed to educate homeowners regarding the function, operation, and maintenance of their on-site systems.

10. **Project Sponsor:** City of Bothell
Project Title: North Creek TMDL Action Plan
Total Grant: \$468,750
Source of Funds: CCWF
WRIA: 8

The Department of Ecology initiated a TMDL for fecal coliform bacteria for the North Creek Watershed (publication No. 01-03-020). Grant funding is being requested to implement a bacteria reduction program for North Creek and five major tributaries. The program elements include, monitoring, outreach education, source point identification and elimination.

11. **Project Sponsor:** Snohomish Conservation District
Project Title: Small Farm Water Quality Improvements
Total Grant: \$204,375
Source of Funds: CCWF
WRIA: 7 and 8

Project Description: Snohomish Conservation District (SCD) intends to educate and assist small farm owners to improve water quality and fish habitat within the North Creek, Marshland, and Little Bear Creek Watersheds. SCD will develop farm plans and assist in BMP implementation using the Natural Resources Conservation Service standards and specifications that address management of nutrients, sediment, waste, and riparian zones.

12. **Project Sponsor:** City of Federal Way
Project Title: West Branch Hylebos Creek Restoration
Total Grant: \$500,000
Source of Funds: CCWF
WRIA: 10

Project Description: The project will improve water quality and salmon habitat along 2500 linear feet of the West Branch of Hylebos Creek. The outcomes will be a decrease in flow energy and sediment delivery downstream, a more complex stream system, and an increase in salmon spawning and rearing.

13. **Project Sponsor:** Planet CPR
Project Title: Grate-Mate Water Quality Education Project
Total Grant: \$35,000
Source of Funds: 319
WRIA: 10

Project Description: This project will use the Grate Mate program to demonstrate a public education and stewardship model for Washington cities, and in particular to document and disseminate innovative funding approaches for ongoing stewardship programs. The Grate Mate program involves volunteers installing sock-type catch basin inserts under the parking

lot drains of businesses. The program provides public education opportunities for both volunteers and businesses. City of Tacoma staff will assist the project by designating ideal locations for Grate Mate installation and sharing their experience with developing a new city-operated funding program to support public education and stewardship. Tacoma's funding program and other models will be showcased at a public education and stewardship summit for Washington cities. Finally, the project will also provide an initial assessment of new absorbent technologies for removal of dissolved metals in stormwater.

14. **Project Sponsor:** Thurston County
Project Title: Henderson Shellfish Response & TMDL Project
Total Grant: \$193,560
Source of Funds: CCWF
WRIA: 13

Project Description: This project proposes actions outlined in the Henderson Inlet Closure Response Strategy. Tasks include 1) assisting the TMDL study; 2) risk-based O&M inspection program; 3) investigations of priority stormwater outfalls and special study of neighborhood with possible failing septic systems; 4) mapping stormwater facilities; and 5) pet waste reduction project.

15. **Project Sponsor:** Thurston Conservation District
Project Title: Thurston Nutrient Reduction & Riparian Assessment
Total Grant: \$246,100
Source of Funds: CCWF
WRIA: 11 and 14

Project Description: Provide technical assistance and loan program of spreaders for implementation of Nutrient Management BMP to the agricultural community in Thurston County. Perform monitoring to measure BMP effectiveness. Market and evaluate the project. Riparian habitat assessment in selected areas for the purposes of immediate and future improvement.

16. **Project Sponsor:** Bremerton-Kitsap County Health District
Project Title: Yukon Harbor Watershed Restoration Project
Total Grant: \$250,000
Source of Funds: 319
WRIA: 15

Project Description: A proven Pollution Identification and Correction program will reduce fecal coliform bacteria in Long Lake, Curley Creek, and along the Yukon Harbor shoreline to allow a commercial shellfish growing area to be reclassified Approved. Area residents will be educated on septic systems, agricultural best management practices, and water conservation techniques.

Project Sponsor: Mason Conservation District

Project Title: The Lower Union River Restoration Study

Total Grant: \$246,580

Source of Funds: CCWF

WRIA: 15

Project Description: The study will identify the sources of fecal coliform pollution and contaminants toxic to salmon and shellfish in the 303(d) listed lower Union River and its estuary. Remediation measures will be proposed and implemented for pollution sources. Stormwater runoff control and treatment for the Belfair Urban Growth Area will be planned.

17. **Project Sponsor:** Tacoma-Pierce County Health Department

Project Title: Anderson Island Shellfish Project

Total Grant: \$79,200

Source of Funds: 319

WRIA: 15

Project Description: The Anderson Island Shellfish Project will improve water quality in shellfish growing areas on Anderson Island through sanitary surveys, source identification work, and community education. The project will focus on the Department of Health Threatened Areas of Amsterdam Bay and Oro Bay and will also include Thompson Cove.

18. **Project Sponsor:** Thurston Conservation District

Project Title: Thurston County Poultry Manure Grant

Total Grant: \$98,088

Source of Funds: CCWF

WRIA: 11 and 23

Project Description: This project will reduce and prevent the over-applications of chicken manure produced by large commercial poultry operations. By working with users of poultry manure, which in most cases are not the generators of poultry manure, to determine best application rates through soil, water, manure and forage sampling. This project would also work with generators of poultry manure to update out dated conservation plans, and develop feed rations that could reduce the levels of phosphorus and nitrates in the manure they generate.

19. **Project Sponsor:** Cowlitz Conservation District

Project Title: Coordinated Watershed Restoration

Total Grant: \$240,508

Source of Funds: 319

WRIA: 25 and 26

Project Description: The overall goal is to improve water quality and fish habitat in Wahkiakum and Cowlitz Counties. We will facilitate watershed planning, provide assistance to landowners and by so doing, facilitate the implementation of BMPs. Develop two watershed plans and perform restoration work in support of the planning effort.

20. **Project Sponsor:** Clark County
Project Title: Regional Inventory and Wetlands Restoration Strategy
Total Grant: \$300,375
Source of Funds: CCWF
WRIA: 27 and 28

Project Description: The project will entail completion of a local wetlands inventory; development of wetland habitat restoration standards based in-part on a thorough evaluation of historical habitats and hydrology in Clark County; and recommendations for long-term conservation and preservation strategies reflecting the priorities of key stakeholders in the region.

21. **Project Sponsor:** Clark Public Utilities
Project Title: Salmon Creek Corridor Restoration
Total Grant: \$500,000
Source of Funds: CCWF
WRIA: 28

Project Description: The Salmon Creek Basin has experienced gradual water quality degradation from land use practices and urbanization and is not meeting state water quality standards for a Class A waterbody. This project will enhance and protect the streambank by re-vegetation of the riparian corridor and supporting activities. This is a well-recognized practice to reduce erosion and runoff and in the long-term will improve water quality in the Salmon Creek Basin.

22. **Project Sponsor:** Southwest Washington Health District
Project Title: Salmon Creek TMDL Implementation Project
Total Grant: \$299,981
Source of Funds: CCWF
WRIA: 28

Project Description: The Salmon Creek TMDL Implementation Project is designed to meet the bacteria TMDL that Ecology established in 2001 by identifying and controlling failing septic systems. Project implementation will assure that the Southwest Washington Health District meets the provisions set fourth in an 11/00 Memorandum of Agreement between Ecology and SWWHD.

Project Sponsor: City of Vancouver

Project Title: Water Resources Protection Program

Total Grant: \$429,000

Source of Funds: CCWF

WRIA: 28

Project Description: Funding is requested to implement the city of Vancouver's Water Resources Protection Program to monitor and protect surface and ground water. A new Water Resources Protection Ordinance will give the City authority to inspect facilities for BMPs, monitor for water quality, and provide education and technical assistance.

23. **Project Sponsor:** Asotin County Conservation District

Project Title: Asotin County Riparian Buffer Project

Total Grant: \$238,600

Source of Funds: 319

WRIA: 35

Project Description: This project will adhere to the Conservation Reserve Enhancement Program and Continuous Conservation Reserve Program guidelines to implement riparian buffers and best management practices in Asotin County. It will assist in funding a full-time position to coordinate implementation of riparian planting, fencing, and BMP's through cost-share programs.

24. **Project Sponsor:** Pomeroy Conservation District

Project Title: Garfield County Riparian Restoration Project

Total Grant: \$223,500

Source of Funds: CCWF

WRIA: 35

Project Description: This project will be used as cost share to assist livestock owners with pasture and winter-feeding areas along the streams of Garfield County. It will be used in conjunction with the Conservation Reserve Enhancement Program to move and/or improve the management of their livestock in the riparian areas to improve water quality.

25. **Project Sponsor:** Benton Conservation District

Project Title: Yakima Mainstem Monitoring & BMP Implementation

Total Grant: \$39,296

Source of Funds: 319

WRIA: 37

Project Description: This project will initiate a water quality monitoring program in the main stem of the Lower Yakima River. Results from the monitoring will be utilized to implement actions outlined in Ecology's TMDL implementation plans, Yakima Sediment Reduction Plan and NRCS' EQIP on-farm conservation program. Benton CD will coordinate with Basin CDs, irrigation districts, and other Basin entities to implement water quality improvements for salmonids.

26. **Project Sponsor:** South Yakima Conservation District
Project Title: Water Quality of Un-gauged Drains
Total Grant: \$9,928
Source of Funds: CCWF
WRIA: 37

Project Description: Sample un-gauged drains within South Yakima Conservation District on non-reservation lands during the irrigation season of 2003. Gather recent and field-specific crop and irrigation types. Compare water quality and land use results of the un-gauged drain areas against Sulphur Creek Wasteway and Granger Drain watersheds.

27. **Project Sponsor:** Cascade Irrigation District
Project Title: Mechanized Canal Vegetation Management Program
Total Grant: \$195,000
Source of Funds: 319
WRIA: 39

Project Description: Pilot project to develop a mechanized vegetation management program to be used in small to mid-size irrigation canals. Primary goal of project is to reduce the use of aquatic herbicides in irrigation canals. Fabrication and development of cutters, powered screens, operational guides, water quality testing and improvement.

28. **Project Sponsor:** Kittitas County Conservation District
Project Title: Teanaway Basin Restoration Project
Total Grant: \$156,827
Source of Funds: CCWF
WRIA: 39

Project Description: This project reduces water temperature and sediment in the Teanaway River basin: Restore riparian vegetation; Conduct baseline monitoring for temperature, sediment, and macro-invertebrates; identify sediment sources; conduct cross-sectional temperature study; complete GIS mapping of the basin; install anchored large woody debris.

29. **Project Sponsor:** Newman Lake Flood Control Zone District
Project Title: Newman Lake Watershed Monitoring and Education
Total Grant: \$72,000
Source of Funds: 319
WRIA: 57

Project Description: This project will provide long-term reductions of excess nutrients in Newman Lake by preparing and implementing a Watershed Monitoring Plan, involving the local school district in hands on watershed educational and monitoring activities, and communicating these efforts by starting up a Newman Lake Watershed web page and continuing the Watershed newsletter.

30. **Project Sponsor:** Stevens County Conservation District
Project Title: GIS Enhanced Watershed Planning/Implementation
Total Grant: \$324,938
Source of Funds: 319
WRIA: 59

Project Description: This project will expand and utilize an integrated GIS to enhance current watershed planning and implementation projects in the Colville Basin (WRIA 59). It will result, directly or indirectly, in demonstrated improvements in coordinated environmental decision-making, on-the-ground project planning and tracking, public education activities, and actual water quality.

Direct Implementation Fund (DIF)

At the start of calendar year 2001, Ecology developed a funding program only available to state agencies for projects that would assist in implementing program development projects clearly identified in Table 9.1 of the nonpoint plan. Activities must be beyond the current responsibilities of the agency as mandated by the Legislature. State agencies will submit applications for activities for which they are designated as lead in the plan. Projects would be identified and prioritized by the State Agency Nonpoint Workgroup, and a recommended funding list presented to the Water Quality Program Management Team for approval.

There was a total of \$400,00 available for DIF projects. After developing workplans and budgets, we noticed that we were able to leverage about \$1.1 million of state funds for direct implementation activities.

This is only the second round of DIF projects, however, the expectations are high that they will yield tremendous benefits to water quality through the development of new programs, educational activities, model ordinances, and increased communication and cooperation among state agencies.

Reports on the actions to implement DIF projects can be found under the corresponding Table 9.1 activity number in Part III of this document.

Washington State Agency	Table 9.1 Activity	Project Name	Amount
Puget Sound Action Team	Urb 1	Promote Low Impact Development in Puget Sound	49,450
Ecology	LAE 19	Wetlands Best Available Science Documents	50,000
Parks and Recreation	Ed 5	Salmon Interpretive Learning Center	20,000
Puget Sound Action Team	Urb 30	Puget Sound Regional On-site Sewage System Data Development	7,500

Washington State Agency Cont'd	Table 9.1 Activity	Project Name	Amount
Transportation	LAE 18	Aquatic Habitat Guidelines – Stream Habitat Restoration Guidelines Completion	50,000
Puget Sound Action Team	Gen 10	Local Government Funding to Protect and Restore Shellfish Harvest	4,056
Fish and Wildlife	LAE 16	Aquatic Habitat Guidelines – Training for use of Existing Guidelines	50,000
Ecology	LAE 22	Compliance Tracking and Enforcement for Wetland Mitigation Projects	30,000
Washington State Univ.	Ag 7	Precision Irrigation Development and Demonstration Project	49,904
Office of Community Development	Urb 25	Model Clearing and Grading Ordinance	25,000
Washington State Univ.	Ed 14	Developing Watershed Leadership for the Methow/Okanogan Region	50,000

Part 2 - Is Water Quality Improving?

This question will be answered over time by principally evaluating four sets of information.

1. Comprehensive Monitoring Strategy
2. Effectiveness Monitoring
3. 303(d) listed water bodies
4. Success Stories

The larger picture of water quality improvements won't be known for some time, but active programmatic monitoring programs are starting to be put in place. In addition, local monitoring programs are being implemented as funds allow. In the meantime, we will report on individual successes as they are reported to us. Ecology created a nonpoint website and requested success stories from local governments. We have been overwhelmed with submittals. A few are noted below.

Washington's Statewide Monitoring Strategy

Background:

The 2001 Washington State Legislature passed Substitute Senate Bill 5637 requiring the development of a comprehensive strategy and action plan for measuring our success in recovering salmon and maintaining watershed health.

Monitoring is a required element of any salmon recovery plan submitted to the federal government for approval. While numerous agencies and citizen organizations are engaged in monitoring a wide range of salmon recovery activities, there is a greater need for coordination of these efforts.

The Scope:

A monitoring strategy is due to the Legislature in December 2002. It should include the following:

- Recommendations on what should be measured, how often, when, where and by whom.
- Recommendations for ways to ensure that the trends observed in salmon populations and watershed health are incorporated into the management decisions of state agencies.
- Recommendations for ways that government could be organized to help implement the strategy for measuring salmon recovery and watershed health.

Among the questions we will pursue:

- Is the state making progress in meeting salmon recovery goals?
- Are we making investments in activities most likely to lead to salmon recovery?
- What do we need to do differently to be most effective? This is often called "adaptive management."

Monitoring Oversight Committee:

A Monitoring Oversight Committee has been established. It is co-chaired by the director of the Governor's Salmon Recovery Office and chair of the Salmon Recovery Funding Board. The directors of eight state agencies are members, and the treaty tribes are also invited to participate. Other state, federal and local entities are being invited as appropriate. The committee is required to consult with watershed planning groups and others.

Independent Science Panel:

The state Independent Science Panel (ISP) recommended the state develop a coordinated monitoring strategy and action plan to meet salmon recovery goals and objectives. The ISP will advise the oversight committee, review all work products, and make recommendations to the committee co-chairs.

Legislative Oversight:

A bi-partisan legislative steering committee will be established. It consists of four legislators - two from the Senate and two from the House of Representatives. The committee will be briefed quarterly on the progress of the Monitoring Oversight Committee.

Baseline and Ambient Monitoring

Baseline and ambient monitoring will provide long-term trend information on several water quality parameters around the state. These data are relatively gross in nature due to the approach used. However, they do provide a long-term look at conditions across the state.

The Washington State Department of Ecology has conducted monthly water quality monitoring at hundreds of stream stations throughout the state since before 1959. Currently, the Freshwater Monitoring Unit collects water samples from about 82 stations each year. About 20 "basin" stations are monitored for one year (sometimes returning every five years) and 62 "long-term" stations are monitored every year. We monitor by water year (October through September).

Monitored constituents (parameters) include temperature, pH, conductivity, dissolved oxygen, turbidity, total suspended solids, fecal coliform bacteria, ammonia, nitrate plus nitrite, total nitrogen, total phosphorus, soluble reactive phosphorus, and, at most stations, discharge. Dissolved metals are monitored every other month at a few stations. We occasionally sample other constituents as well.

- **Ongoing monitoring projects include:**

- River and stream water quality
- River and stream flow monitoring
- Lake water quality
- Aquatic plant monitoring
- Stream biological monitoring

Effectiveness Monitoring

Washington State Department of Ecology (Ecology) is required, under Section 303(d) of the federal Clean Water Act (CWA) and U.S. Environmental Protection Agency's (EPA) implementing regulations, to: periodically assemble the list of water bodies that are out of compliance with the state water quality standards, develop and implement TMDL's for these watersheds, and evaluate the effectiveness of the clean-up plan to achieve the needed improvement in water quality. Ecology will begin TMDL effectiveness monitoring in 2003.

TMDL effectiveness monitoring is a fundamental, but often neglected, component of any TMDL implementation activity. It measures to what extent the work performed has attained the needed improvement recommended in the TMDL in order to comply with the state water quality standards. The benefits of TMDL effectiveness evaluation include:

- a measure of the progress in water quality improvements (i.e. how much watershed restoration has been achieved, how much more effort is required);
- more efficient allocation of funding and optimization in planning/decision-making; and
- technical feedback to refine the initial TMDL model, BMPs, NPS plans, and permits.

In 2003, a strategy will be developed to integrate nonpoint project locations with improvements, or not, in water quality. The purpose of the strategy will be to connect geo-located data from water quality funded projects to load reductions. There is no overall trend data to determine the "big picture" of nonpoint source controls. This would give us an opportunity to look at areas that have work being accomplished on the ground, and water quality improvements. This will allow the state to:

- Emphasize areas that need additional attention;
- Refocus efforts in areas in which pollutant loadings are increasing;
- Document load reductions in order for us to "tell a good story" to our funders.

303(d) Listed Water Bodies

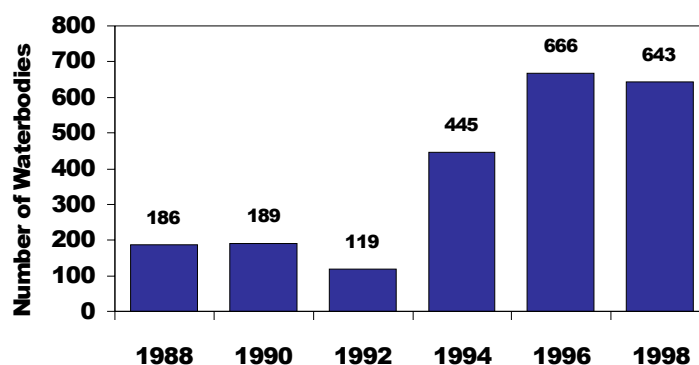
The state is required under Section 303(d) of the federal Clean Water Act (CWA) and the Environmental Protection Agency's (EPA) implementing regulations (40 CFR 130.7) to periodically prepare a list of waters in which beneficial uses are impaired, as determined through the use of the water quality standards. In Washington, this list is prepared by the Department of Ecology (Ecology). The surface water quality standards to be used for the assessment process are in Chapter 173-201A WAC, *Water Quality Standards for Surface Waters of the State of Washington*, and the federal National Toxic Rule and Human Health Criteria in 40 CFR Part 131 (Federal Register Vol. 57, No. 246, and as updated). Ecology has been working on revisions to the state surface water quality standards. However, the revised standards will not be final by the time the assessment is conducted, so the existing standards will be used. For sediments, the standards are in Chapter 173-204 WAC, *Sediment Management Standards*.

The 303(d) list was last prepared in 1998. Information on the 1998 list can be found at www.ecy.wa.gov/programs/wq/303d/1998/1998-index.html. Because EPA was preparing new rules and guidance, no list was required for 2000. The next list will be for 2002. This policy has been updated from 1998 in an effort to better refine and explain the assessment process, and to better judge the condition of each water and whether it should be listed as impaired. Significant changes in the updated policy since 1998 include:

- New categories, in addition to the 303(d) list itself, to better reflect conditions and circumstances of different waters
- Extended waterbody segments, to address data collected across segment boundaries
- Clarification of data quality assurance requirements
- More detailed discussion of the assessment criteria
- Changes in how the water quality standards are applied to temperature, dissolved oxygen, and some other pollutants
- More detail on how to prioritize TMDLs

The criteria for the 303(d) list were developed to identify only those waters for which there is good documentation of impairment. These waters, and only these waters, require the preparation of water cleanup plans, known as Total Maximum Daily Loads (TMDLs), in accordance with the CWA. Waters showing impairment because of natural conditions and with no significant human contribution will not be listed on the 303(d) list. Also, some waters that are impaired will nonetheless not be placed on the 303(d) list because, for various reasons, no TMDL is required for them (see Category 4). As part of the listing process, the waters placed on the 303(d) list will be prioritized and scheduled for doing TMDLs.

Number of Waters Not Meeting Standards in Washington

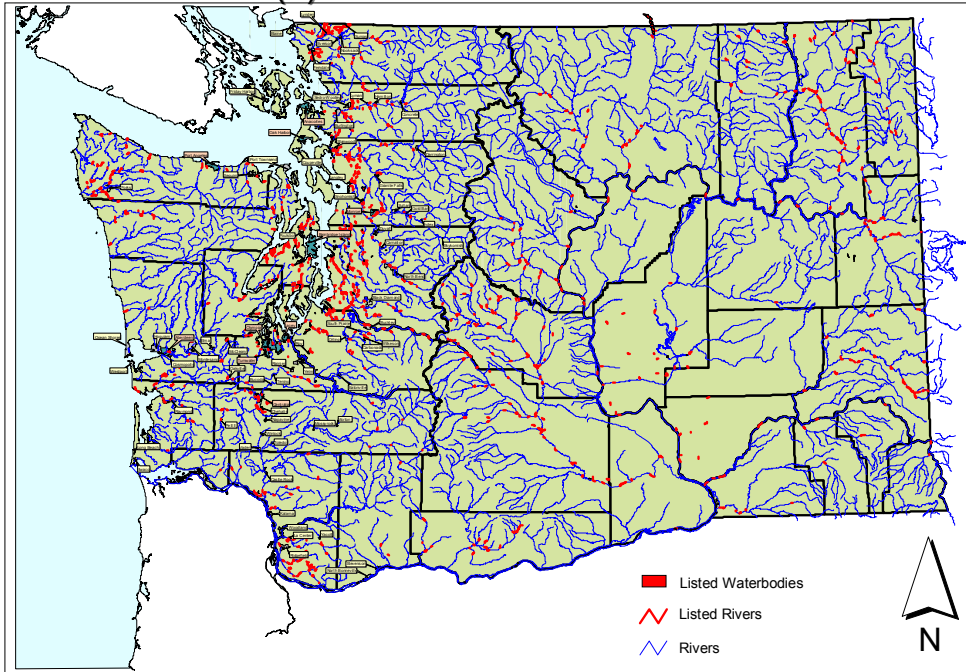


*** 303(d) Lists of waters not meeting water quality standards**

The top six parameters that are causing listings and the number of waterbodies being affected by these parameters are:

<u>Parameter</u>	<u>1996 303(d) list</u>	<u>1998 303(d) list</u>
Fecal coliform	312	313
Temperature	282	320
Dissolved oxygen	130	130
pH	126	88
Instream flow	49	45
Total phosphorus	43	26

303(d) Listed Waters from 1998 List



Success Stories

The state does not yet have an ambient monitoring program to assess the effectiveness of nonpoint source controls overall, however, we can show that water quality is improving, in places. Success stories are a great way to tell a story how water quality improvement can happen in a particular place. Ecology has developed a nonpoint source website where success stories are showcased from all over the state. The website address is:

http://www.ecologydev/programs/wq/nonpoint/new_website/success/success.html

We have identified the sources of funding, but not the amounts. In almost all cases, projects have been ongoing for years, and in almost all of those cases, the total cost of these projects, including funds from grants, local sources, assessments, and individual landowners, have been lost to the archives. Success for nonpoint source controls do not happen overnight; these are not end-of-the-pipe fixes, rather, they are long term efforts on many fronts.

The following success stories are samples of those that have been received through an active solicitation to local governments, tribes, and special purpose districts. These success stories were collected during 2002.

1. On-site Sewage System Maintenance can Promote Healthy Shellfish Harvesting Areas

Skagit County developed a Clean Water District to systematically improve water quality in ecologically sensitive areas. A careful evaluation of on-site septic systems within the county led to repair and maintenance measures that ultimately increased shellfish production

Project Purpose:

- 1) To clean up nonpoint and point source pollution such as agricultural runoff and improve liquid waste handling practices.
- 2) 2) to lower/eliminate fecal coliform contamination in areas associated with commercial shellfish beds.

Project Description: Failing On-site Septic Systems (OSS) are identified as one of the major contributors to degraded waters in commercial shellfish harvesting areas in salt-water bays. With the thought that water quality is important to everyone, the Skagit County Board of County Commissioners established a **Clean Water District** that includes all of Skagit County. The county then established sub-areas to concentrate water quality concerns.

The county conducts surveys of OSS in sensitive shellfish areas to determine repair options for those systems that are not functioning properly. In many cases, alternative systems are now required in areas where there is a high water table. Alternative systems meet a higher treatment standard but are much more expensive than conventional systems. Skagit County has recognized

that OSS maintenance is costly, so therefore, in addition to a countywide loan repair program that was established in 1994, has agreed to help find funding sources for individual landowners and businesses that need to repair failing and dated systems. Funding is also available for farmers who are interested in fencing animals out of critical areas, reducing runoff from cropped fields, improving liquid waste handling practices, and other water quality improvements.



Ron Palmer of Skagit County inspecting a public onsite septic system

Project Results: The county has helped fund the installation of numerous systems since they developed the State Revolving Loan Program. The average cost of an OSS repair is approximately \$9,000 and rising. Direct results include the improved status of shellfish harvest beds, open communication between agencies and shellfish growers, and an increased working relationship between the professionals in the design, installation, maintenance, and monitoring of septic systems. In addition, this project encourages people to recognize the county as a resource for technical assistance as opposed to its reputation as an enforcer.

The commercial shellfish beds in Samish Bay are now reopened and have many areas of upgraded beds. Similk Bay is also undergoing study and future solutions for repair. "Edison and Blanchard that open onto Samish Bay are both great communities and have REALLY put in the volunteer time," says Alison Mohns of Skagit County.

How success was measured: Direct water quality testing in commercial shellfish harvesting areas has shown a decrease in fecal coliform contamination. In addition, previously closed harvesting beds have been opened or allowed on a conditional use and the number of OSS repairs has increased throughout the county.

Lead: Skagit County Permit and Planning Center

Partners: Washington Department of Ecology, Commercial Shellfish Growers of Washington, Skagit County Certified Pumpers, Designers, Installers and Monitoring Professionals for On-Site Septic Systems, Skagit County Conservation District, Skagit County Treasurer's Office

Location: Skagit County, WRIAs: 3 & 4

Funding Source: Centennial Clean Water State Revolving Loan Fund
Commercial Shellfish Growers funded Grant
Individual property owners

Timeline: 1994 to current (2002 on-going)

Contact:

Alison P. Mohns
Skagit County Permit and Planning Center
(360) 336-9410
E-mail: alisonm@co.skagit.wa.us

Ron Palmer
Skagit County Health Department
(360) 336-9410
E-Mail: ronp@co.skagit.wa.us

or visit Skagit County's web site (<http://www.skagitcounty.net>) for more information

2. Three Springs Preservation Effort

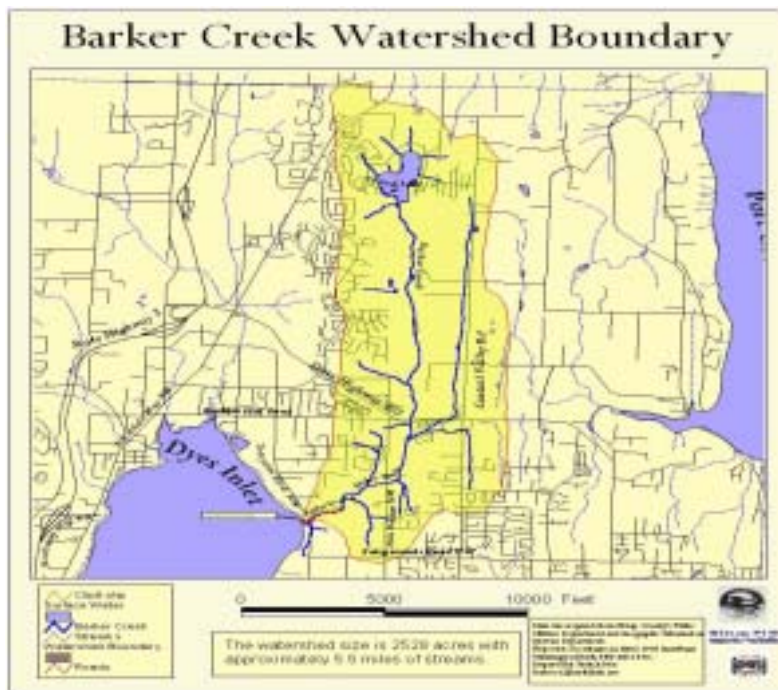
Three Springs, an important area of the Barker Creek ecosystem, was purchased in 1999 by Kitsap County to be utilized as an Outdoor Classroom site.

Project Purpose: To protect and preserve the integrity of this geographically centralized area as well as the health of the entire Barker Creek system, which includes diverse natural conditions of secondary growth evergreen and deciduous trees, abundant native plant species and numerous types of habitat, and to provide a setting for environmental studies, research and enjoyment for present and future generations.



Headwaters of Three Springs

Project Description: Chums of Barker Creek citizens' group realized the 10 acre site known as Three Springs was an important area of the Barker Creek ecosystem. It provides 13 percent of water flow to Barker Creek as well as wetlands, steep ravines and a forested area inhabited by numerous small mammals. It also provides feeding, rearing and nesting areas for resident and migratory birds. However, the proposal of a Planned Unit Development of townhouses and single family residences threatened to disrupt this environmentally sensitive area.



Location of the Three Springs area

Project Results: After years of appeals, generous donations from the Brainerd Foundation, Dyes Inlet Preservation Council, Kitsap Audubon Society, concerned citizens and a variety of fundraisers to pay litigation costs to a dedicated attorney (Jennifer Dold of the former Bricklin and Gendler Law Firm), plus innumerable contacts with Senator Betti Sheldon, state agencies and the Kitsap County Board of Commissioners, the 10 acre site named Three Springs was purchased by the Kitsap County Dept of Parks and Recreation to be utilized as an Outdoor classroom site.

How success was measured: Development was prevented and preservation of the natural resources will be protected. The property was acquired for the sole purpose of providing an ideal environmental education setting for students and adults of the entire community.

Notes: Future plans for design and development will include meetings with personnel from school districts, county staff, Chums of Barker Creek citizen's group and business representatives.

Lead: Chums of Barker Creek/Kitsap County Parks and Recreation Department

Partners: Chums of Barker Creek, Jennifer Dold of Bricklin & Gendler Law Firm, Seattle, Senator Betti Sheldon, state agencies, Kitsap County Commissioners and concerned citizens

Location: Three Springs is a ten acre site located on Nels Nelson Road in Central Kitsap County Urban Growth Area within the Barker Creek watershed, very close to the estuary which flows into Dyes Inlet of the Puget Sound region. It is within walking distance of the Kitsap County Special Events Center, Olympic High School, Fairview Junior High, Cottonwood Elementary, Woodland Elementary and the Barker Creek Montessori School. WRIA 15

Funding Source: Kitsap County

Timeline: Ongoing

Contact: Mary Bertrand

Email: mbertra@aol.com

3. South Fork Palouse TMDL for Ammonia

This project placed limits on ammonia loading in the south fork of the Palouse River, especially from wastewater treatment facilities in both Moscow, Idaho, and Pullman, Washington..

Project Purpose: The Palouse was said to have the worst water quality in the state. Past Ecology investigations identified several point source and nonpoint source problems in the streams of the watershed. Wastewater from the sewage treatment plants serving the cities of Pullman and Moscow comprises most of the river flow during the summer and fall months. Ammonia concentrations often exceeded state water quality standards.

Project Description: In 1994, EPA approved a TMDL for the south fork of the Palouse River which is a good example of how the TMDL process can be used to fix water quality problems associated with domestic waste.

The south fork drains 130 square miles around the towns of Pullman and Albion in Washington and Moscow, Idaho. Grain fields and pastures dominate the area. The major land use is farming with residential, commercial, and industrial developments clustered around the towns. Populations of the towns vary seasonally due to the presence of two university campuses Washington State at Pullman and the University of Idaho at Moscow



South Fork of the Palouse River Leaving Pullman

The study recommended that Ecology place limits on the sewage treatment discharges in Washington. It also recommended that EPA place equivalent limits on the Moscow, Idaho, discharge. This would bring the river's water quality up to meet Washington standards at the border. Based on the TMDL, in 1995, Ecology issued a new permit to the City of Pullman that limited ammonia loading from the treatment plant to the river. The city upgraded the facility to include ammonia removal and other significant changes.

Project Results: Since the permit was issued and the upgrade to the Pullman wastewater treatment facility was completed, the ammonia concentration in the river at this location has dropped to below the detection limit. These data show that the upgrade was effective in surpassing the TMDL goal.

How Success Was Measured: In 1997, Ecology also issued a new permit to the Town of Albion that limits ammonia discharges to the river. The permit requires Albion to monitor its discharge weekly, to evaluate whether the TMDL goals are being met. In 1998, EPA also established a TMDL placing ammonia limits on discharges from Moscow, Idaho, to meet Washington State standards at the border.

Notes: TMDLs also require monitoring to test and assure their effectiveness. Ecology conducts routine monitoring of several water quality constituents in the river at Pullman. Data show that water quality standards are being met for ammonia, which is good news for human health and aquatic life.



Paradise Creek near the Idaho/Washington State line

Lead: Palouse Conservation District

Partners: Washington Department of Ecology, Palouse Conservation District, City of Pullman, Whitman County, City of Moscow, Idaho.

Location: Whitman County

Funding Source: Centennial Clean Water Fund
Section 319 Fund
Individual property owners

Timeline: 1994 to current (2002 on-going)

Contact:

Rob Buchert, Palouse Conservation District
325 NW State St.
Pullman, WA 99163
(509) 332-4101
pcd@completebbs.com

4. Fecal Coliform in the Lower Chehalis

Shellfish growers in the outer harbor have experienced repeated temporary closures due to both point and nonpoint sources of bacteria. Point sources include city sewage treatment plants; industries; and stormwater from Aberdeen, Hoquiam, and Centralia storm

Project Purpose: Two previous TMDLs in the upper Chehalis identified sources of low dissolved oxygen, high fecal coliform, and high summer temperatures. Approximately 40 percent of the bacteria in Grays Harbor comes from the upper watershed, above the town of Porter.

Project Description: The Chehalis, a significant river in southwestern Washington, winds slowly for 123 miles through a relatively undeveloped watershed that covers more than 2,700 square miles and empties into Grays Harbor on the Pacific coast. In fact, the river is so sluggish that studies show it couldn't meet standards for temperature and dissolved oxygen in some reaches, even without human influence. Before 1998 most of the bacteria -- more than 90 percent -- came from nonpoint sources such as faulty home septic systems up and down the waterways, livestock and dairy operations, agriculture and hobby farms, and wildlife.

With all these diverse problems, the Grays Harbor Conservation District's focus in the lower Chehalis has been on keeping livestock away from streams where they can directly contribute fecal coliform and also cause erosion by trampling the streambanks. The District knew of livestock problems along the Satsop and Humptulips, tributaries to the giant Chehalis, and began fencing out cattle as early as 1994. As of October, 2002, 152 miles of fencing and 2.5 million square feet of riparian planting have produced lower fecal counts in monitored streams and have stabilized streambanks. The riparian buffers are already beginning to filter out polluted runoff, keeping it from entering streams. More careful management of dairy waste has also helped reduce bacteria entering the rivers.

Project Results: New fencing along the Satsop River alone totals 11.5 miles. Bacteria levels here have dropped 75 percent below what the TMDL actually calls for. The reduction can only be attributed to lots of hard work by the Conservation District, the County, Department of Natural Resources, state and federal Fish & Wildlife agencies, the Conservation Commission, and the Columbia Pacific Resource Conservation & Development.

How Success Was Measured: The reductions were measured through an active monitoring program by the Department of Ecology and local governments.

Notes: Despite this progress, it is impractical to predict when the entire watershed will meet water quality standards. Future success will require vigilant efforts throughout the basin. Assuming that BMPs are implemented for animal management and on-site sewage systems, and that urban stormwater controls are implemented, bacteria loading from the nonpoint sources should steadily decline. The current best estimate to achieve standards in the Chehalis is October 2005.



Grays Harbor Conservation District installed 2,349 feet of permanent power fence along the west fork of the Satsop River, keeping cows in the pasture and out of the water and the riparian zone.

Lead: Grays Harbor Conservation District

Partners: Grays Harbor Conservation District, Grays Harbor County, Department of Natural Resources, state and federal Fish & Wildlife agencies, the Conservation Commission, and the Columbia Pacific Resource Conservation & Development

Location: Grays Harbor County

Funding Source: Centennial Clean Water Fund
Section 319 Funds
Individual property owners

Timeline: 1994 to current (2002 on-going)

Contact: Grays Harbor Conservation District
330 Pioneer Ave. W.
Montesano, WA 98563-4499
360) 249-5980

5. Fecal Coliform in the Lower Nooksack River

Project Purpose: A TMDL completed and approved in August, 2000 identified manure from dairy farms as the primary source of fecal coliform bacteria in the Nooksack River, followed by municipal wastewater treatment plants. The typical commercial dairy operation of 300 cows generates about as much waste as a city of 6,000 people. Baseline bacteria levels near Portage Bay at the river's mouth exceeded 409 units per 100 ml., with the legal limit being 200. The Lummi Indian Nation once ran a thriving commercial shellfish industry where this water flows. Because of the bacteria, the tribe had to close 60 acres of its shellfish beds in 1996 and an additional 120 acres in 1998, and the Department of Health classified them 'Restricted'

Project Description: Prospects for reversing the downward trend in water quality seemed dim. But hard work has paid off and tests show the water is getting cleaner. Ecology's rigorous dairy inspection program, begun in 1998, now finds the problems and requires their solution through farm-specific plans written by the Conservation District and the Natural Resources Conservation Service (NRCS). These plans specify how waste on a particular farm will be managed to avoid any contamination of the river or its tributaries. Most Whatcom County farm plans require fencing cattle to keep them away from streams, and proper management and storage of manure.

Ecology's new approach to working with dairy farmers is still enforcement-oriented but also has struck a good balance with education and outreach. Fair but firm enforcement, both formal and informal, has helped break down the image of the enforcing agency as an enemy and brought unprecedented change in the way dairy farmers operate their farms



Ecology inspector 'Mak' Kaufman taking a water quality sample downstream from a Whatcom County farm

Project Results: In accordance with the TMDL plan, Ecology also tightened requirements in the discharge permits for 3 wastewater treatment plants, from Everson and Lynden down to Ferndale. Upgrades are underway. Fecal coliform in the Nooksack watershed has also been found to come from non-commercial dairy farms and from failing septic systems.

How Success Was Measured: Partnerships between Ecology, the Lummi Nation, the WA State Dept. of Health, the US EPA, Portage Bay Shellfish Protection District, the Whatcom Conservation District, the county chapter of the state Dairy Federation, individual concerned citizens, and the county office of the NRCS have achieved impressive results. At the end of July 2002, Washington State water quality criteria have been met in the Nooksack River.

Lead: Department Of Ecology

Partners: Lummi Nation, Whatcom County Conservation District, USDA Natural Resource Conservation Service, Whatcom County Departments of Health, Planning and Water Resources

Location: Whatcom County

Funding Source: Centennial Clean Water Fund
Federal SRF
Section 319 Funds

Timeline: Meet Water Quality Criteria in Nooksack River and Tributaries before the end of June 2005. Support beneficial use through reopened shellfish bed before June 2005.

Contact: Steve Hood (360)738-6254 or shoo461@ecy.wa.gov

6. Lake Chelan TMDL for Phosphorus

Lake Chelan, a pristine lake in north central Washington, was threatened with pollution. The Lake Chelan TMDL is a good example of how the process can help prevent degradation of the high quality of water, and of how a locally-driven initiative can use federal law to attain a community goal of clean water.

Project Purpose: In 1989, Ecology completed a TMDL of the lake. The study had three main purposes:

- To provide baseline water quality data;
- To evaluate on-site septic disposal systems within the developing watershed; and
- To estimate the potential sources and harm from nutrients, bacteria, and other chemicals.

The assessment found that phosphorus was the principal nutrient controlling algal growth in Lake Chelan. Between 75 and 90 percent came from natural sources, largely forest runoff and direct precipitation. Of the remaining, 10 to 25 percent came from septic systems and agriculture (primarily orchards). Chinook salmon net pens contributed less than a tenth of a percent of the phosphorus.



Today finds more people living at Lake Chelan year-round than 10 years ago.

Project Description: Lake Chelan is more than 50 miles long, with an average width of one mile and a maximum depth of 1,486 feet. Its volume is so great, it takes almost 11 years for all the water to be replaced. The watershed covers 924 square miles, mostly in national forest and park lands. It is an important destination for recreation and tourism, which are key to the economy. The southern shore is experiencing rapid growth of new year-round residents.

In 1990, several local groups formed the Lake Chelan Water Quality Committee, which prepared the Lake Chelan Water Quality Plan. As part of the TMDL, the Plan specifies steps to ensure the lake maintains its pristine condition. Its first recommendation was to expand existing sewer facilities and extend services to un-sewered areas.

Project Results: Total phosphorus loading capacity was set at 112 pounds per day, allocated among the existing sources. Using water quality modeling based on the expected growth in the watershed, this allows for a maximum increase of 1.1 pounds (about 1 percent) of phosphorus per day to the entire lake. This can be projected to about 35 years of allowable increased nonpoint pollution, if the recommendations of the plan are followed. The plan limits the net pens to their existing level of phosphorus input.

Five local agencies agreed to support and carry out the Lake Chelan TMDL, demonstrating a major local commitment to protecting the pristine conditions of the water. Specific control measures are assigned to each of the groups who signed the interlocal approval. These include the sewer collection lines; developing stormwater plans, farm plans, and boat waste plans; and the accompanying implementation ordinances. Also included are assurances that agriculture and net

pen activities will not increase. If the health of Lake Chelan continues, it will benefit residents and visitors, as well as aquatic life, for now and for the future.



The north end of the lake, accessible to humans only by boats and hiking trails, forms a gateway to high alpine passes and hanging valleys. Most of the population and summer activities cluster around the south end.

Lead: Department of Ecology

Partners: Lake Chelan Sewer District, Lake Chelan Reclamation District, City of Chelan, Chelan County, Chelan Public Utility District No.1, Chelan County Conservation District, Washington State Parks, WSU Cooperative Extension, Chelan County Fire Marshall, US Forest Service, Washington Department of Fisheries, US Department of Agriculture, area citizens

Location: Lake Chelan watershed, Chelan County

Funding Source: Centennial Clean Water Fund

Timeline: Plan completed in 1991. Activities ongoing.

Contact:

Dave Schneider
Department of Ecology
dasc461@ecy.wa.gov

How Success Was Measured: An active monitoring program keeps track of changes in water chemistry, and alerts the implementation committee if there are any upward trends in phosphorus loadings.

7. Sediments and Pesticides in the Lower Yakima River

This project allowed irrigators to protect surface water quality and quantity by converting open irrigation canals to pipeline systems.

Project Purpose: For years, the Yakima River carried muddy sediments tainted with DDT, poisoning aquatic life and smothering fish spawning grounds. A TMDL plan written in 1998 by Ecology called for over 90 percent reductions in sediment by 2012.

Sulphur Creek, a tributary of the Yakima River, receives runoff from about 41,500 acres of farm land. It used to look like this, carrying an average of 110 tons of sediment/day during the irrigation season.



Project Description: Studies identified traditional irrigation practices as the main reason for erosion. Local conservation districts began a massive education program to enlist and subsidize farmers to install more efficient irrigation systems, including sprinkler and drip. Site-specific solutions were designed with the individual landowners. Alternatively, farmers sometimes applied a coagulating agent known as polyacrylamide (PAM), causing better soil saturation and less runoff in the fields. These management practices were new to the area.

Project Results:

Sediment collection basins, water re-use systems, surge irrigation, soil moisture monitoring, precision irrigation scheduling, buffers along fields and canals, stabilization of canal banks, and improved management of water delivery systems also contributed to clearer water.

How Success Was Measured: Although the timeline of the TMDL runs through 2012, improvements are already significant. Samples collected at about 15 sites from June 1997 through October 1999 showed a decrease in total suspended solids of 86 percent in one subbasin, while the other subbasin showed a decrease of 56 percent. The conservation districts and major irrigation districts conducted baseline and follow-up monitoring to measure the effects of the

farmers' actions. Ecology and the Yakama Nation are now conducting effectiveness monitoring on the river's main stem.

After the installation of BMPs, subbasins reported decreases in suspended sediment of as much as 86 percent.



Notes: The TMDL sets a final goal for 2012 and two interim milestones. The next one comes at the five-year point in 2003, when the main stem must meet state turbidity standards. Final goals center on protecting aquatic life through greater reduction in the lingering pesticides still carried by the sediment.

Lead: Sunnyside/Roza Board of Joint Control

Partners: Partners include the Sunnyside Valley and Roza irrigation districts, three conservation districts, the Yakama Nation, NRCS, and WSU Cooperative Extension

Location: Yakima County

Funding Source: Centennial Clean Water Fund
Section 319 Funds
Federal SRF

Timeline: 1994 to current (2002 on-going)

Contact:
Sunnyside/Roza Irrigation Districts
Sunnyside, Washington

8. Good Horsekeeping in Puget Sound

Project Purpose: Provide public education for horse owners in Puget Sound and promote small farm best management practices (BMPs) through farm plans developed by conservation districts.

Project Description: A typical horse makes 19,000 pounds of manure in a year, and if it's not managed properly, it can wash into streams and pollute water resources. In 1999 the Public Information and Education (PIE) program funded Horses for Clean Water (HCW), a pilot project for educating horse owners about ways to reduce run off from farms in King County. Alayne Blickle, director and owner of HCW combines dynamism and good organization. Since she is a horse owner herself, she designed and promoted the workshops based on her understanding of the lifestyle and concerns of her audience. In 2000 and 2001, PIE funds helped Horses for Clean Water expand into northern Puget Sound and in 2002, the Puget Sound Action Team pooled funding with the Department of Ecology and worked with Conservation Districts to promote best management practices for horse owners in Jefferson, Clallam, Mason, Thurston, Pierce, Kitsap, San Juan and Island counties.

Conservation district staff provided seventeen workshops for horse owners, including field trips to demonstrate BMPs. Conservation districts will follow-up with visits to a number of horse owners to develop and implement farm plans and BMPs. As part of the project, the Puget Sound Action Team staff revised the Horses for Clean Water manual and provided 2000 copies to conservation districts. The manual is also available for downloading from the Puget Sound Action Team website at www.wa.gov/puget_sound



This muddy field provided workshop participants first hand look at ways to improve pasture management.

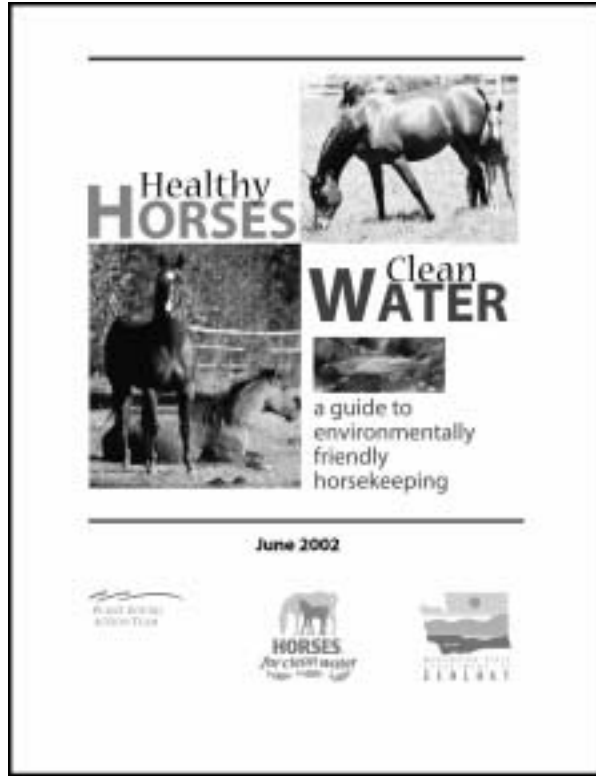
Project Results: In 2001 HCW evaluated the pilot project by conducting a survey of 10 percent of the 354 horse owners who received a total of 2515.5 contact hours of HCW training. As a result of the training:

- 93.75% of participants implemented at least one BMP on their property and 73.5% implemented three or more BMPs on their property.
- 61% created sacrifice areas and 29% planned to create a sacrifice area.
- 35% installed gutters and downspouts and 44% planned to install them.
- 52% of participants began a manure management program and 26% planned to start such a program in the future.
- 26% built a manure composting bin and an additional 35% planned to build one.

Results from the 2002 project were available after December 2002.

How Success Was Measured: By numbers of participants and adoption levels of BMPs. Participants were contacted after the event to obtain figures on implementation of BMPs.

Notes: One of the goals of the Public Involvement and Education (PIE) program is to develop models for environmental education that can be transferred to other communities around Puget Sound. The Horses for Clean Water PIE project developed by Alayne Blicke is an excellent model for addressing a growing problem in rural Puget Sound: a proliferation of residences on 2 to 10-acre parcels with one or more horses. While farm planning for large dairies has been a successful program for managing water quality, educating horse and other livestock owners on small farms is a challenge that requires new models for changing behaviors. As an outgrowth of the partnership between the Action Team, Ecology, and the Conservation Commission, Puget Sound conservation districts will each take the materials provided and tailor programs to individual counties; in some cases applying them to existing small farm education programs and in others using them to initiate a program where one is needed.



“Our workshops went exceptionally well. Attendance was wonderful and the attention and interest of the participants was even better. Heather has 15 horse-owners signed up for site visits (likely leading to Conservation Action Plans) as a result of HCW. It was terrific.” Bill Hamilton, manager of San Juan Conservation District:

Lead: Puget Sound Action Team

Partners: Conservation Commission (Conservation Districts)

Location: Jefferson, Clallam, Mason, Thurston, Pierce, Kitsap, San Juan and Island counties

Funding Source: \$50,000 Clean Water Act Section 319
\$15,000 Public Involvement and Education fund

Timeline: Pilot project: 1999. Ecology grant in partnership with Conservation Commission: 2002.

Contact: *Mary Knackstedt, Puget Sound Action Team*

Concluding Thoughts on Water Quality

Documenting water quality improvements is an essential ingredient for any environmental management program. The state's nonpoint plan requires review, analysis, and change if that is needed to improve program effectiveness. However, because of the very nature of nonpoint source pollution, identifying water quality improvements and connecting it to nonpoint source controls is extremely difficult.

Washington State has not been neglecting this effort, rather, state agencies are actively working on strategy and methodology to "connect the dots" for a variety of beneficial uses. Nonpoint projects are one dot in the state overwhelmed with numerous efforts, activities, programs, needs, resources, and impending budget cuts. We'll get it done, someday.

Part 3 - Are Programs Identified in the Plan Effective?

This year the Department of Ecology proposed an overall effectiveness monitoring program, and will begin implementing the plan during 2003. Part of that effort will be an effort to link water quality monitoring with plan activities. The strategy and depth of effort for that has yet to be worked out.

The state's nonpoint workgroup (A detailed description of the state agency workgroup is in Part 5 of this report) met in retreat in October to discuss their plan implementation activities. The purpose of the retreat was to: discuss agency activities relevant to the nonpoint plan; the status of activities identified in Table 9.1 (Table 9.1 is the activities table in Chapter 9 of the nonpoint plan); whether those activities need to be upgraded or deleted; and the addition of new initiatives. Updated Table 9.1 is added as Appendix 1 to this report.

Effectiveness of the programs relates to both implementation of activities and the effectiveness of BMPs. The state will continue effectiveness monitoring of BMPs and will track BMP implementation activities. Part 3 is a compilation of progress reports for Table 9.1 activities.

Agency Progress Reports

Participating agencies include:

Department of Agriculture	Interagency Committee for Outdoor Recreation
Conservation Commission	Office of Community Development
Department of Ecology	WSU Cooperative Extension
Department of Fish and Wildlife	Department of Health
Department of Natural Resources	Puget Sound Action Team
Parks and Recreation Commission	Department of Transportation

The annual report describes the following:

1. Efforts to implement activities they have agreed to implement in Chapter 9;
2. Success measures;
3. Any significant changes to implementation or funding of existing programs;
4. Reporting on progress on cooperative efforts involving other entities not part of the State Agency Workgroup will also be expected. The Salmon Recovery Office will report on performance measures identified in the Salmon Recovery Strategy.

All the information gathered will be annually tabulated by Ecology and used by State Agency Workgroup to make decisions about overall Plan effectiveness. It will also be made available to the general public using the Ecology web site.

Not all actions identified in Table 9.1 are discussed. A number of them are scheduled for future implementation, some of them haven't begun, or there was simply no activity this last year. What follows are this year's reports on implementation activities where action took place.

Statewide Irrigated Agriculture Plan

Salmon Strategy (Agr 1)

Ag1 - Develop Statewide Irrigated Agriculture Comprehensive Plan to facilitate development of Comprehensive Irrigation District plans.

Implementing Agencies: State Department of Agriculture
Conservation Commission
Ecology
State Fish and Wildlife
Natural Resource Conservation Service
tribes

Milestones:

Plan developed by December 2001

Began implementation in 2002

Discussion:

In 1998, “Extinction is not an Option” was released by Governor Gary Locke as a plan for salmon recovery in the state of Washington. The three parts to the general recovery strategy (the Forest Module, Agriculture Module, and Urban Module), each were to develop guidelines for improving land and water management practices that would be more sensitive to better protection of rivers, streams and riparian habitats.

Each strategy would be developed independently, but when combined would improve the health of the watersheds by promoting riparian and aquatic functions to provide for a colder, cleaner and adequate water supply for salmonids and contribute to ecological improvements. The Agricultural Strategy subsequently developed two distinct pathways for addressing endangered species and water quality issues. The first focused directly on farming practices through a revision of the Natural Resources Conservation Service’s (NRCS) Field Office Technical Guide (FOTGs) used in developing farm plans.

The second focused on cooperating with Irrigation Districts in the development of a planning manual for achieving water conservation and water quality improvements in their water delivery and drainage systems. Together these two separate processes became known as the Agriculture, Fish and Water (AFW) process. Although the agriculture strategy involving both of these processes is a voluntary, incentive-based approach, those who choose to participate can receive regulatory certainty under the Endangered Species Act (ESA) and the Clean Water Act (CWA). In July 1999, the Board of Directors of the Washington State Water Resources Association (WSWRA), representing Washington’s Irrigation Districts, developed a white paper entitled “Programmatic Response-Irrigation District Operations” to describe their preferred method for addressing endangered species and water quality issues

Results:

Guidelines for Preparation of Comprehensive Irrigation District Management Plans is the product of substantial collaboration between Irrigation Districts, state and federal government, the Colville Tribes, and environmental stakeholders in the Irrigation District portion of Washington State's Agriculture, Fish and Water (AFW) process. The participants in the AFW Comprehensive Irrigation District Management Plan (CIDMP) development process set out to develop a voluntary and incentive based process for improving district operations in response to both Endangered Species Act (ESA) and Clean Water Act (CWA) concerns. The extensive collaboration during this manual's development has led to a better understanding by all participants of the varied values, legal requirements, constraints and needs associated with the ESA, the CWA and those who must conform with those laws. The participants worked collaboratively within technical workgroups and the Executive Committee to develop the CIDMP Guidelines manual.

Funding Conservation Districts

Puget Sound Plan (Ag-1)

Ag2 - Build capacity in conservation districts to better deliver water quality programs by providing permanent stable funding

Implementing Agencies – Counties
Conservation Commission
Washington Association of Conservation Districts

Milestones: 3 new counties per year will provide assessments

Discussion: Current state law (RCW 89.08.400) allows county governments to enact an assessment as part of the property tax to fund Conservation Districts. However, only 9 of the 42 districts have the assessment in place. These current assessments provide about \$8.6 million, but do not address the estimated \$39.6 million in unmet needs from the remaining districts. These additional assessments could be put in place from negotiations between the counties and the conservation districts on an individual or group basis, or by legislative action.

Results:

Mason County went through the assessment process during 2002, and the county, after public discussion, granted Mason County Conservation District county funding.

District with Assessments

Franklin
King
Kitsap
Lincoln County
North Yakima
South Yakima
Spokane County
Thurston
Mason

Districts without Assessments

Adams
Asotin County
Benton
Central Klickitat
Chelan County
Clallam
Clark County
Columbia
Cowlitz
Eastern Klickitat
Ferry
Foster Creek
Grays Harbor
Jefferson County
Kittitas County
Lewis County
Moses Lake
Okanogan
Othello
Pacific
Palouse
Palouse-Rock Lake
Pend Oreille
Pierce
Pine Creek
Pomeroy
San Juan County
Skagit
Snohomish
South Douglas
Stevens County
Underwood
Upper Grant
Wahkiakum
Walla Walla County
Warden
Whatcom
Whidbey Island
Whitman

Well Water Protection

Ag3 - Expand well water protection findings in order to prioritize technical support and compliance inspections.

Implementing Agencies: Ecology
State Department of Agriculture
Cooperative Extension

Milestones:

Provide Technical Assistance to Improve Agricultural Practices and Support Non-Point Water Quality Improvement

Discussion:

The Washington State Department of Ecology conducted a certification analysis of the final Columbia Basin Ground Water Management Area. As a result of that analysis, the CB GWMA has received certification.

Results:

The Washington State Department of Agriculture supplied significant technical assistance in developing the ground water management plan and provided policy guidance in the areas of fertilizer management options. The department instituted a chemigation/fertigation technical assistance program and staffed that program with two FTE's

Irrigation Delivery System Study

Salmon Strategy (Agr-4)

Ag7 - Study feasibility of converting open gravity canals and other current delivery systems to more efficient systems, including pressurized pipe.

Implementing Agencies: Ecology

Milestones:

Report completed by December 31, 2004

Discussion:

Establish a protocol to review pesticides in current use for impacts on salmon and water quality, promulgate regulations, if needed, to reduce identified impacts.

Results:

Protocol has been established by task force under WSDA. First tier of chemicals under evaluation.

Performance Outcomes:

There are now a total of three Pesticide Strategic Management Plans in Washington State: Apple, Cranberry, and Potato. The Potato PSNP was completed this year. 20 crop profiles, necessary prerequisites to PSNPs, have been developed for: Apple, Barley, Bedding Plants, Beet seeds, Cabbage seeds, Canola, Carrot, Christmas Trees, Cranberry, Dry Pea, Garlic, Ginseng, Hops, Hybrid Poplar, Lentils, Lettuce, Raspberry, Rhododendron, and Sugar Beets. All crop profiles except apple and cranberry were developed this year. Copies and plans are available through the Pesticide Information Center at Washington State University—Tri-Cities.

Farm*A*Syst/ Home*A*Syst

(National Farm*A*Syst/ Home*A*Syst)

Ag9 - Secure a source of permanent and ongoing funding for the FARM*A*SYST/ HOME*A*SYST program within Washington State University.

Implementing Agencies: Washington State University
Washington Association of Conservation Districts
Conservation Commission

Milestones:

A permanently funded statewide coordinator, implementing the program in targeted locations in cooperation with other county faculty.

Discussion:

Although WSU Cooperative Extension would like to be able to implement the Home*A*Syst program in Washington State, it does not have the resources to fund a coordinator position. WSU has not pursued funding for a full-time coordinator either, due to lack of resources and other priorities.

Results:

At this time there is not a coordinator for the program. However, WSU currently provides a website where people can get information, as well a full range of wellhead and groundwater protection factsheets and self-assessment worksheets (most are available on-line).

Water Quality Education for Small Farms

Ag10 - Develop an education and outreach program targeted at small farms water quality and ESA compliance

Implementing Agencies: Cooperative Extension
Washington Association of Conservation Districts
Conservation Commission
Ecology

Milestones:

Establishment and effective dissemination of research results and utilization of demonstration sites.

Discussion:

Small Farms Demonstration and Research Plots

a. Puyallup

Cover crop demonstrations were established at the WSU Puyallup organic amendment demonstration garden (adjacent to the Puyallup Master Gardener demonstration garden) in October 2001. Eight individual cover crops and four cover crop combinations were planted on two planting dates (early and mid October), and self-guided signs were developed for the plots. The cover crops varied widely in their ability to cover the soil before the onset of winter rains, with oats and triticale providing the best early cover. None of the cover crops provided good soil protection when planting was delayed until mid October. The cover crops were tilled into the soil in May 2002.

A riparian demonstration area is currently being installed along Clark's Creek in collaboration with the Watershed Stewards and the Chief Leschi School.

b. Vancouver

Irrigation demonstrations were established for the 2002 growing season comparing overhead with drip irrigation systems for vegetable crops. Cover crop demonstrations were also developed for the 2001 and 2002 growing seasons for a variety of overseeded cover crops. Cover cropping systems were designed to demonstrate weed control, soil protection, and enhanced nutrient uptake. Riparian zone management plans have also been developed. Field days were held in August of 2001 and August 21, 2002.

Research

Research goals involve evaluating cover crop and compost treatments as tools for improving weed management, soil fertility, soil quality, water quality, pest management, and cost reduction. Data is being collected on crop yield and quality, soil quality (organic matter, bulk density, stability, microbial activity, water holding capacity, nutrient levels, etc.), weed and disease pressure, and water quality protection.

a. Puyallup

Various legume cover crops (crimson clover, subterranean clover, white clover, hairy vetch, and medic) were under-sown into standing carrots and two varieties of sweet corn in early July 2002, to evaluate the effectiveness of early cover crop establishment in different crop canopies. Grass legume mixes were sown into sweet corn following harvest (September) and into fallow ground to compare effectiveness of establishment. Establishment is currently being evaluated for fall and winter, and biomass, weed pressure, and N content will be evaluated in the spring. This project will be continued with other funding (some already obtained, some applied for) to evaluate long term benefits of underseeded vs. fall established cover crops on soil quality and soil N status. Both of these have a direct effect on water quality, by affecting the potential for loss of nutrients to ground and surface water, and loss of sediment to ground water. In addition, an IPM project is underway to evaluate alternative treatments for carrot rust fly. Educational signs will be developed for the cover crop treatments for a field day this winter.

b. Vancouver

Comparative research on overhead vs. drip irrigation systems is underway for the 2002 season. Total water output, weed growth, yield and plant biomass measurements are being evaluated for each irrigation system. Ongoing research on cover cropping systems is comparing five overseeded cover crops into three different vegetable crops: carrots, beans, and edamame. Seeding rates, timing, and weed control are being measured and evaluated.

Results:

Research results from the demonstration site has been shared in a number of venues, including the Tilth Producers Conference (Nov. 8), the Western Wa. Horticultural Association Conference and the Pacific Northwest Vegetable Growers Conference in Yakima, as well as at a daylong soil fertility management workshop in Kent that attracted over 100 participants. Educational displays about this research project were put out at: the Seattle Tilth Harvest Fair, the Pierce County Harvest Festival, the National Small Farms Conference in New Mexico, the Community Food Security Coalition in Seattle, the WSU Provost Tour, the WSU All Extension Conference in Pullman, the Northwest Organic Farming Symposium, and the Tilth Producers Annual Conference. The demonstration site is also utilized with Master Gardener, Watershed Steward and Small Farm education programs held at the Puyallup Research Station.

The establishment of the small farm research and demonstration plot at the WSU Puyallup Research Station with funding from Washington's Direct Implementation Fund assisted WSU faculty in obtaining an \$800,000 four year USDA-IFAFS grant, "The costs and Benefits of Using Organic Waste Streams in Small-Scale Agriculture."

Agricultural BMP Development and Implementation

Ag 12: Actively engage agricultural producer groups in developing and implementing new BMPs. (same as reported in Ag 11)

Implementing Agencies – WSU

Discussion:

Washington State University continues to build interdisciplinary research and extension teams to address Integrated Pest Management (IPM) and potato production as well as extension, research, and teaching partnerships through our Center for Sustaining Agriculture and Natural Resources. That center now has a small farms coordinator and a dryland cropping system specialist. In potato production, extension faculty work with researchers in Washington, Idaho, California, Colorado, and Texas to test the adaptability of new cultivars and extend that knowledge to Washington potato growers.

The Yakima River Basin Watershed is home to several species of ESA threatened salmonids. Presentations were given about riparian buffer research and management, and a series of Water Quality Macro-Invertebrate seminars trained producers and the public on how to make water quality measurements.

Results:

In sustainable agriculture, 7,700 producers adopted decision support systems that recognize and evaluate the economic, environmental, and social implications of alternative plant and animal production systems. Producers managed approximately 6,000,000 acres under improved sustainable stewardship practices.

Washington's producers continued to build upon past successes in IPM. Twenty-six validated prevention-based pest management practices for use on targeted cropping systems may reduce the pesticide load in the environment to safeguard human health and the environmental health of Washington State. Approximately 116 public forums involving joint sponsorship or collaboration enhanced multi-party collaborations and the exchange of information among public, private, and non-profit stakeholders in order to foster the development and adoption of IPM strategies and systems among selected audiences. Educational programs to improve the use of IPM strategies and systems increased the range of benefits and opportunities achieved by enterprises and individuals.

In the Yakima River Basin Watershed, research and management evaluations showed over a 60 percent knowledge gain during the overviews of riparian buffer research and a 30 percent knowledge increase in riparian management. Over 80 percent of producers surveyed said that they are now considering changes (fences, willow plantings, grazing management, shades, water tanks) in the management of riparian buffer utilization as a direct result of the presentations. Over 1.6 million acres were represented in the riparian management seminars.

Agricultural Best Management Practice Research And Development

Ag 14: Provide research to develop or evaluate agricultural best management practices to Washington and Washington crops.

Implementing Agencies – WSU

Discussion:

Washington State University continues to build interdisciplinary research and extension teams to address Integrated Pest Management (IPM) and potato production as well as extension, research, and teaching partnerships through our Center for Sustaining Agriculture and Natural Resources. That center now has a small farms coordinator and a dryland cropping system specialist. In potato production, extension faculty work with researchers in Washington, Idaho, California, Colorado, and Texas to test the adaptability of new cultivars and extend that knowledge to Washington potato growers.

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CREP

(Salmon Strategy Agr-)

Ag11 - Implement Conservation Reserve Program

Implementing Agencies: **Conservation Commission**
State Department of Agriculture
Natural Resource Conservation Service
FSA

Milestones:

208 landowners have secured CREP contracts.

- Target of 400 additional landowners by FY 2003.
- Target of additional 300 by FY 2004.
- Legislature passed and Governor signed bill from 2001 session exempting CREP contract holders from Forest Practices Act.
- Conservation Commission develops and implements PIP Loan program, eliminating the 40 percent of the cost that the landowner was faced with carrying for up to three years.

Discussion:

The Conservation Commission is implementing this action. Program has taken off. Payment rates and 100 percent cost share are popular among landowners. Shortage of conifers affected 2001 planting. Current barrier to success is amount of technical assistance funding available to Conservation Districts for plan development and implementation. Landowners are being turned away due to lack of staff to address planning components. Still awaiting federal action on (1) irrigation rental rates and (2) extending eligibility of CREP to all perennial crops.

Results:

There are currently 3844 acres enrolled that comprises 201 miles of salmon and steelhead habitat protected and in the process of being restored. The average statewide buffer width is 149 feet.

Agricultural BMP Financing

Ag13 - Use State Revolving Fund low-interest loans to help agricultural commodity groups with development and installation of BMPs that reduce pollution and water use.

Implementing Agencies - Ecology

Milestones - \$42,239,188 provided by FY 2003

Discussion:

As BMPs are developed and approved, grower groups may seek funding in the form of SRF loans to implement the BMPs on farm. Loans may be through any local government entity or special district.

Results:

Ecology approved the following BMP implementation projects that implement this action through the Centennial Clean Water Fund/319/SRF grant and loan process:

Tracking Number	Recipient Name & Project Title	Fund Source	Fund Amount
FP03112	Thurston Conservation District Thurston County Poultry Manure Grant	CCWF Grant	\$98,088
FP03113	Thurston Conservation District Thurston Nutrient Reduction & Riparian Assessment	CCWF Grant	\$246,100
FP03082	Cascade Irrigation District Mechanized Canal Vegetation Management Program	319 Grant	\$195,000
FP03082	Cascade Irrigation District Mechanized Canal Vegetation Management Program	SRF Loan	\$200,000
FP03017	Spokane County Conservation District Dairy Nutrient Management Program	SRF Loan	\$1,500,000

Forest HCPs

(Salmon Strategy For 3)

For2 - Complete Habitat Conservation Plan on forestry module

Implementing Agencies: **Salmon Recovery Office**
State Department of Agriculture
Ecology
State Fish and Wildlife
Department of Natural Resources

Milestones: 1 new HCP per year starting in 2003.

Discussion:

Limited budget and staff have impacted the ability to prepare for the HCP and its environmental documents this biennium. All work that is being accomplished to implement provisions of the Forests and Fish report, and ESHB 2091 is considered preparatory for the HCP. ESHB 2091 extends the time for the federal government to issue an incidental take permit for the Forests and Fish Report in order to prevent a failure of assurances under this agreement. Prior to implementing this activity, Forest 1 (Adopt new forest practices rules) and Forest 2 (Approve road maintenance abandonment plans), both from the Salmon Recovery Plan, must be fully implemented as critical elements to HCPs. Developing habitat conservation plans for the forestry module began in fiscal year 2002.

Results:

The following has been accomplished:

- HCP and environmental documents to comply with ESA, NEPA, and SEPA;
- Long-term certainty provided by an incidental take permit issued by NMFS and USFWS under ESA for actions taken by state in issuing forest practices permit;
- Long-term certainty provided by an incidental take permit issued by NMFS and USFWS under ESA for forest products industry for action regulated by the state.

Watershed Analysis

(Salmon Strategy For 5)

For3 - Update the watershed analysis manual, facilitate conducting watershed analyses and approve watershed analysis permits

Implementing Agencies: State Fish and Wildlife
Department of Natural Resources
Ecology

Milestones: Manual updated by June 2003

Discussion:

This element of Forest and Fish process has had its priority lowered through promulgation of rules.

Results:

Components of the watershed analysis process were incorporated into the Forest and Fish agreement. Other components were replaced by new Forest and Fish rules.

Small Forest Landowners

(Salmon Strategy For 4)

For8 – Carry out the functions of the Small Forest Landowners’ Office.

Implementing Agencies: **Department of Natural Resources**
State Fish and Wildlife
Ecology

Milestones:

Discussion:

The state legislature authorized DNR, as part of the 50 percent compensation for leaving a forest and fish riparian zone, to be able to include reimbursement of a small landowner's consultant costs for setting up a riparian easement. The legislature requires that the small landowner representatives nominated by WFFA will serve staggered terms. The bill also removes the requirement to have a reduced compensation for landowners that may take trees out of the riparian easement before the 50 years is up and leaves others, as in an eastside riparian zone.

Results:

The legislature wants a report of progress on development of alternative plans for small landowners or alternative harvest restrictions that may lower their overall cost of regulation by July 1, 2003

Forest Landowner Education

For11: Educate small forest landowners on water quality and ESA issues, and new rules.

Implementing Agencies – Washington State University and
Department of Natural Resources

Milestones: Number of small forest landowners served

Discussion:

Washington has approximately 100,000 forest owners controlling 20 percent or over 3 million acres of the state's timberland. These owners vary greatly in their knowledge of forest management. Many are absentee owners living elsewhere in Washington, other states, and in foreign countries. Given the large number of owners, absentee ownership, property turnover, and a small number of extension Forestry Agents, it is a challenge to reach these owners with timely information and to direct them to appropriate sources of help. A unique cooperative education program for forest landowners exists in the state of Washington conducted by WSU's Department of Natural Resource Sciences and Cooperative Extension in cooperation with the Washington State Department of Natural Resources. The Forest Stewardship Program (which consists of workshops, newsletters, and coached planning) is a fine example of issue-based programming and was the most important non-industrial, private forestry (NIPF) program for the year. These educational programs continued the paradigm shift from strictly commodity-based management to ecosystem management on NIPF lands as well as helping production-oriented owners. Landowners were provided useful information on ecosystem approaches to forest management.

Results:

Over 4,200 people received one-on-one consultation or attended educational events and 1,325 land managers expressed a change in their knowledge, skills, or abilities. Private, non-industrial, forest landowners are implementing stewardship practices as a result of their learning and preparing their own Forest Stewardship Plans. These plans have and will result in forestry management practices including tree planting, the rehabilitation of wildlife habitat, stream and riparian area protection, and timber harvesting.

GMA Critical Areas

(Salmon Strategy Lan 2)

Urb 1: Update guidelines and models for consideration by counties and cities on inclusion of Best Available Science and giving special consideration to salmon conservation in their local GMA Critical Area Ordinance updates.

Implementing Agencies – OCD (CTED now), PSWQAT, WSDA, ECY, WDFW,

Milestones:

Action Team staff developed a package of material for local governments to help them with their GMA updates. Materials include:

- Recommendations to local governments
- Fact sheet on protection of shellfish growing areas
- Fact sheet on developing a local stormwater management program
- Frequently asked questions about stormwater management programs
- Table comparing the Puget Sound stormwater program with EPA's Phase II Rule and the Tri-County 4(d) Rule model stormwater program
- Fact sheet on funding local stormwater programs
- Fact sheet on protecting marine and freshwater habitat at the local level
- Ecology fact sheet on best available science on wetlands protection

Local liaisons met with local jurisdiction representatives of priority jurisdictions to discuss the materials and promote implementation of the Puget Sound plan through growth management updates where appropriate. Liaisons met with 55 jurisdictions on stormwater programs and 30 jurisdictions on shoreline issues. The packet of material was mailed to all 125 Puget Sound jurisdictions in November 2001 and is available on the Action Team website.

Discussion:

Staff resources require that efforts to provide technical assistance for growth management updates be targeted. Staff evaluated past efforts and determined that resources would be better spent provided up-front technical assistance early in the update process, rather than waiting until the plans and ordinances have been developed and are undergoing final public review. Comments received at the end of the process are often too late to be effective. In addition, liaisons targeted efforts toward all counties and priority cities based on the jurisdiction's potential impacts to water quality and biological resources.

Results:

It is too early to evaluate results. It is hoped that local governments will use these materials to improve their updated GMA documents when they begin this effort. (GMA updates are required to be completed in 2004 and 2005.)

Land Protection Incentives

(Salmon Strategy Lan 8)

Urb3 - Design and promote incentives for non-regulatory land use protection programs.

Implementing Agencies: **Ecology**
Office of Community Development
State Fish and Wildlife
Puget Sound Action Team
State Department of Transportation
Department of Natural Resources

Milestones:

Ongoing technical assistance and grants administration.

Discussion:

This action is an ongoing project with Ecology and partnering agencies. Technical assistance is provided when requested and grant are given to local governments who apply for projects to provide land use protection programs, including acquisition and land improvements. Efforts are underway to update existing directory of incentive opportunities, which includes programs for funding and technical assistance that support wetlands and salmon habitat preservation and recovery efforts.

Results:

Ecology produced and distributed technical guidance document 99-108 titled, *Open Space Taxation Act Current Use Assessment Program: Applying the Public Benefit Rating System as a Watershed Action Tool*. The document was distributed to all counties in the state

State Stormwater Manual

(Salmon Strategy Sto 1,2,4)

(Puget Sound Plan SW-1)

Urb4 - Develop a Stormwater Management Strategy which includes updating the stormwater manual and helping local governments implement the manual to address stormwater impacts on habitat and water quality of new development

Implementing Agencies: Ecology
State Fish and Wildlife
Puget Sound Action Team
State Department of Transportation
Tribes

Discussion:

Ecology spent two and one half investigating and proposing changes to the 1992 Stormwater Management Manual for the Puget Sound Basin. The project involved:

- Five staff members, each responsible for one of five volumes
- Advisory committees that totaled over 70 different individuals
- A consultant team to program a new hydrology model
- A consultant to assist with technical editing

Two drafts of the manual update were published - one in 1999, and another in 2000. Public workshops, public input, and additional advisory committees were held after the release of each draft.

Results:

The final stormwater manual for western Washington was published in September 2001. Ecology mailed at least one copy of the manual to each local government. An announcement of the manual and an explanation for how to order a copy from the Dept. of Printing was sent to over 3,000 interested parties. The manual is also available on-line at the Water Quality Program's website. Workshops to introduce the manual to local governments and development project managers were scheduled for February and March 2002. The Puget Sound Water Quality Management Plan called for local governments to adopt the Western Washington Stormwater Manual, or an equivalent manual, by March 2003.

Ecology also held a number of workshops in the summer and fall of 2001 to introduce the new hydrology model for western Washington. Workshop attendance totaled approximately 450. The model is a specific application of USEPA's Hydrologic Simulation Program Fortran – (HSPF). It uses a Windows format to allow easy use of HSPF. The model predicts pre-development and post-development runoff flow rates. Its use is necessary as a step in sizing retention/detention facilities to meet the flow control requirement in the new manual.

Puget Sound Stormwater Management Program

(Salmon Strategy Sto 3)

Urb6 - Update the Puget Sound Stormwater Management Program and, as appropriate, update model ordinances for local stormwater management programs to be consistent with changes to the Puget Sound Management Plan

Implementing Agencies: **Puget Sound Action Team (PSAT)**
Office of Community Development (OCD)
Ecology
State Fish and Wildlife

Milestones:

Two model ordinances were developed for local governments to use in developing their stormwater management programs, a model management and a model maintenance ordinance. Both were updated to reflect the latest stormwater technical manual from the Department of Ecology. Ecology staff developed a model management ordinance based on the August 2001 Stormwater Management Manual for Western Washington. It will be mailed to local governments under the signatures of Ecology and Action Team staff.

In addition, Action Team staff, in cooperation with Ecology staff, developed a guidance document for local governments that provides significantly more detail on the local comprehensive stormwater program that local governments are called upon to implement in the Puget Sound Water Quality Management Plan (element SW-1 of the management plan). This document was circulated by Action Team and Ecology outreach staff, and will be updated as new information on specific elements of the program (such as low impact development practices or retrofitting techniques) become available.

Discussion:

Adopting stormwater management and maintenance ordinances are critical steps in the development of a local comprehensive stormwater program under the Puget Sound Management Plan. It is only with the adoption of such ordinances that stormwater may be legally regulated at the local level. Further, it is only by ordinance that the city or county adopts Ecology's stormwater technical manual (or an equivalent version) and sets specific standards for how stormwater is managed from new development. Ecology and Action Team staff work directly with local governments to encourage them to adopt the model ordinance or a version that is technically equivalent to it. Model ordinances are helpful to local governments that may need guidance.

The next step in this process would be to develop a model maintenance ordinance for local government use.

Results:

Since the ordinance was just developed and is only now being mailed to local governments, it is far too early to see any results. Several local governments have plans to adopt a version of the Ecology technical manual in the upcoming year; it is hoped that they will find the model ordinance helpful in their efforts.

Stormwater General Permits

(Salmon Strategy Sto 5)

Urb7 - Issue and reissue (on the regular five-year cycle) stormwater general NPDES permits. Provide technical assistance with implementation that conforms to the latest water quality standards and technical manual

Implementing Agencies: **Ecology**
State Fish and Wildlife
Puget Sound Action Team
State Department of Transportation

Milestones:

Stormwater General Permit reissued by end of calendar year 2002.

Discussion:

The next step in this process is distribution of a revised draft permit, and Ecology is working on the revisions. Unfortunately, Ecology stormwater resources are being directed to other unscheduled activities, such as responding to proposed legislation and implementation of ESB 6188, the Transportation Permit Efficiency and Accountability Act. As a result we cannot predict when a revised draft will be complete. We are anxious to get the permit reissued and are making every effort to shift our attention back to redrafting permit language.

Results:

Work on the permit has been delayed

Low Impact Development

Urb8 - Identify and participate in a low impact stormwater demonstration project

Implementing Agencies: PSAT
Office of Community Development
Ecology
Counties
Cities
Association of General Contractors

Milestones:

Pierce County has identified a residential subdivision project proposal for a low impact development (LID) pilot project. The landowner is enthusiastic about using LID techniques on this property. A consortium of agencies and organizations are partnering to create a multi-year monitoring project to test LID technologies on the ground. Funding for the first year of monitoring (pre-construction) has been secured.

Discussion:

The site is in the Fife urban growth area, is a high visibility site, and is adjacent to a salmon-bearing stream, the Hylebos Waterway. The landowner hired AHBL Engineering to develop site analysis studies, the site design, a drainage plan, and other needed products. Washington State University (WSU) Cooperative Extension, Pierce County, has been instrumental in facilitating this process, and has developed a multi-year monitoring plan to prove the effectiveness of various LID techniques on this site. They have enlisted the services of many professionals to help with this effort, including: WSU Pullman, Derek Booth at the University of Washington, Pacific Rim and Water, the PIN Foundation, the Action Team staff, and Ecology. Because the site is extremely challenging due to soils, slope, proximity to sensitive areas, and lack of undisturbed native vegetation, we believe that if LID techniques can be shown to be effective on this site, they can prove effective on many other sites around the Puget Sound basin.

This is the first project in Puget Sound that will utilize the full range of LID techniques on a challenging site to try to maintain natural site hydrology and fully protect adjacent sensitive areas. It is extremely important that the region has access to the results of this project, specifically we need several years of wet season data to see how well the LID techniques perform. Because of the broader applicability of the monitoring results to other areas of Puget Sound, a portion of the Action Team's DIF grant (see Urban 29) to research and promote LID techniques will be used during 2003 for post-construction flow monitoring. The project partners can also monitor for water quality, depending on available funding.

Results:

As the project is just beginning it is too early to report any significant results. WSU Cooperative Extension has secured sufficient funding for pre-construction monitoring. This includes a meteorological station, surface and sub-surface flow detection equipment, and the services of a graduate student at the University of Washington.

On-Site Sewage O/M

(Puget Sound Plan OS-2)

Urb11 - Identify needs to enhance the onsite O/M program at both state and local levels and recommend funding to implement.

Implementing Agencies: Department of Health
Puget Sound Action Team

Milestones:

Discussion:

During 2001, DOH sponsored the work of an On-site (Sewage) Advisory Committee. The top six recommendations of this multi-stakeholder committee related to O&M or on-site systems. They were:

1. Explore establishing and identifying funding mechanisms for an O&M Coordinator position to provide technical assistance to local health jurisdictions.
2. [DOH] support WOSSA's (Washington On-site Sewage Association) efforts to develop a comprehensive statewide O&M program as well as an insurance/warranty program for on-site systems.
3. Develop a model risk-based O&M program.
4. Emphasize and promote the development of O&M management programs, models, and methods, based on national, state, local and private experience.
5. Explore establishing and demonstrating the utility model for O&M activities.

Results:

DOH has assigned a staff member of the wastewater management program to serve part-time as an interim O&M Coordinator.

Stable funding sources for ongoing O&M programs remains elusive, and recent statewide initiatives limiting government access to revenues is making the effort to establish stable funding more difficult.

Onsite Sewage Inspections

Urb12 - Seek additional legal and financial assistance for local health officers' inspections of on-site sewage systems

Implementing Agencies: Department of Health

Milestones: 16 FTEs doing inspections statewide by 2005

Discussion:

Department of Health is continuing to seek additional funding.

Results:

Funding for local health districts continues to be an unresolved issue. Health will be exploring new avenues this year, but given the state's budget shortfall, this element may have to be delayed for several years.

New OSS Technologies

(Puget Sound Plan OS-5)

Urb13 - Identify and approve new technologies for onsite waste treatment

Implementing Agencies: **Department of Health**

Milestones:

By December 2001

- 1) Delineation and clarification of review and approval process for new and experimental technologies.
- 2) Establish standard protocols for testing new and experimental technologies.
- 3) Establish performance standards to be met by technologies seeking approval.

Discussion:

This is an iterative process, and has been slowed and delayed during current rule revision. We plan to catch up within 12 months after adoption of new state on-site rules by the Washington Board of Health.

Recommend that this activity be replaced with a new activity. See activity on this list under Puget Sound Plan OS-5, proposed changes for Table 9.1 for 2003.

Results:

DOH added two technologies to the list of those approved for use in Washington

- Packed Bed Filters
- Drip Distribution Systems

DOH completed a major revision of the Standards and Guidance for one proprietary technology:

- Glendon BioFilters

OSS Education

Urb14 - Establish an effective statewide education program to convince the general public of the importance of properly maintaining their onsite sewage systems and how to do that.

Implementing Agencies: Department of Health
Local Boards of Health

Milestones: Statewide education program in place by 2004

In the last year, DOH has placed nearly all of the on-site sewage documents on the web and are downloadable in both Word and .pdf formats. Documents available include:

- State On-site Rules and other regulator documents
- Technical Standards and Guidance for the various on-site technologies
- Informational Brochures and other educational documents.
- Meeting agendas, minutes for the Technical Review Committee and the Rule Development Committee.

The UW Sea Grant Program has worked on O&M Motivation and education.

Discussion:

This activity is ongoing, and should be a part of the 2003 implementation plan

Results:

Regulations, technical standards and general information documents are readily available to the public and to on-site professionals.

Model Clearing and Grading Ordinance

Puget Sound Plan, SW-2

Urb 25 – Develop a model clearing and grading ordinance to include low impact development

Implementing Agencies: Office of Community Development

Ecology

Puget Sound Action Team

Milestones:

CTED hired a consultant to assist with developing a model critical area ordinance. To help explain the new model recommendations, the Departments of CTED, PSWQAT, WDFW and Ecology sponsored four regional workshops held in Spokane, Wenatchee, Lynwood and Lacey in May 2002. Over 400 planners, elected officials, and natural resource managers attended these workshops to learn about the draft critical area ordinance.

Discussion:

In 2002, the Growth Management Act (GMA) was amended to allow cities and counties a two-year delay in updating critical area ordinances. This delay enabled our project to move forward in a timelier manner.

Results:

We completed the development of Model Code Provisions for critical areas in August 2002. With additional funding from DIF, we are able to write a technical guidance document that explains in more detail the different approaches in avoiding environmental impacts, such as nonpoint pollution from development practices and construction near critical areas. The new document, titled *Designating and Protecting Critical Areas: Designing Your Local Program*, will be completed in early 2003.

An important part of any construction practice is the performance standards, or regulations designed to protect critical areas functions and values. In Washington State, critical area ordinances must include the best available science (RCW 36.70A. 172). Through our research, we discovered there was a need to provide local governments a model code that could be adapted to local environmental situations. This model code and technical report will be an important educational tool for local governments and citizens.

Eastern Washington Stormwater

Urb 26: Develop a Stormwater Management Strategy for eastern Washington and help local governments implement the manual to address stormwater impacts on habitat and water quality of new development

Implementing Agencies – ECY, WSDOT

Milestones: Adoption of eastern Washington manual

Discussion:

Ecology initially proposed that the *Stormwater Management Manual for Western Washington* (August 2001) could be updated to cover the entire state of Washington. In response to that proposal, representatives of eastern Washington requested that Ecology create a separate stormwater manual for the eastern portion of the state. Based upon these requests and upon recognition of the significantly different hydrology and geology of eastern Washington, Ecology agreed to create a separate manual.

Discussions continued at various conferences, meetings and forums to determine the best method to accomplish this effort. A chartering meeting was held in June 2001 to formalize the structure and process for developing a manual for eastern Washington. The meeting was attended by more than 70 representatives of 17 cities, 11 counties and five federal and state agencies with interests in stormwater management in eastern Washington. The participants established a ten-person Steering Committee to lead the overall effort and created two Subcommittees: one for leading the preparation of the Technical Stormwater Manual, and another for leading the preparation of a Model Municipal Stormwater Program to assist communities in meeting anticipated requirements of the Phase II NPDES municipal stormwater permits.

The Steering Committee hired a consultant team, funded by Ecology, to prepare draft documents and to assist with meeting coordination, public involvement and related project tasks. The scope of work for the project, a proposed production schedule, and a budget were prepared; and the work began in November 2001. Concurrent monthly meetings of the Subcommittees were held to develop the Technical Manual and the Model Program in 2002. The manual subcommittee met biweekly from May through August in order to meet a September deadline for publishing a draft document. Part of the work done in developing the manual was creating custom design storms based on historical precipitation data for eastern Washington. The intent is for these storms to replace the generic SCS design storms commonly used to estimate runoff volumes and flow rates; there are technical questions about the hydrologic modeling. A Technical Advisory Work Group was established to address these issues and advise the subcommittee on how to incorporate the new design storms into the next revised draft of the manual.

Results:

Both the draft Manual and Model Program documents were published and available for public review in the last week of September 2002. Public workshops were held during the week of October 14. The majority of the presentations were given by representatives of the Steering Committee and the two Subcommittees. The public comment period ends November 30th.

The eastern Washington representatives who have been working to develop the manual are very supportive of its contents. However, there are some technical issues highlighted for feedback that remain to be decided. The subcommittee, consultants, and Ecology staff will meet in January 2003 to review comments and propose revisions to the draft. A second round of public review is anticipated for a final draft of the manual beginning in June 2003. We expect to publish both documents in late fall 2003.

Most of the contents of the manual for eastern Washington were taken directly from the manual for western Washington and supplemented by practices described in Spokane County's stormwater manual. The manual for eastern Washington is intended to describe appropriate stormwater management practices and BMPs for the arid/semi-arid and cold-weather climate conditions experienced on the east side of the state. Both manuals attempt to replicate and protect natural conditions. Since the natural conditions are so different, the manuals have different approaches. The biggest conceptual difference in the approach of the two manuals is that there is stricter flow control standard for western Washington based on overwhelming scientific evidence supporting the need; there also are different criteria for runoff treatment for discharges to both ground and surface waters.

Research the Effects of Urbanization

Urb 29: Research the effects of urbanization, especially stormwater runoff, on ecosystems. Educate key audiences on strategies for reducing stormwater impacts.

Implementing Agencies: – **Puget Sound Action Team**
WSU Cooperative Extension

Milestones:

The Action Team initiated a study to assess the effects of urbanization on shellfish growing areas.

Discussion:

Population growth and development are affecting the health of Puget Sound in a variety of ways. One consequence is the contamination and closure of shellfish growing areas. The Action Team received \$60,000 from the U.S. Environmental Protection Agency to study the cause-and-effect relationship between development and contamination of shellfish growing areas in Puget Sound. The project consists of three main components: 1) a review of relevant scientific literature, 2) a technical analysis examining the relationship between urbanization and shellfish water quality by correlating selected landscape metrics and shoreline water quality conditions, and 3) development of recommendations to strengthen land use plans and improve pollution control programs to protect and restore shellfish growing areas.

Results:

Literature review and preliminary research findings will be available in summer 2003, and shellfish protection guidelines will be available in late 2003.

On-site Sewage Systems

Urb 30: Work toward the establishment of a dedicated local health O&M Coordinator to integrate the activities of various groups and agencies in developing and implementing a model risk-based O&M program characterized by effective O&M data tracking, homeowner education programs and identified funding mechanism to support local programs.

Implementing Agencies: DOH

Milestones:

- Networking and partnering is well developed in some areas, counties, agencies
- Data tracking at local health jurisdictions is improving. Round 1 of DIF is helping Kitsap County Health District to address this issue.

Discussion:

Local health jurisdictions have been urged to apply for 319 funding to build their data tracking capacity for on-site infrastructure and its management.

DOH recommends dropping this activity, as permanent funding is not likely to occur.

Results:

There is partial completion of this objective.

Boat Sewage Plan Update

(Puget Sound Plan MB-3)

Rec6 - Update the Comprehensive Boat Sewage Management Plan for Washington State

Implementing Agencies: **Parks and Recreation Commission**

Milestones:

Sites for future pumpout installation will be identified. Information will be provided to marina owners and operators on the expected maintenance and repair needs of the various types of pumpout.

Discussion:

State Parks is currently in the process of conducting a survey called "Boat Sewage Disposal Facility Inventory and Needs Assessment for Washington State." This survey replaces the 1994 "Comprehensive Plan for Boat Sewage Management in Washington State". The purpose of the inventory and needs assessment at all public and private marinas is to determine status of existing facilities and identify current and future needs.

Results:

No progress was made on this project during this reporting period. We will be reporting on the update of this plan in the next reporting period.

Boater Water Quality Education

(Puget Sound Plan MB-4)

Rec7 - Coordinate agency educational efforts for boaters on environmentally safe practices, such as for the Clean Boating Week held last year.

Implementing Agencies: **Parks and Recreation Commission**

Ecology

State Fish and Wildlife

Department of Natural Resources

Puget Sound Action Team

Milestones:

This ongoing educational program will continue.

Discussion:

Information on boating environmental issues are continually being provided to educators upon request. In 2001 we began distribution of our "Kids Activity Bag" to local law enforcement, and non-profit organizations who conduct boating classes for children in schools. It includes both boating safety and good environmental information for school age children.

Results:

Boater education materials are continually being provided to school educational efforts.

Beach Environmental Assessment, Communication, and Health (BEACH) Program

Rec13 - Use Environmental Protection Agency Grant to develop BEACH Program for the state of Washington. The BEACH Program will test the water quality of coastal recreational beaches with the intent of reducing the risk of disease to users of those waters.

Developmental Agencies – Ecology
Health
DNR,
Parks
WDFW
IACOR,
PSAT
Local Agencies

Implementing Agencies – Ecology and Health

Milestones – Implement the BEACH Program by summer 2003.

Discussion:

Point and nonpoint fecal pollution will be monitored to reduce the risk of disease to users of the coastal waters. Bacteria levels will be tested and results above threshold levels will be communicated to the public via a Web site and telephone hotline. The BEACH Program will educate the public and provide them with necessary information to:

- Make informed decisions.
- Better understand the connection between bacteria levels in water and the possibility of getting sick from exposure.
- Identify potential areas of pollution problems.

Results:

- An Inter-Agency BEACH Committee met monthly using work groups when appropriate to develop a Draft BEACH Program Guidance Document. The draft guidance has been approved by the committee and will be taken to the public for comments. The document contains a risk-based classification plan, a tiered monitoring plan, a public notification plan, and a data management plan.
- A BEACH List of coastal marine waters which contains coastal public access sites has been developed.

- A list of current coastal monitoring programs being conducted by local and state governments has been created.
- Incorporated input from local jurisdictions regarding the impacts the BEACH Program will have on them.

Integrated Stream Corridor Guidelines

(Salmon Strategy Per-2)

Hyd1 - Develop and implement Integrated Stream Corridor Guidelines, building on the completed Integrated Streambank Protection Guidelines.

Implementing Agencies: Washington Department of Fish and Wildlife
Washington Department of Transportation
Washington Department of Ecology

Milestones:

Integrated Stream Corridor Guidelines were adopted in year 2002.

Discussion:

Washington Department of Fish and Wildlife completed four guidance documents, and hired contractors to provide (1) editing for style consistency and (2) formatting for publication. The four guidance documents, which were expected to be published in 2002, are:

1. Integrated Streambank Protection Guidelines.
2. Fish Protection Screens.
3. Fish Passage at Culverts.
4. Fishways

Eight "white papers" on the state-of-the-knowledge on selected topics which will serve as best available scientific and technical information upon which to base additional, future, guidance documents were completed and published. Papers cover the following topics (some topics may be merged into a single guidance paper):

1. Channel Design.
2. Marine Overwater Structures.
3. Freshwater Overwater Structures.
4. Treated Wood Issues.
5. Marine and Estuarine Shoreline Modification Issues.
6. Floodplain and Riparian Corridors.
7. Marine Dredging.
8. Freshwater Dredging and Gravel Removal.

A ninth paper on Water Crossings was expected to be completed and published in 2002.

Preparation of a fifth guidance document, Stream Habitat Restoration Guidelines (based on the white papers on Channel Design and Freshwater Dredging and Gravel Removal) was initiated in late 2001, with completion and publication expected in late 2002 or early 2003. Stream Habitat Restoration Guidelines builds upon Integrated Streambank Protection Guidelines, and each will complement the other.

Contracting for preparation of Stream Habitat Restoration Guidelines exhausts the project funding originally provided by the Salmon Recovery Funding Board, and leaves a deficit of approximately \$50,000 necessary to complete technical and format editing , formatting, and publication.

To complete the project – finalizing the ninth white paper, developing guideline documents based on the white papers, and providing training for implementing the guidelines is a more expensive and time-consuming process than originally envisioned. In particular, money budgeted in the current biennium will not be sufficient, even with the ability to carry over unspent funds past June, 2001. Latest estimates for completion of the documents and initiation of training in the next biennium would take an additional \$800K for Puget Sound Region-specific project types, and another \$1.1M for project types applicable for the rest of the state.

Results:

Eight final white papers were published in March 2001.

Final technical drafts of the first four guidance documents were posted to the project web site (<http://www.wa.gov/wdfw/hab/ahg/>) and trainings on these documents were delivered by Washington Department of Fish and Wildlife for staff from the state departments of Fish & Wildlife, and Transportation.

Washington Department of Fish and Wildlife delivered trainings on the draft guidance documents for state agency staff from the departments of Fish and Wildlife and Transportation.

Membership on the project steering committee was extended to representatives of the US Army Corps of Engineers, Seattle District, and to the US Fish and Wildlife Service, Portland Region.

Hydraulics Code and Water Quality

(Salmon Strategy Per-4)

Hyd2 – Evaluate the Hydraulics Code with an eye towards improving its use for water quality protection.

Implementing Agencies: State Fish and Wildlife
Ecology

Milestones:

Discussion:

Work on the HPA ESA compliance review has been in hiatus since March 2001. Although WDFW will continue to evaluate the need for new HPA rules, based on best science, efforts specifically aimed at agreeing on a Habitat Conservation Plan (HCP) with National Marine Fisheries Service and U.S. Fish and Wildlife Service have ended.

Results:

No coordination between the two agencies occurred in 2002. Although some added protection for water quality could come out of future HPA rule making, this would be an indirect effect. Permit holders cannot expect to be protected from the risk of violation of ESA take provisions by satisfying HPA provisions.

Stream Restoration Technical Assistance

(Salmon Strategy Pas 4 & Reg 9)

Hyd3 - Provide technical guidance and engineering support to help regional and watershed lead entities, local governments, tribes, private landowners and volunteers participate in salmon restoration projects, inventory and correct fish passage barriers, and implement screening in water diversions. Provide engineering support to instream and marine construction.

Implementing Agencies: State Department of Transportation
 State Fish and Wildlife
 Department of Health
 Interagency Committee for Outdoor Recreation
 Conservation Commission
 Ecology

Milestones: Ongoing

Discussion:

Key tasks include providing technical assistance to Salmon Recovery Funding Board grants recipients for fish passage barrier inventories and corrections, an irrigation diversion screening, as well as providing technical and financial assistance to cities for inventory and correction of transportation related fish passage barriers. Provide technical assistance to local governments and lead entities on salmon restoration projects.

Results:

WDFW has established its Watershed Stewardship Team (WST) to provide technical assistance to lead entities for recovery planning, conservation planning, scientific analysis, project design (including engineering support), and prioritization. This represents about 14FTE. As of December 2002, 26 lead entities were being served by WST.

Critical Areas Ordinance

(Salmon Strategy Lan 3)

LAE3 - Develop and provide critical information, technical guidance and maps to support local governments' update of their Critical Areas Ordinances

Implementing Agencies: Office of Community Development

Ecology

State Fish and Wildlife

Department of Natural Resources

Tribes

Milestones:

OCD has completed four state-wide workshops in November 2001 to assist local governments with reviewing and updating their GMA comprehensive plan policies and development regulations, such as critical area ordinances. The workshops were attended by about 800 regional and local planners, state agency staff, and elected officials. Featured presentations included a discussion about how to include the best available science (BAS) when reviewing technical information as a part of the 5-year review and update process. Regional planners and state agency experts shared helpful information about how to proceed with improving policies and regulations to ensure protection of critical areas functions, including protecting surface and ground water quality.

In addition to the workshops, OCD is updating an earlier report of scientific citations that demonstrate the characteristics of sound science. This BAS Citations Report is an annotated bibliography of mapping sources and technical reports recommended by state natural resource agencies. The final report was available in late January 2002. The electronic version of the report enables the reader to hyperlink directly to the reports and mapping information.

Discussion:

Working closely with state natural resource agencies, local government planners and tribes encourage productive partnerships and timely information sharing. The BAS Citations Report provides direct access to recent studies that can help policy-makers and natural resource managers with understanding the linkages between land-use decisions and protection of ecological functions and water quality.

Results:

Technical assistance materials such as the BAS Citations Report combined with model critical area ordinances will help to streamline ordinance adoption by local governments. Water quality will be improved because natural process will be preserved and protected from adverse land use decisions. Local governments must update their policies and regulations by September 1, 2002 or face noncompliance challenges by state agencies and citizens. These tools help local governments stay in compliance with the Growth Management Act requirements.

Statewide Lake Management Program

LAE 5: Develop and implement a statewide lakes management program addressing TMDLs.

Implementing Agencies: Ecology

Milestones:

Review Phase I and II Lake Restoration Plans to determine if they are good candidates for developing TMDLs. Develop TMDL goals for each restoration plan. Initiate meetings with local jurisdictions and citizens that have done the Phase I and II lake restoration projects. Reach consensus among the local jurisdictions and citizens for implementing the TMDL goals. Develop and submit to EPA the completed TMDLs including SISs and DIPs. Await approval of TMDLs from EPA. NWRO has initiated discussions with King County DNR to develop the Cottage Lake TMDL. Ecology needs to develop the TMDL goals for Cottage Lake.

Discussion:

Duck Lake (City of Ocean Shores) TMDL was delayed indefinitely because of unrealistic TMDL goals. Data is being gathered to make those goals more realistic. Beaver Lake (City of Sammamish) TMDL is being developed - City of Sammamish is receptive to the TMDL submittal. King County DNR is supporting development of the Cottage Lake TMDL.

Results:

City of Ocean Shores (Duck Lake) has been able to reinitiate sewer hook-up discussions with an unincorporated area that contributes significant amounts of phosphorus in groundwater/stormwater to the lake system. Hook-up of this area is very important for restoring the lake. The City is also receptive to establishing more realistic TMDL goals as new monitoring data is obtained.

The City of Sammamish continues to uphold the rigorous stormwater controls to protect Beaver Lake.

King County and NWRO are starting the process of developing the Cottage Lake TMDL.

Puget Sound Plan

(Salmon Strategy Lan 9)

LAE6 - Implement, maintain, and update the Puget Sound Plan and biennial work plans for the Puget Sound Basin

Implementing Agencies: Puget Sound Action Team

Milestones:

Action Team staff coordinated the development of the *2003-2005 Puget Sound Water Quality Work Plan* among Action Team agencies. The work plan was completed and sent to Governor Locke and the legislature by December 20, 2002, as required in Chapter 90.71 RCW.

Discussion:

The work plan is primarily a budget document that lists actions state agencies will take using funds allocated specifically by the legislature for implementation of the *Puget Sound Water Quality Management Plan*. State agencies submit the actions based on continuing and requested enhancements for proviso funds. The work plan also recommends actions for local governments for several programs. The work plan will advise the state budget process during the 2003 legislative session. Following approval of a budget for the 2003-2005 biennium, Action Team staff will revise the work plan to reflect the final budget and the actions funded.

The 2003-2005 work plan includes for the first time both long-term and biennial outcome measures for priority issues. The Action Team staff will compile a report on the progress achieved during the biennium at the end of the biennium based on state agency reports, and will provide this report to the legislature and the public.

Results:

The work plan has been provided to the Office of Financial Management, Governor Locke, and the state legislature to advise the budget process. The results of the legislative budget process will be incorporated into the final 2003-2005 work plan published in June of 2003. The results of the work plan actions will be reported in an Action Team report at the end of the 2003-2005 biennium.

Implementing the Statewide Wetlands Integration Strategy

LAE7 - Implement the Statewide Wetlands Integration Strategy and the Puget Sound Wetland Restoration Program

Implementing Agencies: Ecology
State Department of Transportation
Puget Sound Action Team

Milestones:

1. Principles of landscape-scale wetland restoration were incorporated in assistance to local governments engaged in shoreline planning efforts.
2. Completion of the Drayton Harbor watershed analysis for wetland restoration planning.
3. Development and application of a web-based tool, Principles of Wetland Planning, for individual wetland mitigation and restoration proposals.
4. Development of a workshop curriculum for training on the content presented in Principles of Wetland Planning .

Discussion:

Significant time was invested in incorporating the principles of landscape-scale wetland restoration in efforts to provide assistance to local governments involved in updating shoreline management plans.

Results:

Staff dedicated a significant portion of time to providing technical assistance on methods to update shoreline management plans. This included providing direct technical assistance in the preparation and review of the SMP inventories for Sumner, Mukilteo and Issaquah. In addition, final review and comment on the completed Everett SMP was provided, which resulted in the final approval of the plan by Ecology.

Staff completed a draft of the Drayton Harbor Focused Watershed Analysis which identifies specific areas for wetland restoration in the California and Drayton Creek watersheds. The analysis is part of a continuing collaboration with the Drayton Harbor Shellfish Growers to use the wetland restoration coverage and database in the Nooksack Basin to identify and prioritize wetland preservation and restoration sites that reduce fecal coliform and nutrient inputs into the harbor. Whatcom County is planning to use the Drayton analysis in their Comprehensive Plan and SMP plan updates. The Drayton analysis will also serve as an example and guidance for local governments on how to apply landscape principles at the subbasin scale when developing land use designations, policies, and regulations that effectively protect critical resources.

Staff developed the initial tool for evaluation of restoration and mitigation proposals in the context of watershed processes and functions in support of Ecology's regulatory and wetland restoration program. This web-based tool, titled "Principles of Wetland Planning" is planned for public release in spring 2003 to provide assistance to local communities and state agencies in their permitting and planning activities. The tool has been applied to several large projects impacting wetlands, resulting in more sustainable wetland mitigation/restoration designs.

Staff has also developed a workshop curriculum for presenting the principles outlined in the web based tool. Staff is presently working with King County resource staff to develop a joint wetland and critical areas planning curriculum, using both their Critical Lands Management Handbook and Ecology's "Principles of Wetland Planning" tool; this joint curriculum will be initially presented at the Society of Ecological Conference in March of 2003.

Lake Management Plans

LAE 9: Continue to emphasize lake and watershed management planning to address nutrient and sediment enrichment, and de-emphasize the use of chemicals for pest control

Implementing Agencies: Ecology
WSDA
WDFW

Milestones:

- Provide technical assistance to lake and watershed entities through telephone and e-mail contacts and present papers at conventions.
- Reduce discharges to natural waters of chemicals used to control plants and algae in irrigation canals.
- Permit and monitor impacts of salmon carcass analogs to water quality of streams. Permit and monitor impacts of nutrient additions to enhance salmonid growth in streams.
- Summarize Ecology's position on protecting ESA/salmonids from the impacts of aquatic pesticides.

Results:

Many technical consultations over the telephone and internet for lake and watershed management. Two papers presented at a state lake management association annual meeting. One paper presented at a national lake management association.

Monitoring reports show that discharges of aquatic herbicides from irrigation canals to natural waters is decreasing.

A permit for salmon carcass analog studies was issued. Monitoring to date shows no discernable downstream impacts as young salmon are receiving benefits from the analogs.

Draft of the ESA/salmonids technical document is out for final review.

Aquatic Habitat Guideline Support Material

LAE15: Develop outreach and education materials on the Aquatic Habitat Guidelines

Implementing Agencies – Washington Department of Fish and Wildlife

Ecology

WSDOT

Milestones:

Develop materials to support training of staff from local, state and federal agencies, and the tribes, as well as interested public.

Discussion:

In 2002, WDFW received a \$50,000 DIF grant to support both this activity and LAE16, the training of local, state, and tribal staff.

Results:

No products were completed in 2002. However, the DIF money will be used in 2003 to finalize curriculum development, materials publication, schedule development, and training for the guidelines covering Integrated Streambank Protection, Culverts, and Stream Habitat Restoration.

Aquatic Habitat Guidelines

LAE16: Train local, state, and tribal staff on the Aquatic Habitat Guidelines

Implementing Agencies – Washington Department of Fish and Wildlife
Ecology
WSDOT

Milestones:

Number of communities and agencies trained

Discussion:

Through most of 2002, available funds had been used to develop the first four guidelines: Integrated Streambank Protection, Fish Passage at Culverts, Fish Protection Screens, and Fishways. WDFW Habitat Engineering staff provided some technical training as part of the guideline refinement process.

Results:

Initial training took place in 2002 as part of the guideline refinement process. For 2003, part of the DIF grant money will be used to support training workshops. In this regard, personnel assignments have been made for delivering training on Integrated Streambank Protection, Culverts, and Stream Habitat Restoration. As reported for LAE15, curriculum and schedules are currently being developed for those guidelines.

Aquatic Habitat Guidelines Publication

LAE17: Publish and disseminate existing and in-development Aquatic Habitat Guidelines and reports in multi-media formats

Implementing Agencies – Washington Department of Fish and Wildlife

Ecology
WSDOT

Milestones:

Publish guidelines developed in 2002.

Discussion:

WDFW, Ecology, and DOT completed development of four guidelines in 2002. Publication of these guidelines in hard copy, web text, and CD-ROM formats has been intended.

Results:

Web publication of the first four guidelines was carried out in 2002. Hard copy and CD publication of the Integrated Streambank Protection and Fish Passage at Culverts guidelines is planned for late February 2003. The two smaller guidelines, Fish Protection Screens and Fishways, will not be published in hard copy or CD, but will be left as web publications to allow for further modification after use and feedback by the public.

Also by late February, a 90 percent complete version of the Stream Habitat Restoration Guideline will be put on the web; the DIF grant will be used for finalizing that document.

Aquatic Habitat Guideline Development

LAE18: Develop additional needed Aquatic Habitat Guidelines (e.g., stream crossings, shorelines protection, marine habitat restoration, treated wood, etc.)

Implementing Agencies – Washington Department of Fish and Wildlife

Ecology
WDOT

Milestones:

Guidelines developed as funding becomes available.

Discussion:

In 2002, work was mostly completed on the following guidelines: Integrated Streambank Protection, Fish Passage at Culverts, Fish Protection Screens, and Fishways. All were published on the web during the calendar year.

In addition, development of the Stream Habitat Restoration Guideline was undertaken, supported by a \$50,000 DIF grant.

Results:

Web publication of the first four guidelines has been successful. Hard copy and CD publication of the Integrated Streambank Protection and Fish Passage at Culverts guidelines is planned for late February 2003. Also by late February, a 90 percent complete version of the Stream Habitat Restoration Guideline will be put on the web; the DIF grant will be used for finalizing that document.

The AHG Coordinating Committee will be considering undertaking development of other guidelines early in 2003. Funding issues and opportunities will be a determining factor.

Wetland Guidance Documents

LAE 19: Develop wetland guidance documents based on the best available scientific information for use by local governments in developing wetland protection regulations under the GMA and the SMA.

Implementing Agencies - Ecology
 WDFW
 PSWQAT
 OCD
 EPA

Milestones:

Identify advisory team members	1/02	Completed
Identify pertinent literature	8/02	Completed

Discussion:

The literature review has been completed and a draft document is being written. A public review draft document is expected by Feb. 03.

Results:

We are on-track to complete this task on time.

Wetland Compliance Tracking and Enforcement

LAE 22: Develop a compliance tracking and enforcement program for agency permitted wetland mitigation projects.

Implementing Agencies - ECY,
EPA
PSWQAT

Milestones:

- | | | |
|---|-------|-----------------|
| • Develop field methods/forms | 11/02 | Completed |
| • Develop HGM checklist | 11/02 | Draft checklist |
| • Conduct field evaluation of sites in Washington | 10/02 | Completed |

Discussion:

Work is progressing on schedule for this activity.

Results:

Field work is complete and draft products are being prepared. Final products will be completed by 12/31/02.

Biennial Nonpoint Conference

Ed4 - Organize a biennial conference on nonpoint pollution for implementing agencies and groups as well as the general public

Implementing Agencies: Ecology

Milestones: 1 nonpoint conference every even numbered year.

Discussion:

Ecology held a conference on nonpoint pollution “Achieving Cleaner Water” April 9--11, 2002 in Spokane. The next conference is scheduled for April 2004 in Tacoma.

We continued with the extra day for 2 field trips and 2 workshops in addition to the regular sessions at the 2002 conference. Those were again very popular. We hired a conference coordinator to help us organize the speakers, logistics with the hotel, conference brochure, mailings, etc. This saved us a lot of time and energy on conference details.

Members of the Nonpoint Workgroup increased their participation in conference organizing by coordinating speakers for some of the sessions and field trips. We hope to engage more of the members next time and encourage the Workgroup to take a leadership role in organizing the 2004 conference. We will also explore the possibility of a joint conference with other nonpoint groups for 2004.

Results:

About 170 people – including about 45 speakers - attended the 2002 conference. Attendees included conservation and irrigation districts; federal, state and local agencies; tribes; WSU cooperative extension; universities and community colleges; salmon enhancement and watershed groups; consultants; and environmental groups. We had about 10 nonprofit groups and a couple businesses set up information tables at the conference.

Evaluations indicated that the conference was very successful! Participants appreciated the three days of opportunity for sharing, learning and networking among professionals and the public in the work to reduce nonpoint pollution.

Salmon Environmental Learning Centers

(Salmon Strategy Edu 5)

Ed5 - Develop and implement site-specific public education plans, for example, for parks with significant salmon resources and for hatcheries as Salmon Environmental Learning Centers

Implementing Agencies: Parks and Recreation Commission
State Fish and Wildlife
Department of Natural Resources

Milestones:

Completed Salmon Interpretive Learning Center

Discussion:

In the Spring of 2001, Washington State Parks and Recreation Commission began a salmon interpretive pilot within the state parks system. This pilot included developing interpretive materials for seven separate State Parks and providing interpretive resources for each of the four State Parks Regional offices for use in their region.

Interpretive materials for the specific parks were developed with the cooperation of the Washington Department of Fish and Wildlife, Washington Department of Natural Resources, the Governor's Salmon Recovery Office, the US Army Corps of Engineers and the US Forest Service. Salmon interpretive trails were developed for Flaming Geyser and Lake Wenatchee State Parks, a historic photo montage created for Maryhill and Horsethief State Parks and a variety of interpretive panels and/or posters erected at Saltwater, Dosewallips and Rasar State Parks.

In addition to these park specific efforts, State Parks recreated the Department of Fish and Wildlife's salmon trunks for each of the regional offices. The salmon trunks are a collection of educational outreach lesson plans and curricula to be lent out by the regional office to parks or other entities for environmental education programming regarding salmon.

Results:

State Parks is currently in the process of developing the next phase salmon interpretation. State Parks has proposed to establish a center for salmon and watershed studies in an old historic dairy barn at Flaming Geyser State Park. State Parks is also begun Phase II of our statewide salmon interpretive effort. This will likely include the convening of a State Salmon Interpretive Team and the development of a "traveling display" for use throughout the state. State Parks is also looking into the possibility of marketing recently developed interpretive materials relating to salmon.

Funding "PIE" (Puget Sound Plan EPI-8)

Ed10 - Manage the Puget Sound Public Involvement and Education "PIE" fund program to develop innovative education programs

Implementing Agencies: **Puget Sound Action Team**

Milestones:

- 1999-2001 biennium – sixteen PIE contracts successfully completed on time and within budget.
- 2001-2003 biennium – twelve PIE contracts have been selected and contracts are being written. The work will be completed in May, 2003.
- 2001-2003 biennium – Small Awards pilot program has awarded \$30,000 in amounts of up to \$3,000 to 14 contractors.

Thirteen contracts totaling \$397,369 were selected for funding during Round 13 of the PIE program for completion in May 2003.

A new program called Small Awards was piloted to fund projects under \$3000. Twelve projects were selected for funding.

Discussion:

The PIE program helps implement the educational components of the Puget Sound Action Team biennial work plan. Following is a description of PIE projects (Small Awards are not included) being implemented during the current funding cycle to address priorities from the 2001-2003 Work Plan.

CLALLAM COUNTY

Pacific Woodrush (\$28,751)

Contact: Mary Peck

Phone: (360) 417-0980

Description: Exploring the Watershed: Building Community-Based Partnerships aims to enhance local residents' awareness and stewardship of Siebert Creek, a stream originating in Olympic National Park and flowing to the Strait of Juan de Fuca. Through PIE funding, Pacific Woodrush will sponsor eight evening seminars and daylong field trips that focus on issues including stormwater and water quality, salmon habitat, estuarine and nearshore environment, and watershed management. Participants will have an opportunity to pursue an action related to each field trip's theme.

ISLAND COUNTY

Maxwelton Salmon Adventure (\$37,794)

Contact: Laura Fox

Phone: (360) 579-1272

Description: One way to engage a community in planning for the future is to honor its past. Envision the Future, Remember the Past demonstrates this approach by researching, collecting and publishing the natural history of the Maxwelton watershed, creating a watershed unit of study for local 5th grade students, and meeting directly with groups of adults and youth to explore the watershed's history. Students will collaborate with an artist-in-residence to develop a mural illustrating the changes in the watershed over time. At the close of the project, the sponsor will invite members of the community to join together to create a vision for the future of the watershed.

JEFFERSON COUNTY

Port Townsend Marine Science Center (\$45,000)

Contact: Judy D'Amore

Phone: (360) 379-0370

Description: In collaboration with Marine Resources Consultants, the Port Townsend Marine Science Center will offer marine biology research cruises to Port Townsend visitors. During the cruise, paying visitors will view sub-tidal habitats with an underwater camera, actively participate in scientific habitat and water quality monitoring, and learn about trends in marine ecosystem health. Income generated from the cruises will provide support for the center's school-based monitoring program serving Port Townsend and Chimacum School Districts. Data collected by visitors and students will be posted on the science center's website and provided to resource managers to guide local decision-making.

WSU Cooperative Extension - Jefferson County (\$29,700)

Contact: L. Katherine Baril

Phone: (360) 379-5610

Description: Watershed Neighbors-Reinventing the Welcome Wagon for Watershed Education and Stewardship targets the teachable moment when a new resident decides to buy or modify their property. The project sponsor will coordinate a network of realtors, mortgage bankers, and volunteer watershed stewards to deliver to this audience guidance materials on relevant topics, including low impact development, shellfish and salmon protection, and nearshore habitat. New residents will receive a "Welcome to the Watershed" packet designed to increase their understanding and appreciation of their local watershed and promote the protection of Puget Sound. Watershed Open Houses will present the natural and cultural history of the area to new residents and introduce them to local volunteer stewardship opportunities.

KING COUNTY

Pacific Science Center (\$37,625)

Contact: Kristen Bergsman

Phone: (425) 450-0207

Description: The goal of the Taylor Creek Watershed Internship Project is to educate local residents about Taylor Creek, an urban stream in south Seattle, and empower them to monitor and protect its health. High school interns selected from the community will monitor the water quality each month, develop and present lessons about Puget Sound and salmon each month to fourth and fifth grade students at participating elementary schools, and provide take-home materials for children to share with their families. Translations of some materials will also spread the students' messages to non-English speakers in the community. Professional environmental educators will serve as mentors as they teach the interns monitoring, curriculum development and public speaking skills.

Seattle Parks and Recreation (\$42,894)

Contact: Pam Banks

Phone: (206) 233-3967

Description: This project seeks to promote and encourage low impact development (LID) by demonstrating to residents in the Pipers Creek watershed of north Seattle how homes and gardens can be designed, redesigned and maintained to protect water quality. Serving as a demonstration site for green building and sustainable living practices, Carkeek Park's new Environmental Program Center (EPC) will figure prominently in the project's four watershed tours and two series of "Living Green" workshops. Web site updates will allow others to take a virtual tour of the EPC's unique design and construction features.

PIERCE COUNTY

Citizens for a Healthy Bay (\$35,000)

Contact: Wendy Church

Phone: (253) 383-2429

Description: Citizens for a Healthy Bay (CHB), in partnership with the Foss Public Development Authority and Puget Soundkeeper Alliance, will carry out the Commencement Bay Clean Boating and Clean Marina Program based on the National Clean Boating Campaign's successful model. Efforts will include expanding the EnviroStar Program in Pierce County to include Commencement Bay marinas, conducting workshops for marina owners and managers, and offering pollution detection training sessions. CHB's BayKeeper, on board the 34 foot Nor'Star, will deliver clean boating kits to recreational boaters at special community events.

Tacoma Neighborhood Network Center (\$5,000)**Contact: Scott Hansen****Phone: (253) 845-6578**

Description: Building on their earlier work with the mobility and mentally impaired, the center will enlist visually and hearing-impaired as well as physiologically impaired community members to participate in hands-on restoration activities on Puget Creek, a small urban stream in Tacoma. In addition to improving habitat for salmon, the project will yield guidelines for others interested in involving or accommodating individuals with these disabilities in urban riparian restorations.

WHATCOM COUNTY**City of Bellingham (\$32,000)****Contact: Joy Monjure****Phone: (360) 676-6850**

Description: Like many growing municipalities in the Puget Sound region, the City of Bellingham is struggling to reconcile increasing residential, commercial and industrial development while still protecting marine and fresh waters. Reining in the Rain, a three-part project, will demonstrate how low impact development (LID) practices can be integrated into current activities to help reduce negative impacts from traditional stormwater runoff management. The city will host a workshop for area professionals on LID concepts and techniques; retrofit an existing parking lot with a stormwater infiltration and treatment garden; and promote awareness of LID techniques completed in a local private development.

MULTIPLE COUNTIES**Society for Ecological Restoration Northwest (\$17,000)****Contact: Nancy Hahn****Phone: (206) 547-9641**

Description: In partnership with radio station KMTT "The Mountain," the Society for Ecological Restoration's Northwest Chapter will produce additional segments of Restoration Radio. These "Restoration Radio Minutes" will include news stories about restoration efforts in Puget Sound and, once a week, will direct listeners to a project seeking volunteers. The stories, developed by freelance radio journalists, reinforce the positive behaviors exhibited by citizens who have made a commitment to protecting and restoring native species and habitats.

Washington Organic Recycling Council (\$44,375)**Contact: Connie Allison****Phone: (360) 754-5162**

Description: Healthy soils help to protect our water resources by providing important ecological functions, including moisture retention. The council will offer seven training workshops throughout the Puget Sound basin providing the information, specifications and techniques needed to implement and verify compliance with the state's new soil preservation and restoration guidelines. Developers, building contractors, construction managers, landscapers, design engineers and landscape architects as well as local government inspectors, planners and engineers will be invited to enroll in the one-day workshops.

Washington State University (WSU) Cooperative Extension - King County (\$42,130)

Contact: Paul Racette

Phone: (206) 205-3171

Description: Landowners with property located along rivers and streams play a vital role in protecting salmon habitat. Conservation easements, donations of land, and County Public Benefit Rating Systems (PBRs)-which provide a tax reduction for land that meets a county's eligibility criteria-are several tools available to landowners. Through this project, landowners along targeted streams in King and Pierce counties will be invited to participate in workshops designed both to provide more details about these conservation tools and to share the experiences of landowners who currently participate in these programs. Following training, WSU Watershed Stewards will work with landowners to assess the conservation values present on their properties and facilitate contacts with land trusts and/or county personnel. This Conservation Tools Education Program will be coordinated by WSU in King County and by Tahoma Audubon in Pierce County.

Results: At the beginning of each project, contractors provide an evaluation plan which describes how they will measure their progress in meeting their project objectives. At the completion of the project, contractors will provide a final report that summarizes how well they met their objectives as measured by their evaluation process. The final reports will be due in May 2003. The Puget Sound Action Team will analyze those results in reference to work plan priorities.

Training Programs for Specific Interest Groups

Ed 12: Develop and implement statewide training programs for the public and specific interest groups such as teachers, agricultural producers, foresters, developers, and others.

Implementing Agencies – WSU and others

Milestones:

Training developed and presented

Discussion:

Example of Youth Programs

Volunteer citizen groups including the Kettle River Advisory Board (KRAB) and the Curlew Lake Association (CLA) identified the need for an extension water quality education program in the area. State and federal water quality initiatives and regulations prompted rural residents, who rely on private water supplies, to increase their knowledge of water quality issues. Tribal and county health authorities checked public and community systems, but private systems were not tested for lead or nitrate levels. WSU Ferry County Cooperative Extension Water Education Training (WET) staff and volunteers delivered 78 hands-on learning programs to 1,321 youth participants in six project area schools, a 4-H natural resources camp, and regional events. These included a domestic water-testing program delivered in each of the six area schools for youth education. Overviews of the results were published in "The WET. Look" to emphasize the importance of testing, treating, and protecting private drinking water sources.

Developers and Real Estate Professionals

The population of the Southwest Puget Sound region is rapidly increasing. Development practices and landscape modification play significant roles in determining the long-term health of our aquatic systems. A local needs assessment identified real estate professionals and developers as an underserved, high priority audience for water resources education. Developers and real estate professionals with a background in water resource issues can make environmentally suitable decisions regarding development practices, as well as educate their clientele about land stewardship, water quality, and aquatic habitat. The program is a series of courses that provides participants with certified clock hours they can use toward their biennial professional license certification.

Co-sponsored Low Impact Development workshops targeting developers, elected officials, and citizens. (from urb 28)

Agricultural Producers

See Ag 12 report.

Forest Landowners

See For 9 report.

Master Gardeners:

Provided training for hundreds of Master Gardener volunteers on water quality issues. The training focused on relating gardening and landscaping to water quality, as well as providing outreach to the public on related issues.

Environmental Educators

Co-sponsored two workshops “Fostering Sustainable Behaviors” on social marketing concepts and practices for 150 environmental education outreach professionals. The program featured Doug McKenzie-Mohr.

Pesticide Applicators and IPM

Any person who chooses to use a federal or state restricted use pesticide, any person who applies pesticides for hire, any person who works for a governmental agency and applies through powered equipment, any who gives advice regarding non home and garden pesticides, and any one who sells non home and garden pesticides must be certified by examination by the Washington State Dept. of Agriculture. Training prior to certification examination and for those certified needing continuing education credits rely on WSU Pesticide Safety Education Program to provide for them. WSU PSEP provided 10 pre-license and 27 recertification courses across the state to assist in meeting the clientele needs.

The WSU Pesticide Education program developed curriculum targeted at landscape and turf professionals to provide them with information on plant problem management with an integrated approach. The curriculum contained research-based information with practical application for management of weeds, insects and diseases. It promoted minimizing environmental effects of pest control. IPM strategies were outlined for common landscape and turf pests in each session. Cultural practices, biological pest controls and resistant varieties for each pest were described when available. The IPM Certification courses and workshops were conducted through the WSU Pesticide Education Recertification programs.

The IPM for Weeds, Insects and Diseases curricula was taught on the first six-hour day of each WSU Pesticide Education recertification program in western Washington during the 2001-2002 season. The IPM instruction for landscape and turf professionals was offered at the following locations: Edmonds Community College (November 2001 and January 2002), WSU Vancouver (January 2002), Pacific Lutheran University in Tacoma (January 2002), WSU Puyallup (January 2002), Saint Martins College in Lacey (February 2002), Highline Community College in Des Moines (January 2002), Lake Washington Technical College in Kirkland (February 2002), Givens Community Center in Port Orchard (February 2002), Center for Urban Horticulture in Seattle (March 2002), and Whatcom Community College in Bellingham (March 2002). Program

attendees will receive six credits toward a WSU IPM certificate and an IPM notebook containing fact sheets. WSU IPM Certification is obtained by completing 30 hours of IPM training offered through WSU Cooperative Extension. The 30 hours must include a minimum of 12 hours of hands-on IPM workshops.

A range of educational resources were developed for IPM for Insects, Disease and Weeds, including Powerpoint presentations, fact sheets to be distributed to participants, and fact sheets with color images on the Pesticide Education program website. The Hortsense web site was upgraded as a diagnostic tool by importing approximately 1000 slide images of insect pests, disease problems and weeds into the Hortsense database. The user-base of Hortsense was increased by creating a Hortsense searchable compact disc with plant problem fact sheets, pest and damage images, and information on integrated pest management, personal safety and environmental protection. IPM information access was increased by linking the "Crane Fly Pests of the Pacific Northwest" and the IPM Planning Database for Public Buildings to the Hortsense web site.

Results:

Example of Youth Programs

Impact: Randomly distributed self-evaluations indicated the number of youth reporting a high level of knowledge about the covered topic increased 91 percent after program delivery, while those indicating little or no knowledge of the subject decreased by 80 percent. One hundred percent of youth involved in creating watershed models were able to identify simple ways to reduce run-off pollution for at least two of four potential pollutants discussed (76 percent identified at least three of the four). The class recalled these principles in discussions nine months later. When asked who will be responsible for water quality when they grow up, they enthusiastically replied; "We will!" Area residents were made aware of a potential health risk when youth created graphs of the 97 educational domestic water test results conducted and analyzed for Ferry County through WET. Coliform bacteria was present in 31 percent of WET Project educational samples from private water sources. Following published reports in "The WET Look," requests for water testing information increased indicating increased citizen actions to secure safe drinking water.

Developers and Real Estate Professionals

611 real estate professionals completed courses that provide clock hours for license re-certification on water resource related topics including: Onsite sewage systems, low impact development, forest management, landscape management, groundwater, wetlands, shorelines and salmon.

Delivered technical presentations to 900 planners, hydrologists, engineers, developers, and landscape architects on Low Impact Development techniques to protect water quality and aquatic habitat.

Agricultural Producers

See Ag 12 report.

Forest Landowners

See For 9 report.

Master Gardener Volunteers

Trained Master Gardeners statewide answered tens of thousands of plant and landscape management questions from the public through plant clinics and specialized workshops. Master Gardeners are trained to provide answers that emphasize responsible use of lawn and garden products, as well as alternatives to using chemicals.

Pesticide Applicators and IPM

37 days of prelicense training conducted and 46 days of recertification training, reaching a total of 7,888 registration days.

Outcomes of the WSU IPM Education and Certification Program included:

- Adoption of an integrated approach to managing pest problems in turf and landscape areas
- Potentially reduced pesticide use in public agency turf and landscape areas by maintenance personnel
- Increased diagnostic skills for identifying pest problems in turf and landscape areas by program participants
- The potential benefits of the education program were decreased environmental impact from decreased pesticide use and improved plant problem management through adoption of the research-based IPM strategies.
- The Hortsense web site was upgraded <http://pep.wsu.edu/hortsense/> and a CD Rom was developed and distributed.

Master Watershed Steward

Ed14 - Introduce and support Master Watershed Steward programs throughout the state

Implementing Agencies: WSU
Governor's Council on Environmental Education

Milestones:

Discussion:

The Master Watershed Stewards program provides community members with a comprehensive understanding of watershed processes and facilitates community-based leadership and education on protecting, restoring and monitoring aquatic resources. Volunteers trained and subsequently coordinated through the program provide thousands of hours in water resource protection activities.

The program is currently being conducted in 7 counties in Washington (Clark, Island, Jefferson, King, Okanogan and Pierce Counties). These programs are funded in a number of different manners from local jurisdictions, state grants, federal grants or through extra efforts of the local WSU county agents. These programs have evolved over the years at the county level with locally developed materials and curricula, training and volunteer expectations.

In order to facilitate expansion of this program we need to make this program more accessible to local county agents, and make available in more regions of the state. Successful expansion of the program depends on seed funding to initiate programs, once initiated and proven, many local programs often find other funding sources such as local stormwater program fees.

Results:

Over the past year over 150 volunteers were trained as watershed stewards. These trainees worked with existing volunteers who provided over 15,000 volunteer hours related to water resource protection. These volunteers made over 75,000 contacts in their communities related to environmental stewardship.

Volunteer Monitors

(Puget Sound Plan M-2)

Ed 17 - Train, direct, and equip volunteer monitors

Implementing Agencies: Ecology
Cooperative Extension
State Fish and Wildlife
Department of Natural Resources
State Department of Transportation

Milestones:

Provide bi-monthly report on number and nature of request; including time spent on each task

Discussion:

The requests for information covers a wide range; everything from data from Ecology's Lakes Database to suggestions for monitoring equipment.

Results:

From 1/1/02 through 10/31/02, I have responded to a total of 98 requests for information and assistance.

Milestones:

Contact all 39 counties and compile a list of their water quality monitoring programs

Discussion:

This will be valuable information to share with other Ecology employees.

Results: This is an ongoing project.

Milestones:

Conduct a minimum of six (6) training sessions on water quality topics

Discussion:

Results: From 1/1/02 through 10/31/02, I have conducted eight (8) training sessions with various groups.

Milestones:

Review a minimum of five (5) volunteer monitoring Quality Assurance Project Plans (QAPP's)

Discussion:

Results: From 1/1/02 through 10/31/02, I have reviewed seven (7) QAPPs.

Milestones:

Print and distribute copies of compiled sampling protocols

Discussion:

Results:

At each of the training sessions I have conducted so far, I have made available copies of Ecology's water quality sampling protocol documents to the attendees which included volunteer monitoring groups

Milestones:

Review data entry forms intended for use with Ecology's EIM database

Discussion:

Ecology's Information Services has determined that it will not begin actively working on revising the data entry forms for "outside the agency" people until some time in the future - perhaps not for at least a year.

Results: See comment above

Milestones:

Contact seven (7) volunteer monitoring groups and arrange for side-by-side sampling with Ecology staff.

Discussion:

The intent of this project is to analyze and compare Ecology collected data to data collected by other monitoring groups. When enough data has been analyzed, the results will be presented to Ecology management for their consideration.

Results: This is an on-going project.

Milestones: Provide bi-monthly report on number and nature of request; including time spent on each task

Results:

I have provided a detailed monthly report to my supervisor and Annie Phillips of the Water Quality Program. From 8/01 to 12/01, I responded to a total of 51 requests for information involving 78 hours of time.

Milestones: Contact all 39 counties and compile a list of their water quality monitoring programs

Discussion: I have not yet begun this task.

Results: See above comment

Milestones: Conduct a minimum of six (6) training sessions on water quality topics

Discussion:

Results: I have conducted four (4) training sessions with three more planned

Milestones: Review a minimum of five (5) volunteer monitoring Quality Assurance Project Plans (QAPP's)

Discussion:

Results: I have reviewed three QAPP's to date

Milestones: Print and distribute copies of compiled sampling protocols

Discussion:

Results:

At the four training sessions I have conducted so far, I have made available copies of water quality sampling protocol documents to the attendees which included volunteer monitoring groups

Milestones:

Review data entry forms intended for use with Ecology's EIM database

Discussion:

I have not yet met with the EIM group working on the volunteer monitoring data entry forms

Results:

Shellfish Education

Ed 18: Develop educational materials and other resources on shellfish protection for use by local, state and federal nonpoint educators.

Implementing Agencies – PSAT
Department of Health
Ecology

Milestones:

Drafted guidance on funding strategies and funding sources for shellfish protection and restoration programs. Drafted a shellfish communications strategy for enhanced outreach and education on key issues. Produced a fact sheet on authorities available to local governments for managing land uses and controlling pollution in sensitive shellfish watersheds. Added a priority to the 2003-05 Puget Sound Water Quality Work Plan calling for enhanced education on shellfish protection issues.

Discussion:

Effective communication, education and involvement are central to the ongoing effort to protect and restore Washington's prized shellfish resources and shellfish growing areas. Without an educated and engaged public that feels it has a stake in the resource and understands its role as stewards of the resource, protection and restoration efforts will likely prove futile in the long-term.

Results:

- (1) The Action Team drafted guidance on funding strategies and funding sources suited to the task of restoring and protecting water quality in shellfish growing areas. The document will be available at the Action Team's web site in 2003.
- (2) As an element of the *Puget Sound Water Quality Management Plan* and a priority issue of the Department of Health's shellfish workgroup, the Action worked with staff from Health, Ecology, Washington Sea Grant and other organizations to draft a "shellfish communications strategy" designed to provide a framework for collaboration on selected projects to better educate and engage people in the use and conservation of shellfish resources and shellfish growing areas. The Action Team is providing \$10,000 to support early implementation of the strategy, which will likely include the development of a series of fact sheets on key shellfish themes (e.g., ecology, economy, heritage, stewardship).
- (3) The Action Team produced a packet of material to help local governments update their local shoreline master programs and growth management plans. One of the items was a fact sheet providing advice on how to use different land use and pollution control authorities to protect and restore shellfish growing areas. The fact sheet is available at www.wa.gov/puget_sound/Programs/GMA/safeguards.pdf.

- (4) The Action Team worked with a variety of agencies and organizations to draft the *2003-2005 Puget Sound Water Quality Work Plan*, adding a priority issue that directs “governments and other organizations to expand and enhance programs and infrastructure to educate and engage people in shellfish harvesting and water quality protection” and listing accompanying actions to support this priority in the upcoming biennium.

Local Watershed Planning

Gen2 – Expand the development of local watershed plans under chapters 75.46 & 90.82 RCW and other related acts.

Implementing Agencies: Ecology
State Fish & Wildlife
Salmon Recovery Office

Milestones:

The first set of plans are due in the fall 2003.

Discussion:

42 Water Resource Inventory Areas engaged in RCW 90.82 Watershed Planning. 34 out of the 42 are addressing the optional water quality component

Results:

Planning units have submitted draft assessments to Ecology for the following WRIAs:

WRIA 1 – Nooksack Basin
WRIA 3/4 – Skagit Basin
WRIA 11 Nisqually
WRIA 12 Clover/Chambers
WRIA 13 Deschutes
WRIA 17 – Quilcene/Snow Basin
WRIA 18 – Elwha/Dungeness Basin
WRIA 22/23 – Chehalis Basin
WRIA 25/26 Grays/Elochoman/Cowlitz
WRIA 27/28 Lewis/Salmon/Washougal
WRIAs 37/38/39 – Yakima Basin
WRIA 48 Methow

Watershed Characterization Team

Gen3 - Enhance the abilities of the Watershed Characterization Team to analyze the watersheds of the state and provide tools to others to do the same.

Implementing Agencies: **Ecology**
State Department of Transportation
State Fish and Wildlife
Department of Natural Resources

Milestones:

1. Developing guidance for shoreline management planning that incorporates watershed characterization principles.
2. Developed web-based tools and curriculum to assist in watershed planning that demonstrate the principles of watershed processes and functions.

Discussion:

Landscape characterization provides a necessary tool for local governments and state agency wetland staff to comprehensively evaluate current watershed conditions and to inform decision-makers on the effects of future development.

Results:

Staff participated on a technical team to provide assistance to local governments involved in updates to shoreline management plans. This assistance included response to requests for advice on individual planning efforts, and also the development of workshop materials with direction on how to address the ecological process component. The draft Drayton Harbor Focused Watershed Analysis, prepared by Ecology, will serve as an example of how to identify specific areas for wetland restoration based on the type of alteration in processes within a watershed.

Staff developed the initial tool for evaluation of restoration and mitigation proposals in the context of watershed processes and functions in support of Ecology's regulatory and wetland restoration program. This web-based tool, titled "Principles of Wetland Planning" is planned for public release in spring 2003 to provide assistance to local communities and state agencies in their permitting and planning activities. Staff has also developed a workshop curriculum for presenting the principles outlined in the web based tool. Staff is presently working with King County resource staff to develop a joint wetland and critical areas planning curriculum, using both their Critical Lands Management Handbook and Ecology's "Principles of Wetland Planning" tool; this joint curriculum will be initially presented at the Society of Ecological Conference in March of 2003.

Staff also collaborated with the Pacific Northwest Laboratory to develop methods for creating a spatially referenced database that will evaluate the changes in ecological processes at the

watershed scale. The database for the Chehalis Basin will be completed in the first quarter of 2003, with a schedule of additional basins to follow.

Water Clean-up Plans

(Clean Water Action Plan TMDLs)

Gen4 - Promote local watershed planning and implementation that address 303(d) listings and prevents further listings. Provide technical assistance

Implementing Agencies: Ecology
Puget Sound Action Team

Milestones:

Scoping: November 2002 within 4 regional offices.
Draft FY03 TMDL Project list - March 2002
Public Process: May 2002 to June 2002
Final Priority TMDL List for Water Quality Program: June 30, 2002

Discussion:

In accordance with the TMDL Memorandum of Agreement (MOA) with EPA, the identification and prioritization of TMDLs is conducted as part of the Water Quality Program's (WQP) Watershed Approach to Water Quality Management. This approach selects 4 to 5 Water Quality Management Areas (WQMAs) each year to Scope for TMDLs and other priority WQ projects. Priority TMDLs and other projects recommended by the regional offices are reviewed Regional Water Management Teams and provided as project requests to the Environmental Assessment Program (EAP) annually. Subsequent to public review, technical projects selected are placed on the list that began work in July 2002 and after.

Results:

Scoping of the WQMA's was to produce at approximately 50 TMDLs for development. The actual number recommended and placed on the FY01 EAP Project List was 32.

- Upper/Lower Yakima
- Mid-Columbia
- Kitsap
- Lower Columbia

In FY2002, 36 TMDLs were submitted to EPA for approval

TMDL Implementation

(Salmon Strategy Wqa 3)

Gen5 - Develop and implement schedule for Water Cleanup Plans (TMDLs) focussing on watersheds with listed species first.

Implementing Agencies: Ecology
Conservation Commission
Puget Sound Action Team
Tribes

Milestones:

Number of cumulative TMDLs to be submitted to EPA for approval are:
63 TMDLs in FY2000;
348 TMDLs by 2003;
766 TMDLs by 2008;
1165 TMDLs by 2013

Discussion:

In accordance with Ecology's MOA with EPA, a Summary Implementation Strategy (SIS) accompanies each TMDL submittal to EPA. A Detailed Implementation Plan (DIP) is to be completed one year after a TMDL approval by EPA. This does not limit initiation of on-the-ground implementation or mitigation activities as soon as the pollutant source is scientifically identified.

Results:

20 TMDLs approved by EPA in FY2002
Total number of TMDLs approved by EPA since 1991 is 398
Total DIPs completed: 7

Interstate Ground Water Protection

Gen6 - Develop a cooperative and comprehensive interstate ground water protection plan with state (Oregon and Idaho) and tribal governments.

Implementing Agencies: Ecology
Oregon
Idaho
Tribes

Milestones:

Future implementation.

Discussion:

The Comprehensive Ground Water Protection Plan for Washington is complete and has now been certified by EPA. To my knowledge, we have not initiated contact with Idaho, Oregon, or the Tribal governments to develop a plan, as of yet.

Results:

Federal Consistency

Gen7 – Establish working agreements with various federal agencies to address Clean Water Act consistency requirements.

Implementing Agencies: Ecology

Milestones:

Federal agency reviews.

Discussion:

An implementation structure for this action is being developed:

A basic description of the program was drafted by Ecology has been favorably reviewed by EPA, and Ecology is proceeding to set up the program according to the description.

Work to establish a working group of federal agencies has been initiated.

A request for increased support for Pest Management Strategic Plans (see action Ag 13) was submitted to USDA, and favorable received. USDA and EPA will participate in discussions of a permanent funding strategy for the Plans to be developed by June 30, 2003.

Currently investigating a cooperative effort with Oregon and Idaho.

Results:

Forest Service continues to implement MOA. Current discussions underway with Bonneville Power Administration, including issues regarding maintenance of transmission line rights-of-way.

Shoreline Master Programs

(Salmon Strategy Lan 1)

Gen8 – Adopt revised Guidelines for Shoreline Master Programs (SMPs), and assist local governments to modify their Shoreline Master Programs

Implementing Agencies: Ecology
State Department of Agriculture
Cooperative Extension

Milestones:

Two year deadlines for update of local SMPs triggered by adoption of guidelines, are eliminated as a result of guidelines invalidation (see below).

Discussion:

The Department of Ecology adopted new SMP Guidelines on November 29, 2001. The guidelines were appealed to the Washington Shorelines Hearings Board (SHB). On August 27, 2001 the SHB released a split decision invalidating the guidelines in their entirety. On September 26, Ecology together with the other parties to the lawsuit (State Attorney General, business, and environmental interests) appealed the SHB ruling to Thurston County Superior Court. In conjunction with appeal, all parties to the lawsuit agreed to participate in facilitated settlement negotiations that began in December, 2001.

Results:

Due to the invalidation of Ecology's guidelines rule, implementation of the guidelines remains uncertain at this time. In the meantime, however, Ecology is providing technical assistance to local governments throughout the state that continue to, voluntarily, proceed with update of their SMPs.

Shellfish Protection

Gen10 - Examine additional funding needs for DOH shellfish protection efforts.

Implementing Agencies: Department of Health

Milestones:

One meeting of the funding subcommittee of the Shellfish Workgroup was held on August 7 2001 at the DOH Airdustrial Campus.

Discussion:

A focused shellfish workgroup met to discuss ways in which funding programs for shellfish restoration can be consistent and reliable. The discussion centered on making it easier for local government to access existing funding resources.

Results:

The Puget Sound Water Quality Action Team discussed their plans to develop a web site with links to funding resources. Ecology agreed to consider alternatives that provide some level of consistent local funding for nonpoint work. Other potentials for funding will be reported on as they unfold.

Yakima River Sediment Reduction

(Salmon Strategy Wqa 6)

Gen11 - Implement the Yakima River Sediment Reduction Plan

Implementing Agencies: Ecology
State Department of Agriculture
Conservation Commission

Milestones:

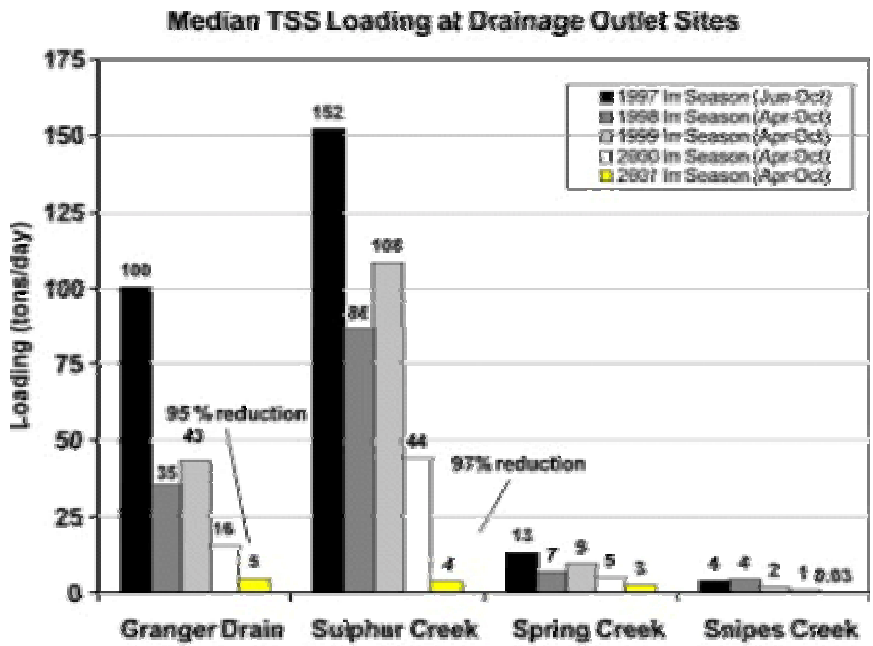
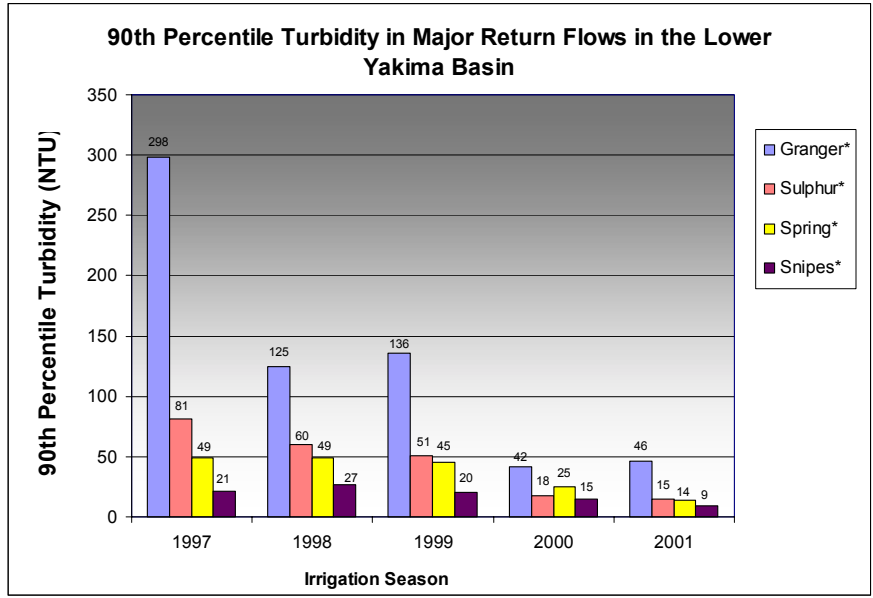
- Lower Yakima River monitoring documents effectiveness of actions in basin
- Ecology staff completed developing the Upper Yakima River Suspended Sediment and Organochlorine Pesticide TMDL.

Discussion:

- Ecology staff continued to successfully work with Conservation Districts, Irrigation Districts, the Yakama Nation and other organizations and individuals to encourage irrigation and land management activities that reduce the amount of suspended sediment entering the Yakima River and its tributaries.
- Staff also conducted effectiveness monitoring of the existing Lower Yakima River TSS and DDT TMDL and completed the Upper Yakima River Basin Suspended Sediment and Organochlorine Pesticide TMDL.

Results:

- Preliminary results of effectiveness monitoring show a decrease in the amount of suspended sediment in the Lower Yakima River.
- Monitoring performed by irrigation districts and conservation districts show that the level of suspended sediments entering the Yakima River from irrigated ag has significantly decreased both in the Upper and Lower Yakima River Watershed.



Water Quality Funding

Gen13 - Establish an information base for local communities to describe funding sources and necessary requirements.

Implementing Agencies: Ecology
Governor's Office

Milestones:

Watershed Funding Directory and Workshops

Staff of Ecology's Water Quality Program helped facilitate the development of a directory of all funding available for watershed restoration and protection in the state of Washington. Staff gathered current information from a total of 50 state funding programs administered by 13 different state agencies. Staff also made presentations regarding Ecology's Water Quality Program funding at four statewide workshops. For each program the directory contained:

- Overviews of programs (including available brochures),
- Application information,
- Key contacts, and
- Websites and other ways to understand more about each program

The directory also contained the same type of current information on 34 federal programs that are administered by nine different federal agencies, 12 private funding sources of watershed funding, the description of eight methods to obtain funds locally, and other resource information. The directory was compiled by the Environmental Finance Research Center (EFC) at Boise State University under contract with Ecology, EPA, and Corps of Engineers. .

The directory was used to showcase and explain these programs at the "Watershed Funding Workshops" held in February 2002, in Sequim, Mt. Vernon, Yakima, and Moses Lake, Washington. Approximately 150 people attended these workshops

Copies of the directory are available from EFC **at cost** (\$25.00 plus postage). Call 208.426.1567 for more information.

Infrastructure Assistance Coordination Council (IACC)

Ecology's Water Quality Program also provided overviews of its financial assistance programs at the Infrastructure Assistance Coordination Council (IACC) at the council's semi-annual statewide meeting in November 2001, to coordinate with stakeholders looking for sources of project funding and other agencies working to develop and enhance funding strategies. IACC is comprised of Ecology and other state and federal agencies tasked with the responsibility distributing always limited state and federal grant and loan funds.

Ecology and other state and federal agency staff on IACC meet and share applicant lists and project lists to ensure project funding from more than one funding source is coordinated to the maximum extent possible and agencies are not over-obligating funds or duplicating funding for a

project. Coordination meetings with potential grant and loan recipients are also used to inform a local government on how various state and federal funds can be used in combination and the technical requirements that may be unique for a funding source or project specific.

The council has also developed and published a state and federal infrastructure-funding directory that lists all funding available, program requirements and application schedules. With all infrastructure needs being addressed in this directory the document has an essentially different group of stakeholders than those attending the Watershed Funding Workshops.

Water Quality Program Funding

Ecology's Water Quality Program also has maintained its own web page (as noted in the directory, for information about its financial assistance programs. The main overview funding page is located at <http://www.ecy.wa.gov/programs/wq/funding/> and the current fiscal year's specific information is located in a subsidiary directory (see FY 2003 information at <http://www.ecy.wa.gov/programs/wq/funding/2003/> for example). In order to be as useful as possible, this information system is regularly changing to supply the most current and appropriate information. Each year we post the guidelines, other guidance materials, applications and other forms, as well as other material useful for funding applicants.. When other documents are completed - the draft and final funding offer lists, for example - we make these available online as well. All published documents are linked from the funding web page when they are current, and remain available long-term in the Ecology publications system (<http://www.ecy.wa.gov/pubs.shtm>).

Staff also conduct four workshops during the January/February application cycle to explain application and program requirements.

Building Capacity in Local Water Quality Programs

Gen14 - Enhance local ability to address water quality complaints and information requests

Implementing Agencies: Ecology
Puget Sound Action Team

Milestones:

Provide, when the opportunity exists:
outreach, education, training, field technical assistance opportunities, site investigations, enforcement support, sponsorship of local Jobs for the Environment projects, technical support for the development of local conversion ordinances under forest practices, and onsite septic survey support.

Discussion:

As a statewide agency with technical expertise, Ecology typically has far more resources than most individual local governments for nonpoint source control issues. In order to maximize the Ecology expertise with environmental results, transferring that knowledge and expertise to local government staff is paramount to on-the-ground success. Ecology specialists in several fields (such as agriculture, forestry, stormwater, and hydrology) have made efforts to enhance local programs.

Results:

The following is a sampling of the type of results that have been achieved this year:

- Reviewed and evaluated the adequacy of water quality protection measures written into local ordinances (Skamania and Cowlitz counties) for the conversion of forest lands to other uses per Forest Practices rules.
- Completed comprehensive livestock inspection sweeps in targeted watersheds such as the Dungeness River and McAllister Creek, in cooperation with local county and conservation district staff and managers.
- Attended Chehalis Basin District Alliance meetings regularly to facilitate better implementation and coordination with the Thurston, Lewis and Grays Harbor Conservation Districts to implement local pollution control programs.
- Participated in Shellfish Closure Response planning for Filucy Bay by working with Pierce County, the Pierce County Conservation District, and landowners.
- Conducted monitoring in McAllister Creek to identify fecal coliform pollution sources, and worked with Thurston County and the Thurston Conservation District to manage problems.
- Received 346 complaints and conducted 536 site inspections with the majority having some relationship to local agencies.
- Provided technical expertise to dam relicensing proposals on the Cowlitz, Lewis, Nisqually Rivers to include state and local interests in water quality protection measures.

ESA Compliance

Gen15: Provide technical assistance and information regarding ESA compliance to communities

**Implementing Agencies – Washington Department of Fish and Wildlife
Ecology**

Milestones:

Targets highly variable due to number of entities and complexity of issues.

Discussion:

WDFW has established its Watershed Stewardship Team (WST) to provide technical assistance to lead entities for recovery planning, conservation planning, scientific analysis, project design (including engineering support), and prioritization. This represents about 14 FTE. As of December 2002, 26 lead entities were being served by the WST.

Results:

The WST has aided in developing and prioritizing salmon recovery projects submitted by lead entities for funding. Within this process, WST staff have provided guidance to all local partners to make sure the projects are consistent with ESA mandates.

Integrating Watershed Planning into the Nonpoint Plan

Gen16 - Develop a coordinated process to integrate local and watershed planning efforts into the state nonpoint plan.

Implementing Agencies: Ecology

Milestones:

Update Appendix A of the nonpoint plan by December 31 of each year.

Discussion:

The purpose of this action is to acknowledge the work of local governments, tribes, and special purpose districts in combating nonpoint source pollution. Appendix A of the nonpoint plan provides water quality summaries of the 62 WRIAs of Washington State. Appendix A can be found at <http://www.ecy.wa.gov/programs/wq/nonpoint/99-26appa.pdf>, Ecology's nonpoint website. The summaries include demographics, environmental information, and water quality programs, including 303(d) listed segments, impacted beneficial uses, local planning programs, and local implementation efforts.

By identifying local programs and implementation activities, they are adopted by reference into the state's nonpoint plan.

Results:

Appendix A update for 2003 has been accomplished. This year we amended the problem areas by including the category "impacted beneficial uses."

Coordinating Multi-Level Monitoring

(Salmon Strategy Mon 1)

Gen17 - Expand the development of a coordinated monitoring framework to integrate and/or coordinate statewide, regional, watershed and project-specific monitoring systems

Implementing Agencies: Salmon Recovery Office
State Fish and Wildlife
Department of Natural Resources
Puget Sound Action Team
Ecology

Milestones:

1. Develop a Salmon Recovery Scorecard by Spring 2000
2. Develop a framework for comprehensive statewide monitoring in the Fall 2000
3. Task completion within 4 years

Discussion:

The purpose of this task is to identify monitoring needs that are currently met and unmet, identify improvement in resource needs, and if appropriate expand and improve the comprehensive statewide monitoring framework presented in the Salmon Plan.

Results:

A tool to monitor agencies' performance and environmental indicators (Salmon Recovery Scorecard) was developed and finalized in May 2000. The Scorecard workgroups have identified monitoring needs and improvements and budgets needed to implement. First report on scorecard is expected by end of December 2000.

Development of the comprehensive statewide monitoring program is currently in progress.

Using Monitoring Data in Decision Making

(Salmon Strategy Mon 2)

Gen20 - Develop criteria and protocol to guide the use of monitoring in decision making including adaptive management when specifically committed to at the watershed, activity, and regional scales and ensure decisions include adaptive management and monitoring component consistent with protocol and criteria

Implementing Agencies: Salmon Recovery Office
State Fish and Wildlife
Department of Natural Resources
Puget Sound Action Team
Ecology
State Department of Transportation

Milestones:

Completion of guidelines to be determined.

Discussion:

The purpose of this activity is to link the development of a comprehensive statewide monitoring program to ESA compliance. The criteria and guidelines for monitoring and adaptive management and their use by state agencies is part of this activity. The workgroup implementing this element is developing key questions and answers to using monitoring data with decision making.

Results:

The workgroup meets regularly and is developing the protocols and timeframe for implementation.

Implementation and Effectiveness Monitoring

(Salmon Strategy Mon1)

Gen21 – Develop implementation and effectiveness monitoring systems to be incorporated in all new salmon recovery activities.

Implementing Agencies: **Salmon Recovery Office**
State Department of Agriculture
Ecology
State Fish and Wildlife
Tribes

Milestones:

Completion in 2003

Discussion:

The SRS, comprehensive statewide monitoring framework, and related implementation plans will guide development of monitoring efforts, increase alignment and consistency across agencies, and provide information and support to salmon recovery efforts.

Results:

Monitoring framework is still being developed. Key tasks include:

1. Expand and improve the comprehensive statewide monitoring framework;
2. Refine comprehensive monitoring planning needs, identify those that are currently met and unmet, identify improvements, and resource needs.

Statewide Ambient Ground Water Monitoring

Gen25 - In cooperation with IGWC and other state agencies, develop a statewide ambient ground water monitoring system.

Implementing Agencies: Ecology
Department of Health
State Department of Transportation
Tribes
Counties

Milestones:

To be developed

Discussion:

The IGWC Ambient Monitoring Subcommittee has been intermittently active over the past few years. Recently, it was chaired by Russ Darr, Ecology, and by Cindy Moore, Washington Dept. of Agriculture.

At the last IGWC meeting, the subcommittee was reformed, mainly in response to an effort by the Ecology Environmental Assessment Program to establish an ambient ground water monitoring program, to be run from within the Environmental Assessment Program. Charles Pitz is leading this effort, and has made presentations to the IGWC. He has requested information and input from IGWC participants.

The Washington State Departments of Health, Agriculture, Ecology; King County; and EPA are participating in an informational workshop/meeting sponsored by the Dept. of Ecology Environmental Assessment Program.

As a result of this workshop, EAP will formulate a plan to establish an ambient monitoring network for the state of Washington. The IGWC Ambient Monitoring Subcommittee will meet to develop goals for interagency cooperation on this issue.

Results:

Coordinated Enforcement

(Salmon Strategy Enf 1)

Gen26 - Establish and implement collaborative processes to increase coordination of compliance and enforcement activities among the regulatory natural resource agencies with joint or primary jurisdictional authorities.

Implementing Agencies: Ecology
 State Fish and Wildlife
 Department of Natural Resources
 Tribes

Milestones:

April 2001 assess accomplishments and develop recommendations.

Discussion:

Many agencies have overlapping jurisdictional responsibility. The purpose of this action is to develop a coordinated process to create enforcement efficiencies and to work collaboratively to identify illegal water withdrawals, Hydraulic Code violations, water quality violations, and improper forest practices.

Results:

Coordination process has been established including a committee of DNR, Ecology, and Fish and Wildlife. Four watersheds that have been identified for joint enforcement pilot efforts are:

1. Skagit
2. Dungeness
3. Methow
4. Walla Walla

Report on the pilot enforcement projects in these watersheds is forthcoming.

Enforcing the Hydraulic Code

(Salmon Strategy Enf 3)

Gen28 - Increase compliance and enforcement of the Hydraulic Code for habitat protection and increase compliance with fish passage and screening requirements.

Implementing Agencies: State Fish and Wildlife
State Department of Agriculture
Conservation Commission
Ecology

Milestones: Ongoing

Discussion:

Key tasks include: 1. detect and enforce screening of water diversion intakes with routine and emphasis patrols in priority restoration basins identified in the Statewide Strategy to Recover Salmon; 2. increase HPA compliance through routine checks of permittees; and 3. monitor for change in compliance. All tasks involve ongoing work.

Results:

NMFS ESA training has occurred in all WDFW Regions. The Cooperative Compliance Review Program continues in the Walla Walla River basin, enabling landowners to come into compliance with screening and diversion regulations. Funding has been lost for additional screening and diversion checking projects.

Collaborative Monitoring

ME 13 - Develop a collaborative monitoring program with locals on nonpoint TMDLs.

Implementing Agencies – Ecology

Milestones:

NA

Discussion:

NA

Results:

We developed and implemented a number of collaborative monitoring programs with locals on nonpoint TMDLs this year:

Nonpoint TMDL Project	Local monitoring cooperator
Wenatchee River	Chelan Conservation District
Lake Whatcom	WWU, City of Bellingham, and WRIA 1 Watershed Planning Unit
Walla Walla River	Confederated Tribes of the Umatilla
Henderson-Nisqually	Thurston County Health Dept.
Upper Yakima River	Kittitas County CD, Kittitas Purveyor's Association, and Kittitas Reclamation District

These cooperative monitoring efforts helped stretch our limited resources and provided locals an opportunity to be actively involved in collecting data to be used for developing the TMDL.

FLIR

ME 14 - Start monitoring temperature TMDLs using forward looking infrared radiometry (FLIR) overflights.

Implementing Agencies – ECY

Milestones:

NA

Discussion:

NA

Results:

We used FLIR on 4 temperature TMDL projects over the past two years: Willapa River, Skagit-Stillaguamish River, Wenatchee River, and Walla Walla River. The first two watersheds were flown in summer 2001; we are currently folding the data from those flights into our temperature TMDL modeling. The last two watersheds were flown in summer 2002; data have not yet been received from the contractor.

Effectiveness Monitoring

ME 15 - Monitor the effectiveness of nonpoint source corrective action for the Dungeness River TMDL.

Implementing Agencies – ECY

Milestones:

NA

Discussion:

NA

Results:

Ecology recently funded 1.5 positions to begin implementing a TMDL effectiveness monitoring program statewide. A decision on the feasibility and priority of the Dungeness project will be made by Ecology in May 2003.

Enforcing the Hydraulics Code

ME18: Increase compliance and enforcement of the Hydraulic Code for habitat protection and increase compliance with fish passage and screening requirements

Implementing Agencies – Washington Department of Fish and Wildlife

Washington Department of Agriculture
Cooperative Extension

Milestones:

Ongoing enforcement

Discussion:

Key tasks include: 1. detect and enforce screening of water diversion intakes with routine and emphasis patrols in priority restoration basins identified in the Statewide Strategy to Recover Salmon; 2. increase HPA compliance through routine checks of permittees; and 3. monitor for change in compliance. All tasks involve ongoing work.

Results:

No new results in 2002. The previously established Cooperative Compliance Review Program continues in the Walla Walla River basin, but funding was lost for additional screening and diversion checking programs.

Nonpoint Pollution Enforcement

(Salmon Strategy Enf 4)

ME 19 - Increase compliance and enforcement activities for nonpoint pollution sources.

Implementing Agencies: Ecology
State Department of Agriculture
Conservation Commission
Puget Sound Action Team

Milestones:

In 2002, Ecology met the milestone to increase compliance and enforcement activities for nonpoint pollution sources by responding to more complaints and taking more informal enforcement actions compared to the previous years.

Discussion:

Nonpoint source pollution has become the leading problem affecting water quality in Washington State. This general runoff from the land into water bodies is not associated with point source discharges from a pipe such as industrial and municipal wastewater discharges. Rather, it is diffuse pollution from all of our daily activities. The majority of this pollution is the result of improper agricultural and forestry activities, urban and suburban stormwater runoff, poorly managed hobby farms, failing septic systems, and the like.

Ecology has been providing public education to raise awareness of people's actions that cause nonpoint pollution. Ecology staff have provided technical assistance to help achieve voluntary compliance with water quality laws and goals. These actions have achieved some success with people who want to do the right thing. However, without some enforcement capability, the actions of a few individuals can undermine the good efforts of the majority of our citizens.

Each of the two Ecology Western Washington regions has one staff person, while Central and Eastern Washington each have one-half of a position. These staff are doing site inspections, providing technical assistance, developing partnerships with local governments and others, and taking enforcement actions where warranted. Each regional office is focusing on the biggest problems in their particular area. For example, the Southwest Region is concentrating on non-dairy livestock inspections, technical assistance, and complaint response on manure and mud runoff, and riparian degradation. The Northwest Region is focusing on the Lower Skagit and Snohomish River basins where fecal coliform TMDLs are being implemented. Northwest nonpoint inspectors are supplementing TMDL efforts by correcting problems related to non-dairy agriculture, hobby farms, and rural construction stormwater. Central is performing compliance inspections for stormwater construction sites to determine runoff problems and permitting requirements. They are also assisting in the development of eastern Washington Stormwater Manual. Eastern region is working with

counties and land owners to reduce the degradation of riparian areas and fecal coliform pollution from livestock operations primarily in the lower snake water quality management area.

Results:

In 2002, Ecology maintained its compliance and enforcement efforts compared to calendar year 2001. Ecology responded to more complaints and took more informal enforcement actions even though the total number of site inspections decreased. The volume of their work is expressed in the following statistics for 2002:

ACTIONS	TOTAL*
Number of complaints received	154
Number of complaints responded to	129
Number of referrals to others	47
Number of site inspections	287
Informal enforcement actions taken	52
Formal enforcement actions taken	9
Partnering contacts made	399

* November and December 2002 data was estimated

Part 4 - Is the Nonpoint Source Management Plan Effective?

It will be important to assess the effectiveness of the overall plan on a regular basis (every five years) so that changes can be made to add emphasis or refocus efforts where they are most needed. During the first five years of this plan, agencies will continue to develop the programs necessary to implement the actions identified in the plan, and implement where and when possible.

Every five years this plan will be updated. The need for major changes in strategy will be identified at that time. We will have the action reports as well as build upon any knowledge gained from effectiveness monitoring, or other monitoring activities related to nonpoint source controls.

Washington's NPS Management Plan is a living document. EPA and NOAA require a review and update of the plan on a five-year cycle. The actions of the plan, when taken as a whole, will focus resources in a manner that widens program implementation, improves program effectiveness, and attends to problems not previously addressed. Through increased coordination and cooperation, we can improve the quality of the state's waters and maintain and improve our quality of life.

At year four of plan implementation, we will look at the agency progress reports, and begin another chapter 5 analysis. However, attempting to determine whether this water quality plan is successful or not will be problematic. We can ask "Is water quality improving because of the actions of this plan?", or "Is Washington State water quality degrading because nonpoint programs are not effective?" However, answering these questions will not be easy, but we will attempt an answer.

Beyond five years, programs will be implemented to the maximum extent needed and where possible within the state, and additional programs will be developed and implemented to manage future identified needs.

Part 5 - What Changes in Strategy are Needed to Improve Effectiveness

To determine changes in strategy requires time and information. During this second year of plan implementation, we are able to see movement towards implementation of individual actions; some of these are ongoing and some have been completed. However, whether or not the implemented action had led to improvements in water quality will not be immediately known. Part 5 only discusses how the nonpoint workgroup made decisions on Table 9.1. The overall impact of the plan on water quality will be determined at a later date.

Washington State Agency Nonpoint Workgroup

Membership in the state agency nonpoint workgroup is primarily from within Washington State Government, and secondarily from other federal, state, and local governments managing nonpoint source pollution.

In October of 1999, the Director of Ecology sent a letter to Washington State Agencies inviting membership into the workgroup. By January of 2000, most names were submitted, and in April the workgroup was formalized. A few months later a request was made and approval granted to establish the workgroup as a class one committee. Class one groups involve responsibility for major policy decisions and represents a significant demand on the time and resources of its members. It is expected that the role of this workgroup will expand as advanced planning and implementation of the state's nonpoint plan evolves.

Director's Designees--as of December 31, 2002

Agency	Director	Designee	Representative
Agriculture	Valoria Loveland	Kirk Cook	
Conservation Commission	Mark Clark		Tom Salzer
Office of Community Development	Martha Choe	Chris Parsons	
Cooperative Extension	Jim Zuiches	Dr. Ed Adams	Bob Simmons
Ecology	Tom Fitzsimmons	Megan White	Helen Bresler
Fish and Wildlife	Jeff Koenigs	Carl Samuelson	John Carleton
Health	Mary Selecky	Selden Hall	
Natural Resources	Doug Sutherland	Nancy Sturhan	
Parks and Recreation Commission	Rex Derr	Bill Jolly	Chris Regan
Puget Sound Action Team	Scott Redman (acting)	Harriet Beale	
Transportation	Doug MacDonald	Tim Hilliard	

Ad-hoc Members

There are also agencies and others in the state that have nonpoint programs, or are interested in nonpoint issues. They have been asked to be ad-hoc members of the workgroup. Ad-hoc members can participate in meetings, offer assistance, have programs of interest to the workgroup, and are generally a resource to workgroup members

Name	Agency
Bev Isenson	Gov Comm on Environmental Education
Bill Green	Ecology--Workgroup staff
Bob Lee	Senate – Agriculture and International Trade
Bob Woolrich	Health
Jason Callahan	House – Natural Resources
Caroleen Dineen	House – Agriculture and Ecology
Kim McKee	Ecology – Water Quality
Wayne Clifford	Health – Shellfish
Dan Filip	Ecology – Water Quality Financial Assistance
Greg Lovelady	Interagency Committee for Outdoor Recreation
Aleceia Tilley	Ecology -- Water Quality Financial Assistance
Phil Miller	Salmon Recovery Office
Hedia Adelsman	Salmon Recovery Office
Krista Mendelman	EPA Region X
Kari Guy	Senate – Natural Resources, Parks, and Shorelines
Linda Loos	Cooperative Extension
Richard Rodger	Senate – Environment, Energy, and Water
Ron Schavlik	Natural Resource Conservation Service

Role of the Workgroup:

The nonpoint plan outlined the role of the nonpoint workgroup. The State Agency Nonpoint Workgroup will meet annually to accomplish the following:

1. Review water quality reports
2. Review various implementation reports (as available)
3. Review progress on implementation commitments (Chapter 9)
4. Collaborate on new ideas for solving nonpoint source pollution
5. Advise Ecology on changes needed to the 319 plan
6. Oversee the use of the Direct Implementation Fund

This is also a good opportunity to coordinate nonpoint control programs and co-manage data. In October 2002, the workgroup met in retreat to discuss plan implementation activities. The purpose of the retreat was to determine which actions were completed, which actions need to be amended, and what new actions are needed to further nonpoint source controls in Washington State. The result was an updated Table 9.1 (see Appendix 1).

It is likely that commitments in the plan will need to be revisited throughout the plan implementation period (five years). Many of the commitments are actions that have a high likelihood of being carried out because the program already exists and the funding sources are relatively assured. In a number of cases, actions identified in the plan are limited by funding or by the need for many entities to participate in the outcome. In these cases, the progress will be difficult to predict. These annual reviews will be important to make sure the overall plan direction is maintained.

Striving for Success

The actions identified in the plan will require a long-term commitment from federal, tribal, state, local and private resources. There is no quick fix to pollution that is as endemic as nonpoint pollution. Although Table 9.1 identifies actions to be taken within a relative short time frame the efforts embodied in the plan will continue many more years. During the first five years of this plan, the focus of many agencies will be to develop the necessary programs to implement the actions in the plan. Each agency will determine its own timeline for the actions, and report the timeline to the State Agency Workgroup. Ecology will track these timelines and project completion for the Workgroup. The Workgroup will also coordinate the timing of inter-related actions.

As programs are developed, they will be implemented on the ground by the appropriate groups. For example, as landowners put BMPs in place, agencies will provide technical and financial assistance when possible. In the meantime, water quality monitoring programs will help us assess the overall improvement to water quality from these nonpoint source control measures. Meaningful improvements take years. The various planning processes such as TMDLs, local watershed plans under chapter 90.82 RCW, salmon recovery limiting analyses under the Salmon Recovery Act, and Puget Sound Watershed Plans under chapter 400-12 WAC (or their

equivalent outside the Puget Sound area) will continue to investigate and identify water quality problems across the state. This plan will provide a toolbox of programs to be used in these areas to address the identified problem. The plan also provides a mechanism through the consistent review process and other feedback to develop programs to address unmet needs that may arise.

Appendix 1

Updated Table 9.1

Actions to Manage Nonpoint Pollution in Washington State

Updated Actions Table for Calendar Year 2002

Table 9.1
Actions to Manage Nonpoint Pollution in Washington State

Updated Actions Table for Calendar Year 2003

* *Lead agency is in bold*

Agriculture Activities <i>Common Sources: loss of riparian areas, livestock manure, sediment</i>	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
New Program Development				
Ag 1: Develop Statewide Irrigated Agriculture Comprehensive Plan to facilitate development of Comprehensive Irrigation District plans	WSDA, CC, ECY, WDFW, NRCS, tribes	In Process	Quantity of water saved and retained in-stream	Salmon Strategy, Agr-1
Ag 2: Build capacity in conservation districts to better deliver water quality programs by providing permanent stable funding	Counties, CC, WACD	Ongoing	Number of districts receiving county funds	Puget Sound Plan WP-5.2
Ag 3: Expand well water protection findings in order to prioritize technical support and compliance inspections. Support GWMA projects.	ECY, WSDA, WSU	Ongoing		Wellhead and Groundwater Protection
Ag 4: Update Field Office Technical Guide (FOTGs) for use by NRCS and CDs, to include identifying BMPs for water and air quality.	WSDA, CC, WSU, WDFW, ECY, WSDOT	Ongoing	Number of field office technical guides updated	Salmon Strategy, Agr-4
Ag 5: Establish an MOA with NRCS to evaluate the effectiveness of Best Management Practices used in agriculture	ECY, NRCS	Future	Date signed	CWA general requirement
Ag 7: Study feasibility of converting open gravity canals and other current delivery systems to more efficient systems, including pressurized pipe.	ECY	Future	Study completion date	

Agriculture Activities <i>Common Sources: loss of riparian areas, livestock manure, sediment</i> Cont'd	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
<u>New Program Development Cont'd</u>				
Ag 8: Refine and update state restrictions on pesticide applications and provide technical assistance on proper use of pesticides to ensure compliance with pertinent environmental and public health laws and regulations..	<u>WSDA</u> , ECY, WDFW, DNR, WSDOT	Upgrade	Number of pesticide assessments conducted; Number of PSMPs completed	Salmon Strategy, Agr-1 Puget Sound Plan, AG-0
Ag 9: Secure a source of permanent and ongoing funding for the FARM*A*SYST/ HOME*A*SYST program within Washington State University.	<u>WSU</u> , WACD, CC	Upgrade		National FARM*A*SYST/ HOME*A*SYST
Ag 10: Develop an education and outreach program targeted at small farms water quality, air quality, and ESA compliance	<u>WSU</u> , ECY, , WACD, CC	Ongoing		Puget Sound Plan, Ag-2
Ag 14: Provide research to develop or evaluate agricultural best management practices to Washington and Washington crops.	<u>WSU</u> , CC, ECY, WSDA	NEW	Papers published on new agricultural BMPs	
Ag 15: Implement the Granger Drain Fecal coliform TMDL in the Yakima Basin	<u>ECY</u>	NEW		
Ag 16: Work with flood control districts to upgrade tide gates for improved water quality; provide water quality outreach and education.	<u>ECY</u>	NEW		
<u>Agricultural Incentive Programs</u>				
Ag 11: Implement Conservation Reserve Enhancement Program	<u>CC</u> , WSDA, NRCS, FSA	Ongoing	Number of landowners served through CRP and CREP	Salmon Strategy
Ag 12: Actively engage agricultural producer groups in developing and implementing new BMPs	<u>CC</u> , <u>WSU</u> , ECY, WSDA, NRCS	Ongoing	Number of approved BMPs; Number of groups with approved BMPs	Puget Sound Plan, AG-0

Agriculture Activities <i>Common Sources: loss of riparian areas, livestock manure, sediment</i> Cont'd	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
New Program Development Cont'd				
Ag 13: Use SRF low-interest loans to help agricultural commodity groups with development and installation of BMPs that reduce water pollution, air pollution, and water use.	ECY	Ongoing	Amount of dollars loaned through SRF	
Ag 18: Test and validate BMPs on the Padilla Bay NERR Research Demonstration Farm in conjunction with the Research Farm Advisory Committee	ECY, WSU, SCD, NRCS	NEW	Number of validated BMPs,	
Ag 19: Implement specific projects to improve the use of BMPs that reduce wind erosion of fallow ground.	ECY, CC, NRCS	NEW		
Ag 20: Develop and implement an IPM certification program.	WSU, CC	NEW		
Forestry Activities <i>Common Sources: Forest roads, timber harvest, sediment, temperature</i>	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
New Program Development				
For 2: Establish a Federal Assurances Project to obtain federal assurances under the Clean Water Act and the Endangered Species Act for forest practices conducted on non-federal forested lands pursuant to April 1999 Forests and Fish Report (RCW 77.85.190).	DNR, SRO, WDFW, WSDA, ECY	Upgrade	Establishment of federal assurance office; Federal assurances obtained.	Salmon Strategy, For-3
For 5: Review and approve transfer of Class IV general forest practices permits to local governments	DNR, ECY, CTED, WDFW	Ongoing	Number of local governments with permitting authority	Salmon Strategy, Lan-6 Puget Sound Plan, FP-2
For 8: Implement new nonpoint controls in forested habitats consistent with the Fish and Forest Report and WAC 222	Forest Practices Board, DNR, ECY, WDFW, WSDA, DCTED	Ongoing	Improved water quality in forested habitats; monitoring components in place	Salmon Strategy, For-1

Forestry Activities <i>Common Sources: Forest roads, timber harvest, sediment, temperature</i> Cont'd	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
New Program Development Cont'd				
For 9: Monitor implementation of the MOA between the USFS and Ecology	ECY, USFS	Ongoing		
For 12: Develop a sediment and erosion BMP manual specific to forest road issues.	ECY, DNR	NEW		
<u>Small Forest Landowner Assistance</u>				
For 7: Establish a state policy to allow timber leases for conservation purposes.	DNR	New		
For 10: Carry out functions of the Small Forest Landowners' Office; help find sources of financial assistance.	DNR , ECY, WDFW	Ongoing	Number of small forest landowners served	Salmon Strategy (For 4)
For 11: Educate small forest landowners on water quality and ESA issues, and new rules	DNR , WSU , ECY, NRCS, WDFW	Upgrade	Number of small forest landowners served	
For 13: Use SRF low-interest loans to help small forest landowners with implementation of road maintenance and abandonment plans and other BMPs that reduce pollution and water use.	ECY, DNR	NEW		
For 14: Implement EQIP for small forest landowners.	CC, DNR	NEW		
Urban and Rural Activities <i>Common Sources: stormwater runoff, failing on-site sewage systems, roads and highways, heavy metals, fecal contamination, silt, petroleum and nutrients</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
<u>Development and Construction</u>				
Urb 1: Update guidelines and models for consideration by counties and cities on inclusion of Best Available Science and giving special consideration to salmon conservation in their local GMA Critical Areas Ordinances	PSAT, OCD , WSDA, ECY, WDFW, DNR, CC, WSDOT	Upgrade	Guidance completed	Salmon Strategy, Lan-2 Puget Sound Plan, MFH-2

Urban and Rural Activities Cont'd <i>Common Sources: stormwater runoff, failing on-site sewage systems, roads and highways, heavy metals, fecal contamination, silt, petroleum and nutrients</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Development and Construction Cont'd				
Urb 2: Revise guidance for development and implementation of local Floodplain Management Plans and for use of non-regulatory tools and incentives to reconnect rivers and flood plains	<u>ECY</u> , WDFW, , OCD, WSDOT, EMD	Upgrade	Number of updated floodplain management plans	Salmon Strategy (Lan 4, 5) Puget Sound Plan, MFH-1.2
Urb 3: Design and promote incentives for non-regulatory land use protection programs.	<u>ECY</u> , OCD, WDFW, DNR, WSDOT, PSAT,	New	Program developed by 2003	Salmon Strategy (Lan 8) Puget Sound Plan, MFH-1.2
Urb 25: Develop a model clearing and grading ordinance to include low impact development. Partner with resource agencies to utilize regional staff in updating ordinances. Implement a series of workshops around the state on legal obligations of land use planning.	<u>OCD</u> , ECY, PSAT,	NEW	Water quality impacts reduced	Puget Sound Plan, SW-2
Stormwater Runoff				
Urb 5: Research and communicate stormwater technology design, cost benefit and know-how to effectively address stormwater problems	<u>WSDOT</u> , ECY, WDFW, WSU PSAT	Upgrade	Number of local governments assisted	Salmon Strategy, Rea-4 Puget Sound Plan, SW-3
Urb 6: Update model ordinances for local stormwater management programs to help local governments adopt the revised comprehensive program.	<u>PSAT</u> , OCD, ECY, WDFW,	Upgrade	Number of communities within Puget Sound that have met target dates for implementing the PS stormwater program	Salmon Strategy, Sto-3 Puget Sound Plan, SW-3
Urb 26: Develop a Stormwater Management Strategy for eastern Washington and help local governments implement the manual to address stormwater impacts on habitat and water quality of new development	<u>ECY</u> , WSDOT	NEW	Adoption of eastern Washington manual	

Urban and Rural Activities Cont'd <i>Common Sources: stormwater runoff, failing on-site sewage systems, roads and highways, heavy metals, fecal contamination, silt, petroleum and nutrients</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Stormwater Runoff Cont'd				
Urb 27: Develop a GIS-based information management system for stormwater related data, such as outfall locations, BMP locations, sites of construction and industrial permits, and monitoring sites.	<u>WSDOT</u> , ECY, WDFW	NEW		
Urb 28: Develop methods and procedures for watershed-based runoff, streamflow, and water quality mitigation measures, with a goal of resource recovery in place of patchwork, incremental mitigation as practiced in the past.	<u>WSDOT</u> , ECY, PSAT	NEW	Track success of mitigation measures	Salmon Strategy, Lan-7 Puget Sound Plan, SW-1
Stormwater Prevention				
Urb 8: Identify and participate in a low impact project and research the applicability of low-impact techniques to regional hydrogeology, soils, and climactic conditions.	<u>ECY</u> , <u>OCD</u> , <u>PSAT</u> , WSU, Cities, AGC	Upgrade	Amount of contaminated runoff decreased	Puget Sound Plan, SW-2
Urb 9: Expand the Urban and Community Forestry program to meet current requests for assistance from local governments, and perform adequate outreach.	<u>DNR</u> , Cities	Upgrade	Number of communities with urban forestry programs	
Urb 29: Research the effects of urbanization, especially stormwater runoff, on ecosystems. Educate key audiences on strategies for reducing stormwater impacts.	<u>PSAT</u> , WSU	NEW		Puget Sound Plan, SW-7
On-site Sewage Systems				
Urb 14: Establish an effective statewide education program to convince the general public of the importance of properly maintaining their onsite sewage systems and how to do that.	<u>DOH</u> , Local Boards of Health	Upgrade		

Urban and Rural Activities Cont'd <i>Common Sources: stormwater runoff, failing on-site sewage systems, roads and highways, heavy metals, fecal contamination, silt, petroleum and nutrients</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
<u>On-site Sewage Systems Cont'd</u>				
Urb 15: Expand current programs to address the needs for expansion of sewer services to areas of actual or projected high population density and areas of known problems.	<u>ECY, OCD,</u> Counties	Upgrade		
Urb 31: Inventory, prioritize and repair failing septic systems on marine facilities owned by the Parks and Recreation Commission.	<u>Parks</u>	NEW	Number of facilities repaired	
Urb 33: Continue work on the rule development process leading to adoption of new and revised rules by the Washington State Board of Health (SBOH) for on-site sewage systems under 3500 gallons per day.	<u>DOH</u>	NEW	Draft rules by September 2004. Effective date for new on-site sewage system rules no less than 30 days following SBOH adoption.	Puget Sound Plan, OS-1
Urb 34: Initiate the rule development process leading to the adoption of new and revised on-site sewage system rules for systems over 3500 gallons per day (Large On-site Sewage Systems - LOSS) by the Washington State Board of Health (SBOH).	<u>DOH</u>	NEW	Draft rules by June 2005. Effective date for new on-site sewage system rules no less than 30 days following SBOH adoption.	Puget Sound Plan OS-4
Urb 35: Continue to review and oversee the planning, design, construction and operation of Large On-site Sewage Systems (LOSS).	<u>DOH</u>	NEW	Number of LOSS reviewed and approved	Puget Sound Plan OS-4

Urban and Rural Activities Cont'd <i>Common Sources: stormwater runoff, failing on-site sewage systems, roads and highways, heavy metals, fecal contamination, silt, petroleum and nutrients</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Pollution Prevention				
Urb 18: Through the Urban Pesticide Strategy Team, encourage the development and implementation of programs to reduce the impacts of pesticide use in urban areas.	<u>EPA, WSU, WSDA, ECY</u>	Upgrade	Complete UPEST website	
Land Transportation Systems				
Urb 20: Provide road maintenance guidelines to local communities	<u>WSDOT</u>	Upgrade	Number of communities assisted	Puget Sound Plan, SW-3
Urb 22: Reinvent NEPA pilot projects to address environmental concerns on a broad geographic area and earlier into project planning	<u>WSDOT, ECY, WDFW,</u>	Ongoing	List of completed pilot projects	Salmon Strategy, Lan-11
Urb 23: Revise and implement highway runoff manual; undertake stormwater retrofit for transportation projects; implement grant programs	<u>WSDOT, ECY, WDFW, TIB,</u>	Ongoing	Miles of highways that meet new stormwater requirements	Salmon Strategy, Sto-6 Puget Sound Plan, SW-4
Urb 24: Develop and implement a compliance/accountability database to track WSDOT permit requirements and mitigation activities.	<u>WSDOT, ECY, WDFW, DNR,</u>	Future	Database built and permits tracked	Salmon Strategy, Enf-6 Puget Sound Plan, MFH-4
Urb 32: Monitor pesticide spraying on roads.	<u>WSDOT</u>	NEW		
Recreational Activities	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
General				
Rec 13: Develop a beach monitoring and notification program for recreational marine waters contaminated with nonpoint sources of pollution.	<u>ECY, DOH, DNR, Parks, WDFW</u>	Ongoing		
Marinas and Boats				
Rec 5: Evaluate the needs regarding the fuel dock education and assistance program	<u>WSG, ECY, NWMTA</u>	Future	Needs analysis completed	

Recreational Activities Cont'd	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Marinas and Boats Cont'd				
Rec 7: Implement the Comprehensive Boat Sewage Management Plan for Washington State.	Parks	Upgrade	Number of marinas with operating marine sanitation pump-outs	Puget Sound Plan, MB-5
Rec 8: Coordinate agency educational efforts for boaters on environmentally safe practices, such as for the Clean Boating Week held last year.	ECY, Parks , WDFW, DNR, PSAT	Upgrade	Number of boaters educated	Puget Sound Plan, MB-1
Hydromodification <i>Common Sources: pH, metals, dissolved oxygen, nutrients, low flows</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Hyd 2: Evaluate implementing the Hydraulics Code with an eye towards improving its use for water quality protection.	WDFW , ECY	New		
Hyd 3: Provide technical guidance and engineering support to help regional and watershed lead entities, local governments, tribes, private landowners and volunteers participate in salmon restoration projects.	WDFW , IAC, WSDOT , CC, ECY, DOH, PSAT	Upgrade	Number of local governments, tribes, and private landowners assisted	Salmon Strategy (Pas 4)
Hyd 4: Provide technical assistance for dam relicensing activities to ensure compliance with water quality standards	ECY	NEW		
Hyd 5: Write 401 certifications in conjunction with new FERC licenses for hydroelectric dams	ECY	NEW		
Loss of Aquatic Ecosystems	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
Program Development				
LAE 2: Through effective use of GIS and other data management activities, coordinate restoration projects on a watershed basis to provide more effective results	ECY , IAC, DNR, CC,	Upgrade		Puget Sound Plan, MFH-2

Loss of Aquatic Ecosystems Cont'd	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
Program Development Cont'd				
LAE 3: Develop and provide critical information, technical guidance and maps to support local governments' update of their Critical Areas Ordinances	<u>OCD</u> , ECY, WDFW, DNR, PSAT	Upgrade	List of technical documents and timelines	Salmon Strategy, Lan -3 Puget Sound Plan, MFH-2
LAE 4: Prevent, control and monitor the spread of aquatic nuisance species and increase the capacity of watershed groups to do the same.	<u>WSDA</u> , ECY, WDFW, DNR, PSAT	Upgrade	Reduction in areas where nuisance species exist	Salmon Strategy, Lan- 13 Puget Sound Plan, ANS-3
LAE 5: Develop and implement a statewide lakes management program addressing TMDLs.	<u>ECY</u>	Upgrade		
LAE 14: Streamline the aquatic pesticide permitting process, including further incorporation of applicable requirements from the water quality standards.	<u>ECY</u>	Upgrade LAE1	Number of permits issued	Puget Sound Plan, ANS-3
LAE 15: Develop outreach and education materials on Aquatic Habitat Guidelines	<u>WDFW, ECY, WSDOT</u>	NEW	Number of items published and number of each distributed.	Salmon Strategy, Per-2 Puget Sound Plan, MFH-7
LAE 16: Train local, state, and tribal staff on Aquatic Habitat Guidelines	<u>WDFW, ECY, WSDOT</u>	NEW	Number of training events delivered and number of people trained.	Salmon Strategy, Per-2 Puget Sound Plan, MFH-7
LAE 17: Publish and disseminate existing and in-development Aquatic Habitat Guidelines and reports in multi-media formats.	<u>WDFW, ECY, WSDOT</u>	NEW	Number of guidelines published and number of copies distributed.	Salmon Strategy, Per-2 Puget Sound Plan, MFH-7
LAE 18: Develop additional needed Aquatic Habitat Guidelines (e.g. stream crossings, marine shorelines protection, marine habitat restoration, treated wood, etc.)	<u>WDFW, ECY, WSDOT</u>	NEW	Number of new guidelines initiated and/or completed	Salmon Strategy, Per-2 Puget Sound Plan, MFH-7

Loss of Aquatic Ecosystems Cont'd	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
Program Development Cont'd				
LAE 19: Develop wetland guidance documents based on the best available scientific information for use by local governments in developing wetland protection regulations under the GMA and the SMA.	<u>ECY</u> , WDFW, PSAT, OCD, EPA	NEW	Acres of wetlands preserved or restored	Puget Sound Plan, MFH-2 Salmon Strategy, Lan-9
LAE 20: Conduct wetland training workshops for local governments to assist them in implementing local wetland regulatory programs.	<u>ECY</u> , OCD, PSAT, EPA	NEW	Acres of wetlands preserved or restored	Puget Sound Plan, MFH-2 Salmon Strategy, Lan-9
LAE 21: Develop new guidance on wetland mitigation plans	<u>ECY</u> , WDFW, PSAT, EPA	Update	Acres of wetlands preserved or restored	Puget Sound Plan, MFH-2 Salmon Strategy, Lan-9
LAE 22: Develop a compliance tracking and enforcement program for agency permitted wetland mitigation projects.	<u>ECY</u> , EPA PSAT	New	Acres of wetlands preserved or restored	Puget Sound Plan, MFH-4 Salmon Strategy, Lan-9
LAE 24: Review and evaluate new aquatic pesticides	<u>ECY, PSAT</u>	NEW		Puget Sound Plan, PS-2
Ecosystem Programs				
LAE 6: Implement, maintain, and update the Puget Sound Plan and biennial work plans for the Puget Sound Basin	<u>PSAT</u>	Upgrade	Plan updated	Salmon Strategy (Lan 9 - revised) Puget Sound Plan, EM-1
LAE 7: Implement the Puget Sound wetland restoration Program	<u>ECY, PSAT, WSDOT</u>	Upgrade	Net gain in wetland function and acreage	Puget Sound Plan
LAE 9: Continue to emphasize lake and watershed management planning to address nutrient and sediment enrichment, and de-emphasize the use of chemicals for pest control	<u>ECY</u> , WDSA	Upgrade	Lakes with phase 1 restoration plans	Puget Sound Plan, ANS-3 CWA Requirement

Loss of Aquatic Ecosystems Cont'd	Responsible Organization	Action Status	Measurable Outcome	Major Program Linkage
Ecosystem Programs Cont'd				
LAE 23: Develop a demonstration project showing the efficacy of using a constructed wetland to treat a combination of point source discharges and nonpoint source polluted waters from an adjoining creek. Monitor the results.	<u>WDFW</u>	NEW	Amount of nitrogen removed	
LAE 25: Develop education and outreach material to address the impacts of dredging streams on water quality and fish habitat.	<u>ECY, WDFW, CC</u>	NEW		
LAE 26: Improve riparian health by using WCC crews.	<u>ECY</u>	NEW		
LAE 27: Develop educational material on the benefits and methods of riparian restoration for use by local, state, and federal agencies	<u>ECY</u>	NEW		
LAE 28: Develop and implement a multi-faceted, statewide educational program and guidance documents that address lakeside living and water quality, weed, algae and other pest control, and public and private responsibilities	<u>ECY</u>	NEW	Education materials produced	
Educational Activities: <i>Education is essential to public involvement in the successful reduction of nonpoint pollution</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Program Development				
Ed 1: Develop a resource library of high quality educational materials to assist communities with nonpoint source issues.	<u>GCEE</u> , ECY, PSAT,	New		Puget Sound Plan, EPI-1
Ed 4: Organize a biennial conference on nonpoint pollution for implementing agencies and groups as well as the general public	<u>ECY</u>	Upgrade	Number of attendees and participants evaluation	

Educational Activities: <i>Education is essential to public involvement in the successful reduction of nonpoint pollution</i> Cont'd	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Program Development Cont'd				
Ed 5: Develop and implement site-specific public education Environmental Learning Centers	<u>Parks</u> , WDFW, DNR, PSAT	Ongoing	1 new environmental learning center per year	Salmon Strategy (Edu 5) Puget Sound Plan, EPI-3.4
Ed 15: Maintain a user-friendly Nonpoint Web page on the Ecology web site	<u>ECY</u>	Ongoing		
Ed 20: Develop water quality outreach programs to minority populations	<u>ECY, DOH, PSAT</u>	NEW		Puget Sound Plan, EPI-1.5
Programs for Schools				
Ed 6: Conduct a series of watershed-specific PROJECT WET teacher workshops on Watersheds for People and Salmon, focusing on pollution prevention, water conservation, habitat, and public health.	<u>ECY</u> , WDFW, local gov't facilitators	Ongoing	Number of teacher workshops conducted	
Ed 7: Implement the Columbia Watershed curriculum for youth and adults, for better understanding and stewardship in the Columbia Basin	<u>GCEE, ECY, WDFW, DNR, DOH, tribes</u>	Upgrade		
Ed 19: Implement Chehalis Basin Education and Consortium water quality monitoring program with teachers and students, including Student Congress to share results around the watershed.	<u>ECY</u> , GCEE	Ongoing		
Ed 21: Develop and present water quality education in classrooms and at events as appropriate	<u>ECY, PSAT</u>	NEW	Number of classrooms and events	Puget Sound Plan, EPI-6
Public Education Programs				
Ed 10: Manage the Puget Sound Public Involvement and Education "PIE" fund program to develop innovative education programs	<u>PSAT</u>	Upgrade	Number of projects funded and total amount spent	Puget Sound Plan, EPI-8 Salmon Strategy Edu-7

Educational Activities: <i>Education is essential to public involvement in the successful reduction of nonpoint pollution Cont'd</i>	Responsible Organization	Action Status	Measurable Outcomes	Major Program Linkage
Public Education Programs Cont'd				
Ed 12: Develop and implement statewide training programs for the public and specific interest groups such as teachers and volunteers	<u>GCEE</u> , <u>ECY</u> , <u>WDFW</u> , <u>WSU</u> , <u>TIB</u> , <u>WSDOT</u>	Upgrade	Training developed and presented	Salmon Strategy, Edu-6
Ed 14: Introduce and support Master Watershed Steward programs throughout the state	<u>WSU</u> , <u>GCEE</u>	Upgrade		
Ed 22: Develop curriculum guides on agricultural nonpoint pollution prevention for the high school level, and test-deliver to local (Skagit County) schools.	<u>ECY</u> , <u>SCD</u> , <u>NRCS</u>	New	Number of curriculum guides developed; number of classroom visits.	
Ed 23: Support existing community outreach programs to help reach TMDL goals.	<u>ECY</u>	NEW		
General Program Activities <i>Programs that have multiple impacts or are administrative in nature</i>	Responsible Agency	Action Status	Measurable Outcome	Program Linkage
Program Development				
Gen 2: Expand the development of local watershed plans under chapters 75.46 & 90.82 RCW and other related acts	<u>ECY</u> , <u>WDFW</u> , <u>SRO</u>	Upgrade	Number of 2514 plans approved	Salmon Strategy, Reg-3 Puget Sound Plan, WP-3
Gen 4: Promote local watershed planning and implementation that address 303(d) listings and prevents further listings. Provide technical assistance	<u>ECY</u> , <u>PSAT</u>	Ongoing		Clean Water Action Plan TMDLs Puget Sound Plan, WP-4
Gen 5: Develop and implement schedule for Water Cleanup Plans (TMDLs) focusing on watersheds with listed species first	<u>ECY</u> , tribes <u>PSAT</u> , <u>CC</u>	Ongoing	Number of TMDLs submitted to EPA	Salmon Strategy, Wqa-3 Puget Sound Plan, MFH-2
Gen 6: Develop a cooperative and comprehensive interstate ground water protection plan with state (Oregon and Idaho) and tribal governments.	<u>ECY</u> , Oregon, Idaho, Tribes	Future		

General Program Activities <i>Programs that have multiple impacts or are administrative in nature</i> Cont'd	Responsible Agency	Action Status	Measurable Outcome	Program Linkage
Program Development Cont'd				
Gen 7: Establish working agreements with various federal agencies to address Clean Water Act federal consistency requirements	<u>ECY</u>	In Process	Number of federal agencies reviewed	Clean Water Act
Gen 8: Assist local governments to modify their Shoreline Master Programs (SMPs) through workshops, trainings, publications, and technical assistance	<u>ECY</u> , OCD PSAT, WDFW, WSDA, DNR, WSDOT	Upgrade	Number of local governments assisted; Number of workshops	Salmon Strategy, Lan-1 Puget Sound Plan, MFH-2
Gen 9: Develop, adopt, and implement standards for water quality.	<u>ECY</u> , WDFW, PSAT, WSDOT	Ongoing	Timeline created	Salmon Strategy, Wqa-1, 2 Puget Sound Plan, P-1
Gen 11: Implement the Yakima River Sediment Reduction Plan	<u>ECY</u> , WSDA, CC	Ongoing	Amount of sediment reduced	Salmon Strategy, Wqa-4 TMDLs
Gen 18: Create a web directory and link nonpoint workgroup agencies technical assistance for use by agency staff, public, and others.	<u>ECY, OCD</u> <u>PSAT, , DNR,</u> <u>WDFW,</u> <u>WSDA, WSU,</u> <u>WSDOT</u>	NEW		
Community Assistance				
Gen 13: Establish an information base for local communities that describes funding sources and necessary requirements.	<u>ECY</u> , Gov Office	New		Puget Sound Plan, EPI-9
Gen 15: Provide technical assistance and information regarding ESA compliance to communities	<u>WDFW,</u> <u>ECY,</u> PSAT	Upgrade		Puget Sound Plan, MFH-2
Gen 16: Develop a coordinated process to integrate local and watershed planning efforts into the state nonpoint plan.	<u>ECY</u>	Ongoing		

General Program Activities <i>Programs that have multiple impacts or are administrative in nature</i> Cont'd	Responsible Agency	Action Status	Measurable Outcome	Program Linkage
Community Assistance Cont'd				
Gen 19: Incorporate landscape principles into resource protection and ecoregional planning activities.	<u>CTED</u> , <u>ECY</u> , WSDOT, WDFW, DNR,	Upgrade	Number of communities assisted	Puget Sound Plan, MFH-2
Gen 20: Provide water quality support to salmon recovery lead entities and other salmon recovery planning processes.	<u>ECY</u>	NEW		Puget Sound Plan, MFH-2
Gen 21: Develop and disseminate updated 3rd edition of Shoreline Management Guidebook to assist local governments in updating their Shoreline Master Programs (SMPs).	<u>ECY</u> , <u>OCD</u> , PSAT, WDFW, WDNR	New	Guidebook republished.	Puget Sound Plan, MFH-2
Gen 22: Assist local governments in developing updated shoreline inventories for updating their Shoreline Master Programs (SMPs) through compilation and publication of basic inventory information and provision of direct technical assistance.	<u>ECY</u> , WDFW, WDNR	New	Number of shoreline inventory products published. Number of local governments assisted.	Puget Sound Plan, MFH-2
Gen 23: Provide supplemental pass through grants to local governments devoting special attention to nonpoint pollution elements in updating their Shoreline Master Programs (SMPs).	<u>ECY</u>	New	Number of local governments assisted.	
Shellfish Protection				
Gen 10: Examine additional funding needs for local shellfish protection efforts	<u>DOH</u> , <u>PSAT</u>	Ongoing	Number of shellfish upgrades and recertification status	Puget Sound Plan, SF-7
Gen 24: Develop educational materials and other resources on shellfish protection for use by local, state, and federal nonpoint educators.	<u>PSAT</u> , <u>DOH</u>	Ongoing	Education material developed and disseminated	Puget Sound Plan, SF-6

General Program Activities <i>Programs that have multiple impacts or are administrative in nature</i> Cont'd	Responsible Agency	Action Status	Measurable Outcome	Program Linkage
PSAT, DOH Cont'd				
Gen 25: Conduct special studies to identify and correct nonpoint pollution sources in shellfish areas that are threatened or otherwise impaired by nonpoint source pollution.	<u>DOH</u> , ECY, CDs, Local Health Districts, PSAT	NEW	Number of shellfish growing area prevented from downgrades.	Puget Sound Plan, SF-7
Gen 26: Automate Nonpoint Source Data Collection and Reporting in shellfish growing areas.	<u>DOH</u>	NEW	Amount of data collected and shared with locals.	Puget Sound Plan, SF-5
Gen 27: Implement shellfish closure response strategy to restore water quality in downgraded shellfish growing areas	<u>DOH</u> , ECY, PSAT	NEW		Puget Sound Plan, SF-7
Monitoring and Enforcement - Programs that monitor water quality or enforce water quality standards	Responsible Agency	Action Status	Measurable Outcome	Management Measure And/or Program Linkage
Monitoring				
ME 1: Expand the development of a coordinated monitoring framework to integrate and/or coordinate statewide, regional, watershed and project-specific monitoring systems	<u>SRO</u> , ECY, WDFW, DNR, PSAT	Replaces Gen 17	Monitoring framework developed by 2003	Salmon Strategy, Mon-1 Puget Sound Plan, MFH-2
ME 3: Develop criteria and protocol to guide the use of monitoring in decision making including adaptive management when specifically committed to at the watershed, activity, and regional scales and ensure decisions include adaptive management and monitoring component consistent with protocol and criteria	<u>SRO</u> , ECY, WDFW, DNR, PSAT, WSDOT, IAC	New	To be determined	Salmon Strategy, Mon-2 Puget Sound Plan, MFH-2

Monitoring and Enforcement - Programs that monitor water quality or enforce water quality standards Cont'd	Responsible Agency	Action Status	Measurable Outcome	Management Measure And/or Program Linkage
Monitoring Cont'd				
ME 4: Develop and implement effectiveness monitoring systems to be incorporated in all new salmon recovery activities and a percent of existing activities.	<u>SRO</u> , WSDA, ECY, WDFW, IAC	New	Issue report every two years	Salmon Strategy, Mon-3 Puget Sound Plan, MFH-4
ME 6: Enhance statewide monitoring of rate of harvest, riparian zone management, etc. consistent with the Forest and Fish Report	<u>DNR</u> , ECY, WDFW, tribes	Replaces Gen 24	Yearly monitoring report	Salmon Strategy, For-6 Puget Sound Plan, MFH-4
ME 7: In cooperation with IGWC and other state agencies, develop a statewide ground water monitoring strategy and watershed scale groundwater characterization program	<u>ECY</u> , DOH, WSDOT, tribes, counties	Replaces Gen 25		
ME 8: Develop and implement education/outreach and volunteers strategy. Coordinate volunteer monitoring activities statewide. Provide technical assistance to local volunteer monitoring programs.	<u>GCEE</u> , ECY, WDFW, WSU, PSAT	Replaces Ed 15	Number of volunteers	Salmon Strategy, Edu-1 Puget Sound Plan, EPI-4
ME 13: Develop a collaborative monitoring program with locals on nonpoint TMDLs.	<u>ECY</u>	NEW	Number of partnerships	
ME 15: Monitor the effectiveness of corrective action for nonpoint TMDLs.	<u>ECY</u>	NEW	Number of waters removed from the 303(d) list	
ME 21: Develop nonpoint TMDLs for temperature, bacteria, nutrients, toxics, and other parameters in impaired waters statewide.	<u>ECY</u>	Ongoing	Number of water cleanup plans approved by EPA	
ME 22: Develop a beach monitoring program for recreational rivers and lakes contaminated with nonpoint source pollution.	<u>ECY</u> , DOH, local health departments	New	Public notification when freshwater beaches are contaminated	

Monitoring and Enforcement - Programs that monitor water quality or enforce water quality standards Cont'd	Responsible Agency	Action Status	Measurable Outcome	Management Measure And/or Program Linkage
Monitoring Cont'd				
ME 23: Monitor ambient water quality conditions statewide for nonpoint pollution status and trends, and report results using a Water Quality Index (WQI)	<u>ECY</u>	Ongoing	Annual water quality assessment reports	
ME 24: Monitor the effectiveness of the Forest and Fish agreement for protecting water quality	<u>ECY</u> , DNR, WDFW, tribes	Ongoing	Adaptive management improvements for forest practice rules	
ME 25: Reestablish a statewide lakes monitoring program supported by citizen volunteers	<u>ECY</u>	NEW	Number of lakes assessed annually	
ME 26: Design and implement a validation monitoring program for salmon recovery using intensively monitored watersheds.	<u>ECY</u> , WDFW, IAC, SRO	New	Linkage of salmon population recovery to habitat restoration programs	Puget Sound Plan, MFH-4
ME 27: Monitor edible fish tissue for toxic pollutants, including persistent bioaccumulative toxins (PBTs)	<u>ECY</u> , DOH, WDFW	Ongoing	Fish consumption advisories	
ME 28: Monitor nitrates and pesticide runoff from agricultural lands.	<u>ECY</u> , <u>WSDA</u>	Ongoing		
ME 29: Develop and implement ground water pesticide monitoring system to support PMP's and ESA water quality monitoring and toxicological assessment (ESA white paper) and pathway evaluation	<u>WSDA</u> , ECY	NEW	Determination of GW action levels for land-applied pesticides based on GW standards and toxic effects to ESA species	
Enforcement				
ME 16: Establish and implement collaborative processes to increase coordination of compliance and enforcement activities among the regulatory natural resource agencies with joint or primary jurisdictional authorities	<u>ECY</u> , <u>WDFW</u> , <u>DNR</u> ,	Replaces Gen 26	Number of enforcement activities	Salmon Strategy, Enf-1 Puget Sound Plan, MFH-3.1

Monitoring and Enforcement - Programs that monitor water quality or enforce water quality standards Cont'd	Responsible Agency	Action Status	Measurable Outcome	Management Measure And/or Program Linkage
Enforcement Cont'd				
ME 18: Increase compliance and enforcement of the Hydraulic Code for habitat protection and increase compliance with fish passage and screening requirements	<u>WDFW</u> , ECY WSDA, CC	Replaces Gen 28	Number of enforcement activities	Salmon Strategy, Enf-3 Puget Sound Plan, MFH-3.1
ME 19: Increase compliance and enforcement activities for nonpoint pollution sources, including building capacity at the local level.	<u>ECY</u> , WSDA, CC, PSAT	Replaces Gen 29	Number of enforcement activities	Salmon Strategy, Enf-4
ME 20: Evaluate new ways to improve compliance on DOT construction projects	<u>ECY, WSDOT</u>	Replaces Gen 30		
ME 30: Gen 14: Enhance local ability to address water quality complaints and information requests	<u>ECY, PSAT</u>	Replaces Gen 14		Puget Sound Plan, SW-3
ME 31: Streamline implementation and compliance monitoring of the 401 Water Quality Certification/Coastal Zone Management procedures through development of a project tracking database.	<u>ECY</u>	New	Development of prototype and working database.	