

**OREGON**  
**2002**  
**NONPOINT SOURCE**  
**POLLUTION PROGRAM**  
**ANNUAL REPORT**

AS REQUIRED BY THE CLEAN WATER ACT

SUBMITTED TO EPA REGION X

BY

OREGON  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY



WATER QUALITY DIVISION

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PORTLAND, OR

# 2002 NPS Pollution Program Annual Report

This annual report is written in response to section 319 (h)(8) and (11) of the Clean Water Act (33 USC 1329). The report documents the activities and accomplishments of the State of Oregon in general and the Oregon Department of Environmental Quality (ODEQ) in particular regarding the administration of the State's Nonpoint Source program.

Like many other years in the Oregon program, 2002 was extremely rewarding and productive. As described below, Oregon is clearly making significant progress toward meeting the substantial challenges presented by nonpoint source water pollution.

The State program continues to find innovative, cooperative, community-based, methods to improve water quality and enhance watersheds. Some of the highlights from this year include the following accomplishments:

Distributed over \$2.2 million dollars in nonpoint source grants and another \$16 million in OWEB watershed restoration money to projects all across the State.

Issued 1116 river miles (Little River, Upper Klamath and Columbia River) of sub-basin scale, total maximum daily loads (TMDLs) addressing nonpoint source pollution concerns.

Strengthened partnerships at all levels of government as well as cooperative ventures with private individuals and organizations, and

Conducted innovative and effective outreach and education events to inform Oregon citizens about nonpoint source concerns, and to motivate better stewardship of our waters, including the first of its kind in Oregon, a locally-supported watershed festival in Tillamook.

## FY 2003 Anticipated Activities

Re-evaluate the quality of Oregon's waters and update the "impaired waters" list.

Update water quality memorandum of agreement with BLM.

Continue to develop TMDLs addressing nonpoint sources of water pollution.

Offer urban nonpoint sources technical assistance to address stormwater concerns in communities.

Complete initial issuance of Agricultural Water Quality Management Plans throughout the state.

Revise rules implementing the Oregon Forest Practices Act to improve its effectiveness in achieving water quality standards.

Integrate NPS activities into the state revolving fund loan program.

Continue to distribute grants and loans to projects that will advance the mission and effectiveness of the nonpoint source program.

Submit program documentation for the State's Coastal NPS program to EPA and NOAA.

Look for additional ways of improving our partnership with various State, Tribal, Federal, and Local government agencies, as well as watershed councils, soil and water conservation districts and private individuals and organizations.

We continue to work with our partner agencies to discuss the application of the anti-degradation component of our water quality standards to Nonpoint Sources.

### Conclusion

Oregon is tackling the hard issues and meeting the significant challenges posed by the Nonpoint source water pollution. We are well on our way toward greater accountability for our investments in Oregon's watersheds; partnering to advance restoration efforts; and greater citizen understanding of the health of their local watershed.

## TABLE OF CONTENTS

I. OREGON'S WATER RESOURCES.....	6
II. OREGON'S NONPOINT SOURCE PROGRAM .....	7
III. NONPOINT SOURCE ACTIVITIES AND ACCOMPLISHMENTS IN 2002 .....	8
A. Temperature, Toxics and Biocriteria parameters in water quality criteria: Review of Standards.....	8
B. Nonpoint Source Pollution tax credits .....	9
C. TMDLs addressing nonpoint source pollution:.....	11
D. Memorandum of Agreement between USFS and DEQ.....	13
E. Coastal Zone NPS Program:.....	14
F. Nonpoint Source grants .....	18
<b>DEQ Nonpoint Source Grants .....</b>	<b>18</b>
<b>OWEB Watershed Enhancement Grants .....</b>	<b>20</b>
<b>OWEB-DEQ Partnership .....</b>	<b>22</b>
G. Oregon Department of Agriculture .....	23
H. Oregon Department of Forestry .....	25
IV. FUTURE DIRECTION FOR THE OREGON NONPOINT SOURCE PROGRAM.....	27
V. HIGHLIGHTS OF FY 2001-2002 CWA 319 PROJECTS (OREGON).....	29
Northwest Region 319 Activities.....	29
Western Region 319 activities .....	29
Eastern Region Basins .....	32
Summary tables for the FY 2002 319 projects .....	34
<b>NPS program administration and coordination. Request: \$751,913. ....</b>	<b>35</b>
<b>Characterization of NPS concerns. Request: \$359,509.....</b>	<b>35</b>
<b>Best Management Practices Development and Implementation. Request: \$1,086,284 .....</b>	<b>36</b>
<b>Education and Public Outreach. Request: \$203,000.....</b>	<b>37</b>
<b>Restoration projects. Request: \$209,354.....</b>	<b>37</b>
<b>Water quality monitoring. Request: \$157,526.....</b>	<b>39</b>

<b>Watershed study. Request: \$449,914.....</b>	<b>39</b>
Table III. STATUS table for Oregon 319 FY 2001 Grants .....	41
Priorities for funding priority projects under the Oregon 319 program for FY 2001 .....	44
<b>Table IV. WESTERN OREGON PRIORITY for FY 2001 319 PROJECTS: S. Coast</b>	
<b>TMDL Status 03/00 .....</b>	<b>44</b>
<b>Table V. WESTERN OREGON PRIORITY for FY 2001 319 PROJECTS: Rogue Basin</b>	
<b>TMDL Status 7/00 .....</b>	<b>45</b>
<b>Table VI. WESTERN OREGON PRIORITY for FY 2001 319 PROJECTS: Umpqua</b>	
<b>TMDL Status 7/00 .....</b>	<b>46</b>
<b>Table VII. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS</b>	
<b>IN FY 2001: Willamette.....</b>	<b>47</b>
<b>Table VIII. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS</b>	
<b>IN FY 2001: Northcoast.....</b>	<b>48</b>
<b>Table IX. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS</b>	
<b>IN FY 2001: North Coast: Nehalem-Nestucca.....</b>	<b>49</b>
<b>Table X. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS</b>	
<b>IN FY 2001: Northcoast: Columbia River .....</b>	<b>50</b>
<b>Table XI. EASTERN OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS IN FY</b>	
<b>2001 .....</b>	<b>51</b>
<b>Table XII. GROUNDWATER-RELATED 319 PRIORITIES, FY 2001.....</b>	<b>58</b>
<b>Table XII. GROUNDWATER-RELATED 319 PRIORITIES, FY 2001.....</b>	<b>58</b>

## I. Oregon's Water Resources

With its nearly 97,000 square miles, Oregon ranks as the tenth largest state in the nation. The Oregon landscape is as diverse as it is beautiful. Surface water resources are a major feature of Oregon. The State has over 100,000 miles of rivers, 6,200 lakes, nine major estuaries, and over 360 miles of coastline.

State programs to protect or improve Oregon's water quality date back to 1938. Oregon's point source permit program was the second approved state program in the Country (September 26, 1973). More recently, in 1996 the State adopted the Oregon Plan for Salmon and Watersheds to focus work on watershed restoration and recovery of endangered salmonid populations.

At present, responsibility is divided between several State agencies that work in an active and effective partnership to protect State waters. The State water quality program can be divided into the ten interdependent program elements listed below. The 10 basic water quality program components are as follows (not listed in order of priority):

- ✓ *Water quality standards that establish, for each watershed basin, beneficial uses for the waterbody as well as maximum levels of pollutants that can be discharged without adversely affecting the designated use.*
- ✓ *Permits for point sources, including storm water, discharging pollutants to State waters.*
- ✓ *Water quality [401] certifications of certain nonpoint source pollutant discharges including hydroelectric projects, and dredge and fill activities.*
- ✓ *Nonpoint source water quality management plans specifically developed for forestry, agriculture and urban activities.*
- ✓ *Biennial assessment of State waters to identify those waters that are not meeting water quality standards*
- ✓ *Pretreatment, Sewage Sludge Management and On-Site System programs to ensure that water quality is not compromised by other land- based activities.*
- ✓ *Development of total maximum daily loads (TMDLs) to correct those waters that are not meeting water quality standards.*
- ✓ *Cost-share grants and low interest loan programs to address municipal sewage treatment and disposal needs, and activities to reduce or eliminate nonpoint sources of pollution.*
- ✓ *Education and outreach activities to continuously remind the public about the importance of understanding NPS pollution and its impact in water quality.*
- ✓ *Facility or activity-specific compliance assessment, a pilot NPS effectiveness monitoring effort, technical assistance and enforcement as warranted to ensure State water quality requirements are met.*

## II. Oregon's Nonpoint Source Program

Nonpoint source pollution refers to pollutants that reach State waters by non-discreet means (primarily runoff during rain events, or percolation of polluted water to groundwater). Nonpoint sources are often linked with land use activities through which the runoff passes.

Nonpoint sources also include atmospheric deposition and pollutants in groundwater or soils that migrate or travel to surface waters. Nonpoint sources continue to be a leading cause of significant water quality impacts across the State and the nation as a whole.

DEQ first began to address nonpoint source issues in October 1976. A comprehensive survey of nonpoint source pollution was first undertaken in 1978 and in 1988 and more recently in 2000.

Oregon first received EPA approval of its nonpoint source program in 1989. NOAA and EPA conditionally approved the State's Coastal Nonpoint Program under section 6217 of the Coastal Zone Management Act in 1998. The base program was updated and re-approved in 2000.

In Oregon, the most prevalent nonpoint source pollutants are temperature, sediment, bacteria and nutrients. These pollutants are most effectively controlling through the use of performance-based standards and best management practices (BMPs). BMPs offer a range of both efficient and cost effective solutions to water quality problems.

Oregon's nonpoint source program primarily focuses on 4 land use sectors: *agriculture, forestry, urban storm water and hydromodification.*

Oregon and the Federal government continue to make a significant investment in addressing nonpoint sources of pollution as well as watershed restoration.

Oregon's strategy for improving State waters is to approach the problem holistically. The State has been divided into 21 watershed basins and 91 sub-basins.

The State's permitting assessment and TMDL work has been aligned and prioritized according to these sub-basins.

Another major component of the State strategy is to involve as many partners and leverage as many resources and technical perspectives as possible.

Oregon has relied on longstanding partnerships to address these various activities and sources.

As noted above, many of the State's Departments, Boards and Commissions are now actively involved in addressing nonpoint source and watershed concerns. They include but are not limited to:

✓ *Department of Environmental Quality (see [www.deq.state.or.us](http://www.deq.state.or.us));*

- ✓ *Department of Agriculture (see [www.oda.state.or.us](http://www.oda.state.or.us))*
- ✓ *Department of Forestry (see [www.odf.state.or.us](http://www.odf.state.or.us));*
- ✓ *Oregon Watershed Enhancement Board (see [www.oweb.state.or.us](http://www.oweb.state.or.us))*
- ✓ *Department of Fish and Wildlife (see [www.dfw.state.or.us](http://www.dfw.state.or.us))*
- ✓ *Department of Land, Conservation and Development (see [www.lcd.state.or.us](http://www.lcd.state.or.us))*
- ✓ *Department of Economic & Community Development (see [www.econ.state.or.us](http://www.econ.state.or.us))*
- ✓ *Department of Transportation (see [www.odot.state.or.us](http://www.odot.state.or.us)), and many others.*

Finally, another cornerstone of the Oregon water quality program is, to the maximum extent practical, to identify solutions at the local community level. Watershed Councils ([http://www.oweb.state.or.us/groups/WSC\\_List.shtml](http://www.oweb.state.or.us/groups/WSC_List.shtml)), Soil and Water Conservation and Irrigation Districts (<http://www.oacd.org/>) Cities and Counties (<http://www.aocweb.org/>) all play an important part in the State's strategy.

### III. Nonpoint Source Activities and Accomplishments in 2002

Oregon's Nonpoint Source program has been very active in 2002. Significant accomplishments were made in various aspects of the State program including program improvement, relationships with partners, and enhancements in watersheds throughout the State. The highlights for this reporting period are set out below:

#### A. TEMPERATURE, TOXICS AND BIOCRITERIA PARAMETERS IN WATER QUALITY CRITERIA: REVIEW OF STANDARDS

Every three years, Oregon is required to review and revise its water quality standards, and submit any new or revised standard to EPA for review and approval.

The Oregon water quality standards, including the narrative and numeric criteria, are set out in Chapter 340, Division 41 of the Oregon Administrative Rules. A significant number of Oregon water quality criteria are currently being reevaluated. These include a comprehensive review of the toxic pollutant criteria set out in Table 20 of the rule.

Nearly 250 of these criteria are expected to change by the end of 2003. Of these, 57 are designed to protect aquatic life, while 193 are focused on protecting human health.

We expect to complete this update by the end of calendar year 2003.

In addition, since October 1999, DEQ has been participating in a review of the water quality temperature criteria with EPA, the States of Idaho and Washington, the U.S. Fish & Wildlife



Service, the National Marine Fisheries Services, the Columbia River Intertribal Fish Commission, and the Nez Perce.

In October 10, 2002, EPA released a second draft guidance containing recommendations to States and Tribes for developing and implementing temperature criteria throughout the Pacific Northwest. A public workshop on the guidance was held in Portland on November 6, 2002. The public comment period closed November 26, 2002. DEQ expects to continue to participate in the process until a final guidance becomes available. Once the guidance is final, Oregon has, according to an agreement with EPA regarding the State's existing temperature criteria, one year to decide whether and how to adopt the EPA guidance (Spring 2004).

DEQ has also been actively working on a methodology to develop numeric biocriteria for various "ecoregions" around the State.

The biocriteria are benchmarks of DEQ expectations regarding the number and diversity of aquatic life in Oregon waterways. Once in place, these biocriteria numbers will be used as another tool to evaluate the health of the State's rivers and streams.

For more information on these efforts, please contact Debra Sturdevant, at DEQ, at (503) 229-6691.

## B. NONPOINT SOURCE POLLUTION TAX CREDITS

In 1999, the Legislature authorized a tax credit for nonpoint sources of pollution. This authorization required Department rulemaking before the tax credit program was effective. This rulemaking effort was completed in January 2001 and expenses incurred for nonpoint source controls are now, for the first time in Oregon, eligible for tax credits.

The rules allow a 50% credit for nonpoint source control expenses approved or "certified" by the Department. See Oregon Administrative Rules OAR [340-16-0005-0080] for a description of the process to follow to obtain a pollution control tax credit.

The Nonpoint Source Pollution Tax Credit is intended to cover expenditures for "on-the-ground" management practices and improvements. It is not intended to cover education, outreach or monitoring costs.

To be eligible, the applicant must:

- ✓ *Be an Oregon taxpayer;*
- ✓ *Make a qualifying investment;*
- ✓ *Be the owner and operator of the facility or property in question.*
- ✓ *The nonpoint source pollution expense must be for the purchase of land, or a structure, building, installation, excavation, machinery, equipment or devices.*

- ✓ *Be documented.*

Expenses that do not qualify for the tax credit include

- ✓ *Septic tanks or other facilities for human waste;*
- ✓ *Asbestos abatement; or any investment used for cleanup of emergency spills or unauthorized releases;*
- ✓ *Other insignificant nonpoint source control measures*

Items that do qualify include

- ✓ *Vehicles;*
- ✓ *Landscaping and fencing;*
- ✓ *Reconstruction of parking lots, and roadways so long as they have a pollution-control purpose.*

In addition, the expense must meet at least one of the following circumstances:

- ✓ *Be incurred as a result of a U.S. Environmental Protection Agency or Oregon Department of Environmental Quality requirement, including TMDLs and groundwater management area action plans; or*
- ✓ *Exclusively function to control, prevent or reduce nonpoint source pollution and be effective in controlling, reducing or preventing water pollution; and be authorized by one or more of the partner agencies listed in the State NPS Control Program Plan.*

✓

The partners and activities include expenses incurred pursuant to the following:

- ✓ *Agricultural water quality management plans administered by the Oregon Department of Agriculture.*
- ✓ *Forest management practices administered by the Oregon Department of Forestry.*
- ✓ *Estuary plans.*
- ✓ *Match expenses for a Nonpoint Source or watershed grant agreement by either DEQ or OWEB.*
- ✓ *Expenses verified by research conducted by Oregon State University's agricultural experiment station, U.S. Department of Agriculture's research service, or the Oregon Department of Agriculture.*

An applicant has two years after the completion of construction to file an application with the Department.

Discussion with potential tax credit users has been on the increase. We expect to identify pilot projects and provide a funding-implementation plan including the Tax Credit option to implement management practices addressing NPS pollution concerns.

### C. TMDLS ADDRESSING NONPOINT SOURCE POLLUTION:

According to the most recent (1998) assessment of the State's water quality, 13,687 miles of State waters are not currently achieving water quality standards. Over 12,100 of these miles are impaired due to temperature. Under Federal law, a total maximum daily load (TMDL) analysis and allocation must be undertaken for these water bodies. Given the numbers of impaired waters, DEQ has elected to perform its TMDL work on a subbasin basis, rather than water segment by segment. Table I presents completed and pending TMDLs.

The majority of the State's TMDL work involves nonpoint sources of pollution. DEQ estimates that 75 percent (68) of the 91 watershed sub-basins are primarily affected by forestry, agriculture, urban development and other nonpoint sources. Nonpoint sources of pollution also play a significant role in the remaining 23 sub-basin where impairment is attributed to both point and NPS.

On February 1, 2000, DEQ and EPA entered into an MOA formalizing Oregon's commitment to develop TMDLs for its impaired water bodies. The MOA describes the basic elements of a TMDL, opportunities for public involvement and establishes sequence for TMDL development in all 91 sub-basins. The agreement calls for all currently known impaired waters to have completed TMDLs by June 30, 2007. Please refer to Table I for a detailed list of the subbasins in which a TMDL has been approved, under development, or submitted for review, and Table II for a full schedule of TMDLs.

Since the agreement, several subbasin TMDLs were completed and sent to EPA for review:

- ✓ *Little River [temperature, sediment and pH]; APPROVED by EPA during 2002*
- ✓ *Lower Snake Creek [temperature, sedimentation, pH, nutrients, aquatic weeds/algae and dissolved oxygen];*
- ✓ *Columbia River, [gas]; APPROVED by EPA during 2002*
- ✓ *North Coast Basins, Public Review during 2002*
- ✓ *Upper Klamath [temperature, pH, nutrients, dissolved oxygen]; APPROVED by EPA during 2002*
- ✓ *Upper Grand Ronde [temperature, sedimentation, pH, nutrients, aquatic weeds/algae and dissolved oxygen];*
- ✓ *Umatilla [Flow, bacteria, temperature, and sediment]*
- ✓ *Tualatin [phosphorus and ammonia in the main stem of the river, and bacteria, dissolved oxygen, temperature and chlorophyll a in the tributaries]; and*
- ✓ *Upper South Fork of the Coquille [temperature]*
- ✓ *Tillamook [bacteria and temperature]*

Columbia/Snake Rivers MOA.

In January 2001, DEQ signed a Memorandum of Agreement with the EPA and the State of Idaho regarding the development of the TMDLs for Total Dissolved Gas and Temperature. This agreement lays out how EPA, Idaho, Washington and Oregon will coordinate efforts on this TMDL.

**TABLE I: COMPLETED AND PENDING TMDLS**

Subbasin	TMDLs/ Sub-basin	River Miles	Status
Bear Creek	3	27	1992 (APROVED)
Clear Lake 35 acres	1		1992 (APROVED)
Coast Fork, Willamette	2	66	1996 (APROVED)
Columbia Slough	10	19	1998 (APROVED)
Coquille River	3	346	1996 (APROVED)
Upper Klamath	3	634	2002 (APROVED)
Garrison Lake, 90 acres	1		1992 (APROVED)
Columbia River	1	309	2002 (APROVED)
Little River	16	173	2002 (APPROVED)
Lobster Creek	3	17	(public comment opened 11/01)
Lower Sucker Creek	3	10	2001 (public comment opened 10/01)
Nestucca Bay	6	106	(public comment closed)
North Coast			PUBLIC REVIEW
Pudding River	16	60	1993 (APROVED)
Rickreall Creek	1	9	1994 (APROVED)
Snake River–Hells Canyon	8	221	(public comment opened on 12/01)
Sprague	15	324	7/2001
Tillamook Bay (Tillamook/ Nestucca)	39	224	2001 (APPROVED)
Tualatin	97	277	2001 (APPROVED)
Tualatin River	12	283	1992 (APROVED)
Tualatin River	12	283	1994 (APROVED)
Umatilla	34	379	2001 (APPROVED)
Up. Sucker Grayback	1	0.6	1999 (APPROVED)
Upper Grande Ronde	74	469	2000 (APPROVED 5/3/00)
Upper Klamath Lake	8	6	(public comment opened on 12/01)
Upper S. Fork Coquille	7	90	2001 (APPROVED)
Wallowa	18	145	Under development
Western Hood	7	31	2001
Williamson	3	93	Under development
Yamhill River	3	201	1992 (APPROVED)
<b>SUBMITTED (1999-2002)</b>	<b>355</b>	<b>3095.6 miles</b>	

Subbasin	TMDLs/ Sub-basin	River Miles	Status
	TMDL's		

**TABLE II. FULL SCHEDULE FOR TMDL DEVELOPMENT**  
(numbers represent impaired stream segments)

Year	TMDL's Approved by EPA	# TMDL's Submitted to EPA	# TMDL's Required Yet To Be Submitted to EPA	TMDL's Required to be Approved by EPA, Cumulative Totals.
1991	8	-		
1992	20	-		
1993	16	-		
1994	13	-		
1995	-	-		
1996	5	-		
1997	-	-		
1998	10	-		
1999	-	1	207	
2000	74	74	160	
2001	177	23	124	
2002			310	
2003			324	
2004			311	310
2005			143	
2006			134	
2007			112	
2008				982
2010				1153

D. MEMORANDUM OF AGREEMENT BETWEEN USFS AND DEQ.

During the year 2002, DEQ and USFS concluded a 2 year effort to update existing water quality joint efforts (Memorandum of Agreement, a.k.a. MOA). The agreement is aimed at strengthening working relations and establishing closer coordination, particularly regarding TMDL development and implementation.

The MOAs focuses on protection, restoration and maintenance of physical, chemical and biological conditions of water that support beneficial uses (defined in Oregon Administrative Rules, Division 41) by working in a proactive and collaborative manner. The purposes of the MOA is to:

- ✓ *Collaborate on priorities, strategies and funding using a watershed approach to protect and restore water quality on National Forest System (NFS) and Bureau of Land Management (BLM) lands.*
- ✓ *Foster and enhance communication, coordination and working relationships between DEQ and the FS/BLM.*
- ✓ *Identify FS/BLM and State of Oregon policy, programs, and practices that ensure attainment of Federal and State water quality laws and regulations that collectively support the assignment of the FS/BLM as a Designated Management Agency (DMA) for meeting Clean Water Act (CWA) requirements on NFS/BLM lands.*
- ✓ *Recognize, clarify and support DEQ and FS/BLM roles and responsibilities specific to water quality.*
- ✓ *Establish a process for joint review of ongoing watershed protection, restoration, and compliance activities, including a plan for short and long-term work.*
- ✓ *Create an annual evaluation process to improve methods and approaches for meeting water quality goals and standards.*

The MOA creates a framework in which the DEQ and FS/BLM can effectively cooperate on programs and projects of mutual concern to protect, restore and maintain water quality Statewide. The MOA also minimizes duplication of efforts.

#### E. COASTAL ZONE NPS PROGRAM:

Oregon's Coastal Nonpoint Pollution Control Program (CNPCP) has been developed in compliance with requirements adopted as part of the Coastal Zone Management Act Reauthorization Amendments of 1990 (CZARA). CNPCP is administered at the federal level by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Air Administration (NOAA).

At the state level, the CNPCP is coordinated jointly by the Department of Land Conservation and Development (DLCD) and DEQ. The new requirements were designed to restore and protect coastal waters from nonpoint source pollution and require coastal states to implement a set of management measures based on guidance published by EPA.

The guidance contains 56 management measures separated into six groups. There are measures for the following areas: agricultural activities, forestry activities, urban areas, marinas, hydromodification activities, and protecting riparian areas and wetlands.

In July of 1995, Oregon completed its Program Submittal for the CNPCP. Oregon's CNPCP Submittal described existing programs and proposed work tasks that would meet the terms of CZARA and EPA's guidance and work to improve water quality in Oregon's coastal zone. Current state water quality, wetland, and land use laws, as well as the Forest Practices Act and the early development of The Oregon Plan for Salmon and Watersheds, insured that the state already met many requirements of CZARA.

In January 1998, after reviewing the state's program submittal, EPA and NOAA returned their findings to the state that granted a conditional approval to Oregon's program. The findings included 13 conditions of approval.

Since receipt of the conditional approval of the state's CNPCP the following activities have occurred:

- ✓ *Received approval by NOAA and EPA of the state's request to maintain the CNPCP boundary for the Columbia River at the existing Coastal Program boundary at Puget Island.*
- ✓ *Received agreement by both EPA and NOAA to approve existing Oregon Plan commitments, along with provisions in current land use laws as meeting the urban watershed management measure.*
- ✓ *Received agreement by both EPA and NOAA to exempt the state from meeting state and federal highway management measures due to ODOT's intention of covering all construction and maintenance activities under a statewide municipal stormwater National Pollutant Discharge Elimination System permit.*
- ✓ *Received tentative agreement by both EPA and NOAA on the Oregon's submittal on measures for Protecting and Restoring Riparian Areas.*
- ✓ *Received tentative agreement by both EPA and NOAA on the Oregon's submittal on Measures for Marinas and Recreational Boating.*
- ✓ *Developed the DLCD/DEQ Water Quality Model Code and Guidebook which recommends implementing mechanisms such as model ordinances, comprehensive land use plans amendments, rules changes, guidance documents and education and technical training to meet many of the urban management measures.*
- ✓ *Developed educational and presentation materials for local governments to facilitate the adoption of local development codes protective of water quality and aquatic habitat as recommended in the DLCD/DEQ Water Quality Model Code and Guidebook.*
- ✓ *Obtained federal funding (through EPA's Section 319 and NOAA) for DEQ and DLCD's CNPCP Coordinator positions.*

On going tasks to be completed by DLCD and DEQ to provide a complete Oregon CNPCP Program Plan for NOAA and EPA approval by December 2002:

Obtain a legal opinion from the state attorney general stating that existing enforcement authorities can be used to prevent NPS and require management measure implementation, as necessary.

Prepare a description of the mechanisms or process that links the implementing agency with the enforcement agency and a commitment to use the existing enforcement authorities where necessary.

Prepare a Submittal of Additional Information on the State's Measures for Agricultural Sources to NOAA and EPA.

Prepare a Submittal of Additional Information on the State's Measures for Urban Sources to NOAA and EPA, including finalizing the Water Quality Model Code and Guidebook to facilitate the adoption of local ordinances designed to meet Clean Water Act requirements; Endangered Species Act, 4(d) Rule; and natural resource statewide land use planning goals.

Develop technical assistance program for local governments to facilitate the adoption of the urban component of basin-wide water quality management plans, building on work already completed with development of the Water Quality Model Code and Guidebook and related materials.

Implement remaining management measures prioritized as commitments under The Oregon Plan. Continue progress reporting by implementing state agencies as part of The Oregon Plan. Continue to prepare CNPCP yearly progress reports to NOAA and EPA on meeting program requirements and implementation of CNPCP Management Measures.

Implement CNPCP Management Measures through Urban Water Quality Management Implementation Plans being developed as required by the TMDL process, the agricultural water quality plans (SB1010 Rules) and the State Forest Practices Act in the following Oregon Plan priority basins: Umpqua, Rogue, South Coast, and Tillamook/North Coast Basins.

Prepare a final CNPCP submittal plan to NOAA and EPA and receive full program approval.

Department of Land Conservation (DLCD)

July – December 2001

### *Coordination of Coastal Nonpoint Pollution Control Program*

In the last reporting period DLCD staff finished the preparing the state's response to conditions on the riparian protection and restoration management measures and submitted this response to OCRM and EPA. The submittal was largely found to demonstrate sufficient compliance with the riparian protection and restoration management measures, except some clarification is still needed to justify differences between the riparian protection under the state's Goal 5 standard option and the Goal 5 "safe harbor" option.

DLCD Staff has researched existing state authority over boat operation relative to mitigating water quality impacts and has found that these authorities are sufficient to meet the objectives of the boat operation management measure. Staff has also researched existing regulations governing new marina and dock construction relative to impacts on flushing and aquatic habitat, and found these too to be sufficient to meet the objectives of the marina sighting and design management measures. For many of the remaining outstanding management measures for marinas and recreational boat operation, DLCD staff has been working with DEQ to develop a best management practice guide for marina operators. The result of this research and project work has



been submitted to OCRM and EPA with the expectation that Oregon will be found in compliance with the all the marina and recreational boating management measures.

DLCD staff has continued to coordinate with the Department of Environmental Quality and the Department of Agriculture on efforts to respond to the conditions of approval for the agricultural management measures. DLCD has also been available to assist DEQ in efforts to draft an urban water quality management plan guidance to assist local governments facing total maximum daily load allocations and endangered species listings, but this project is not yet well developed.

Staff has also performed project management tasks related to grants given to nonpoint source grants and 309 grants given to local governments, and the Oregon Coastal Zone Management Association. The 309 grant contract for the City of Grants Pass Stormwater Policy Development Project, which was reprogrammed from last years 309 funds, has been signed and the project is underway. For activity related to the 6217 nonpoint source funds, see section on the 6217 grant.

During 2002 the Coastal program staff has continued to strategize approaches to comply with the states outstanding CNPCP management measures. While significant progress has been made on completing commitments in our marina management measures, closure on the riparian management measure has been more difficult to achieve. Financial and political obstacles to rule writing for the agency at large have severely limited the program's ability to remedy a loss of implementation deadline for the Goal 5 riparian rule as it applies to small cities under population of 2,500. Coastal Program staff continues to work with DEQ to develop approaches for monitoring, and ongoing processes for identifying critical coastal areas and the need for additional management measures.

Grant management of the Local Government CNPCP Implementation Grant Program has comprised another significant task for the CNPCP coordinator. Two projects from the previous grant year have also required coastal program staff involvement. These two projects, a 309 funded stormwater program development effort in Grants Pass, and a 6217 funded Oregon Marina BMP manual, have been successfully completed. (See discussion in final report for the 2000-2001 coastal grant.

#### Water Quality Model Code

The anticipated DEQ-lead Water Quality Model Code outreach project described in the last grant report did not materialize since 319 funding for the proposed effort was redirected. However, a grant to the Rogue Valley Council of Governments (RVCOG) has been awarded to promote the Water Quality Model Code and Guidebook in the Rogue River watershed. The Water Quality Model Code will be integrated with outreach efforts associated with the Rogue Valley Regional Stormwater Management Project. RVCOG has committed to complete this grant task by December of 2002.

#### **Section 6217 - Program Implementation**

The CNPCP implementation grant program has been well received by local governments in the coastal zone. Due to delays discussed in the state's request for reprogramming of these funds, contracts for these grants were not finalized until this spring. Although Program staff

has received verbal confirmation that the funded projects and programs are proceeding on or close to schedule, there has not been any required reporting on the part of the grant recipients at this time.

#### Construction Site Erosion, Chemical and Sediment Control

The Contract with the Oregon Coastal Zone Management Association (OCZMA) was finalized at the beginning of April, 2002. OCZMA has since conducted four erosion control workshops along the coast to promote the use of best management practices on construction sites of all sizes. A total of fifty-eight local representatives attended the four workshops. Evaluations workshops were very favorable. OZCMA will continue to conduct work under the grant, including investigation into availability of erosion control materials on the coast and support of local governments interested in pursuing local erosion control ordinance development.

#### F. NONPOINT SOURCE GRANTS

There are two primary programs that provide funding for various nonpoint source pollution and watershed enhancement projects in Oregon. One is administered by DEQ, and the other is administered by OWEB. A third program is administered by the Department of Agriculture (Fertilizer Tax Fund Program), which supports research and demonstration of BMP as it pertains to groundwater quality protection.

##### DEQ NONPOINT SOURCE GRANTS

- In 2002, DEQ revised the criteria for evaluating and prioritized 319 grant proposals for funding. The revised criteria elements are as follows:
- Projects addressing the Total Maximum Daily Loads priorities listed in any of the subbasins listed
- Significant publicly owned lakes currently listed in the Priority streams document (303(d) list);
- Drinking water supplies from surface reservoirs and river intakes;
- Groundwater protection projects addressing contamination;
- Ongoing agricultural and urban NPS projects making significant progress in addressing Nonpoint problems and can demonstrate a need to extend or expand the scope of the project;
- Other water bodies (surface or groundwater) that are publicly owned and locally important;
- Public water supplies that can demonstrate a need for protection or improvement.

- Control of non-agricultural NPS pollution (such as urban stormwater, construction site erosion, etc.);
- Demonstration of innovative or alternative NPS control strategies or practices being part of an overall watershed project and used to promote greater implementation of best management practices;
- Information/education of public or targeted groups on NPS pollution issues in a priority basin;
- Promoting increased use of BMPs in a watershed;

During FY 2002, DEQ made approximately \$2.2 million dollars available for 29 projects. The projects are summarized as follows:

A summary of the description and status for each of project is found in Table III.

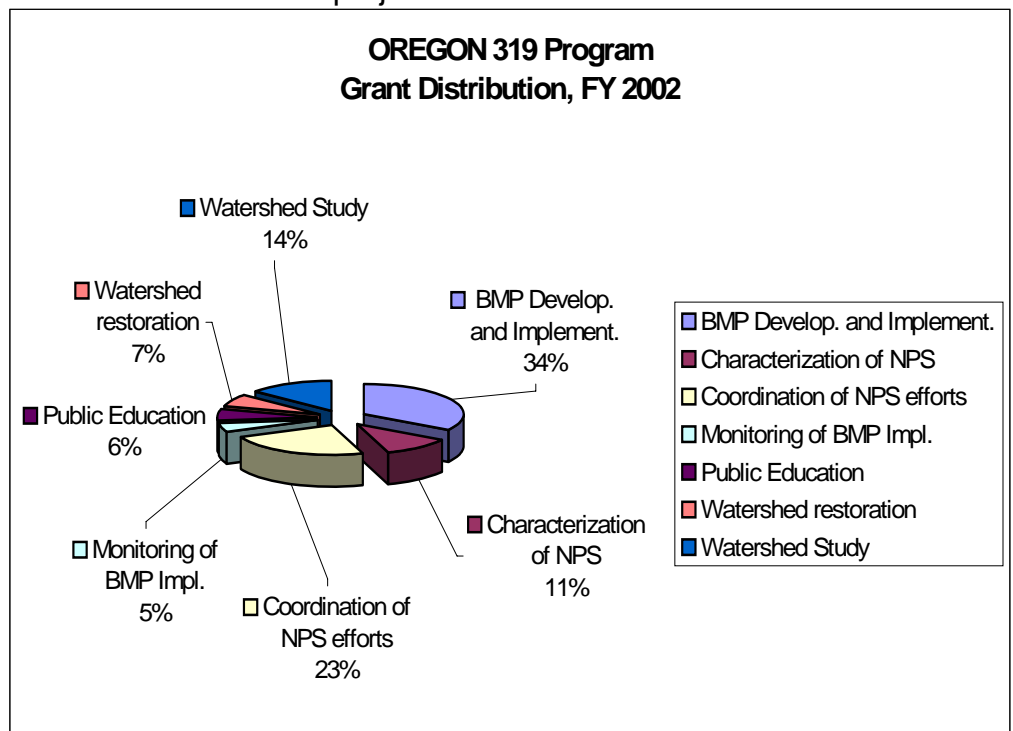
In order to qualify for this funding, each recipient agreed to match these funds with (40%) value in either in kind services or other funds (state, local) to support the project, or both.

Criteria for funding 2002 projects included:

- ✓ Whether the project objectives were clear, realistic and will protect or improve water quality.
- ✓ Whether the activities are appropriate and will achieve the project goals.
- ✓ The degree of local support as indicated (resources or technical support), is in excess of the required local match.
- ✓ Expectation that the project will result in long-term improvement or protection of water quality.
- ✓ Whether the project is cost-effective/efficient.

Proposals should be consistent with Oregon 319 Priorities: Projects addressing these priorities must include one or more of the following:

- I. Projects addressing the Total Maximum Daily Loads priorities;



- II. *Water quality projects addressing priority issues in publicly owned lakes currently listed in the priority streams document (303(d) list);*
  - III. *Drinking water supplies from surface reservoirs and river intakes;*
  - IV. *Groundwater protection projects addressing contamination, Refer to Table V for a list of priority needs;*
  - V. *Ongoing agricultural and urban NPS projects making significant progress in addressing Nonpoint problems and can demonstrate a need to extend or expand the scope of the project;*
  - VI. *Other water bodies (surface or groundwater) that are publicly owned and locally important;*
  - VII. *Public water supplies that can demonstrate a need for protection or improvement.*
  - VIII. *Control of non-agricultural NPS pollution (such as urban stormwater, construction site erosion, etc.);*
  - IX. *Demonstration of innovative or alternative NPS control strategies or practices being part of an overall watershed project and used to promote greater implementation of best management practices, BMPs;*
  - X. *Loss of floodplain or wetland function;*
  - XI. *Low and high flow affecting habitat and water quality;*
  - XII. *Information/education of public or targeted groups on NPS pollution issues and promoting increased use of BMPs in a watershed;*
  - XIII. *Projects demonstrating strong local/regional involvement and support, including financial support or other resource contributions from governmental/private sources.*
  - XIV. *Activities that will help restore waterbodies on the "non-attainment list" (also referred to as the "303(d) list", or "Total Maximum Daily Load (or TMDL) list:"), which are waters that do not meet water quality standards;*
- ✓ *Soundness of the water quality description and the applicant's technical ability to carry out the project.*

During 2002, DEQ intended to undertake rulemaking in our State Revolving Fund (SRF) Loan Program to clarify the eligibility criteria for community nonpoint source projects. Historically, the SRF has been used to provide low interest loans to "public entities" to construct domestic wastewater infrastructure. To date, few public agencies have sought to use the funds for their nonpoint sources.

#### OWEB WATERSHED ENHANCEMENT GRANTS

The Oregon Watershed Enhancement Board (OWEB) (formerly the Governor's Watershed Enhancement Board, GWEB) plays a key role in assisting Watershed Councils and Soil and Water Conservation Districts with technical support and funding. The OWEB administers a watershed restoration grant program, which annually disperses millions of dollars to local groups and individuals.

The OWEB recognizes that a vast number of grant opportunities are available to local groups and has an interest in providing a coordination function in this area. Some of the many funding sources OWEB coordinates include:

- ✓ *Agricultural Conservation Program,*
- ✓ *Clean Water Act grants,*
- ✓ *Conservation Reserve Enhancement Program,*
- ✓ *FEMA grants, and Farmers Home Administration programs,*
- ✓ *Hire-the-Fisher Program,*
- ✓ *Jobs-in-the-Woods Program,*
- ✓ *Lottery funds/local government grants,*
- ✓ *ODFW Restoration and Enhancement Board, and*
- ✓ *Stewardship Incentives Program.*

The 2001 Legislative Assembly increased OWEB's two-year funding to over \$40,000,000 (state and federal funds combined) to provide grants to local Watershed Councils and others. During 2001, OWEB distributed over \$16.1 million in grants for watershed enhancement and salmon recovery. These projects include education and outreach, water quality monitoring and assessments, support for watershed council personnel, and restoration projects such as erosion control, vegetation management, wetlands, habitat restoration and fish passage improvements.

Similar to DEQ's nonpoint source grants, OWEB grant recipients must pledge at least 25% in matching funds in order to receive their grants. Therefore, the total value of these combined projects is at least \$ 20 million each year. For more detailed information on the OWEB program, the reader is referred to the OWEB website.

OWEB's watershed assessment guidance manual for local Watershed Councils has been and continues to be used by a number of Watershed Councils. A stream and watershed restoration inventory is being developed to track public and private efforts to restore watershed health. OWEB, after input from the Joint Legislative Committee on Salmon and Stream Enhancement, adopted priorities for funding for the Watershed Improvement Grant Fund, with emphasis on whole watershed approaches, beginning in the head- waters and uplands and working downslope and downstream.

Members of the Oregon Governor's Watershed Enhancement Board include one person from each of the bodies listed below:

**Organizations with Voting Board Members:**

- ✓ *Oregon Environmental Quality Commission;*
- ✓ *Oregon Water Resources Commission;*
- ✓ *Oregon Board of Agriculture;*

- ✓ *Oregon Fish and Wildlife Commission;*
- ✓ *Oregon Board of Forestry;*
- ✓ *Six members representing Watershed Councils, citizens, and First Nations.*

#### Organizations with Non-Voting Board Members:

- ✓ *USDA Forest Service;*
- ✓ *Bureau of Land Management;*
- ✓ *Oregon State University Cooperative Extension Service;*
- ✓ *USDA Natural Resources Conservation Service;*
- ✓ *Environmental Protection Agency; and National Marine Fisheries Service.*

#### OWEB-DEQ PARTNERSHIP

OWEB plays a very large and an ever-increasing role in Oregon's NPS control program. It is the principal funding source for implementation of The Oregon Plan, including the financial and technical support of Watershed Councils.

In recent years, OWEB has published several important documents to guide watershed processes that address watershed assessment, water quality monitoring, aquatic habitat restoration, and watershed scale restoration action plans. Some of these documents include:

- ✓ *Water Quality Monitoring Technical Guide Book;*
- ✓ *Habitat Restoration Guide*
- ✓ *Oregon Watershed Assessment Manual*
- ✓ *Oregon Aquatic Habitat Restoration and Enhancement Guide*

Each of these documents was prepared with DEQ input, and each has become central to the functioning of our NPS program. OWEB's regional and statewide advisory committees, as well as the Board itself, serve as highly energized forums for discussion and action on watershed issues of all kinds. Copies of these documents could be obtained by accessing the OWEB webpage at: <http://www.oweb.state.or.us/>

Together, the Nonpoint Source and the watershed restoration grants promote the shared vision of healthy watersheds and natural habitats that support thriving communities and strong economies.

G. OREGON DEPARTMENT OF AGRICULTURE

The Oregon Department of Agriculture (ODA) is the lead state agency for addressing water quality issues associated with agricultural activities in Oregon [see Oregon Revised Statutes (ORS) 568.900 through 568.933, ORS 561.191, and ORS 468B.200 through 468B.230].

ODA is responsible for developing and implementing agricultural water quality management area plans and administrative rules. When adopted, the plans and administrative rules provide the strategy and additional regulatory backstop, i.e. the force of law, necessary to address water pollution from agricultural activities and lands. The purpose of the plans and rules is to prevent and control water pollution from agricultural activities and soil erosion. These plans and rules, in combination with ODA's Confined Animal Feeding Operation and Pesticide programs, serve as the principal implementation mechanism for TMDLs as they affect agricultural activities.

ODA has aggregated a number of the state's 91 sub-basins into larger agricultural water quality planning areas, resulting in 39 agricultural water quality management planning areas covering virtually all of the state.

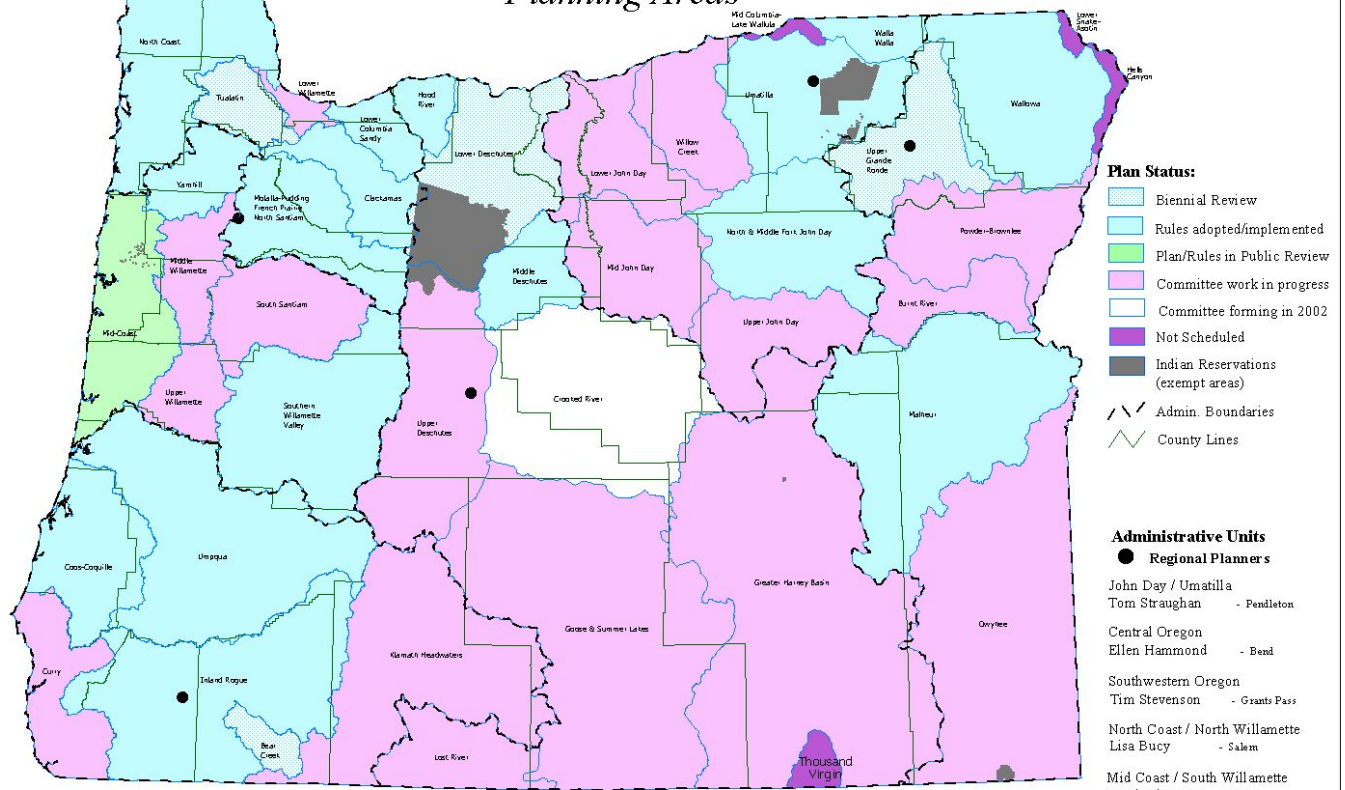
Summary of ODA's Agricultural Water Quality Management Area Plans and Rules (AWQMAP) as of June 2002

Plans already adopted	Plans proposed for public comment	Plans currently in development	Plans yet to be initiated
20/39	2/39	16/39	1/39

The Twenty AWQMA Plans and rules already adopted are:

- *Bear Creek*
- *Upper Grande Ronde*
- *Tualatin River*
- *Umatilla River*
- *Lower Deschutes*
- *North Coast*
- *Yamhill River*
- *Umpqua*
- *Malheur*
- *Hood River*
- *Clackamas*
- *Lower Columbia - Sandy*
- *Inland Rogue*
- *Middle Deschutes*
- *Wallowa*
- *Molalla - Pudding/French Prairie/North Santiam*
- *Coos and Coquille*
- *North/Middle Forks John Day*
- *Walla Walla*
- *Southern Willamett*

# Oregon Department of Agriculture Agricultural Water Quality Management Program Planning Areas



- Plan Status:**
- Biennial Review
  - Rules adopted/implemented
  - Plan/Rules in Public Review
  - Committee work in progress
  - Committee forming in 2002
  - Not Scheduled
  - Indian Reservations (exempt areas)
  - Admin. Boundaries
  - County Lines

- Administrative Units**
- **Regional Planners**
  - John Day / Umatilla  
Tom Straughan - Pendleton
  - Central Oregon  
Ellen Hammond - Bend
  - Southwestern Oregon  
Tim Stevenson - Grants Pass
  - North Coast / North Willamette  
Lisa Bucy - Salem
  - Mid Coast / South Willamette  
Stephanie Page - Salem
  - Eastern Oregon  
Ken Diebel - La Grande



Source: REO 1:100,000 Fourth Field  
Hydrologic Unit Codes (modified)  
Date: June 10, 2002  
Contact: Natural Resources Division





Additional plans that are in various stages of development are:

- ✓ *Lost River*
- ✓ *Klamath Headwaters*
- ✓ *Mid-Coast*
- ✓ *Curry*
- ✓ *Mid John Day*
- ✓ *Upper John Day*
- ✓ *Burnt River*
- ✓ *Middle Willamette*
- ✓ *South Santiam*
- ✓ *Upper Deschutes*
- ✓ *Goose and Summer Lakes*
- ✓ *Greater Harney Basin*
- ✓ *Upper Willamette*
- ✓ *Owyhee*
- ✓ *Lower Willamette*
- ✓ *Powder - Brownlee*
- ✓ *Lower John Day*
- ✓ *Willow Creek*
- ✓ *Crooked River*

ODA expects to have all plans and rules adopted or nearing the final stages of development by the end of 2003. Of course, once a corresponding TMDL is issued for an area with an existing agricultural water quality management plan, the plan and rules will be reviewed and revised as necessary to ensure consistency with the final TMDL.

As part of the development and implementation of these agricultural water quality management plans, the Oregon Department of Agriculture and its partner agencies in conservation efforts - the State's 45 soil and water conservation districts, the USDA Natural Resources Conservation Service, the USDA Farm Services Agency, and Oregon State University - are conducting technical assistance, financial assistance, and educational outreach activities for agricultural and rural landowners to raise awareness of water quality and natural resource issues, to develop collaborative solutions, and to engage them in conservation work.

Landowner workshops, "shop talks", BMP field days, demonstration projects, one-on-one contact and other activities are the primary means being employed to raise awareness of agricultural water quality issues and their possible solutions. In addition, coordination of agricultural educational outreach, monitoring, and financial assistance activities with watershed councils and the Oregon Watershed Enhancement Board is broadening the base of projects and conservation practices being implemented on-the-ground.

The Oregon Department of Agriculture (ODA) is the lead agency for addressing water quality issues associated with agricultural activities in Oregon [see Oregon Revised Statutes (ORS) 568.900 through 568.933 and ORS 561.191].

#### H. OREGON DEPARTMENT OF FORESTRY

The Oregon Department of Forestry (ODF) has statutory authority to manage programs designed to protect water quality on State and private forestlands.

ODF is required to implement "best management practices" and other rules established by the Board of Forestry to ensure that to the maximum extent practicable nonpoint source pollution

from forest operations do not impair the achievement and maintenance of water quality standards established by DEQ (through its policy-making body, the Environmental Quality Commission).

The Departments of Environmental Quality and Forestry have undertaken a “sufficiency” review of ODF’s strategy in implementing the Forest Practices Act (FPA) and its effectiveness protecting water quality. This is a statewide evaluation, with regional considerations, and is currently focusing five water quality parameters: Temperature; Sedimentation; Turbidity; Habitat Modification; and Biological Criteria.

The final report entitled, "ODF/DEQ Sufficiency Analysis: A Statewide Evaluation of FPA Effectiveness in Protecting Water Quality" was completed during 2002 as a cooperative effort between the Oregon Department of Forestry (ODF) and the Oregon Department of Environmental Quality (DEQ), as outlined in the Memo of Understanding signed by both agencies in April, 1998 (see Appendix D of the report). Please address any questions regarding this posted report to DEQ [Tom Rosetta [svetkovich.christine@deq.state.or](mailto:svetkovich.christine@deq.state.or) (503) 229-6381]. The full report could be found at:

<http://www.deq.state.or.us/wq/nonpoint/ODFDEQSuffAnalysisFPA.pdf>

The Board of Forestry (BOF) has also formed the forest practices advisory committees (FPAC) to review the FPA and make recommendations for needed changes if any are identified. The foundation of this committees’ work is the body of scientific analysis and data that establish relationships between forest landscape condition, forest land management, and condition of the aquatic resources.

FPAC identified 24 recommendations to the BOF. These include: increasing density of tree retention along some forested streams; forested buffers in areas where no buffer requirements previously existed; improvements on fish passage; reduced sedimentation associated with proposed and existing forest roads; identification and protection of high risk sites (landslide prone sites); and the initiation of a “landscape approach” to assessing watersheds and forestry related impacts to water quality.

ODF is in the process of developing a strategic plan under BOF direction, with proposed changes subject to public involvement.

The Eastern Riparian Functions Advisory Committee (ERFAC) was formed to work with interests in eastern Oregon to develop riparian measures for eastern Oregon forests. Since many of the riparian recommendations by the FPAC were based on data regarding western Oregon forests, the ERFAC was established to examine those recommendations and modify them in order to meet water quality standards and protect and restore salmonid habitat in eastern Oregon. ERFAC is comprised of individuals representing small and large forest landowners, environmental and sports-fishing organizations, logging and commercial fishing interests, local governments, and labor unions. ERFAC is expected to make its recommendations to the BOF in the Fall of 2002.

## IV. FUTURE DIRECTION FOR THE OREGON NONPOINT SOURCE PROGRAM

### Water Quality Standards

DEQ expects to adopt comprehensive revisions to the State water quality toxic criteria set out in Table 20 by the end of 2003.

DEQ expects EPA to issue final guidance to States and Tribes for developing water quality criteria for temperature in 2002, and DEQ expects to revise the Oregon criteria in early 2004.

DEQ expects to adopt a methodology for selecting appropriate biocriteria by the end of 2003.

### TMDLs

DEQ will continue to develop and implement TMDLs that address Nonpoint Source pollution throughout Oregon. During 2002, DEQ is expected to complete the TMDL for the Tillamook Basin, Hood Basin, Lower Sucker Creek, Little River (Umpqua), Lower Grande Ronde, and Upper Klamath Lake.

### Willamette Basin

The DEQ has begun the development of Total Maximum Daily Loads (TMDLs) for the Willamette River and some of its tributary rivers and streams. The DEQ is scheduled to complete TMDLs for nine of the 12 Willamette River sub-basins by the end of 2003. The nine sub-basins targeted for completion by 2003 are the Lower Willamette, Clackamas, Middle Willamette, North Santiam, South Santiam, Upper Willamette, McKenzie, Middle Fork and Coast Fork. TMDLs for the Yamhill and Molalla-Pudding sub-basins are not due until 2007. With Tualatin TMDLs completed (2001), the DEQ is approaching the work on TMDLs for the remaining 9 sub-basins as one large project.

### Grants

In 2003, DEQ will continue to provide approximately \$2 million in Nonpoint Source grant money. Similarly, OWEB will continue to fund watershed council personnel and restoration projects.

In addition, DEQ intends to undertake rulemaking in our State Revolving Fund (SRF) Loan Program to clarify the eligibility criteria for community nonpoint source projects. Historically, the SRF has been used to provide low interest loans to "public entities" to construct domestic wastewater infrastructure. Existing law already allows public entities to borrow money for nonpoint source control purposes, but to date, few public agencies have sought to use the money in this manner. DEQ will consider changing its rules to ensure community nonpoint source pollution projects are given appropriate access to the SRF.

### Training and outreach

The Oregon State University Extension Service is has produced a watershed education curriculum, named Watershed Steward Educational Program (WSEP). WSEP is a comprehensive watershed enhancement educational program (consisting of curriculum, training materials and learning aids) that will enable target audiences to learn to form effective partnerships, to assess conditions and develop strategies for mitigating or enhancing watershed resources, and to implement effective enhancement projects. WSEP is a joint program of the agriculture, forestry and Sea Grant Extension program areas.

DEQ seeks opportunities to leverage funds while targeting the general public in an ongoing effort for water quality education. This effort involves many partners at the local, state and federal level. Through the 319 priority process we expect to continue to identify those water quality education projects that assist the state of Oregon to accomplish this goal.

### Partners

The State and Federal agencies operating in Oregon have a long history of cooperation in water quality programs. Many of these relationships have been formalized in memoranda of agreement as early as 1976. These documents reflect commitments to share information and work cooperatively on matters of mutual interest.

Although these agreements have been revised from time to time, the most recent one was signed more than ten years ago. Consequently, these agreements do not directly address many of the existing features of the State water quality program including the Nonpoint Source Program, monitoring and assessments, and TMDLs. Therefore, negotiations are already underway to revise many of these agreements and ensure that the combined agency efforts are as efficient and effective as possible.

### PROGRAM CONTACTS

For More information on the Oregon Nonpoint Source Program, contact any of the following individuals:

For information on nonpoint source grants, contact Ivan Camacho at (1) (800) 452-4011 ext. 5088/(503) 229-5088. *camacho.ivan@deq.state.or.us*.

For information on coastal and small community stormwater nonpoint source programs, contact Don Yon at (1) (800) 452-4011 ext. 5076/(503) 229-5076. *yon.donald.R@deq.state.or.us*.

For general information on the nonpoint Source program, contact Mark Charles at (1) (800) 452-4011 ext. 5589/ (503) 229-5589. *charles.mark@deq.state.or.us*.

## V. Highlights of FY 2001-2002 CWA 319 Projects (Oregon)

### NORTHWEST REGION 319 ACTIVITIES

#### Children's Clean Water Festival

This project resulted in the facilitation of the second Children's Clean Water Festival in Tillamook County. The event was sponsored and hosted by the Tillamook Estuaries Partnership. The one day interactive clean water education event brought together over 350 middle school students, 30 environmental science educator/natural resource agency employees, and 50 community volunteers.

The students attended workshops covering a wide variety of water quality topics. These included water quality monitoring, macroinvertebrates, wetlands, tidepools, stormwater/wastewater, salmon and water, and water conservation. The Festival was followed up by a comprehensive follow-up survey of students, teachers, as well as citizen volunteers. The survey will determine the effectiveness of the workshops and identify additional education/outreach efforts that may be needed.

#### Nestucca/Neskowin Water Quality Monitoring

This effort allowed the Nestucca/Neskowin Watershed Council to work with the DEQ in the development of the Nestucca Watershed TMDL. The Council was responsible for the collection of water quality data needed in the development of the TMDL. The Council collected over 650 samples from 30 sites throughout the basin. Data collected included temperature, bacteria, turbidity, and dissolved oxygen.

Data collected by the Council was submitted to the DEQ and was extensively used in the development of the TMDL and accompanying Water Quality Management Plan. The TMDL was approved by the EPA in 2002.

#### Tillamook County Stream Enhancement

The primary purpose of this effort is to implement best management practices on private agriculture lands to abate bacteria and sediment run-off and provide stream shading to lower water temperatures.

The project provided approximately 30,000 feet of streamside fencing to exclude livestock. These riparian areas were then heavily planted with native plant species including hardwoods and conifers. Off-stream water facilities for livestock were also provided. These efforts will not only reduce water quality problems but will also provide long-term bank stability and large woody debris for improved salmon habitat.

### WESTERN REGION 319 ACTIVITIES

#### South Coast Basin: Highlights of 2000-2001 Projects

The 319 Nonpoint Source Grant program has been an invaluable funding resource for watershed implementation projects within the South Coast Basin. Several project stand out as examples of 319 dollars at work.

The Tenmile Lakes Basin Partnership has used 319 funding to initiate a watershed and lake monitoring program (FY-00), and to assess riparian and upland sediment conditions (FY-01). Algal blooms occurring within the Lakes for several years have contributed to impairments of beneficial uses (fishery, drinking water, and recreation), and resulted in Human Health Hazard Advisories and violations of water quality standards.

These two projects address important regional and state priorities, by providing water quality and algae data for TMDL development and by assessing riparian conditions and upland sediment sources. Tenmile Lakes are 303d listed for aquatic weeds and algae.

The purpose of the Tenmile Lakes watershed and lake monitoring program is to locate and quantify watershed sources of nutrients contributing to presence of excessive aquatic weeds and algae. The monitoring has focused on measuring inputs of nitrogen, phosphorus, and sediments into the lake. Hydraulic modeling was done to assess loading from a variety of landscapes. A nutrient budget for the Tenmile Lakes has been developed and this information will be utilized to prioritize future restoration and enhancement activities.

The Tenmile Lakes riparian and sediment assessment was implemented for the purpose of providing details regarding current riparian conditions and sediment sources within the watershed. The main objective of this project was to identify stream characteristics such as channel type, aspect, predominant land use, and vegetation class and then use this information to produce estimates of shade and potential shade on perennial streams. Efforts continue to monitor baseline stream temperatures within assessed streams. Sediment sources were also assessed for their potential to contribute to sediment loading. This information will be utilized to prioritize future restoration and enhancement activities. 319 funds were also used to conduct outreach programs regarding nutrient budget and water quality planning.

Curry Soil and Water Conservation District has done excellent work in sediment abatement using 319 funds.

The Curry Soil and Water Conservation District has been very successful in implementing sediment abatement projects on private lands within Curry County. The objective of the 2001 Curry Sediment Abatement 319 grant is to reduce sedimentation into priority watersheds within Curry County. Sediment abatement is an important component of temperature TMDL implementation. Upland sediment loads can result in channel widening and reductions in stream shade. Using 319 funds the grant recipient completed several abatement projects including 22 stream crossing culvert replacements, 22 cross drain replacement, 9 ditchline improvements, and a total of 18.5 miles of road upgraded. In addition, the Curry Soil and Water Conservation District has been very successful in recruiting private landowners to participate in various sediment abatement projects that are funded by the 319 grant.

## Umpqua Basin Watershed Assessment, Phase II, Project 34-01, \$104,081 of 319 funds

The Umpqua Basin in Southwest Oregon drains 4,560 square miles. The basin has significant federal ownership in the upper reaches of the North and South Umpqua subbasins, and primarily private ownership in the central Umpqua Valley. Federal Watershed Analyses have provided the data and information needed for the development of Water Quality Management Plans on federal lands, but no such information existed for private lands.

To address the lack of assessment information on lands in the central Umpqua Valley, the Umpqua Basin Watershed Council conducted a pilot watershed assessment of two watersheds in the South Umpqua Basin. The effort used the Oregon Watershed Enhancement Board's Watershed Assessment Guide to develop both an assessment and an action plan for the two watersheds.

Phase II of the watershed assessment process is using the same assessment protocol on five more watersheds within the Umpqua basin. The protocol includes monthly meetings with landowner groups, each focused on a separate chapter of the assessment. In addition to a chapter on water quality, the assessments include chapters on stream habitat conditions, water quantity, riparian function, stream function, stream temperature and past and future conditions in the watersheds. An action plan that identifies both general and specific watershed needs is then developed based on the information in the assessment.

The assessment and action plan together comprise a Water Quality Management Plan for each watershed to be used in conjunction with pollution limits (Total Maximum Daily Loads) being established by the Oregon DEQ for most watersheds in the Umpqua basin. Action plan items are addressed on a voluntary basis by landowners with assistance from the Watershed Council and public and private agencies. The action plans have already resulted in several projects to improve water quality and fish habitat in the watershed.

### Joyce Ranch Riverbank Stabilization

Streambank erosion is a common problem in the Umpqua basin, causing economic harm at the same time as hundreds of thousands of pounds of sediment are deposited in streams and rivers. Flooding in the Umpqua Basin in 1996 triggered major streambank erosion along the mainstem South Umpqua River south of Roseburg. On the Joyce property, continuing erosion threatened a barn as well as massive sedimentation at a vulnerable point in the river.

Together with the Douglas Soil and Water Conservation District, the 319 program is supporting a demonstration project at the site to control erosion using bioengineering techniques. Bioengineering has proven itself effective on smaller streams, but this project is demonstrating the techniques on a very large river system subject to powerful winter flows. The design incorporates rock barbs together with organic stabilization materials, further stabilized with streamside vegetation. In addition to controlling erosion and reducing sediment, the structures will redirect flow and collect gravel, providing spawning habitat for salmonids.

Currently all of the work on the streambank and in the channel has been completed, and a fence to exclude livestock has been installed. Planting of approximately 2800 native trees and shrubs will occur during the autumn months when rain will support their establishment and growth. Photo monitoring for ten years will help determine the success of the project.

### North Fork Smith River

The Smith River along the Oregon Coast is one of the most productive areas for coho salmon smolt production. The North Fork's proximity to the Smith-Umpqua estuary provides the potential for abundant coho salmon spawning, but eroding streambanks along the lower portion of the North Fork were the source of fine sediments that limit salmonid productivity.

In addition to its ecological significance, the region is noted for its skeptical attitude towards state and federal governments. Landowners have pointed out that winter flows in the North Fork are "flashy," increasing dramatically during storm events. These factors provided a challenge to the implementation of erosion protection along private lands on the North Fork.

To address the problems, the Umpqua Soil and Water Conservation District recruited landowners to participate in a demonstration project along the North Fork. The project, supported by 319 funds, the Oregon Watershed Enhancement Board and the landowners, is designed to assess the effectiveness of very simple and inexpensive streambank restoration and conservation practices in limiting erosion. Fences have been installed to keep out livestock at most sites, and willow cuttings and conifers were planted along the bank and protected from deer and beaver. Photo monitoring is being used to assess effectiveness of these management practices.

### EASTERN REGION BASINS

#### Riparian Buffer Forests in the Grande Ronde Valley

The Union County Soil and Water Conservation District has combined 319 Funds with landowner input and technical resources from other state natural resource agencies to plant a variety of riparian buffer forests (RBFs) in the upper Grande Ronde Watershed. In addition to native riparian species, the RBFs include hybrid poplars and other shrub and tree species. Long term monitoring will investigate the efficiency of RBFs in providing shade and stream stabilization, as well as exploring the feasibility of using RBFs as an alternative crop that can provide water quality without abandoning cropland economic returns.

Umatilla TMDL Implementation, Outreach, and Planning\_ 319 NPS projects in the Northeastern Basin are focused on outreach regarding TMDLs and animal feeding operations. Assisted by 319 funding, the Umatilla Basin watershed Council has promoted TMDL implementation through strategic meetings with city councils, schools, and land management organizations. Their current emphasis is tracking and inventory of progress.

#### Walla Walla Water Quality Monitoring and TMDL Implementation



The Walla Walla Watershed Council, through 319 and OWEB funding, is co-preparing the TMDL and implementation plan with DEQ. Not only does this strengthen the TMDL product in that Basin, the technical exchange has provided (1) DEQ with a better understanding of the linkage between numeric goals and projects, (2) the Watershed Council with the ability to quantitatively predict the water quality outcome of their projects and (3) the watershed community with increased confidence in and understanding of the process. Consequently, adoption of projects and numeric goals is empowered.

#### John Day/Umatilla AFO Demonstration Project

The Blue Mountain Resource Conservation and Development Area has combined 319 funding with landowner input and substantial technical resources from NRCS, SWCDs and other organizations, through five Counties, to implement nonpoint source pollution controls at fifteen different confined animal feeding operation demonstration sites. Even at this early stage, the quality of design and level of response has been impressive.

#### Northeastern Basins: Highlights of 2002 319 Projects

319 NPS projects in the Northeastern Basin are focused on outreach regarding TMDLs and animal feeding operations. Assisted by 319 funding, the Umatilla Basin watershed Council has promoted TMDL implementation through strategic meetings with city councils, schools, and land management organizations. Their current emphasis is tracking and inventory of progress.

The Walla Walla Watershed Council, through 319 and OWEB funding, is co-preparing the TMDL and implementation plan with DEQ. Not only does this strengthen the TMDL product in that Basin, the technical exchange has provided (1) DEQ with a better understanding of the linkage between numeric goals and projects, (2) the Watershed Council with the ability to quantitatively predict the water quality outcome of their projects and (3) the watershed community with increased confidence in and understanding of the process. Consequently, adoption of projects and numeric goals is empowered.

The Blue Mountain Resource Conservation and Development Area has combined 319 funding with landowner input and substantial technical resources from NRCS, SWCDs and other organizations, through five Counties, to implement nonpoint source pollution controls at fifteen different demonstration sites. Even at this early stage, the quality of design and level of response has been impressive.

SUMMARY TABLES FOR THE FY 2002 319 PROJECTS

category	project #	Title	Budget
set aside	BASE	ONSITE set aside	\$150,000
bmp d&l	11-S	Tenmile Lakes Water Quality Planning and Implementation Phase II	\$247,446
bmp d&l	01-G	Demonstration of soil and water stewardship using drip irrigation	\$67,710
bmp d&l	59-S	Durham quarry development	\$280,000
bmp d&l	06-S	Multnomah Building Green Roof	\$75,600
bmp d&l	63-S	Walla Walla WQ Monitoring and TMDL implementation	\$33,200
bmp d&l	43-S	Nestucca-Neskowin WQ monitoring and technical assistance	\$34,380
bmp d&l	18-S	Bear Ck. Watershed comprehensive NPS reduction: community planning, demonstration projects, education and source identification and elimination	\$106,260
bmp d&l	30-S	Tillamook urban/residential riparian enhancement assistance program	\$28,710
bmp d&l	07-S	ACWA School Mercury Reduction Pilot Project	\$14,878
bmp d&l	03-G	Rogue Basin Erosion Prevention / Sediment Control Workshops	\$5,900
bmp d&l	37-S	Willow creek demonstration and BMP implementation project (2 year)	\$42,200
charact	41-S	Umpqua Basin Watershed assessment and action plan, phase III	\$106,850
charact	05-G	Upper Willamette groundwater Management Community Outreach and Hydrogeologic Investigations	\$118,108
charact	50-S	Tillamook Bay watershed on-site sewage disposal system sanitary surveys	\$42,700
charact	58-S	Evaluation of toxics in sediment and water in the Columbia Slough using semi-permeable membrane devices	\$27,200
charact	42-S	Tillamook Buffer Strip Effectiveness Study	\$39,451
charact	54-S	Bay city stormwater drainage master plan	\$25,200
coord	BASE	NPS Admin	\$509,093
coord	BASE	Columbia/CZNPS	\$236,820
monit	BASE	LTM Grande Ronde	\$93,000
monit	36-S	Calapooya Creek and Sutherlin Creek Mercury monitoring project	\$34,726
monit	29-S	Tillamook bay watershed long term trend volunteer monitoring	\$29,800
pubedu	15-S	John Day/Umatilla CAFO AFO demonstration project	\$168,000
pubedu	61-S	50 ways to love your river	\$35,000
Rest	28-S	Trask river riparian restoration demonstration project – Fenk project	\$14,376

category	project #	Title	Budget
Rest	17-S	Clover Ck Instream Riparian Plant	\$17,318
Rest	44-S	Trask river riparian restoration demonstration project – Sanchez project	\$17,660
Rest	52-S	Smith Ck. Riparian restoration and culvert replacement	\$10,000
Rest	31-S	Cavitt Creek Restoration – Phase II	\$150,000
wsstudy	BASE	TMDL modelers	\$193,776
wsstudy	14-S	Water quality assessment and improvement in tributaries to Coos Bay	\$141,598
wsstudy	12-S	Regional Lake Management Planning for TMDL Development	\$114,540
TOTAL REQUEST			\$3,211,500

**NPS PROGRAM ADMINISTRATION AND COORDINATION. REQUEST: \$751,913.**

Included in this category are nine positions committed to addressing nonpoint source pollution throughout Oregon's high priority basins and statewide coordination of the NPS program. Four of these positions are base field staff, consisting of two positions located in Southwest, one in Northwest, one in Eastern Oregon. One position is responsible for grant administration and coordination.

In addition, temporary headquarters position is directed to the Columbia Basin TMDL issues. This position is the sole position in Oregon working on this effort. In the MOA, the States (Washington, Idaho and Oregon) have agreed to take the lead on the total dissolved gas TMDL, while EPA takes the lead on the temperature TMDL.

Another headquarter's position is CZARA NPS Coordinator. The program coordination for Coastal Zone NPS 6217/NPS includes Revision and update of the State's Coastal NPS plan, previously submitted in July 1995. A partnership with the Oregon Department of Land Conservation and Development will continue to evolve through funding of this project. Coastal zone NPS has again taken a priority turn for good. We believe that this project will solidify the Oregon Coastal Zone NPS program. The budget allocated for the CZNPS Coordinator includes a budget of \$19,744 targeted to expected emerging needs to fully implement the development of the plan.

Two TMDL modeler positions housed at headquarters are included in this request to continue the needed TMDL modeling work in priority basins. The positions are included in the base budget. More information on this project is included under the Watershed Study category and in the individual workplan. The request for this project (2 FTE) is \$193,776.

coord	BASE	NPS Admin	\$509,093
coord	BASE	Columbia/CZNPS	\$236,820

**CHARACTERIZATION OF NPS CONCERNS. REQUEST: \$359,509**

Projects under this category were identified as they provide us with the ability to compare across watersheds and aquifers the distribution or extent of various indicators of nonpoint source pollution.

Charact	41-S	Umpqua Basin Watershed assessment and action plan, phase III	\$106,850
Charact	05-G	Upper Willamette groundwater Management Community Outreach and Hydrogeologic Investigations	\$118,108
Charact	50-S	Tillamook Bay watershed on-site sewage disposal system sanitary surveys	\$42,700
Charact	58-S	Evaluation of toxics in sediment and water in the Columbia Slough using semi-permeable membrane devices	\$27,200
Charact	42-S	Tillamook Buffer Strip Effectiveness Study	\$39,451
Charact	54-S	Bay city stormwater drainage master plan	\$25,200

**BEST MANAGEMENT PRACTICES DEVELOPMENT AND IMPLEMENTATION. REQUEST: \$1,086,284**

The concept of BMPs was first introduced in response to federal legislation, the Clean Water Act, as a practical and effective means to reduce *nonpoint source (NPS) pollution*. BMPs related to water quality should be viewed as practices which may require adjustment based on specific site conditions and ownership boundaries. For example, coastal zone or lakes management practices to prevent or remediate NPS would be different than natural disasters such as floods, or wildfires which create extreme conditions for which BMPs are not designed. The responsibility of adjusting BMPs may rest on either the landowner or the operator depending upon their ability to implement them.

The project proposals listed under this category include a budget for a special Onsite project focusing on an effort that will develop a testing protocol for alternative drain field products. We anticipate contracting with NSF to use the EPA ETV process to develop the protocol. Eventually, we will follow up with testing of the standard trench. We have contacted other states that are interested in joining in this effort. We hope to get financial participation, possibly by having other states set aside some of their 319 or other grants. If so it would reduce Oregon's commitment.

We would like to present the following projects addressing the NPS concerns as addressing BMPs as follows:

set aside	BASE	ONSITE set aside	\$150,000
bmp d&i	11-S	Tenmile Lakes Water Quality Planning and Implementation Phase II	\$247,446
bmp d&i	01-G	Demonstration of soil and water stewardship using drip irrigation	\$67,710
bmp d&i	59-S	Durham quarry development	\$280,000
bmp d&i	06-S	Multnomah Building Green Roof	\$75,600

bmp d&I	63-S	Walla Walla WQ Monitoring and TMDL implementation	\$33,200
bmp d&I	43-S	Nestucca-Neskowin WQ monitoring and technical assistance	\$34,380
bmp d&I	18-S	Bear Ck. Watershed comprehensive NPS reduction: community planning, demonstration projects, education and source identification and elimination	\$106,260
bmp d&I	30-S	Tillamook urban/residential riparian enhancement assistance program	\$28,710
bmp d&I	07-S	ACWA School Mercury Reduction Pilot Project	\$14,878
bmp d&I	03-G	Rogue Basin Erosion Prevention / Sediment Control Workshops	\$5,900
bmp d&I	37-S	Willow Creek Demonstration and BMP Implementation Project (2 year)	\$42,200

EDUCATION AND PUBLIC OUTREACH. REQUEST: \$203,000.

Water quality education and public outreach efforts take place in Oregon throughout most projects funded with 319 funding. A few of those projects target water education as a sole objective. To attract a diverse audience, project goals and activities must be relevant to a person's life.

Then, to link such those efforts to a community, it takes a clear understanding of a community's water problems in order to design a program that best fits the people and issues involved. We would like to present the following projects to assist us in our objective of informing and educating Oregonians about restoring the health of our aquatic systems.

public edu	15-S	John Day/Umatilla CAFO AFO Demonstration Project	\$168,000
public edu	61-S	50 Ways to love your river	\$35,000

RESTORATION PROJECTS. REQUEST: \$209,354

It is our goal to fund restoration projects that strive to implement actions that both protect and restore watersheds. While attempting this double duty many local stakeholders recognize that protecting remaining undeveloped watershed areas is preferable to restoring degraded areas. As with other categories of Oregon 319 projects, restoration projects bring together several partners at the Federal and state and local agencies to cooperate with each other to balance protection and restoration efforts.

Implementing of watershed restoration projects exercise both patience and perseverance. Watershed protection and restoration programs are gaining momentum slowly. For the year 2002, we present the following restoration projects:

rest	28-S	Trask river riparian restoration demonstration project – Fenk	\$14,376
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		project	
rest	17-S	Clover Creek Instream Riparian Planting	\$17,318
rest	44-S	Trask river riparian restoration demonstration project – Sanchez project	\$17,660
rest	52-S	Smith Ck. Riparian restoration and culvert replacement	\$10,000
rest	31-S	Cavitt Creek Restoration – Phase II	\$150,000

WATER QUALITY MONITORING. REQUEST: \$157,526

Monitoring of watershed protection and restoration activities. Is the main emphasis of projects under this category. There are different approaches to watershed monitoring such as operating at local, state, tribal, and federal levels. Increasingly, volunteers and nonprofit organizations are also collecting and analyzing watershed indicators.

It is our intent to address watershed monitoring programs to be as consistent and comprehensive as possible. Through our protocols, we are ensuring that all monitoring programs produce high quality data.

Watershed monitoring projects funded under 319 program provide timely data to the public. The data is easily accessible and understandable. For the year 2002 we present the following projects:

monit	BASE	LTM Grande Ronde	\$93,000
monit	36-S	Calapooya Creek and Sutherlin Creek Mercury monitoring project	\$34,726
monit	29-S	Tillamook bay watershed long term trend volunteer monitoring	\$29,800

WATERSHED STUDY. REQUEST: \$449,914

Individual human activities typically have smaller and more predictable impacts than natural causes, but their cumulative impact can be far greater. Increases in population, land development, and economic activity increase demands for water, waste disposal, and raw materials. These activities increase pollutant releases to water and air and degrade or fragment natural habitats. Without appropriate management, these changes can seriously compromise watershed health.

Assessments and study of watershed conditions often measure physical, biological, and chemical watershed variables, such as soil stability, plant and animal diversity, and water quality. Assessments can also measure watershed functions such as nutrient cycling, temperature control, and water availability.

Under this category we include the second year, as a special project, consisting of funding two positions at DEQ headquarters to continue the needed TMDL modeling work in priority basins. Efforts proposed under this project include: evaluating the impact of riparian disturbance; and determining the non-point source pollutant consequences on stream temperature, pH, dissolved oxygen, and sedimentation. In addition, the effects of nonpoint source urban and agriculture runoff will be evaluated for each of the several priority watershed as listed in the full description of the workplan. Finally, Total Maximum Daily Load (TMDL) and nonpoint source pollution Source Assessment development will provide an opportunity for education and community involvement, which increases BMP implementation on the local level.

Projects that contribute to the better understanding of a watershed are sought in Oregon on an on-going basis. For the year 2002, we would like to present the following projects:

wsstdy	BASE	TMDL modelers	\$193,776
wsstud y	14-S	Water quality assessment and improvement in tributaries to Coos Bay	\$141,598
wsstud y	12-S	Regional Lake Management Planning for TMDL Development	\$114,540



TABLE III. STATUS TABLE FOR OREGON 319 FY 2001 GRANTS

EPA #	CA T	BASIN/ REGION	TYPE	REGION	PROJECT NAME	\$ REQ'TD	IMPLEMENT WORK	STATUS
01-01	PE	METRO	NPS	NWR	STUDENT WATERSHED RESEARCH PROJECT (SWRP)	\$46,585	OREGON GRADUATE INST.	ACTIVE
02-01	BMP	TILLAMOOK CO	NPS	NWR	LANEDA AVENUE STREET AND STORM DRAINAGE IMPROVEMENTS	\$30,000	CITY OF MANZANITA	ACTIVE
03-01	REST	TILLAMOOK CO	TMDL	NWR	TILLAMOOK SWCD STREAM ENHANCEMENT PROJECTS	\$58,725	TILLAMOOK SWCD	ACTIVE
04-01	BMP	NESTUCCA- NESKOWIN	TMDL	NWR	NESTUCCA- NESKOWIN WATERSHED COUNCIL	\$15,000	NESTUCCA NESKOWIN WSC	ACTIVE
51-01	WSS	COLUMBIA	TMDL	SW	COLUMBIA RIVER TMDL COORDINATION	\$108,538	DEQ-HQ	ACTIVE
05-01	MONI T	LOWER COLUMBIA	TMDL	NWR	L. COLUMBIA RIVER WSC MONIT AND RIPARIAN RESTORATION PROJECT	\$26,265	COLUMBIA SLOUGH WSC	ACTIVE
06-01	REST	UPPER NEHALEM	TMDL	NWR	NEHALEM WATERSHED HEALTH AND RIPARIAN RESTORATION	\$46,950	UPPER NEHALEM WSC	ACTIVE
07-01	REST	TILLAMOOK CO	NPS	NWR	SAM DOWNS RD.	\$61,310	DEPT. OF FORESTRY	ACTIVE
08-01	REST	NORTH COAST, LOWER COLUMBIA	TMDL	WIL	RESTORATION, ENHANCEMENT & PROTECT. SITES TO IMPROVE WQ IN COL. SLOUGH	\$21,000	LOWER COLUMBIA R. WSC	ACTIVE
09-01	MONI T	TILLAMOOK CO	TMDL	NWR	BACTERIA MONITORING IN THE TILLAMOOK BAY WATERSHED	\$10,362	TILLAMOOK CO PERF. PARTNERSHIP	ACTIVE
10-01	WSS	TILLAMOOK CO	NPS	NWR	DETECTING FECAL POLLUTION SOURCES IN THE TILLAMOOK WATERSHED	\$51,279	TILLAMOOK CO PERF. PARTNERSHIP	ACTIVE
11-01	PE	METRO	NPS	WIL	NATURESCAPING FOR CLEAN RIVERS	\$82,813	E. MULTNOMAH SWCD	ACTIVE
12-01	MONI T	WILLAMETT E	NPS	NWR	GPS MONIT OF MANURE AND IRR DELIVERY SYS ON WILL VALLEY DAIRY FARMS	\$25,410	OSU	ACTIVE
13-01	MONI T	MID WILLAMETT E	TMDL	NWR	LIVESTOCK NUTR & SED MONIT 4 TMDL DEV ON PEDEE CK, TRIBUTARY TO THE LUCKIAMUTE R	\$2,710	PEDEE/RITNER WSC	ACTIVE
14-01	REST	L. WILLAMETT E	NPS	WIL	WATERSHED REVEGETATION PROGRAM	\$75,000	CITY OF PORTLAND	ACTIVE
15-01	MONI T	N. SANTIAM	TMDL	NWR	N. SANTIAM RIVER WATER QUALITY MONIT/EDUCATION PROJECT	\$22,250	CITY OF PORTLAND	ACTIVE
16-01	EDU	TUALATIN	NPS	NWR	"ONLY RAIN DOWN THE DRAIN" Public Awareness Campaign	\$55,000	TUALATIN BAS.REG	ACTIVE

EPA #	CAT	BASIN/ REGION	TYPE	REGION	PROJECT NAME	\$ REQ'TD	IMPLEMENT WORK	STATUS
							COALITION	
17-01	BMP	YAMHILL	NPS	WIL	YAMHILL SUB-BASIN WATERSHED LANDOWNER TECH ASSISTANCE	\$46,000	YAMHILL SWCD	ACTIVE
18-01	BMP	WR	NPS	WR	BUILDING FOR A BETTER OREGON: WORKSHOPS TO CONTROL NON-POINT SOURCE POLLUTION FROM CONSTRUCTION AND ROAD BUILDING ACTIVITIES	\$42,400	PACIFIC STATES MARINE FISHERIES COMM	ACTIVE
19-01	REST	CURRY CO	TMDL	WR	CURRY SEDIMENT ABATEMENT	\$128,580	CURRY SWCD	ACTIVE
20-01	REST	UMPQUA BASIN	NPS	WR	NORTH FORK OF THE SMITH RIVER RIPARIAN ENHANCEMENT PROJECT	\$12,000	UMPQUA SWCD	ACTIVE
21-01	BMP	MID ROGUE	NPS	WR	GRAVE CREEK WATERSHED ASSESSMENT, PLANNING, AND EDUCATION EFFORT	\$18,480	MIDDLE ROGUE SWCD	ACTIVE
22-01	WSS	ROGUE	TMDL	WR	PRIVATE ROAD INVENTORY AND SEDIMENT YIELD ANALYSIS	\$16,644	WILIAMS CREEK WSC	ACTIVE
23-01	REST	UMPQUA BASIN	NPS	WR	JOYCE RANCH RIVERBANK STABILIZATION AND RIPAR ESTABLISH DEMO PROJ	\$28,325	DOUGLAS SWCD	ACTIVE
24-01	REST	UMPQUA BASIN	NPS	WR	UMPQUA BASIN RIPARIAN FENCING/PLANTING PROJECT	\$15,500	UMPQUA BASIN WSC	ACTIVE
25-01	REST	ROGUE	NPS	WR	APPLEGATE WATERSHED RIPARIAN RESTORATION PROGRAM	\$68,380	APPLEGATE R. WSC	ACTIVE
26-01	BMP	COQUILLE	NPS	WR	FERRY CREEK AND GEIGER CREEK SEDIMENT ABATEMENT	\$49,610	COQUILLE WS ASSOCIATION	ACTIVE
27-01	WSS	COQUILLE	NPS	WR	SOUTH FORK COQUILLE ROAD AND LANDING INVENTORY	\$35,750	COQUIILE WS ASSOCIATION	ACTIVE
28-01	REST	ROGUE	NPS	WR	LITTLE APPELLEGATE FISH PASSAGE, STREAM FLOW AND WQ ENH PROJ- (FARMER'S DITCH PROJ)	\$70,000	COQUILLE WS ASSOCIATION	ACTIVE
29-01	WSS	COOS CO	TMDL	WR	TENMILE LAKES' WATERSHED RIPARIAN AND SEDIMENT ASSESSMENT	\$77,486	TENMILE LAKES BASIN PARTNERSHIP	ACTIVE
30-01	WSS	UMPQUA BASIN	TMDL	WR	UMPQUA STREAM TEMPERATURE MANAGEMENT PLANNING 2001	\$21,000	UMPQUA BASIN WSC	ACTIVE
31-01	BMP	CURRY CO	NPS	WR	PORT ORFORD MUNICIPAL WATER SUPPLY: SEDIMENT SOURCE REDUCTION	\$25,487	S. COAST COORDINATING WSC	ACTIVE
32-01	WQA	COOS BAY	TMDL	WR	BACTERIOLOG CHARCT. OF DIRECT BAY TRIBUT STREAMS IN THE COOS ESTUARY, COOS CO, OR	\$48,228	COOS WS ASSOCIATION	ACTIVE
33-01	BMP	ILLINOIS	NPS	WR	SUCKER CREEK GRAVEL PUSH-UP DAM REMOVAL AND WATER CONSERVATION PROJECT	\$20,000	ILLINOIS VALLEY WSC	ACTIVE
34-01	WSS	UMPQUA BASIN	TMDL	WR	UMPQUA BASIN WATERSHED ASSESSMENT AND ACTION PLAN, PHASE II	\$104,081	UMPQUA BASIN WSC	ACTIVE

EPA #	CAT	BASIN/ REGION	TYPE	REGION	PROJECT NAME	\$ REQ'TD	IMPLEMENT WORK	STATUS
35-01	PE	MID COLUMBIA	NPS	ER	A DEMO PROJ TO REDUCE RISK OF AG NPS THRU IPM IN THE DALLES AREA ORCHARDS	\$69,867	Wy'EAST RCDA	ACTIVE
36-01	PE	HOOD BASIN	NPS	ER	WRENTHAM SOIL-BIOENGINEERING DEMONSTRATION PROJECT	\$66,505	WASCO SWCD	ACTIVE
37-01	REST	HOOD BASIN	NPS	ER	FIFTEEN MILE WATERSHED IMPROVEMENT PROJECT	\$60,000	WASCO SWCD	ACTIVE
38-01	EDU	KLAMATH BASIN	NPS	ER	URBAN NPS EDUCATIONAL PROGRAM	\$12,000	OSU	ACTIVE
39-01	BMP	UPPER DESCHUTES	TMDL	ER	UPPER DESCHUTES WATER QUALITY AND TMDL DEVELOPMENT	\$45,611	UPPER DESCHUTES WSC	ACTIVE
40-01	MONIT	WALLA WALLA	TMDL	ER	WALLA WALLA WQ MONIT AND TMDL DEV/IMPL	\$26,900	WALLA WALLA WSC	ACTIVE
41-01	BMP	MALHEUR BASIN	NPS	ER	WILLOW CREEK DEMONSTRATION AND BMP IMPLEMENTATION PROJECT	\$42,000	WILLOW CREEK WSC	ACTIVE
42-01	WSS	UPPER DESCHUTES	TMDL	ER	TEMPERATURE ASSESSMENT IN SUPPORT OF TMDL DEVELOPMENT IN THE UPPER DESCHUTES AND LITTLE DESCHUTES SUB-BASINS OF CENTRAL OREGON	\$85,650	DEQ-ER	ACTIVE
43-01	BMP	PRIORITY BASINS	NPS	SW	DEFINING THE PERFORMANCE CHARACTERISTICS OF THE STANDARD, ROCK FILLED, ON SITE, SEWAGE DISPOSAL TRENCH	\$75,000	DEQ-HQ	ACTIVE
44-01	BMP	MALHEUR BASIN	NPS	ER	DEMONSTRATIONS AND INNOVATIONS TO EXPAND SUBSURFACE DRIP IRRIGATION (SDI) IN OREGON	\$67,710	OSU	COMPLETED
45-01	MONIT	HOOD BASIN	NPS	ER	ORGANOPO4 RUNOFF & EFFECTS ON SALMONIDS IN HOOD R. BASIN: MONIT TO EVAL IMPACT OF LOAD REDUCT PRACT	\$94,140	OSU	ACTIVE
46-01	WSS	GRANDE RONDE	TMDL	ER	GRANDE RONDE BASIN WATERSHED ASSESSMENTS WILLOW CREEK UPPER WALLOWA RIVER	\$23,000	GRANDE RONDE MODEL WS	ACTIVE
47-01	CRD	STATEWIDE	NPS	SW	OREGON NPS PROGRAMS: ADMINISTRATION, COORDINATION AND PLANNING	\$509,093	DEQ	ACTIVE
48-01	MONIT	GRANDE RONDE	NPS	SW	GRANDE RONDE MONITORING	\$93,000	DEQ LAB	ACTIVE
49-01	WSS	PRIORITY BASINS	TMDL	SW	TMDL MODELING IN PRIORITY BASINS	\$193,776	DEQ-HQ	ACTIVE
50-01	PE	WILLAMETTE	NPS	WIL	WILLAMETTE RIVER URBAN STREAM BROCHURE	\$11,100	AUDUBON SOC OF PORTLAND	ACTIVE
52-02	CRD	COAST	NPS	WIDE	CZ NPS	\$175,000	DEQ-WQ	ACTIVE
					OREGON 319 BUDGET FOR FY 2001 WORKPLANS	\$3,217,500		

PRIORITIES FOR FUNDING PRIORITY PROJECTS UNDER THE OREGON 319 PROGRAM FOR FY 2001

TABLE IV. WESTERN OREGON PRIORITY FOR FY 2001 319 PROJECTS: S. COAST TMDL STATUS 03/00

TMDL Submittal Date	Subbasin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementation	
1999	Lower Rogue	Lobster Creek,	Temperature	Complete	Complete	High	High	Planning, RipZn Enhncmt, Sed. abatement
1999	Coquille	Upper So Fork	Temperature	Complete	Complete	Complete	High	RipZn Enhancement, Sed abatement
2000	Coquille	East Fork Coquille River	Temperature	Complete	Complete	Complete	High	Monitoring, RipZn Enhncmt, Sed. abatement
2000	Coos Bay	Larson Slough,	T, bacteria	High	Medium	Medium	Medium	Condition Assessment
2000	Coquille	Middle Fork (Big Creek)	Temperature	Complete	Complete	High	Medium	Monitoring
2001	Chetco	Chetco River(upper)	Temperature	USFS	High	High	Medium	Monit, enhancement planning
2001	Coquille	Lower So Fork	Temperature, bacteria	In Progress	High	High	Medium	Monit, enhancement planning
2001	N Tenmile	Tenmile Lake	Aquatic weeds, algae	In Progress	High	High	Medium	Monit, enhancement planning
2001	Sixes	Elk River	Temperature	Medium	High	High	Medium	Monit, develop planning components
2001	Coquille	North Fork	Temp, bacteria	High	High	Medium	Medium	Condition Assessment
2002	Sixes	New River, Fourmile, Morton, Floras	Temperature	Complete	Complete	High	High	Planning, RipZn Enhncmt, Sed abatement
2002	Chetco	Chetco River (lower)	Temperature	In Progress	High	High	Medium	Monit, enhancement planning
2002	Sixes	Sixes River	Temperature	In Progress	High	High	Medium	Monit, enhancement planning
2002	Chetco	Hunter Creek	Temperature	High	High	Medium	Medium	Condition Assessment, Monit
2002	Coquille	Cunningham Creek	Bacteria, DO	High	Medium	Medium	Medium	Condition Assessment
2002	Coquille	Catching Creek,	Temperature	High	Medium	Medium	Medium	Condition Assessment
2003	Sixes	Floras, Croft Lakes	Aquatic weeds, algae	High	High	Medium	Medium	Condition Assess, Monit
2004	Coos	Coos Bay	Bacteria	High	High	High	High	Assessment, Monit, Planning, Implement.

TABLE V. WESTERN OREGON PRIORITY FOR FY 2001 319 PROJECTS: ROGUE BASIN TMDL STATUS 7/00

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementation	
1999	Middle Rogue	Bear Creek	Temp, bact, hab/flow mod	Low	High	High	Medium	TMDL Development
	Lower Rogue	Grave Creek	Temperature	High	High	Medium	Medium	Assessment
	Illinois River	Sucker Creek (Private Lands)	Temp, hab/flow mod	Low	High	High	Medium	TMDL Development
		Sucker Creek (Fed Lands)	Temp, hab/flow mod	Low	Low	Medium	Medium	Planning
		Illinois River Lawson	Temperature	Low	High	Medium	Medium	TMDL Development
	Applegate	Williams Creek	Temperature	High	High	Medium	Low	Assessment
		Star/Beaver/Palmer	Sediment, hab/flow mod	High	High	Medium	Low	Assessment
		Little Applegate	Temperature	Low	High	Medium	Low	TMDL Development
	Upper Rogue	Foster/Woodruff/Abbott	Temperature, hab mod	Low	High	Medium	Low	TMDL Development
2000	Illinois	E. Fork Illinois	Temp, flow modification	High	High	Medium	Low	Assessment
		Althouse Creek	Temperature	High	High	Medium	Low	Assessment
		West Fork Illinois	Temp, flow modification	High	High	Medium	Low	Assessment
		Deer Creek	Temperature	High	High	Medium	Low	Assessment
		Illinois River-Josephine	Temperature	High	High	Medium	Low	Assessment
		Briggs Creek	Temperature	High	High	Medium	Low	Assessment
		Illinois River-Klondike	Temperature	High	High	Medium	Low	Assessment
		Silver Creek	Temperature	High	High	Medium	Low	Assessment
		Indigo Creek	Temperature	High	High	Medium	Low	Assessment

TABLE VI. WESTERN OREGON PRIORITY FOR FY 2001 319 PROJECTS: UMPQUA TMDL STATUS 7/00

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessm ent	TMDL Developm ent	Plannin g	Impleme n--tation	
1999	No. Umpqua	Little River	T, sed, pH, hab. Mod	Low	Low	Low	Med	Implementation
	So. Umpqua	West Fork Cow Creek	Temperature	High	High	Low	Med	Assessment
	Umpqua	Lower Smith River	Temperature	Low	Low	Low	High	Implementation
2000	So. Umpqua	So Umpqua Headwaters	T, pH, sed, flow m..	Low	Low	Low	Low	None
		Middle Cow Creek	Temperature	High	Low	Low	Med	Assessment
		Lower Cow Creek	T, pH, tox. hab mod	High	Low	Low	Med	Assessment
	No. Umpqua	Steamboat/Canton Ck.	DO, pH, T, sed, hab. m	Low	Low	Low	Low	None
		Rock Creek	Temperature	Low	High	High	Low	TMDL
	Umpqua	Upper Smith River	Temperature	Low	High	High	Low	TMDL
		Loon Lake		Low	High	High	Med	TMDL
2001	So. Umpqua	Elk Creek	Temp, flow mod	Med	Med	Low	Med	Assessment
		Galesville		Med	Med	Low	Med	Assessment
		Middle South Umpqua	Bact,DO,pH,temp.	Low	Med	Low	Med	TMDL
	No. Umpqua	No Umpqua Headwaters	DO, pH, T, hab. mod	Low	Low	Low	Low	None
		Tye Frontal		Low	Low	Low	Med	Implementation
	Umpqua	Calapooya Creek	Bac, DO, pH, tem, flow /habitat	Med	Low	Low	Med	Assessment
2002	So. Umpqua	Myrtle Creek	T, hab./flow mod	Med	Low	Low	Med	Assessment
		Olalla/Lookinglass	Biol. crit, flow mod	Med	Low	Low	Med	Assessment
		Lower South Umpqua	T, pH, DO, bact, hab.	Low	Low	Low	Med	Implementation
	No. Umpqua	Middle North Umpqua	Temp, DO, pH	Low	Low	Low	Med	Implementation
		Lower North Umpqua	Temp, flow mod	Med	Low	Low	Med	Assessment
	Umpqua	Elk Creek	Bact, DO, T, flow mod.	Med	Low	Low	Med	Assessment
		Reedsport/Elkton Fr.		Low	Low	Low	Med	Implementation
Smith/Umpqua Estuary			Med	Low	Low	High	Implementation	

TABLE VII. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS IN FY 2001: WILLAMETTE

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementatio n	
Approved 11/25/1998	Columbia slough	Lower willamette	Algal growth/ phosphorus	Done	Needed	Needed	In development	Implement phosphorus control strategies identified in moas and permits
Approved 11/25/1998	Columbia slough	Lower willamette	Do/bod	Done	Needed	Needed	In development	Implement bod control strategies identified in moas and permits
Approved 11/25/1998	Columbia slough	Lower willamette	Bacteria	Done	Needed	Needed	In development	Implement bacteria control strategies identified in moas and permits
Approved 11/25/1998	Columbia slough	Lower willamette	Toxics (pb, ddt/dde, dieldrin, dioxin, pcbs)	Done	Needed	Needed	In development	Implement toxics control strategies identified in moas and permits
Approved 11/25/1998	Columbia slough	Lower willamette	Temperature	Needed	Needed	Needed	In development	Need additional temperature data (flir, continuous monitoring) of slough

TABLE VIII. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS IN FY 2001: NORTHCOAST

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implement-ation	
In developmnt, due in 2000	Tillamook	Wilson-trask-nestucca	Temperature	Done	Needed	Needed	Nep CCMP	Implement temperature management strategies identified in ccmp
In developmnt, due in 2000	Tillamook	Wilson-trask-nestucca	Bacteria	Done	Needed	Needed	Nep CCMP	Implement bacteria management strategies identified in ccmp
Done (1/27/1994)jn revision, due in 2000	Tualatin	Tualatin	Algol growth/ phosphorus	Done	Needed	Needed	Done	Implement phosphorus control strategies identified in management plans
In developmnt, due in 2000	Tualatin	Tualatin	Temperature	In development	Needed	Needed	In development	Implement temperature management strategies
In developmnt, due in 2000	Tualatin	Tualatin	Bacteria	In development	Needed	Needed	In development, related to Pollution control	Implement bacteria management strategies identified in management plans



TABLE IX. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS IN FY 2001: NORTH COAST: NEHALEM-NESTUCCA

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementation	
Submitted	Nehalem	Nehalem	Temperature	Watershed plan being developed	Needed	Needed	In develop	Additional temperature assessment
Submitted	Nehalem	Nehalem	Bacteria	Watershed plan being developed	Needed	Needed	In develop	Additional bacteria assessment
Submitted	Nestucca	Wilson-trask-nestucca	Temperature	Watershed plan action available	Needed	Needed	In develop	Implement practices in watershed action plan
	Nestucca	Wilson-trask-nestucca	Bacteria	Watershed plan action available	Needed	Needed	In develop	Implement practices in watershed action plan
	Nestucca	Wilson-trask-nestucca	Sediment	Watershed plan action available	Needed	Needed	Needed	Additional sediment assessment, implement practices in watershed action plan

TABLE X. NORTHWEST OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS IN FY 2001: NORTHCOAST: COLUMBIA RIVER

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementation	
In development	Lower Columbia	Columbia	Bacteria, DO, Toxics (as DDE, DDT, PCB, pH)	Bi-state study, LCREP CCMP	Needed	Needed	LCREP CCMP	Implementation of LCREP CCMP
In development	Lower Columbia	Columbia	Total dissolved gas	USACOE gas abatement, EPA model	Commencing development in conjunction with Y2K waiver	Needed	USACOE gas abatement	TMDL development implementation planning
In development	Lower Columbia	Columbia	Temperature	EPA Model	Needed	Needed	Needed	Finalization of EPA model, conceptual approach for TMDL
In development	Lower Columbia	Columbia	N/A	Needed	N/A	Needed	Needed	Survey and management plan for non-indigenous aquatic invasive species.

TABLE XI. EASTERN OREGON PRIORITY SUB-BASINS FOR 319 PROJECTS IN FY 2001

Eastern Region: Columbia River								
Tmdl Submittal Date	Sub-basin	Watershed	Listed parameters	Programmatic activity needs for 319 funds				Primary 319 Project need
				Assessment	TMDL development	Planning	Implementation	
Dec 2001	Lower Columbia	Columbia	Total dissolved gas	USACOE gas abatement, EPA model	Commencing development in conjunction with y2k waiver	Needed	USACOE gas abatement	Tmdl development implementation planning
Dec 2001	Lower Columbia	Columbia	Temperature	EPA model	Needed	Needed	Needed	Finalization of epa model, conceptual approach for tmdl
Eastern region: Klamath basin								
Tmdl Submittal Date	Sub-basin	Watershed	Listed parameters	Programmatic activity needs for 319 funds				Primary 319 Project priorities
				Assessment	TMDL development	Planning	Implementation	
2000	Sprague	All watersheds	Temperature Dissolved oxygen Ph	In progress	In progress	Needed	Needed	Reduction of the following parameters - stream temperature, sediment, nutrients, bacteria; public awareness of nps pollution in urban situations. Use of innovative bmps, and/or education components.
2000	Upper klamath lake	All watersheds	T, do, ph, algae/weeds	In progress	In progress	Needed	Needed	Same as above.

Eastern Region: Umatilla basin

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implemen tation	
APPROVED	Umatilla	All watersheds	Temperature, sediment, bacteria (basin-wide); nitrate (Wildhorse) ammonia (L. Umatilla)	In progress	In progress	Needed	Needed	Reduction of stream temp., sediment, nutrient, and bacteria impacts simultaneously innovative technologies that include monitoring and education components Raise public awareness of NPS pollution in urban situations Low cost restoration of degraded wet meadows Education component as a demonstration project. Projects that control introduction of pesticide residual into groundwater and surface waters; include monitoring and/or education/demonstration components; address reduction of one or more of the following: parameters: stream temperature, sediment, nutrient, and bacteria impacts.

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementatation	
Approved	Umatilla	All watersheds	Temperature, sediment, bacteria (basin-wide); nitrate (Wildhorse) ammonia (L. Umatilla)	In progress	In progress	Needed	Needed	Reduction of stream temp., sediment, nutrient, and bacteria impacts simultaneously
Approved	Walla walla	All	Temperature	In progress	In progress	Needed	Needed	Raise public awareness of nps pollution in urban situations
	Walla walla	All	Temperature	In progress	In progress	Needed	Needed	Low cost restoration of degraded wet meadows
	Walla walla	All	Temperature	In progress	In progress	Needed	Needed	Education component should focus on its use as a demonstration project. Projects that prevent and control introduction of pesticide residual into groundwater and surface waters. Projects that include monitoring and/or education/demonstration components. Projects that address reduction of one or more of the following: parameters: stream temperature, sediment, nutrient, and bacteria impacts

Eastern Region: Umatilla basin

TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementation	
APPROVED	Willow	All	Temperature, pH (basin-wide), bacteria (Balm Fork)	In progress	In progress	Needed	Needed	Reduction of stream temp., sediment, nutrient, and bacteria impacts.
	Willow	All	Temperature, pH (basin-wide), bacteria (Balm Fork)	In progress	In progress	Needed	Needed	innovative technologies that include monitoring and education components
	Willow	All	Temperature, pH (basin-wide), bacteria (Balm Fork)	In progress	In progress	Needed	Needed	Raise public awareness of NPS pollution in urban situations
	Willow	All	Temperature, pH (basin-wide), bacteria (Balm Fork)	In progress	In progress	Needed	Needed	Low cost restoration of degraded wet meadows
	Willow	All	Temperature, pH (basin-wide), bacteria (Balm Fork)	In progress	In progress	Needed	Needed	Education component should focus on its use as a demonstration project; prevent and control introduction of pesticide residual into ground / surface waters; include monitoring/ education / demonstration; address reduction of: stream temperature, sediment, nutrient, bacteria.

Eastern Region: Grande Ronde								
TMDL Submissn Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Need
				Assessment	TMDL Development	Planning	Implementatio n	
1999	Upper Grande Ronde	All watersheds	Temperature, sediment, habitat, D.O., pH, algae, nutrients, bacteria, flow				Needed	Reduction of stream temp., sediment, nutrient, and bacteria. Increase late season flow. Riparian Restoration. Flood plain reconnection. Education and outreach related to listed parameters.
2000	Lower Grande Ronde	All watersheds	Temperature, Flow, habitat, sediment,		Needed	Needed	Needed	Same as above
2000	Wallowa	All watersheds	Temperature, Flow, habitat, sediment, bacteria, pH		Needed	Needed	Needed	Same as above
2000	Imnaha	All watersheds	Temperature, habitat, sediment,		Needed	Needed	Needed	Same as above

**Eastern Region: Hood Basin**

TMDL Submission Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Priorities
				Assessment	TMDL Development	Planning	Implementation	
2000	Hood River	All watersheds	Temperature	Done	In progress	In progress	Needed	Tmdl implementation and reduction of stream temperature, riparian vegetation and habitat enhancement, increased-stream flows
			Toxics	In progress	Needed	Needed	Needed	Prevent and control introduction of pesticide residual into groundwater and surface waters, monitoring , bmps or demonstration components.
			Sediment, nutrients pH bacteria	Needed	Needed	Needed	Needed	Monitoring, education/demonstration strategies, innovative technologies, raising public awareness about nps pollution in urban, agricultural, or forest
2001	Mile Creeks	All watersheds	Temperature	In progress	In progress	In progress	Needed	Tmdl development and reduction of stream temperature - riparian vegetation and habitat enhancement, increased in-stream flows
			Sediment	In progress	Needed	Needed	Needed	Same
			Toxics, nutrients pH bacteria	Needed	Needed	Needed	Needed	Projects that include monitoring, education/demonstration strategies, innovative technologies, raising public awareness about nps pollution in urban, agricultural, or forest



**Eastern Region: Deschutes Basin**

TMDL Submission Date	Sub-Basin	Watershed	Listed Parameters	Programmatic Activity Needs for 319 Funds				Primary 319 Project Priorities
				In progress	Needed	Needed	Needed	
2002	Upper Deschutes	All watersheds	Temperature	In progress	Needed	Needed	Needed	Projects that address collection of data, assessment of conditions, education/demonstration strategies
			Sediment & Turbidity	Needed	Needed	Needed	Needed	Projects that address collection of data, assessment of conditions, education/demonstration strategies
			Ph Dissolved oxygen	Needed	Needed	Needed	Needed	Projects that address collection of data, assessment of conditions, education/demonstration strategies
2002	Little Deschutes	All watersheds	Temperature	In progress	Needed	Needed	Needed	Projects that address collection of data, assessment of conditions, education/demonstration strategies

TABLE XII. GROUNDWATER-RELATED 319 PRIORITIES, FY 2001

Area	319 Priorities	GWMA or Assessment Area	Characterization Complete	Implementation Documents	Milestones	Problem	Assessment	Projects Required By Action Plan
Priority Lower Umatilla Basin	(1) On-site system demonstration projects, (1) Evaluation of nitrate leaching from food processing waste water land application during winter, (2) Evaluation of differential nitrate leaching due to irrigation water mgt., nutrient application, and/or crop rotation.	Groundwater Management Area	1995	(1) 12/97 Action Plan, (2) MOA between SWCDs, ODA, & DEQ, & (3) Action Plan Implementation Work Plan	Annual Reports plus Evaluations at 12/2001, 12/2005, & 12/2009 & every 4 yr. thereafter	Nitrate	Initial assess. complete; bimonthly sampling continuing	(1) Develop options for local govt. to address cumulative impacts of septic systems (2) Determine where septic system loadings could create WQ problems based on development and hydrogeology (3) Determine how to incorporate WQ concerns into development proposals
Northern Malheur County (Owyhee & Malheur Basins)	(1) Bi-monthly sampling of monitoring well network, (1) Educational programs to teach irrigation mgt. practices to farm owners and workers, (2) Evaluation of differential nitrate leaching due to irrigation water mgt., nutrient application, and/or crop rotation, (2) Research economic viability of converting from flood irrigation to drip irrigation for lower-value crops	Groundwater Management Area	1990	6/91 Action Plan	Informal annual reviews and trend analysis of first 5 yr. of data due in 1996	Nitrate	Initial assessment complete; bimonthly sampling continuing	(1) Assist OSU Erg Exp. Station in their research projects (pg. 51 of Action Plan), (2) Assist OSU Extension and SCS in their educational and demonstration projects (pg. 52-54 of Action Plan)

Upper Willamette basin	<p>Public education and community involvement in basin specific groundwater quality issues,  Outreach to private well owners,  Hydrogeologic investigations to assist in GWMA investigations  Investigations into groundwater surface water interactions</p>	<p>The Upper Willamette Valley has been targeted for future Ground Water Management Area (GWMA) investigations due to identification of extensive groundwater contamination in the area. These projects integrate well with an overall watershed approach to water quality issues.</p> <p>The Willamette is currently the focus of TMDL studies and is in the process of developing a Water Quality Management Plan</p>
TMDL limited streams, where reduced input from stormwater is needed	<p>Evaluation of potential impacts of stormwater injection and or infiltration on groundwater quality  Analysis of pretreatment options and innovative technologies  Development of BMPs for injection and infiltration of stormwater which ensure protection of both groundwater and surface water.  Public outreach and community involvement projects</p>	<p>In areas of TMDL limited streams, where reduced input from stormwater is needed, communities are looking for alternative methods of stormwater management. Some of these practices, including infiltration or injection into the subsurface, have the potential to impact groundwater quality. Projects are needed that focus on stormwater management practices that will assist in enhancing natural groundwater recharge, while ensuring that pollutants associated with stormwater do not impact groundwater quality.</p> <p>These projects could be tied to the Upper Willamette Valley priority groundwater projects or integrated into the TMDL priorities.</p>