

DEQ Water Quality Division

2010

Oregon Nonpoint Source Pollution Program 2010 Annual Report

**As required by the
Federal Clean Water Act
Submitted to EPA Region 10**

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Department of Environmental Quality
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Oregon Nonpoint Source Pollution Program 2010 Annual Report

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EXECUTIVE SUMMARY

Background

This Nonpoint Source Pollution (NPS) program update report is to meet the requirements of section 319 (h) (8) and (11) of the Federal Clean Water Act (CWA) (33 USC 1329). The report documents the activities and accomplishments of the State of Oregon in general and the Oregon Department of Environmental Quality (DEQ) in particular regarding the administration of the State's NPS Program during the period January – December 2010.

For this year's Oregon NPS Program Annual Report, the U.S. Environmental Protection Agency (EPA), Region 10 staff provided assistance in the development of the **Oregon Nonpoint Source Pollution Program 2010 Annual Report**. This included writing success stories for WQ-10, SP-12, and environmental progress on the Bear Creek Watershed. In addition, EPA provided assistance in the development of the 2010 review of 319-grant work plans and processing Oregon's grant; and GRTS technical assistance and training to develop pollutant load reduction estimates of the 2010 funded projects. EPA is also in the process of writing additional success stories and developing pollutant load reduction models for the most prevalent 303(d) listed pollutants in Oregon for temperature and bacteria.

General Description of Report

Following EPA Section 319 Grant reporting guidelines, the report contains the following required elements:

- Description of Oregon's NPS Program.
- Description of Oregon's Baseline Regulatory Statutes and Non-Regulatory NPS Programs.
- Program Directions and Priorities in 2010.
- Nonpoint Source Management and Administration, Including a Description of Oregon's Performance Partnership Agreement (PPA) and Use of Incremental and Base Funds.
- Identification of the 2010 Project Implementation Activities, which Included the Following Programs/Projects:
 - Total Maximum Daily Loads
 - New Water Quality Standards
 - Toxic Chemicals

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- Water Quality Issues on Agricultural Lands
- Pesticide Management
- Water Quality Issues on State and Private Forest Lands
- Water Quality Issues on Federal Forest Lands
- Clean Water State Revolving Loan Fund
- Drinking Water Protection in Oregon
- Coastal Zone NPS Program
- Monitoring and Data
- Groundwater Management Areas (GWMAs)
- Progress of 319 Grant Funded Projects, including Grant Performance Report Summary, Description of Geographic and Programmatic Priorities for 2010 319 Funding, and progress of 2010 – 319-Grant Funded Projects and Categories.
- Calculated Nitrogen, Phosphorus, and Sedimentation-Siltation Pollutant Load Reduction Estimates of 2010 Funded Projects.
- Description of DEQ's Watershed-Based Plans.
- Success Stories/Environmental Improvement (WQ-10 and SP-12 Projects and Other DEQ).

Major Accomplishments

- In 2010, DEQ distributed over \$1,381,409 in 319 NPS source grants to 33 projects.
- For eleven (11) 319 funded projects, the total 2009 and 2010 load reduction estimates by pollutant are as follows: 62,518 Pounds/Year Nitrogen Reduction, 25,461 Pounds/Year Phosphorous Reduction, and 20,853 Tons/Year Sedimentation-Siltation Reduction.
- The Clean Water State Revolving Fund (CWSRF) Loan Program provided loans of \$11,245,721 towards five (5) NPS water quality improvement projects.
- Seventy-one (71) 319-funded projects are still open; including the thirty-three (33), 2010 funded projects.

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- DEQ received approval from EPA on the Lower Grande Ronde (Grande Ronde), Malheur River Basin (Malheur), and John Day River Basin Total Maximum Daily Load (TMDL).
- DEQ issued TMDLs for the Klamath and Lost River Subbasins; Lower Grande Ronde Subbasins; Malheur River Basin; and John Day River Basin to meet the “Consent Decree” deadline of 1,153 TMDLs by December 31, 2010.
- ODA, in 2010, initiated 40 compliance investigation cases statewide with the majority in the northwest part of the state.
- DEQ began the rulemaking process that will set new water quality standards for toxic pollutants based on a new fish consumption rate, propose rule language or develop other implementation strategies to reduce the adverse impacts of toxic substances in Oregon’s waters that are the result of nonpoint source pollution or other sources not subject to permitting, and developing a Toxics Reduction Strategy.
- DEQ resumed review of the state’s turbidity standard. DEQ expects to recommend revisions to the turbidity standard to the EQC in the fall of 2011.
- One EPA defined Environmental Success Story was provided for the Bear Creek Watershed, Rouge River Basin as an SP-12 and WQ-10 Project success story was written for 2010.
- For the 2011 319 NPS Implementation Grants, Oregon has received 319 funded project requests for a total of \$3,365,481 with **DEQ funding \$1,312,332** in the following project categories: BMP Implementation (60%), TMDL Implementation (15%), Information and Education (12.5%), and Pesticide Stewardship Partnership (12.5%).

Program Directions

DEQ continues to implement the NPS Program and direct funding into basins impaired by NPS pollution. In addition, DEQ is continuing to work toward implementation of the watershed approach, which would incorporate the use of the EPA’s key watershed planning components with the nine key NPS elements. In addition, DEQ is committed to a continual improvement in coordination between the various DEQ Water Quality Programs including NPS, TMDLs, Integrated Report, Source Water Protection, Groundwater, Clean Water State Revolving Loan Fund, and 319 Project Grants. In addition, DEQ has been working with staff from the Oregon Water Enhancement Board (OWEB), Natural Resource Conservation Service (NRCS), and other funding entities to prioritize and coordinate our efforts to address nonpoint sources of pollution.

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OREGON WATER QUALITY NPS PROGRAM 2010 ANNUAL REPORT

1. Introduction

General Description of Report

This NPS program update report is to meet the requirements of section 319 (h) (8) and (11) of the Federal Clean Water Act (CWA) (33 USC 1329). The report documents the activities and accomplishments of the State of Oregon in general and the Oregon Department of Environmental Quality (DEQ) in particular regarding the administration of the State's Nonpoint Source (NPS) Pollution Water Program.

The report covers an update on the NPS activities implemented by the State during the period January – December 2010. Like many other years in the Oregon program, this period was productive. As described below, Oregon is making progress toward meeting the substantial challenges presented by NPS water pollution.

Highlights

The State program continues to use innovative, cooperative, and community-based methods to improve water quality and enhance watersheds. Some of the activities and accomplishments for 2010 were:

- Distributed over **\$1,381,409** in 319 NPS source grants to **33 projects**.
- The \$1,381,409 total funds for 2010 were divided in four areas of emphasis, as follows: **BMP Implementation (58%), TMDL Implementation (15%), Pesticide Stewardship Program (13%), and Information and Education (13%)**.
- DEQ completed load reductions estimates for eleven (11) 319 funded projects, the total 2009 and 2010 load reduction estimates by pollutant are as follows: **62,518 Pounds/Year Nitrogen Reduction, 25,461 Pounds/Year Phosphorous Reduction, and 20,853 Tons/Year Sedimentation-Siltation Reduction**. Load reduction estimates were included in the EPA database GRTS (Grants Reporting and Tracking System).
- DEQ received approval from the Environmental Protection Agency (EPA) on the Lower Grande Ronde (Grande Ronde), Malheur River Basin (Malheur), and John Day River Basin Total Maximum Daily Load (TMDL).
- DEQ issued TMDLs for the Klamath and Lost River Subbasins; Lower Grande Ronde Subbasins; Malheur River Basin; and John Day River Basin to meet the "Consent Decree" deadline of 1,153 TMDLs by December 31, 2010.
- On June 1, 2010, DEQ submitted a report to the Legislature on Senate Bill 737: Development of a Priority Persistent Pollutant (P3) List for Oregon work completed on

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identifying sources of pollutants on the list and opportunities to reduce their discharge to water.

- Municipalities sampled their effluent for persistent pollutants in summer and fall 2010.
- The EQC adopted revisions to iron and manganese criteria in December 2010.
- DEQ resumed review of the state's turbidity standard. DEQ expects to recommend revisions to the turbidity standard to the EQC in the fall of 2011.
- DEQ began the rulemaking process for revising the human health criteria based on a fish consumption rate of 175 g/d (or about 23 fishmeals per month) and expects to be ready for the Oregon Environmental Quality Commission (EQC) adoption of revised criteria by mid 2011.
- DEQ began the rulemaking process that will set new water quality standards for toxic pollutants based on a new fish consumption rate that is much more protective of human health than the existing rate in Oregon and expects to be ready for EQC adoption of revised criteria by mid 2011.
- At the request of the EQC, DEQ began the process of proposing rule language or develop other implementation strategies to reduce the adverse impacts of toxic substances in Oregon's waters that are the result of nonpoint source pollution or other sources not subject to permitting.
- DEQ is developing a toxics reduction strategy, which is an integrated approach to address toxic pollutants in the environment. DEQ conducted internal survey interviews of all air, land, water, and laboratory programs to help complete a draft of the strategy by 2011.
- DEQ completed The 2007 Survey of Oregon Lakes, June 2010, report that provides results for 30 randomly selected lakes and reservoirs throughout Oregon.
- In 2010, DEQ conducted the Willamette Basin Mercury Study in support of the Willamette Basin Mercury TMDL.
- DEQ, Bureau of Land Management (BLM), and the U.S. Forest Service (FS) prepared the final 5-Year Progress report to evaluate and make recommendations on revisions to DEQ/BLM and DEQ/FS MOU.
- On FS and BLM lands throughout Oregon, from 2003 to 2007, over \$80.3 million dollars has been spent on active restoration. Over 1,600 miles of road have been improved, 484 miles have been decommissioned, riparian treatment was completed on 452 miles or approximately 25,000 acres, upland areas have had approximately 32,000 acres treated through various methods including slope stabilization, revegetation, silvicultural treatments, or livestock exclusion fencing and freshwater and coastal wetland restoration occurred on 4,807 and 1,500 acres.
- A final draft of the Memorandum of Understanding between United States Department of The Interior Bureau of Land Management and State of Oregon Department of Environmental Quality To Meet State and Federal Water Quality Rules and Regulations was completed.
- Oregon Department of Agriculture (ODA) and Soil and Water Conservation Districts (SWCDs) produced fourteen reports associated with Agricultural Water Quality Management Area (TMDL Implementation) Plan biennial reviews. The reports

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include updates on compliance and monitoring efforts as well as a summary of progress toward plan objectives, including targets on outreach and projects.

- ODA, in 2010, initiated 40 compliance investigation cases statewide with the majority in the northwest part of the state.
- ODA and SWCDs used various venues to reach agricultural producers and rural land residents to promote conservation practices with about 1,000 people attending 17 tours, 67,253 readers of 47 newsletters, over 3,000 attending 65 workshops, and 3,357 attendees of 67 presentations.
- The Water Quality Pesticide Management team (WQPMT) added 16 additional active ingredients to the original national list of 57 pesticides of interest, because of consultations with DEQ and their toxics reduction programs, making for 73 pesticides on Oregon's master list of Pesticides of Interest (POIs). In addition, selected 8 Pesticides of Concern (POCs): atrazine, azinphosmethyl, carbaryl, chlorpyrifos, diazinon, diuron, ethoprop, and simazine; and 4 Oregon POIs: chlorothalonil, pendamethalin, Terbacil, and triallate for 2010-2011.
- The DEQ and Oregon Department of Forestry (ODF) RipStream project has completed the initial analysis to test whether current riparian protections on fish-bearing streams are adequate to meet water quality standards for temperature. The results of the RipStream project were presented to the BOF in September 2010.
- The Clean Water State Revolving Fund (CWSRF) Loan Program provided loans of \$11,245,721 towards NPS water quality improvements.

State of Oregon Water Quality Program

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, the state also adopted another landmark program: in 1996, the state adopted the Oregon Plan for Salmon and Watersheds to focus work on watershed restoration and recovery of endangered salmonid populations.

The state water quality program can be divided into the ten interdependent program elements listed below. The water quality program components are:

1. Water quality standards that establish beneficial uses for the waterbody as well as maximum levels of pollutants that can be in the waterbody without adversely affecting the designated use.
2. Permits for point sources, including stormwater, discharging pollutants to waters of the state.
3. Water Quality 401-Certifications for hydroelectric projects, dredge, and fill activities.
4. NPS TMDLs specifically developed for forestry, agriculture, and urban activities.
5. Biennial assessment of State waters to identify those waters that are not meeting water quality standards.

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6. Pretreatment, Sewage Sludge Management, and On-Site System programs to ensure that water quality is not compromised by other land-based activities.
7. Development of TMDLs, which are limits on pollution intended to bring rivers, lakes, and streams into compliance with water quality standards.
8. 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.
9. Information and education outreach activities to create awareness by the public about the importance of NPS pollution and its impact groundwater and surface water quality.
10. Facility or activity-specific compliance assessment, a pilot NPS effectiveness monitoring effort, technical assistance, and enforcement as warranted ensuring State water quality requirements are met.

Partners

The cornerstone of the Oregon water quality program is, to the maximum extent practical, to identify solutions at the local community level. Watershed Councils, Soil and Water Conservation and Irrigation Districts, cities and counties all play an important part in the state's strategy.

Oregon has relied on longstanding partnerships to address various activities and sources of nonpoint source pollution. Many of the state's departments, boards, and commissions are now actively involved in addressing nonpoint source pollution and other watershed concerns. In addition, federal agencies are also partners. DEQ partners include but are not limited to the following:

State Agencies

- Department of Agriculture (ODA) www.oda.state.or.us
- Department of Forestry (ODF) www.odf.state.or.us
- Parks and Recreation Department (OPRD) <http://egov.oregon.gov/OPRD/index.shtml>
- Department of State Lands (DSL) <http://www.oregon.gov/DSL/index.shtml>
- Department of Geology and Mineral Industries (DOGAMI) <http://egov.oregon.gov/DOGAMI/index.shtml>
- Marine Board (Boat Ramps and Other Access Points) (Marine Board) <http://www.boatoregon.com/>
- Oregon Watershed Enhancement Board (OWEB) www.oweb.state.or.us
- Department of Fish and Wildlife (ODFW) www.dfw.state.or.us
- Department of Land, Conservation and Development (DLCD) www.lcd.state.or.us
- Department of Oregon Business Development (OBD) <http://www.oregon.gov/OBDD/index.shtml>
- Department of Transportation (ODOT) <http://egov.oregon.gov/ODOT/index.shtml>

Federal Agencies

- U.S. Forest Service (FS) <http://www.fs.fed.us/r6/water/>
- U.S. Bureau of Land Management (BLM) <http://www.blm.gov/or/st/en.html>

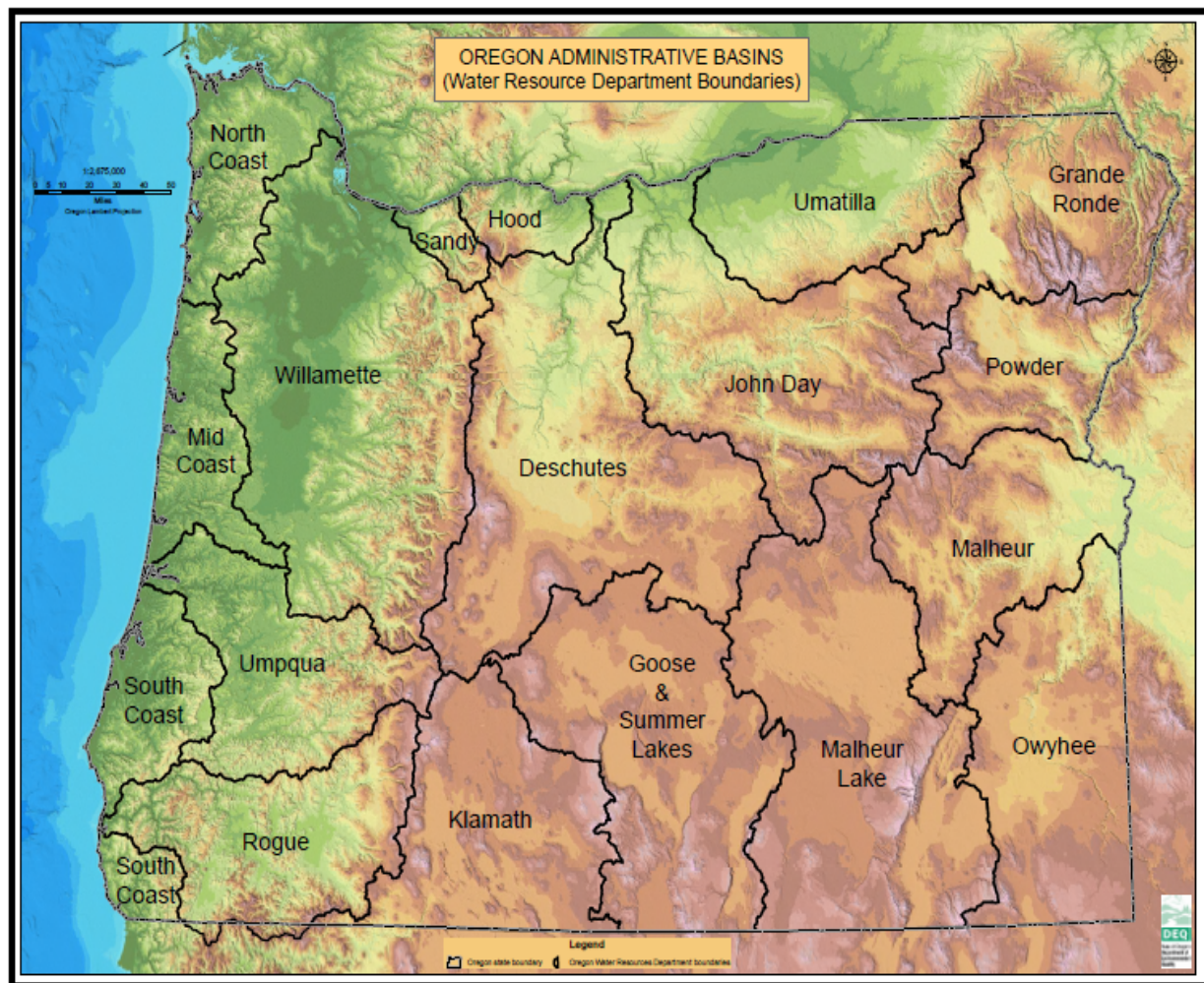
- U.S. Fish and Wildlife Service (USFWS) <http://www.fws.gov/oregonfwo/>
- US Army Corps of Engineers (USACE) <http://www.nwd.usace.army.mil/home.asp>

2. Oregon's Water Resources

Oregon ranks as the tenth largest state in the nation with its nearly 97,000 square miles. The Oregon landscape is diverse and surface water resources are a major feature of Oregon. The state has over, 6,200 lakes, 9 major estuaries, over 360 miles of coastline, and 111,619 miles of rivers. End to end; Oregon's rivers could circle the Earth four and a half times.

At present, responsibility for managing its water resources is divided between several state agencies that work in an active and effective partnership to protect state waters.

Figure 1. Waterbodies of Oregon



3. Oregon's Nonpoint Source Program

Description of NPS Program

Oregon's NPS Program is intended to control or prevent nonpoint source pollution to attain water quality standards and thereby protect the beneficial uses of all state waters. Oregon will promote and support programs and activities that are guided by best available science and implemented through an adaptive management approach. In addition, Oregon will realize these goals by striving for broad community acceptance and involvement.

Oregon's strategy for improving state waters is on a watershed basis. The state has 21 river basins and 91 sub-basins. The state's NPDES permitting, assessment, and TMDL work has been aligned and prioritized according to these sub-basins. There are Ground Water Management Area (GWMA) and basin coordinators assigned to each GWMA and basin/subbasin. They take the lead role as GWMA and TMDLs are developed and implemented. The types and extent of water quality impairments, as well as available resources and impediments vary geographically. It is therefore critical to consider GWMA/basin specific conditions and develop local priorities and solution for local problems to achieve water quality improvements.

Baseline Regulatory Statutes

The NPS program relies on the following State of Oregon and federal rules and regulations:

- Federal Clean Water Act;
- Federal Safe Drinking Water Act;
- EPA National Estuary Program;
- NOAA CZARA Section 6217 Coastal NPS Control Program;
- Oregon water quality standards;
- Oregon TMDL rule ;
- State and EPA NPS and stormwater pollution control rules;
- Oregon Forest Practices Act;
- Oregon Plan for Salmon and Watersheds;
- Oregon Agricultural Water Quality Act;
- Oregon State Land Use Planning Program, specifically Goal 5 (protection of riparian and wetlands) and Goal 6 (protection of air, water and land resources); and
- Oregon Groundwater Quality Protection rules.

Non-Regulatory NPS Programs

Oregon's Nonpoint Source Control Program Plan, October 2000, <http://www.deq.state.or.us/wq/nonpoint/plan.htm> identifies the pollution management programs, strategies, and resources that are currently in place or that are needed to minimize or prevent nonpoint source pollution effects. DEQ has the responsibility of overseeing and implementing the States NPS Management Program by coordinating with many local, state, and federal agencies and organizations throughout the State of Oregon. The NPS Management Plan represents the unified effort of many agencies and individuals to outline the various pollution control strategies that are currently taking place or are proposed for future implementation. In addition, category goals and implementation milestones are described for each of the eight EPA designated NPS pollution categories.

Since its inception, Oregon's NPS Program has supported and promoted the collaborative efforts of state, federal, and local agencies as well as private organizations in order to achieve NPS goals. The State of Oregon is committed to implementing an environmentally sensitive program that focuses on the attainment of water quality goals by using a balanced approach of education, research, technical assistance, financial incentives, and regulation. These programs include the management or regulation of forestry, agriculture, grazing, transportation, recreation, hydromodification, marinas, urban development, land use planning, fish and wildlife habitat, riparian and wetlands protection/restoration, public education, water resources, and other activities that affect the quality of the state's waters.

Program Directions and Priorities in 2010

DEQ continues to implement the NPS Program and direct funding into basins impaired by NPS pollution. In addition, DEQ is continuing to work toward implementation of the watershed approach, which would incorporate the use of the EPA's key watershed planning components with the nine key NPS elements. This includes continued improvement in coordination between the various DEQ Water Quality Programs including NPS, TMDLs, Integrated Report, Source Water Protection, Groundwater, Clean Water State Revolving Loan Fund, and 319 Project Grants.

In addition, DEQ has been working with staff from the Oregon Water Enhancement Board (OWEB), Natural Resource Conservation Service (NRCS), and other funding entities to prioritize and coordinate our efforts to address nonpoint sources of pollution. Development of an Oregon Watershed Approach that would integrate implementation ready TMDL Implementation Plan requirements (Oregon TMDL Rule, OAR 340-042-0025); EPA's Key Watershed Planning Components with Nine Key NPS elements; and drinking water protection program elements is planned. However, one of the major impediments to reducing pollutants from nonpoint sources is that federal funding of the state's Nonpoint Source Program has been at the same level for several years.

Prioritization of NPS Activities in 2010

Prioritization of program activities is important to best use Oregon's limited resources for preventing or reducing NPS pollution and improving water quality. In addition, recommendations from a long-term water quality program planning effort were used to help prioritize work.

The following criteria were used to prioritize activities for 2010:

- a. Actions that are measurable and achievable – known environmental result.
- b. Actions that act as a catalyst to move the NPS Program forward.
- c. Actions that can guide other program efforts such as setting policy or developing tools.
- d. Actions that enable the program to leverage internal and external resources.
- e. Actions that invest in and or develop political will and community support.
- f. Actions that develop an internal process to increase efficiency and consistency.
- g. Actions that include an ongoing assessment of monitoring and particularly 319 funding for projects that include monitoring.

This prioritization process focused DEQ's NPS efforts in 2010 on agricultural, federal, state, and private forestry land use activities, and the Oregon Coastal Nonpoint Pollution Control Program (CNPCP).

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2005 319-APPLICATION PROJECT NUMBER W10717

Project Location:

Tillamook Estuary, North Coast Basin.

Project Purpose:

Establishment of riparian vegetation by the removal of invasive species during 2005 and 2006.

Photos Credit:

Rocha Photo

Pre-Prep 2005



Monitoring 2008



4. Nonpoint Source Activities and Accomplishments in 2010

Programmatic - NPS Management and Administration

Performance Partnership Agreement (PPA)

A portion of DEQ's nonpoint source program activities are funded through the EPA and DEQ Performance Partnership Agreement (PPA). This funding used in waters impaired by NPS pollution supports program management, administration, TMDL development and implementation, mainstem Columbia water quality management, and agency coordination. These funds support 10.5 FTE positions within DEQ that were involved in the following programs/projects:

- DEQ issued TMDLs for the Klamath and Lost River Subbasins; Lower Grande Ronde Subbasins; Malheur River Basin; and John Day River Basin to meet the "Consent Decree" deadline of 1,153 TMDLs by December 31, 2010.
- Three TMDLs were approved by EPA in 2010: Lower Grande Ronde (Grande Ronde), Malheur River Basin (Malheur), and John Day River Basin.
- Implement TMDLs for NPS in subbasins where TMDLs/WQMPs have been completed, such as the Willamette River and Columbia River Basins.
- Implement the Willamette Mercury TMDL (Phase I) using DEQ's Mercury Reduction Strategy and mercury source characterization work to help identify priorities and strategies.
- Implement strategies for GWMA's with established Action Plans.
- Distribute 319 grants to fund project proposals in Oregon's priority basins based on TMDL implementation, 303(d) listings, GWMA's, and Drinking Water Source Areas.
- Administer 319 Grants.
- Prepare an annual report of NPS program accomplishments.
- Determine with EPA potential NPS success stories documenting either that the water body is meeting WQS or making water quality progress under EPA's national measures.
- Enter GRTS 319 project tracking mandated data elements by national deadlines, including pollutant load reductions, as available.
- Coordinate with the Oregon Department of Land Conservation and Development (DLCD) on the Oregon Coastal Nonpoint Pollution Control Program (CNPCP).
- Coordinate with state and federal natural resource managers on meeting water quality goals and objectives.

The following **Table 1** is a compilation and summary of elements 2 and 8 sections from the actual 2008-2010 PPG workplan.

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Table 1. 2008-2010 Performance Partnership Agreement NPS and 319-Funded Related Water Quality Component.

2008-2010 Performance Partnership Agreement NPS and 319-Funded Related Water Quality Component		
	DEQ Commitment	Outputs
<i>Element 2: TMDLS</i>		
2.1 Total Maximum Daily Loads (TMDLs) and Water Quality Management Plans	<p>DEQ staff actively implement TMDLs by:</p> <ul style="list-style-type: none"> Revising industrial and municipal wastewater permits to incorporate revised permit limits. Working with local communities and the Oregon Department of Agriculture through the SB 1010 process to implement the TMDLs effectively on agricultural lands. Working with the Oregon Department of Forestry, for implementation on state and private forestlands, through the Oregon Forest Practices Act and long-range management plans. Assisting local governments in developing TMDL Implementation plans for urban areas. Working with the U.S. Forest Service and the Bureau of Land Management on developing water quality restoration plans for lands under their jurisdiction. <p>DEQ has defined development of TMDLs as a High Priority Outcome for the Water Quality Division. DEQ has committed to meet the Consent Decree requiring that specific target numbers of TMDLs be completed by 2008 and by 2010. We have defined a parallel goal that, by 2008, there will be a general recognition of the importance of TMDLs and their implementation for water quality protection and restoration.</p>	<p>By December 31, 2008 DEQ plans to submit to EPA for approval an additional 119 TMDLs (863 TMDLs approved by EPA as of October 2, 2007) to achieve the interim milestone of 982 TMDLs contained in the Consent Decree. The TMDLs could include any of the following basins:</p> <ul style="list-style-type: none"> - Rogue Basin - Klamath Basin - Molalla & Pudding Basins - Miles Creeks Basins <p>By December 31, 2010, DEQ plans to submit to EPA for approval additional TMDLs to achieve the milestone of 1,153 TMDLs completed contained in the consent decree. The TMDLs could include any of the following basins:</p> <ul style="list-style-type: none"> - John Day Basin - Malheur Basin - Wallowa County Basin - Yamhill Basin - Mid Coast

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Table 1. 2008-2010 Performance Partnership Agreement (Cont.)

2008-2010 Performance Partnership Agreement NPS and 319-Funded Related Water Quality Component		
	DEQ Commitment	Outputs
2.3 Implement the Willamette River Basin TMDL. Work with watershed councils, local governments, and other DMAs to develop appropriate management practices and plans for controlling pollutants to the Willamette River.	DEQ will work with watershed councils, local governments, and other DMAs to develop Implementation plans throughout Willamette Basin that guide management practices, pollutant controls to meet load allocations in TMDLs. Facilitate projects that result in improvements in water quality.	Completed Implementation plans throughout Willamette Basin that guide management practices, pollutant controls to meet load allocations in TMDLs. Facilitate projects that result in improvements in water quality.
2.4 Implement the Willamette Mercury TMDL (Phase I) using DEQ's Mercury Reduction Strategy and mercury source characterization work to help identify priorities and strategies. Work with stakeholders to identify sources and implement strategies to reduce the use of mercury and increase the amount of mercury that is safely managed or disposed.	Complete characterization of mercury sources in Willamette basin and data required for final monitoring.	Ongoing. This work is dependent upon award of competitive Extramural Funding for mercury analysis and mercury minimization planning.
2.5 Implement TMDLs for Nonpoint Sources in subbasins where TMDLs/WQMPs have been completed.	Completed Implementation plans that guide management practices, pollutant controls to meet load allocations in TMDLs. Facilitate projects that result in improvements in water quality.	DEQ is on track to meet the Consent Decree number of TMDLs required to be completed by the end of 2010. Ongoing. DEQ is encouraging DMAs to submit TMDL implementation plans that will be reviewed by DEQ.

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Table 1. 2008-2010 Performance Partnership Agreement (Cont.)

2008-2010 Performance Partnership Agreement NPS and 319 Funded Related Water Quality Components		
	DEQ Commitment	Outputs
<i>Element 8: Management of Nonpoint Sources of Pollution</i>		
8.1 Review and update Oregon's 319 grant guidelines to include EPA's NPS 9 points guidance. Distribute 319 grants to fund project proposals to Oregon's priority basins based on TMDL development and implementation, and GWMA's. Work with EPA to review basins plans containing EPA's 9-point guidance.	<p>DEQ's NPS program also includes staff, which performs the following activities:</p> <ul style="list-style-type: none"> • Characterization of NPS problems/concerns. • Monitoring to support and determine effectiveness of BMP programs. • BMPs development/implementation. • Coordination between stakeholders. • Liaison support staff to other state and federal agencies. • Restoration activities. • Development and modeling for NPS TMDLs. • Development of UAA/SSC as related to NPS activities; and • Public education. • Solicit and select projects. 	<p>Funding criteria used to prioritize proposals. DEQ continues to develop watershed approach, TMDL implementation, and integration of EPA's NPS 9 points guidance into watershed implementation plans.</p> <p>DEQ has implemented a coordinated approach between 319, nonpoint source, and TMDL implementation to address critical water quality needs.</p>
8.2 Prepare an annual report of NPS program accomplishments.	2010 NPS Annual Report	Place on website. The 2009 Annual Report was submitted by DEQ and approved by EPA. The report is on DEQ's website.
8.3 (08-10) Determine with EPA available NPS Success Stories documenting either water quality progress or partial/full restoration under PAM	Provide assistance in development of NPS Success Stories.	All stories on EPA website, stories documenting partial or full attainment count towards WQ-10.
8.4 (08-10) Enter GRTS 319 project tracking data by national deadlines, including load reductions as available	Data reflecting progress and status of 319 implementation	In progress. 2/09, 2/10 load reduction, 4/09, 4/10

Use of Incremental vs. Base Funds

Oregon's total 2010 319-Grant allocation of \$2,714,915 was distributed as follows: \$1,381,409 or approximately 50.9% was directed to the thirty-three (33) 319 projects grant and the remainder, \$1,333,506 or approximately 49.1%, was directed to the PPA grant to fund staff efforts under the NPS program.

Table 2. 2010 Oregon's 319 Grant Incremental and Base Funds Use

2010 OREGON'S 319 GRANT INCREMENTAL AND BASE FUNDS USE			
Fund	Dollar Amount	Percent	Use
Base Funds	\$1,333,506 (Includes \$45,206 of PPG Incremental Funds)	49.1 %	10.5 DEQ Staff Positions
Incremental Funds	\$1,381,409	50.9 %	33 Projects
TOTAL	\$2,714,915	100.0 %	--

Base Funds

Oregon's "base funds" supports 10.5 positions within DEQ on the following programs:

- TMDL Development.
- TMDL Implementation.
- Update Oregon's 319 Grant Guidelines.
- Distribute 319 Grants For Projects.
- 319-Grant Administration and GRTS reporting of 319 activities.
- Annual NPS Report.
- NPS Success Stories.
- NPS Load Reductions.
- Columbia Water Quality Management.
- Oregon Coastal Nonpoint Pollution Control Program (CNPCP).
- State and Federal Coordination.

The following **Table 3** identifies how the PPG Base Funds dollars and FTE were used in 2010 to support the various NPS program activities:

Table 3. 2010 Oregon's 319 Grant Funded Positions and NPS Program Activities Costs

2010 OREGON'S 319 GRANT FUNDED POSITIONS / NPS PROGRAM ACTIVITIES	FTE	Dollars
NPS TMDL Modelers	2.00	\$216,258
Regional NPS Staff (incl. 0.50 of NPS TMDL Development)	4.00	\$514,187
Prorates and Management and Administrative Support (Includes 0.33 FTE in Regions and 0.18 FTE at HQ)	0.51	\$67,358
Grant Administration	1.00	\$129,253
Columbia Basin Coordination	1.00	\$140,535
Nonpoint Source Coordination	2.00	\$257,695
Attorney General	--	\$8,220
TOTALS	10.51	\$1,333,506

DEQ's use of the "base" 319 funds meets EPA's guidelines in supporting state 319 programs and projects. States may use the base funds for the full range of activities addressed in their approved nonpoint source management programs. EPA allows states to use up to 20% of the base funds to develop NPS TMDLs (consistent with their TMDL development schedule) and watershed-based plans to implement NPS TMDLs; develop watershed-based plans in the absence of or prior to completion of TMDLs (incorporating the TMDL's load allocations once it has been completed and approved); develop watershed-based plans that focus on the protection of threatened waters, source water, or other high-priority unimpaired waters; and conduct other NPS monitoring and program assessment/development activities. (Monitoring the results of implementing a watershed project is not subject to this 20% limitation.)

Incremental Funds

In 2010, the \$1,381,490 319-Grant of "incremental funds" funded 33 projects as follows:

- TMDL Implementation (15%)
- Pesticide Stewardship (13%)
- BMP Implementation (58%)
- Information and Education (13%)

Incremental funds are restricted, per EPA's 319 guidance, but are principally to be used to develop and implement watershed-based plans that address nonpoint source impairments in watersheds that contain Section 303(d)-listed waters. States may use up to 20% of incremental funds to develop NPS TMDLs, watershed-based plans to

implement NPS TMDLs, and watershed-based plans in the absence of or prior to completion of TMDLs in Section 303(d)-listed waters (incorporating the TMDL's load allocations once it has been completed and approved).

Project Implementation (2010 Activities)

Programs

Total Maximum Daily Loads (TMDLs)

TMDLs describe the amount of pollutant a waterway can receive and not violate water quality standards. TMDLs take into account the pollution from all sources, including discharges from industry and sewage treatment facilities; runoff from farms, forests and urban areas; and natural sources such as decaying organic matter or nutrients in soil. TMDLs include a margin of safety to account for uncertainty. They also may include a reserve capacity that allows for future discharges to a river or stream without exceeding water quality standards. DEQ develops TMDLs on a watershed and reach basis depending on the impairments and attempts to address all 303(d) listed impairments for that watershed.

Federal law requires that streams, rivers, lakes, and estuaries that appear on the 303(d) list have a TMDL developed in order to meet state water quality standards. In most cases, rivers and streams receive discharges from both point and nonpoint sources of pollution. DEQ has completed and submitted to EPA more than 1,153 TMDLs at the end of 2010.

Process for TMDL Development:

1. Review existing data and monitor to determine the type and amount of pollutants that are causing water quality problems. The review and monitoring attempts to determine how much of the pollution comes from point sources, nonpoint pollution, such as surface runoff, and naturally occurring sources such as wildlife.
2. Use techniques such as computer modeling to determine what effect the pollution is having on the stream or river and how much of the pollutant can be discharged without exceeding water quality standards.
3. Use this information to establish waste load allocations for point sources (the amount of pollutant each pipe can discharge) which will be incorporated into NPDES permits) and load allocations on nonpoint sources, which are, implemented through TMDL Implementation Plans.

DEQ Issued TMDLs for 2010:

DEQ issued TMDLs for the Klamath and Lost River Subbasins; Lower Grande Ronde Subbasins; Malheur River Basin; and John Day River Basin to meet the "Consent Decree" deadline of 1,153 TMDLs by December 31, 2010.

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EPA Approved TMDLs for 2010:

The following **Table 4** outlines the three TMDLs approved by EPA in 2010.

Table 4. Oregon TMDLs Approved by EPA in 2010.

Oregon TMDLs Approved by EPA for 2010					
Waterbody (Basin)	Water Quality Concern Addressed	TMDL Parameters	USEPA Approval Date	Completed TMDL Segments by Basin	Completed TMDL Segments (cumulative)
Lower Grande Ronde (Grande Ronde)	Temperature, Bacteria	Temperature, Bacteria	09/24/2010	37	1050
Malheur River Basin (Malheur)	Temperature, Bacteria, Chlorophyll a	Temperature, Bacteria, Chlorophyll a	12/03/2010	33	1083
John Day River Basin	Temperature, Bacteria, Dissolved Oxygen, Sedimentation And Biological Criteria	Temperature, Bacteria, Dissolved Oxygen, and Biological Criteria	12/17/2010	123	1106

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TMDL Implementation Process Timeline for the TMDL issued by DEQ in 2010:

Within 20 days after the TMDL is issued as an EQC Order, DEQ sends notification letters to all DMAs that outline the following TMDL implementation requirements:

Table 5. TMDL Implementation Requirements to DMAs.

Requirement	Timeline	Expectations
DMAs develop/submit Implementation Plans to DEQ.	18 months, as indicated in the WQMP and DEQ notification letter.	TMDL Implementation Plans should be developed based on the TMDL Implementation Plan Guidance http://www.deq.state.or.us/wq/TMDLs/TMDLs.htm .
DEQ acknowledgement, review, and approval of submitted TMDL Implementation Plans.	Review and approval within 30-60 days after receiving the plan. ¹	DEQ will provide feedback on the TMDL Implementation Plan and inform the submitter if your plan has been approved. DEQ will also provide specific recommendations if your plan is not adequate.
DMAs undertake actions to implement their plans.	As described in plan.	This could include continuation of existing actions, developing new ordinances, enforcement, outreach and education efforts, etc.
DMAs submit annual status reports.	Due date will be based on date plan was approved. ²	This could be a summary of an annual status review with DEQ and/or a brief written statement of status of actions taken.
DMA reviews and revises the plan if data or other information indicates the plan is not adequate to achieve pollution reduction goals.	As necessary.	Adaptive management through review and revision results in pollution reduction.
DMA submits five-year evaluation.	Serves as the Fifth Annual Report.	Written evaluation of effectiveness of plan relative to pollutant reduction goals as can be demonstrated by existing data and/or qualitative reports (i.e., does not require data collection), and description of changes that will be made if necessary.
DMA and DEQ collaborate on plan Review and Revision.		Following DEQ's reevaluation of a TMDL. The plan review and revision guidelines are provided on DEQ's web site http://www.deq.state.or.us/WQ/TMDLs/TMDLs.htm

1. If DEQ is unable to complete within this period, DEQ will acknowledge receipt of plan, and clarify the date when DEQ will complete review.

2. The precise date will be one mutually agreeable to DEQ and the DMA and can coincide with other reporting dates to DEQ, such as in MS4 or other permits.

New or Revised Water Quality Standards

Introduction

At least once every three years, Oregon is required to review 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 contained in Chapter 340, Division 41 of the Oregon Administrative Rules.

Toxic Chemicals

In June of 2010, EPA disapproved most of the water quality criteria revisions toxic pollutants that the EQC adopted in 2004. This means that DEQ's effective toxics criteria under the Clean Water Act are primarily those contained in Table 20. A table of effective toxics criteria and Table 20 are available on the DEQ water quality standards web site (see standards rules).

On October 23, 2008, the EQC gave DEQ unanimous approval to pursue rule revisions that will set new water quality standards for toxic pollutants in Oregon. The new standards will be based on a new fish consumption rate that is much more protective of human health than the existing rate. DEQ's current human health toxics criteria are based on a fish consumption rate that does not provide adequate protection for the amounts of fish and shellfish that Oregonians eat. EQC directed DEQ to pursue rule revisions that will set new water quality standards for toxic pollutants in Oregon based upon on a revised fish consumption rate of 175 grams per day. DEQ is continuing to pursue this rulemaking and anticipates EQC action in mid-2011. Those criteria will then be submitted to EPA and will not be effective under State or federal law until after EPA approval.

Non-NPDES Elements of Water Quality Toxics Rulemaking

The commission also directed DEQ to propose rule language or develop other implementation strategies to reduce the adverse impacts of toxic substances in Oregon's waters that are the result of nonpoint source pollution or other sources not subject to permitting. The proposed rule language must allow DEQ to implement the standards in an environmentally meaningful and cost-effective manner.

In 2010, DEQ worked with a number of stakeholders and staff to address EQC's directive. DEQ has drafted and is in the process of finalizing a number of supporting issue papers to evaluate rulemaking options, to document discussions with the workgroups, and to provide supporting analysis and documentation of proposed rule provisions.

DEQ concluded that the following items related to NPS should be addressed through revised rules. There are additional rule changes that change the numeric standards and criteria as well as rules that address point sources.

Nonpoint Source Pollution.

Revision of rules related to agriculture and forestry to clarify DEQ's regulatory authority to control nonpoint sources of pollution.

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Total Maximum Daily Loads (TMDLS).

Revision of rule related to assigning load allocations to clarify DEQ's authority to allocate loads to air and land sources in TMDLS.

DEQ determined that these clarifications, if approved by the EQC for adoption, would facilitate NPS program implementation and lead to reduction of the adverse impacts of toxic pollutants from nonpoint sources.

Fish Consumption Rates in Human Health Criteria

Oregon's 2004 numeric human health criteria are based on EPA's recommended CWA Section 304(a) Water Quality Criteria guidance values. One of the exposure parameters used in calculating the criteria is the amount of fish that people consume.

EPA's current recommended CWA Section 304(a) Water Quality Criteria guidance values are calculated using the national fish consumption rate of 17.5 g/day. The choice of the fish consumption rate used in deriving human health criteria is a risk management decision. The risk management decision specifically considers the population to protect in the human health criteria: the general population, tribal populations, other sensitive populations (e.g. women and children), etc.

DEQ is in the process of revising Oregon's human health criteria based on a fish consumption rate of 175 g/d (or about 23 fishmeals per month). Studies show that the Northwest Tribes eat substantially more fish than the national per capita average. An increase in the fish consumption rate will result in more stringent human health criteria.

Turbidity

In late 2009, DEQ resumed review of the state's turbidity standard. DEQ expects to recommend revisions to the turbidity standard to the EQC in the fall of 2011.

The following tasks were completed in 2010:

- In June of 2010, EPA disapproved most of the water quality criteria revisions toxic pollutants that the EQC adopted in 2004.
- The EQC adopted revisions to iron and manganese criteria in December 2010.
- On December 22, 2010, DEQ issued the proposed rulemaking to revise the water quality standards regulation to address the human health criteria for toxic pollutants. DEQ also proposes to adopt new and revised water quality standards rules on implementing water quality standards through various water quality control programs, including National Pollutant Discharge Elimination System (NPDES) permits and nonpoint source pollution programs.

Cross Program Efforts to Address Toxic Chemicals

DEQ Toxics Reduction Strategy

DEQ is developing a comprehensive, integrated approach to address toxic pollutants in the environment. An integrated approach is essential because these pollutants readily

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transfer from one environmental media to another (e.g., mercury can be released to the air, deposit on the land, and run off to the water). DEQ's cross-media toxics reduction strategy will help ensure that DEQ is addressing the problem of toxics in the environment in the most effective and efficient way.

The objectives of this strategy are to:

1. Optimize agency resources by focusing on the highest priority pollutants in a coordinated way.
2. Implement actions that reduce toxic pollutants at the source.
3. Establish partnerships with other agencies and organizations to increase the effective use of public and private resources.
4. Use environmental outcome metrics to measure the effectiveness of strategy implementation where feasible.

DEQ conducted internal survey interviews of all air, land, water, and laboratory programs to help complete a draft of the strategy. The final draft Strategy will be presented to the EQC for approval. Currently, the goal is to complete the draft Strategy by 2011.

Senate Bill 737: Development of a Priority Persistent Pollutant (P3) List for Oregon

The 2007 Oregon Legislature directed DEQ to compile a prioritized list of persistent pollutants (the P3 List) to guide DEQ's pollution prevention efforts. Senate Bill 737 (SB 737) sets specific guidelines for DEQ to follow in compiling this list. The statute requires DEQ to present a list of priority persistent pollutants to the Legislature by June 1, 2009. An Interim Final P3 List was submitted to the Legislature at that time, and a final P3 List was submitted in October 2009. DEQ's Final P3 List identifies 118 toxic pollutants, divided into two categories (available at <http://www.deq.state.or.us/wq/SB737/index.htm>).

The following tasks were completed in 2010:

- On June 1, 2010, DEQ submitted a report to the Legislature identifying sources of pollutants on the list and opportunities to reduce their discharge to water.
- Municipalities sampled their effluent for persistent pollutants in summer and fall 2010.

Future Activities Include:

- Oregon's 52 large municipal wastewater treatment plants (WWTPs) must also develop persistent pollutant reduction plans by July 2011 to reduce persistent pollutants occurring in their effluent at levels above "Plan Initiation Levels" set by DEQ. These WWTPs have funded this work for two years, and continue to be closely involved.
- Final sampling results will be available in spring 2011.

Pesticide Management

Pesticides Stewardship Partnerships (PSPs)

Since 1999, DEQ has been using a voluntary, collaborative approach called PSPs to identify problems and improve water quality associated with pesticide use. The PSP approach uses local expertise in combination with water quality sampling and DEQ's toxicology expertise to encourage and support management measure changes that lead to measurable pesticide detection reduction in surface water.

The key elements of the PSP approach include:

- Use stream monitoring to identify local, pesticide-related water quality concerns,
- Share results early and often with partners in the watershed,
- Explain data in terms of the effects of pesticides on the health of streams,
- Engage the agricultural community and other pesticide user groups in identifying and implementing solutions, and
- Use ongoing effectiveness monitoring to measure success and provide feedback to support water quality management.

DEQ has not been able to secure permanent funding for the PSP program, however, 319 funds have been used to continue monitoring and outreach by local PSP partners.

In 2009, DEQ expanded the number of pesticides included in its laboratory analytical suite from 12 to approximately 100. These increased lab capability allows DEQ to gain a more comprehensive understanding of the pesticide stressors in local waterbodies. Although many of these newly monitored pesticides do not have in-stream water quality criteria, the EPA Office of Pesticides has established aquatic life benchmarks that can assist DEQ and others in assessing the potential effects of pesticides detected.

In 2010, PSP work continued in Eastern Oregon with partners in Hood River and Walla Walla basins. Outreach efforts continued to be focused on communicating PSP monitoring results and providing technical assistance to orchards. In addition, DEQ and its local partner reinstated PSP monitoring in Wasco County near The Dalles based on strong local interest.

In 2010, DEQ continued PSP work with partners in three subbasins in the north Willamette Valley: Clackamas, Pudding, and Yamhill River Basins. In addition to existing sites in urban and agricultural areas, samples were collected at three additional sites in Yamhill subbasin that are downstream from private forests to better assess pesticide-related water quality concerns from forest land use.

The multitude of different agricultural commodity groups in the Willamette Valley, as well as forestry and urban land uses, creates a major challenge for DEQ and its partners in achieving short-term improvements in water quality related to pesticide use.

Monitoring data from 2010 shows some continued general decreases in concentrations and detection frequencies of the organophosphate insecticides in PSP watersheds. Of

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the new pesticides monitored, the herbicide diuron stands out as the primary chemical of concern. Diuron has been detected in every PSP watershed with high frequency, and at levels exceeding or approaching EPA aquatic life benchmarks in several instances. Follow up outreach and technical assistance strategies are being developed to focus on lowering the detections and concentrations of diuron and other commonly detected herbicides in PSP watersheds.

The following are a few examples of outreach efforts that rely on PSP monitoring results.

- PSP partners have been able to obtain funding to provide technical assistance in PSP basins due in part to PSP data indicating water quality concerns from pesticides use.
- Numerous presentations have been given by DEQ and PSP partners to pesticide applicators, basin natural resource personnel, and growers about PSP monitoring results.
- Local partners identified priority areas for technical assistance based on PSP monitoring results.

Clean Water State Revolving Fund

DEQ is committed using its Clean Water State Revolving Fund loan program whenever feasible to fund project's addressing nonpoint source water pollution. The number of nonpoint source projects funded by the loan program continues to grow.

In 2010, five loans to address nonpoint sources, totaling \$11.2 million, were provided to Oregon communities. Two of these loans were made to central Oregon irrigation districts. The East Fork Irrigation District in Odell received a \$150,000 loan increase to finance replacing an open irrigation ditch with underground pipe. The project will reduce turbidity and sedimentation in Neal Creek, a salmonid spawning rearing habitat.

The Three Sister's Irrigation District, in Sisters, received a \$334,000 increase to an existing loan. The additional funds will complete construction of a large-diameter pipe to replace a conveyance canal that will reduce water loss due to ground seepage and evaporation. When complete, the more efficient pipeline will provide minimum spawning flows for redband trout in Whychus Creek.

The Clackamas County Sewer District #1 received an additional \$5.3 million loan to continue work on a sanitary sewer collector to replace failing septic systems and cesspools in Milwaukie. The failing septic systems have contributed to elevated bacterial contamination in Johnson Creek, a tributary of the lower Willamette.

The City of Gresham received a \$5 million loan to upgrade or decommission a number of the city's stormwater drywells. The drywells being decommissioned will be replaced with green infrastructure facilities, such as rain gardens and planters, to reduce stormwater impacts. Several of the drywells being decommissioned were located in areas of high groundwater or near drinking water wells.

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DEQ's "sponsorship option" financing, which allows a water restoration project to be funded in conjunction with a community's traditional wastewater project, continues to be available for public agencies. Linking the funding of a nonpoint source project with a tradition wastewater improvement project through DEQ's sponsorship option provides a unique method of funding nonpoint source projects. In February 2010, the City of Woodburn received \$411,000 through the sponsorship option to fund riparian area enhancements (restoring native vegetation, wild life habitat and providing additional shading) within the Pudding River watershed. This project is being implemented in conjunction with upgrades to the city wastewater collection and treatment facilities and will be paid by sewer rates.

From January 1, 2004 through December 31, 2010, Oregon's loan program has provided \$48,625,095 towards nonpoint source water quality improvements. The program continues to promote its low interest loans as a tool to address these needs.

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Table 6. 2010 Clean Water State Revolving Fund Activity on Nonpoint Source Projects.

STATE REVOLVING FUND ACTIVITY ON NONPOINT SOURCE PROJECTS 2010										
SRF Loan #	Watershed	Project Title	FY	SRF Borrower	Loan Amount	Disbursements To Date	Remaining to Disburse	Project Status	Project Officer	Project Completion
R-22403	LOWER WILLAMETTE /KELLOGG CREEK	New Sewers To Replace Onsite Systems	2010	Clackamas County Service District #1	\$5,350,000	\$0	\$5,350,000	Not Started	Tiffany Yelton-Bram	Oct. 2011
R-30141	UPPER DESCHUTES WATERSHED	Irrigation Pipeline	2010	East Fork Irrigation District	\$150,000	\$60,226	\$89,774	Construction	Shanna Bailey	March 2011
R-39193	LOWER WILLAMETTE /COLUMBIA SLOUGH	Stormwater Drywell Upgrades	2010	City of Gresham	\$5,000,000	\$77,464	\$4,922,536	Construction	Tiffany Yelton-Bram	Dec. 2014
R-91411	UPPER DESCHUTES WATERSHED	Irrigation Pipeline	2010	Three Sisters Irrigation Dist.	\$334,660	\$265,720	\$68,940	Construction	Shanna Bailey	Jan. 2011
R-98414	MIDDLE WILLAMETTE /MOLALLA-PUDDING	Riparian Area Enhancement	2010	City of Woodburn	\$411,061	\$0	\$411,061	Not Started	Jaime Isaza	June 2013
TOTAL					\$11,245,721	\$403,410	\$10,842,311			

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2009 319-FUNDED PROJECT NUMBER W09730

Project Location:

Foss Property on the South Fork Yachats River, Alsea watershed, Mid Coast Basin.

Project Purpose:

Establishment of riparian vegetation and exclusion of 10 head of livestock from riparian zone.

Photos Credit:

By Robin Koeller, Lincoln Soil and Water Conservation District.

Before



After – Riparian Planting



After – Livestock Exclusion Fence



Drinking Water Protection in Oregon

Approximately 75% of Oregon's citizens get their drinking water from public water systems. Oregon's drinking water protection program works to implement strategies ensuring the highest quality water is provided to the intakes and wells. Mandated by the 1996 Federal Safe Drinking Water Act (SDWA), Source Water Assessments have been completed for all public water systems that have at least 15 hookups, or serve more than 25 people year-round. These assessments include identification of risk associated with the land management activities in the source water areas. Refer to DEQ's drinking water website for more information on the assessments:

<http://www.deq.state.or.us/wq/dwp/dwp.htm>.

The data generated from the Source Water Assessments (SWA) that were performed from 2000 through 2005 continues to be of use to the NPS Program and is readily accessible by others. It is utilized to assist other DEQ programs identify priority areas for permit modifications, inspections, technical assistance and cleanup. It has been provided to several other state and federal agencies including Oregon Emergency Response System, Oregon Department of Transportation, ODF, ODA, DLCD, OSMB, FS, and the BLM to facilitate incorporation of protection strategies into their respective programs.

Both maps and downloadable statewide GIS shape files of drinking water source area coverages and identified potential sources of contamination are available to the public on the DEQ Drinking Water Protection website at <http://www.deq.state.or.us/wq/dwp/dwp.htm>. The drinking water source areas can also be identified (and selected as a search criteria) for both DEQ's Facility Profiler (a location based system showing DEQ permit holders and cleanup sites) and LASAR (DEQ's Laboratory Analytical Storage and Recovery for air and water quality monitoring data).

The inventories of point and nonpoint contaminant sources within the drinking water source areas provide useful information as the community or agencies evaluate the risks and prioritize protection strategies. Typical contaminant sources identified in groundwater source areas include high-density housing, septic systems, auto repair shops, gas stations, irrigated crops, managed forestland, grazing animals, and transportation corridors. Typical contaminant sources identified in surface water source areas include managed forestland, irrigated crops, grazing animals, residential land uses, and transportation corridors.

DEQ developed a BMPs database for the 88 most common potential contaminant sources in Oregon (available under "technical assistance" in DEQ's DWP website). The database provides activities that range from educational outreach to regulatory approaches that public water systems or communities can take to reduce their risk. The database can be used to pull the BMPs for a public water system or geographic area from our GIS layers into a format that communities can use to choose their drinking water protection strategies for groundwater or surface water. Many of these BMPs address nonpoint sources of pollution.

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DEQ's nonpoint source specialist for drinking water regularly assists the Nonpoint Source program with forestry and agriculture issues, provides reviews on NPS program efforts, and participates in committees working on the "RipStream" project to improve FPA rules for stream protection-benefits fish and DW, especially in Coast Range. Please refer to the RipStream discussion in the **Water Quality Issues on State and Private Forest Land** section of this report.

Examples of Nonpoint Source Coordination

Coordination with State and Federal Agencies. DEQ continues to work with other state and federal agencies to raise the profile of the need for drinking water protection in Oregon, including the Department of Agriculture, Department of Forestry, US Forest Service, USDA NRCS, and the BLM. SWA data has also been provided to several other state agencies to facilitate incorporation of protection strategies into their respective programs.

Turbidity Analysis. One of the primary tasks of DWP staff has been to work directly with 15 public water systems that have chronic problems with high turbidity levels. Several of these systems must shut down periodically due to extremely high turbid water. Research and assessment to date has included collection of raw water data, interviews with operators, GIS research on land uses, and field inspections. The final report is posted on [DEQ's website](#). DEQ is currently working to use the data from the report to promote more active protection and awareness of potential violations to the turbidity standards in the public water supply watersheds. The data from the report is also being used as input in DEQ's current process of revising the turbidity standard.

Nitrate Analysis. DEQ is in the final stages of completing a data analysis for groundwater nitrate and toxics analysis for public water systems with high nitrate levels. Included in the analysis is a soil nitrate sensitivity analysis, research on technical information on nitrate sources, and an evaluation of agricultural data and mapping of septic systems in sensitive areas adjacent to wells. The analysis involves 8-10 public water systems and a report will be available in early 2011. One of the goals of the statistical analysis is to develop plans to reduce the loading within the 2- and 5-year time-of-travel zones for each well.

Watershed Planning. DEQ is working directly with multiple public water systems in a basin or subbasin to encourage protection strategies on a watershed scale basis. This includes coordinating with surface water providers in the Rogue River, Umpqua, Siletz, and Clackamas subbasins. For example, DEQ staff are working in the Umpqua basin to evaluate potential sources of bacteria and harmful algae blooms and evaluate bacteria reduction strategies. In the Clackamas, the Clackamas Water Providers obtained a 319 grant in 2010 to complete two pesticide round-up events for agricultural growers in the watershed upstream of the drinking water intakes.

Tualatin Watershed GIS Demonstration Project. In 2009, Oregon was selected to participate in one of several national demonstration projects integrating land use and water quality issues, called “**Enabling Source Water Protection: Aligning State Land Use and Water Protection Programs**”. The work was completed in June 2010, under a grant from the US Environmental Protection Agency, in partnership with The Trust for Public Land, Smart Growth Leadership Institute, Association of State Drinking Water Administrators, and River Network. The goal of Oregon’s project was to create a replicable GIS-based tool to assist in prioritizing lands and sensitive areas for protection in the watershed above drinking water intake(s) by identifying healthy lands most important for conservation of water quality and identifying impaired lands that ought to be restored to help protect water quality.

The Tualatin watershed was selected for the demonstration project due to its mix of urban, rural, forest and agricultural land uses and the potential for increasing population growth and land use changes that may threaten the quality of the drinking water supply for the region. The methods used can be transferred to other watersheds in Oregon and elsewhere.

Drinking Water Source Monitoring. In 2010, DEQ published the results of Phase I “Drinking Water Source Monitoring” project and initiated Phase II of the project. Source water at 12 public water systems was sampled during Phase I and analyzed for a list of Oregon-specific herbicides, insecticides, pharmaceuticals, VOCs (including cleaners), fire retardants, PAHs, and plasticizers. Phase II included collecting an additional 21 groundwater and surface water source water samples from public water systems with moderate detections of nitrates and other contaminants or that are in close proximity to potential sources of contamination

The purpose of the Source Monitoring was to collect data from multiple contaminant sources to assist in determining priorities for technical assistance and prevention, and to collect screening level data on whether there are potential human health risks beyond those routinely monitored with the SDWA regulations. The results of the Phase I sampling (accessible via the DEQ Drinking Water Protection website show that low levels of contaminants are in most source waters - including pharmaceuticals, phthalates, pesticides, and human waste byproducts. Analytical results for the Phase II monitoring will be available in early 2011.

Land Use Planning Assistance. DEQ regularly provides input to cities and counties that are reviewing their land use plans under Oregon’s comprehensive land use planning process (“Periodic Review”). The letters to communities included detailed information regarding their water sources, maps of the source areas, and specific recommendations and guidance for drinking water protection.

DEQ’s drinking water protection program is actively recommending “Smart Growth” as a tool for protecting drinking water - part of focused or regional efforts to achieve water resource management, conservation, and other local water quality goals.

When new developments are proposed that may impact public water systems, we recommend local communities communicate their concerns about drinking water protection to regional or county planning agencies. Many planning officials do not know about the source areas that supply local drinking water, even though they are generally supportive and recognize the importance of incorporating water quality protection measures into new construction. DEQ provides maps and GIS layers of the drinking water source areas to communities and counties to help identify the sensitive areas to protect. The actual tools used for drinking water protection can vary according to local conditions and needs, often bundled together into what is referred to as “Low Impact Development (LID)”.

Model Ordinance Development. DEQ and Oregon Department of Land Conservation and Development (DLCD) updated model ordinance language that jurisdictions can use to protect **groundwater** and **surface water** sources of drinking water. The model ordinances will also be added to an updated version of Oregon’s Water Quality Model Code and Guidebook, which will be published in 2010. The model ordinance was used by Lane County and stakeholders as a framework towards the development of a countywide overlay ordinance addressing both groundwater and surface water source areas. Although the ordinance was not approved and finalized, the process generated significant public awareness of drinking water protection issues.

The following tasks were completed in 2010:

1. Finalized and published [Turbidity Analysis for Oregon Public Water Systems - Water Quality in Coast Range Drinking Water Systems](#).
2. Continued an evaluation of nitrate contamination of public water systems that rely on groundwater.
3. Encourage protection strategies on a watershed scale basis in the Rogue, Umpqua, Siletz, Tualatin, and Clackamas Sub-basins.
4. Finalized Phase I and initiated Phase II of drinking water source monitoring to evaluate potential toxics in groundwater and surface water used by high-risk public water systems.
5. Developed model ordinances and conducted outreach to public water systems on the benefits of ‘Smart Growth’ and ‘LID’.

Groundwater Management Areas (GWMAs)

Groundwater Management Areas (GWMAs) are designated by DEQ when groundwater in an area has elevated contaminant concentrations resulting, at least in part, from Nonpoint sources. Once the GWMA is declared, a local Groundwater Management Committee comprised of affected and interested parties is formed. The Committee then works with and advises the state agencies that are required to develop an action plan that will reduce groundwater contamination in the area. Oregon has designated three GWMAs because of elevated nitrate concentrations in groundwater.

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These include the [Lower Umatilla Basin GWMA](#), the [Northern Malheur County GWMA](#), and the [Southern Willamette Valley GWMA](#). Each one has developed a voluntary action plan to reduce nitrate concentrations in groundwater.

DEQ's objectives for groundwater quality protection in the future include the following activities:

- Coordinate the Southern Willamette Valley GWMA committee and implementation activities to reduce area-wide groundwater contamination.
- Continue monitoring 41 wells in the Southern Willamette Valley GWMA to determine groundwater trends.
- Evaluate the effectiveness of conservation enhancement practices in reducing nitrate pollution to the groundwater in the Southern Willamette Valley GWMA.
- Conduct focus groups to determine how to best incorporate groundwater protection into the daily life of GWMA residents.
- Evaluate the potential nitrate impact to a 'deeper' aquifer in the Linn County area of the Southern Willamette Valley GWMA.
- Continue to implement the Lower Umatilla Basin and the North Malheur County GWMA Action Plans and evaluate the performance or success of the management plans in reducing groundwater contamination. Also, continue regional groundwater monitoring networks in the two GWMA's.
- Continue to work cooperatively with Deschutes County to implement groundwater protection programs in the La Pine area.
- Complete additional Drinking Water Source Water Assessments as new systems come online and provide technical assistance to communities developing drinking water protection plans.
- Continue funding and support of research, education, and implementation of BMPs for groundwater protection, as funding allows.

Southern Willamette Valley GWMA

The Southern Willamette Valley has been the focus of studies for 20 years because of concerns about elevated levels of nitrate in the shallow groundwater. The nitrate contamination originates from many everyday sources, such as fertilizer, septic systems, and animal waste. In 2004, DEQ designated the Southern Willamette Valley as a Groundwater Management Area (GWMA) to help ensure that Willamette Valley groundwater could continue to provide a high quality resource for present and future use. Since then, local stakeholders have been engaged in planning to protect and improve the groundwater resource in the Southern Willamette Valley. To view the website for this project, go to <http://gwma.oregonstate.edu/>.

DEQ continues to monitor the 24 monitoring wells DEQ installed in the Southern Willamette Valley, as well as the 17 domestic wells that make up the a long term monitoring program. In 2009, a one-time "Synoptic Event" was conducted, which added a little over 100 wells to the May 2009 sampling event, in order to gage how well the long term monitoring program compares to the boarder sampling base.

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The following tasks were completed in 2010:

1. The Southern Willamette Valley Groundwater Management Area was selected as the issue of environmental concern for the “Oregon Environthon’s” (<http://oregonenvirothon.org/>) annual competition - a competition involving 24 teams of High School students from around the state, and all focusing on single major issue.
2. For the second year, the GWMA Booth was a major hit at the *Kids Day for Conservation* event in Corvallis, where over 600 kids created an edible aquifer, polluted it with their land use of choice (fertilizer, manure, pet waste and/or pesticides – all edible replicates). In addition, they then added rain to the system, and followed that by drilling a well (straw) to learn how easy groundwater – and their drinking water - can be polluted.
3. In February 2010, there was a joint DEQ/Department of Agriculture Workshop to explore the priority research ideas for the Southern Willamette Valley GWMA. This was a very successful event, with nearly 50 researchers, farmers, regulators, field man, residents, districts, and agency representatives present. A prioritized list of research projects was produced.
4. DEQ continues to monitor the 24 monitoring wells DEQ installed in the Southern Willamette Valley, as well as the 17 domestic wells that make up the a long term monitoring program.
5. The Southern Willamette Valley GWMA Committee continues to meet 3-4 times a year, to address and assess ongoing issues.
6. The NRCS received funding to work with the farmers in the Southern Willamette Valley (SWV) GWMA, in order to improve irrigation and fertilizer practices that have previously contributed excess nitrogen to the groundwater.

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2009 319-FUNDED PROJECT NUMBER W09730

Project Location:

Grant Property on the Big Elk (Elk Creek), Siletz-Yaquina watershed, Mid Coast Basin

Project Purpose:

Management of livestock heavy use area by installing cover to reduce sedimentation into sediment-impaired Big Elk Creek

Photos Credit:

By Kate Danks, Natural Resources Conservation Service (Before) and Stacy Polkowske, Lincoln Soil and Water Conservation District (After)

(Before)



(After)



Coastal Zone NPS Program

Oregon's Coastal Nonpoint Pollution Control Program (CNPCP) is being developed in compliance with requirements adopted as part of the National Ocean and Atmospheric Administration (NOAA) Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). The CNPCP developed by DEQ and DLCD received approval by NOAA and EPA, with the exception of three components that were conditionally approved:

1. New development,
2. Operating onsite disposal systems, and
3. Additional management measure for forestry.

In December 2009, EPA and NOAA received a "Sixty-Day Notice of Intent (NOI) to Sue" from the Washington Forest Law Center on behalf of the Northwest Environmental Advocates (NWEA) due to EPA and NOAA's failure to consult NMFS and take final action on Oregon's CNPCP.

DEQ received a letter from NOAA and EPA on May 12, 2010 outlining how Oregon could "...receive full approval of its Coastal Nonpoint Program". The letter also stated that "...If sufficient progress is not being made, EPA and NOAA may disapprove Oregon's program and withhold a portion of the state's Clean Water Act Section 319 and Coastal Zone Management Act Section 306 funding pursuant to 16 U.S.C. Section 1455b(c)."

The Attachment to the letter identified "*What NOAA and EPA Need from Oregon for Coastal Nonpoint Program Approval*". EPA and NOAA require the following actions:

New Development Management Measure

1. *"Complete TMDL Implementation Guidelines for the Coastal Nonpoint Program management area that incorporate the new development management measure requirements or practices consistent with the new development measure.*
2. *Submit a strategy and schedule for completing and updating TMDL Implementation Plans within the Coastal Nonpoint Program management area to be consistent with the new TMDL Implementation Guidance."*

Onsite Sewage Disposal Systems (OSDS)

1. *"Adopt new rules requiring regular inspections for OSDS. Inspecting the systems at time of property transfer by trained/certified inspectors as laid out in Oregon's October 29, 2009 draft strategy is sufficient. Please provide NOAA/EPA with a copy of the draft rules to review to ensure the final rules will meet Coastal Nonpoint Program requirements."*

Additional Management Measures For Forestry

1. *"Commit to the prescriptive TMDL, Implementation Plan, and "safe harbor" BMP approach ("Option 1" under the State's proposal) that will satisfy the additional management measures for forestry condition, specifically addressing riparian and landslide-prone areas, and road issues.*

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2. *Provide a legal opinion from the Oregon Attorney General's Office that clearly concludes Oregon DEQ has the authority to prevent nonpoint source pollution and require implementation of the additional management measures for forestry. Specifically, under the state's current proposal, the legal opinion must conclude that DEQ has the authority to enforce TMDLs, including "safe harbor" BMPs, with regard to riparian buffers, landslide prone areas, and legacy roads.*
3. *Provide a more detailed description of the new prescriptive TMDL process. This revised description should:*
 - a. *Clarify the mechanism DEQ plans on using to require prescriptive, "safe harbor" BMPs. Will the BMPs (or possibly a menu of "safe harbor" BMPs to select from) be placed in the TMDLs themselves or only included in the TMDL Implementation Plans? Does DEQ's enforcement authority apply to both TMDLs and Implementation Plans?*
 - b. *Briefly describe how the prescriptive TMDL approach will address NOAA and EPA's concerns with landslide prone areas and road density and maintenance, particularly on "legacy roads". During our January 14th meeting/conference call, the state discussed the potential use of DOGAMI LIDAR coverages, Relative Bed Stability, and GRAIP methodologies to assess, target, and address landslide prone areas and road issues in support of the new prescriptive TMDL process. DEQ should briefly describe these methodologies and/or others and how they will be used in the new TMDL process. The description should include how these tools will help target and, where needed, develop "safe harbor" BMPs.*
 - c. *Provide a few examples of the types of "safe harbor" BMPs Oregon would use to address our concerns about adequate protection of riparian and landslide-prone areas and management/maintenance of forestry roads, specifically legacy roads, and meet load allocations and surrogate targets. We recognize that the BMPs could vary from parcel to parcel based on the site conditions but we need a reasonable assurance that the types of "safe harbor" BMPs Oregon is developing link to, and would meet, water quality standards and protect beneficial uses. For example, requirements for restricting harvest intensities and methods on high risk landslide prone areas should be described along with the triggers or thresholds for their application. We recommend providing comparable examples of harvest restrictions on high risk landslide prone areas such as those applied under the Washington Forests and Fish rules as well as the harvest restrictions under the Oregon Forest Practices Act rules related to high risk landslide areas above roads and buildings. The Northwest Forest Plan also includes measures for landslide prone areas that DEQ could consider.*
 - d. *Briefly describe DEQ's approval/disapproval process for TMDL Implementation Plans. To address the additional management measures for forestry condition, decisions to approve or disapprove need to be based on the plan's ability to meet load allocations or surrogate targets. If DEQ's decisions are based on a basin-specific rule adopted by BOF, then such rule must have the ability to meet load allocations or surrogate targets.*
4. *Provide a schedule for developing new prescriptive TMDLs and safe harbor BMPs, updating existing TMDLs, and Implementation Plans within the 6217 boundary following the new prescriptive TMDL process.*

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5. *Complete and submit to EPA and NOAA a prescriptive TMDL that includes safe harbor BMPs and a TMDL Implementation Plan for the Mid-Coast basins and that addresses the outstanding additional management measures for forestry condition."*

The following tasks were completed in 2010:

1. On June 30, 2010, the initial draft guidance document was completed and provided to NOAA and EPA for review and comment.
2. By November 30, 2010, DEQ developed a Policy Option Package for Rules Development.
3. DEQ provided to EPA and NOAA by June 30, 2010, a legal opinion from Oregon's Attorney General's Office that states DEQ has the authority to prevent nonpoint source pollution and require implementation of the additional management measures for forestry.
4. The DEQ Water Quality Division Administrator by September 30, 2010 provided to EPA and NOAA, DEQ's commitment to pursue prescriptive TMDL process for addressing the additional management measures for forestry condition.

Monitoring and Data

DEQ conducts various types of monitoring as required by the state statute and federal CWA.

The existing monitoring programs that address NPS pollution include, but are not limited to:

- TMDL Development – Collect data to develop TMDLs for 303(d) listed streams. The data is used for a subbasin scale cumulative effects analysis for the development of the TMDLs.
- Groundwater – Identify areas of groundwater contamination and determine trends in Groundwater Management Areas.
- Large River Ambient – Collect data for long term trending at fixed sites across the state.
- Volunteer Monitoring – Improve data quality collected by third party and increases the data accessibility for local and state assessments.
- Coastal Environmental Monitoring – Collects data to determine the need for beach advisories.
- Toxics Monitoring - Toxics Monitoring Project for surface waters in the Willamette Valley and for drinking water throughout the State. This project will give information about current and emerging contaminants that threaten aquatic life and human health.

Watershed-based Toxics Monitoring Program.

DEQ collected/analyzed surface water from 20 Willamette River Basin sites for a suite of organic pollutants that includes current use pesticides, pharmaceutical and personal care products, solvents, and other compounds. This completed water column sampling that began in spring of 2008, included six events, and captured three phases of the annual hydrograph: spring runoff, summer low flow, and fall runoff.

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DEQ developed plans to sample water and fish in the Rogue and Umatilla River Basins and conducted outreach efforts and public meeting in both basins. Staff collected resident freshwater fish at four sites in Rogue and three sites in Umatilla River Basins and prepared samples for analysis of mercury and organic pollutants such as Organochlorine pesticides, PCB, PBDE, and dioxin/furans.

Staff also developed field protocol and deployed polar organic integrative chemical sampler devices at locations in Hood River, Tualatin, Clackamas, Yamhill, and Pudding River basins. Grab samples were also collected for comparison and will be used to evaluate effectiveness and utility of Polar Organic Chemical Integrative Samplers (POCIS) for monitoring the occurrence and relative loads of current use pesticides and pharmaceutical and personal care products.

Volunteer Monitoring Coordination

DEQ conducted outreach and education activities and provide technical assistance to support volunteer monitoring in watersheds throughout Oregon. Staff reviewed and assisted in the development of eight sampling plans for seven organizations and worked with three additional organizations to refine monitoring strategies or goals outside of the sampling plan process.

Sampling Plans Reviewed:

1. Lincoln SWCD (2),
2. Rogue Riverkeeper,
3. Salmon Drift Creek Watershed Council,
4. Crooked River Watershed Council,
5. Burns Paiute Tribe,
6. Freshwater Trust,
7. Clackamas Watershed Council,
8. Long Tom Watershed Council,
9. Elk Creek Watershed Council, and
10. Wasco SWCD)

Staff provided high quality water quality testing equipment or supplies to 28 different organizations. There are 46 organizations currently with equipment around the state. Provided technical assistance on equipment and protocols to 26 organizations over the phone and conducted eight trainings in water quality monitoring techniques. Staff also conducted four spit sampling events for the Columbia Riverkeeper, Crooked River Watershed Council, Partnership for Umpqua Rivers, and Ecola Creek Watershed Council.

DEQ initiated conversations about incorporating volunteer organizations into stratified basin wide probabilistic sampling of biological water quality indicators to assess TMDL and local program effectiveness. The goal of these discussions is to develop study designs that provide needed information for organizations implementing restoration

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projects as well as the information needed by DEQ to make basin wide assessments. Developed and co-facilitated session at biennial Oregon Watershed Enhancement Board conference with DEQ TMDL staff designed to help organizations select effectiveness monitoring indicators.

Willamette Basin Mercury Study

In 2010, the DEQ Laboratory Water Quality Monitoring Section conducted the Willamette Basin Mercury Study in support of the Willamette Basin Mercury TMDL. Approximately 96% of the mercury sources in the Willamette Basin are from nonpoint sources of pollution. DEQ collected quarterly water and sediment samples from nine main stem and seven major tributary sites that were analyzed for methyl mercury, total mercury, and other parameters.

Also collected fish tissue samples at eight main stem and six major tributary sites in late summer for total mercury. DEQ targeted the piscivorous fish species present (northern pikeminnow, smallmouth bass, and largemouth bass) as these would have the highest levels of mercury due to bioaccumulation. DEQ also collected weekly wet air deposition samples at two locations in the basin. The air deposition sampling was conducted in partnership with Oregon State University and was part of the national Mercury Deposition Network. DEQ finished sample collection in this study in January 2011 and laboratory sample analysis is continuing at this time. No further monitoring activity in this study is planned.

Groundwater Management Areas

DEQ staff performed routine sampling of three Groundwater Management Areas (GWMAs) in the state. Two areas, the Lower Umatilla Basin and the Northern Malheur County GWMAs are sampled six times per year and the Southern Willamette Valley GWMA is sampled four times per year. Lab staff also sampled additional wells for an expanded list of analytes in the Lower Umatilla Basin GWMA during a synoptic event that ended in January 2011. Data has been released, or is pending, on recent sampling events.

One Monitoring Report was completed in 2010:

The 2007 Survey of Oregon Lakes, June 2010, 10-LAB-012Lakes2007

<http://www.deq.state.or.us/lab/techrpts/bioreports.htm>

This report provides results for 30 randomly selected lakes and reservoirs throughout Oregon. The study was part of a larger assessment to describe the status of biological, chemical and habitat conditions in lakes and reservoirs across the United States, the National Lakes Assessment. Assessments of lake conditions in Oregon showed many similarities to lake conditions observed nationally. Poor biological conditions, as measured by plankton assemblages, were observed for 23% of the lakes surveyed in Oregon. Nationally, 22% of lakes showed poor biological conditions. Riparian and shallow water habitat conditions and excessive nutrients were the most common stressors to the biology in Oregon. This same pattern was observed nationally and across the Western United States

Land Uses

Water Quality Issues on Agricultural Lands

Coordination Between DEQ and ODA

DEQ's Nonpoint Source program works mainly with ODA's Pesticides and Natural Resource Divisions to prevent pollution and improve water quality on agricultural lands. In 2010, DEQ and ODA's program staff and management worked on various water quality related projects to address agricultural nonpoint sources.

- ODA's Water Quality Program in Natural Resource Division and DEQ's Watershed Management Section held bimonthly coordination meetings to discuss issues related to nonpoint source pollution on agricultural lands.
- DEQ's basin coordinators provide input on revisions of AgWQMP plans.
- Directors of ODA and DEQ began meeting on a monthly basis.
- DEQ and ODA participated in monthly WQ Pesticide Management Team meetings and activities to reduce frequency and detection of current use pesticides (See list of WQPMT Accomplishments).
- ODA participated in a stakeholder process for DEQ's toxics rulemaking.
<http://www.deq.state.or.us/wq/standards/toxics.htm>
- As resources allowed, DEQ's basin coordinators and ODA staff coordinate on the review and implementation of water quality programs as well as local water quality issues related to drinking water.

Agricultural Water Quality Management Program

The process developed in the Agricultural Water Quality Management Program (AgWQMP) is the main regulatory mechanism to prevent and control nonpoint source pollution and meet water quality standards and TMDL load allocations for agricultural lands. The program also is involved with the development of GWMA action plans and leads implementation for agricultural nonpoint sources. In addition, SWCDs have contractual relationships with ODA to act as a local management agency (LMA) to meet water quality goals on agricultural lands.

ODA's Water Quality Program Compliance Summary

The State Statute authorizes ODA to develop Agricultural Water Quality Management Area Plans (area plans) throughout the state when required by state or federal laws. The Statute also authorizes the development of Agricultural Water Quality Management Area Rules (area rules) to serve as a regulatory backstop to the voluntary efforts described in the area plans. The following **Table 7** is a summary of compliance actions taken by ODA. (Note: Information summarized and provided by ODA.)

Table 7. ODA's Water Quality Program Compliance Summary

TOTAL INVESTIGATIONS INITIATED DURING 2010		
Investigations By Issue (If Multiple Issues, Issues Counted Multiple Times)		
Sediment Delivery	9	
Manure Management	19	
Riparian Management	11	
Irrigation Return Flows	0	
Other 468B Concern	1	
TOTAL	40	
Compliance Actions Issued At Initial Visit And After Follow-Up Visits		
Compliance Action	Issued After First Visit	Issued After Follow-Up Visits
Letter Of Compliance	13	3
Water Quality Advisory	9	1
Letter Of Warning	9	1
Notice Of Noncompliance	1	0
No WQ Issues Identified	3	0
Referred To Other Agency/Program	1	
Investigation Still Pending	20	
Investigations by Management Area		
Bear Creek	1	
Clackamas	3	
Coos	1	
Crooked River	4	
Curry	0	
Grande Ronde	0	
Hood River	0	
Inland Rogue	3	
Lower Deschutes	0	

Table 7. ODA's Water Quality Program Compliance Summary (Cont.)

TOTAL INVESTIGATIONS INITIATED DURING 2010	
Investigations by Management Area	
Lower Willamette	2
Mid Coast	1
Middle Deschutes	0
Mid Willamette	5
Molalla-Pudding	4
North Coast	1
North Fork/Middle Fork John Day	0
Powder Brownlee	1
Sandy	0
South Santiam	0
Southern Willamette Valley	1
Tualatin	4
Umpqua	0
Upper Willamette/Siuslaw	4
Umatilla	0
Upper Deschutes	3
Upper John Day	0
Walla Walla	1
Yamhill	1
TOTAL	40

Table 7. ODA's Water Quality Program Compliance Summary (Cont.)

TOTAL INVESTIGATIONS INITIATED DURING 2010	
Investigations by Land Use	
Cattle/Pasture or Range	12
Horses/Pasture or Range	10
Goats/Pasture	0
Sheep/Pasture	3
Swine/Pasture	5
Dry Land Wheat	0
Nursery - Container	0
Nursery - Greenhouse	0
Nursery - In-Ground	0
Christmas Trees	2
Row Crops	0
Grass Seed	2
Vineyard	0
Other *1 Alpacas, 2 Forestland, 1 Garlic Beds, 1 Water Buffalo, 2 Pastures W/No Animals, 1 Reserve	8
TOTALS	42

AgWQMA Plan Biennial Review Reporting

ODA and the SWCDs also produced thirteen reports in 2010 associated with Agricultural Water Quality Management Area (AgWQMA) Plan biennial reviews. The reports include updates on compliance and monitoring efforts as well as a summary of progress toward plan objectives, including targets on outreach and on the ground projects. DEQ's regional staff provides technical assistance and coordinates with ODA's water quality specialists to review the area plans and provide information for the reports as resources allow. The area plans as well as the reports can be found at the following link: http://egov.oregon.gov/ODA/NRD/water_agplans.shtml.

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Outreach and Education Summary

In 2010, ODA and the SWCDs used various venues to reach agricultural producers and rural land residents to promote conservation practices. The types of activities and topics are shown below:

Table 8. ODA and the SWCDs Outreach and Education Summary (2010)

ODA and the SWCDs Outreach and Education Summary (2010)	
17 Tours	1,022 Attendees
47 Newsletters	67,253 Readers
65 Workshops	Over 3,000 Attendees
67 Presentations	3,357 Attendees

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2004 319-FUNDED PROJECT NUMBER W09710

Project Location:

Tillamook Estuary, North Coast Basin.

Project Purpose:

Removal of Noxious weeds and establishment of riparian vegetation.

Photos Credit:

By Aufdermauer.

Pre-Prep 2004



Monitoring 2009



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Water Quality Pesticide Management Team (WQPMT)

The Water Quality Pesticide Management team (WQPMT) is an inter-agency team composed of representatives from DEQ, ODA, DHS, and ODF. The WQPMT was formed to coordinate, communicate, support, and facilitate water quality protection programs, within the four agencies, related to pesticides in the State of Oregon. The WQPMT operates under a Memorandum of Understanding (MOU) established in 2009. ODA is the lead coordinating agency under the Environmental Protection Agency (EPA) - ODA Consolidated Pesticide Cooperative Agreement.

Current WQPMT Participants include the following:

Department of Agriculture

Department of Forestry

Department of Human Services

Department of Environmental Quality

The following WQPMT tasks were completed in 2010:

- Revised the *draft* Oregon Pesticide Management Plan (PMP) based on feedback and comments from EPA Region 10. Major focus was on revision of the response matrix, creating a two-tiered approach: (1) an initial data Assessment Matrix, and (2) a Response Matrix based on the Team's overall "weight-of-evidence" assessment of monitoring data and other factors.
- The WQPMT agreed, in the short-term, to use the EPA OPP Aquatic Life Benchmarks as a screening tool to evaluate monitoring data for pesticides of interest and pesticides of concern when numerical Water Quality Standards are unavailable.
- Added 16 additional active ingredients to the original national list of 57 pesticides of interest, because of consultations with DEQ and their toxics reduction programs, making for a total of 73 pesticides on Oregon's master list of pesticides of interest (POIs).
- Evaluated 2009 pesticide monitoring data. Based on this assessment, selected 8 Pesticides of Concern (POCs) and 4 Oregon POIs for 2010-2011.
- 2010 - 2011 POCs: atrazine, azinphosmethyl, carbaryl, chlorpyrifos, diazinon, diuron, ethoprop, and simazine. 2010 - 2011 Oregon POIs: chlorothalonil, pendamethalin, Terbacil, and triallate.
- Coordinated activities with the Pesticide Stewardship Partnerships (PSPs). Involved in the planning and implementation of the PSPs. The PSPs are the primary source of monitoring data that are evaluated by the WQPMT.
- Ongoing coordination between the WQPMT (as a key stakeholder) and DEQ's toxic reduction programs, the newly proposed NPDES stormwater permit requirements and the Umatilla Basin artificial recharge feasibility project.
- NRD WQ staff continues to incorporate pesticide-related tasks (e.g. monitoring, outreach, coordination with PSPs, etc.) into SWCD scope of work contracts.
- Initiated discussions to help coordinate future pesticide monitoring efforts by DEQ and other local stakeholders.

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- Numerous presentations to pesticide applicators, water basin personnel and growers regarding the WQPMT and issues we all face around the potential impact of pesticide use on the State's water quality.
- Continuing interactions with various stakeholders such as the Clackamas Water Providers and Clackamas River Basin Council.
- Held nine monthly meetings during 2010. Invited speakers included, Dan Kent of Salmon Safe, Beth Moore (DEQ NPDES Coordinator), Gary Lettman (ODF Forest Economist - Farm, Forest and People Report), Dennis Ades (DEQ Laboratory Manager), Benjamin Benninghoff (DEQ Stormwater Coordinator) and Dr. Jeff Jenkins (Oregon State University).
- Developed a poster describing the role of the WQPMT and the state of pesticide-related water quality based on 2009 monitoring results. Presented at the SETAC North America's Annual Meeting in Portland and the OWEB Conference in Pendleton.
- Representation on the EPA Region 10 Water Quality Team and advancement of the WQPMT's efforts. Hosted the EPA Region 10 Pesticide Water Quality Team meeting in Portland.
- Continued communication among team members regarding changes in (1) pesticide label language on buffer requirements, (2) the impact of the NMFS rulings and EPA's actions on new use requirements under the Endangered Species Act, and (3) possible impacts of new NPDES permitting requirements for aquatic herbicides and mosquito abatement insecticides.

The following WQPMT Challenges and Objectives for 2011:

- Further refinement of the PMP (adaptive management process) and final approval by EPA.
- Include OSU representative as an adjunct member or special technical advisor (especially for toxicology-related and vulnerability assessment issues/activities). Provide for under a separate OSU-ODA MOU.
- Expand efforts to establish/leverage consistent and relatively long-term (3 years?) sources of funding for pesticide monitoring programs.
- Expansion and coordination of PSP-type monitoring programs; integrated into overall WQPMT member activities. Expansion should include urban pesticide use and groundwater monitoring efforts.
- Possibly expand scope of WQPMT to include legacy pesticides and fertilizers.
- Watershed vulnerability assessments and prioritization.
- Coordination of state agencies in implementing management activities described in the PMP especially based on the assessment of monitoring data using the established Response Matrix.
- Standardize reporting of monitoring data and WQPMT assessments and recommendations.
- Develop position on how to assess the presence of mixtures in monitoring samples.
- Actively engage in policy discussions/decisions regarding the coordination and overlap of CWA-FIFRA issues.

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- Minimize duplicate work by coordinating with TMDL, PSP and other management and monitoring efforts.
- Continue coordination with various DEQ toxics programs: Oregon Toxics Reduction Strategy, Toxics Standards/Rulemaking Review, SB737, Willamette Toxics Monitoring, etc.
- NRD WQ staff to increase incorporation of pesticide-related tasks (e.g. monitoring, outreach, coordination with PSPs, etc.) into SWCD scope of work contracts when prompted by water quality data, watershed vulnerability assessments, or other information.
- Provide input and coordination to NRDC Buffer Workshop scheduled for April 2011.
- Continue to maintain and build communication between each agency's water quality programs and key stakeholders.
- Continue outreach, communication, and maintenance of interest/resources on pesticide impact on water quality.
- Pursue additional partnership opportunities with OSU.

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2009 319-FUNDED PROJECT NUMBER W09730

Project Location:

Tillamook Estuary, North Coast Basin.

Project Purpose:

Removal of noxious weeds and establishment of riparian vegetation

Photos Credit:

By Price

Pre-Prep 2006



Monitoring 2009



Conservation Effectiveness Partnership

The Conservation Effectiveness Partnership is a three-way partnership between the USDA Natural Resource Conservation Service, Oregon Watershed Enhancement Board, and the Oregon Department of Environmental Quality. The Natural Resource Conservation Service is a federal agency with a mission to help people conserve, maintain, and improve natural resources and the environment. They have contributed about \$450 million over the last ten years to conservation programs in Oregon.

The Oregon Watershed Enhancement Board is a state agency that provides grants to help Oregonians protect and restore local streams, rivers, wetlands, and natural areas and support thriving communities and strong economies. The Oregon Watershed Enhancement Board has contributed about \$320 million over the last ten years to conservation actions in Oregon.

The purpose of the partnership is to collaboratively monitor, evaluate, and report the effectiveness of cumulative conservation and restoration actions. This partnership will enable each agency to move beyond administrative measures of success (such as dollars spent, or projects approved) and report environmental outcomes instead. This type of cumulative effectiveness monitoring can play a key role in demonstrating the accountability, success, and value of restoration investments.

This year, the agencies involved signed a memorandum of understanding to facilitate data sharing and identified two pilot areas to begin monitoring and evaluation projects. The two pilot areas are the Tillamook Bay watersheds in Oregon's north coast and the Upper Deschutes subbasin in central Oregon.

In 1998, the Wilson River and other streams flowing to the Tillamook Bay were not meeting water quality standards for bacteria. Between 2002 and 2007, a collaborative group of local citizens and agencies made investments in multiple conservation and BMP projects. Through these actions, the Wilson River now meets water quality standards for bacteria and other streams show positive improvement trends. Through the use of watershed bacteria models and analysis of bacteria monitoring data, the Conservation Effectiveness Partnership will examine how conservation investments have reduced bacteria concentrations and what type of investments may still be needed in other locations.

In the Upper Deschutes Subbasin, water quality monitoring since 2004 has shown that Whyhous Creek, Tumalo Creek, and the Deschutes River are not meeting water quality standards for temperature. State and federal agencies, NGOs, and local citizens have invested in irrigation improvement projects to conserve water as well as many riparian plantings, and channel morphology improvements. Using temperature models and temperature monitoring data, the conservation effectiveness partnership will examine how these projects have affected stream temperature.

The information learned from these efforts will allow each agency to be more strategic with implementation of programs and resources.

Coordination between DEQ and NRCS

DEQ's Nonpoint Source program works with several NRCS programs both at statewide and local levels.

- DEQ attended Oregon Technical Advisory Committee meetings that are co-chaired by NRCS and FSA. DEQ staff also served on several subcommittees of OTAC to rank funding proposals and identify natural resource priorities.
- DEQ entered into an MOA with NRCS and OWEB to help document success stories for a couple of watersheds where NRCS and OWEB made significant investments for restoration.
- DEQ, ODA, NRCS, and EPA held several meetings in 2010 to look for opportunities to work together to reduce toxic pollution from agricultural lands.

Water Quality Issues on State and Private Forest Land

RipStream (Riparian Function and Stream Temperature)

ODF's RipStream project has been developed to provide a coordinated monitoring effort with which to evaluate effectiveness of Oregon Forest Practices Act (FPA) rules and strategies in protecting stream temperature, and promoting riparian structure that provides necessary functions for the protection of fish and wildlife habitat. DEQ is participating in the RipStream project by providing 319 funds and assisting in analyses of data and study results in cooperation with ODF staff.

In order to meet this objective, the following questions were addressed:

1. Are the FPA riparian rules and strategies effective in meeting DEQ water quality standards regarding anti-degradation of stream temperature and the water quality standard?
2. Are the FPA riparian rules and strategies effective in maintaining large wood recruitment to streams, downed wood in riparian areas, and shade?
3. What are the trends in riparian area regeneration?
4. What are the trends in overstory and understory riparian characteristics? How do they along with channel and valley characteristics correlate to stream temperature and shade?

ODF has completed their initial analysis to test whether current riparian protections on fish-bearing streams are adequate to meet water quality standards for temperature. In this study, streams in State Forests are meeting both numeric and Protecting Cold Water (PCW) criteria of the temperature standard. However, streams on private forests are not meeting the PCW criterion. Private streams are meeting the numeric criteria, but it should be noted that the starting temperatures in these streams are far below the numeric targets.

ODF staff presented the results to the BOF in September 2009 and September 2010, http://egov.oregon.gov/ODF/BOARD/docs/2010_September/BOFMIN_20100908_ATTC_H_08.pdf. In addition, results have been accepted for publication in a peer-reviewed scientific journal.

Ongoing analyses will show the absolute magnitude of temperature changes and examine what physical processes are driving those increases. Preliminary results show significant change in the average maximum temperature. Changes in shade are the main driver of the temperature increase, as expected.

In 2010, the following was accomplished:

The results of the RipStream project were presented to the BOF in September 2010.

Water Quality Issues on Federal Forest Lands

FS/BLM/DEQ MOAs Update and 5-Year Progress Report

In 2002, the DEQ, the US Forest Service (FS), and the Bureau of Land Management (BLM) outlined a process to work in a proactive, collaborative, and adaptive manner to meet State and Federal Water quality rules and regulations. DEQ, the FS, and the BLM signed the resulting agreements in 2002 and 2003, respectively. Both agreements were extended in 2006 for one year. The Memorandum of Agreements (MOAs) updated the previous 1990 MOAs. The FS agreement is a Memorandum of Understanding (MU) and the BLM agreement is a MOA.

These memoranda require that a 5-year progress review and report on the implementation and effectiveness of the BLM MOA and the FS MU with DEQ be prepared and used as the basis for change to future agreements.

The specific purposes of the 5-year progress report are to document MOA implementation and effectiveness, summarize agency accomplishments, and recommend programmatic and language changes to the expired MOAs.

The major accomplishments identified in the final draft report are:

Monitoring

The FS and BLM agency records showed that about 89 percent of the plan-prescribed watershed analyses, covering an average of more than 85 percent of the federal land area for all units, were reported as completed. A preliminary assessment of watershed condition throughout the NWFP area was done for 250 watersheds as part of a NWFP 10-year assessment in 2004 (Gallo et al, 2005). Most of the monitored watersheds had higher condition scores after implementation of the NWFP than before, across the entire Plan area, and in each of the land use allocations (except nonfederal). Relatively few watersheds decreased in condition.

Over 70 percent of key watersheds identified as first priority for restoration activities increased in condition. Those watersheds that had lower condition scores were all exposed to wildfire. Less than 50 percent of the non-key watersheds increased in condition.

Water Quality Restoration Plans (WQRPs)

TMDL Implementation Plans are developed by BLM and the FS outlining the necessary strategies and BMPs, which will be used to restore water quality impaired waters and reduce pollution for surface waters on lands within their jurisdiction. The federal implementation plans are referred to as WQRPs. WQRPs are required to be completed no later than 18 months from EPA approval of the TMDLs. By 2009, federal agencies completed 90 WQRPs. Out of that total, 42 WQRPs have been submitted prior to completion of the TMDLs. Currently BLM has not completed WQRPs in the Molalla River subbasin; however, less than 18 months have elapsed since TMDL approval. Of BLM and FS operating budgets, the FS currently has two (2) TMDLs where there is no WQRP coverage and 18 months have elapsed since TMDL approval: Sandy and Rogue River (FS). FS and BLM have 22 existing WQRPs that may need revision once TMDLs have been approved. Nine WQRPs have received DEQ comment, which need to be incorporated into the WQRP revision.

Restoration

From 2003 to 2007, over \$80.3 million dollars has been spent on active restoration on FS and BLM lands throughout Oregon. Over 1,600 miles of road have been improved and 484 miles have been decommissioned reducing sediment delivery and floodplain encroachment. Riparian treatment was completed on 452 miles. Instream structure has been added to over 750 miles of stream and aquatic passage projects have provided fish access to 478 miles of habitat. Upland areas have had approximately 32,000 acres treated through various methods including slope stabilization, revegetation, silvicultural treatments, or livestock exclusion fencing. Riparian areas received similar treatments on approximately 25,000 acres. Both freshwater and coastal wetland restoration occurred on 4,807 and 1,500 acres.

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Table 9. FS and BLM Accomplishments by Basin 2003 to 2007.

FS AND BLM ACCOMPLISHMENTS BY BASIN 2003 TO 2007 (FROM IRDA)										
BASIN	Restoration Dollars	Roads Improved (Miles)	Roads De-commissioned (Miles)	Riparian Treatment (Miles)	Instream Structure (Miles)	Instream Passage (Miles)	Wetland Fresh (Acres)	Wetland Coastal (Acres)	Upland (Acres)	Riparian (Acres)
FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM	FS/BLM
Deschutes River Basin	\$7.8 Million	19	70	109	64	58	472	---	5,717	1,869
John Day River Basin	\$3 Million	15	40	71	3	39	20	---	2,160	2,485
Klamath Basin	\$2 Million	71	27	1	---	10	206	---	3,476	2,386
Lower Columbia Basin	\$4.28 Million	169	31	20	90	5	167	---	11	4,346
Lower Snake Basin	\$3.9 Million	15	99	59	45	13	1	---	435	1,632
Malheur Basin	\$4.5 Million	54	6	37	23	79	591	---	7,696	2,474
Middle Columbia Basin	\$4.7 Million	123	38	19	9	5	19	---	1,213	2,493
Middle Snake Boise Basin	\$632 Thousand	---	5	25	---	9	---	---	1,286	3,629
Northern Oregon Coastal Basin	\$7.9 Million	146	28	31	62	24	---	---	---	414
Southern Oregon Coastal Basin	\$32.2 Million	492	72	56	385	199	3,326	1,500	5,067	2,569
Willamette Basin	\$8.9 Million	498	68	24	73	37	5	---	5,012	929
TOTALS	\$80.3 Million	1,602 Miles	484 Miles	452 Miles	754 Miles	478 Miles	4,807 Acres	1,500 Acres	32,073 Acres	25,226 Acres

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The key report findings, conclusions, and recommendations are:

The new MOAs now need to evolve to focus more on implementation and monitoring of activities that lead to attainment of water quality goals and standards, and the documentation and tracking of those actions. Other key conclusions important to guide development and implementation of the new MOA follow:

1. There are tangible savings of work, such as cooperation in the completion of WQRPs leading to approval of the DMA TMDL Implementation Plans. The sharing of data, collaborating at multiple levels on use of resources for data collection and monitoring was very effective and efficient.
2. Establishing a process for joint review (both office and field) of ongoing watershed work/priorities is important, which was not carried out during the tenure of the existing MOAs. Joint review of planning and upcoming activities will assist with identifying and adjusting where feasible agency priorities, resources and funding, and facilitate development of current and future work plans. Joint review of implemented activities will provide accountability and assurances.
3. Participation and engagement of line officers and EPA throughout the implementation of the MOAs was beneficial and should be continued throughout the development and life of the new MOAs.
4. One of the primary areas, which is incomplete in the current MOAs and requires attention in the new MOAs, is the BMP process. The BLM and FS rely on the BMP process (as specified in the FS Nonpoint Source Plan which is an attachment to 2003 DEQ/FS MOA) for protection, restoration, and maintenance of water quality through NEPA planning documents, aquatic conservation strategies, WQRPs, and most importantly project implementation. Implementation and effectiveness of BMPs are the legal and policy mechanism for control and management of nonpoint source pollution. This important process was not effectively documented and communicated in the past, and should receive high priority for development, reporting, tracking, and approval by DEQ.
5. The second major area needing improvement is the reporting and tracking of administrative and implemented project activities for water quality protection and improvement. This is essential to evaluate success and ensure legacy and ongoing work is accounted for and therefore not lost. This was not carried out in the current MOAs and failed to provide assurances and accountability of progress towards collective goals for water quality. This lack of documentation and tracking made it difficult to develop the 5-Year Report. This is particularly important to demonstrate that TMDL load allocations and instream water quality standards are being met.

DEQ/BLM MOU

A final draft of the Memorandum of Understanding between United States Department of The Interior Bureau of Land Management and State of Oregon Department of Environmental Quality To Meet State and Federal Water Quality Rules and Regulations was completed. Clean Water Act (CWA) Section 319(k) directs federal compliance with the "Oregon Nonpoint Source Pollution Plan" which identifies the need for Federal Agency MOUs. This Oregon plan states: *"MOU's will be developed to ensure that federal land management agencies comply with federal CWA and state water quality requirements and programs"*.

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The existing 2003 MOU between the DEQ and BLM expired in 2008. The 2003 MOU had been renewed “informally”, pending a “5 -Year Progress report” completion. A collective DEQ – BLM – USFS; 5-Year Report” was completed in June 2010. A final draft of the 2010 MOU incorporating appropriate 5-Year report recommendations has been completed.

In 2010, the following was accomplished:

1. Published the final MOA required 5-Year Progress report.
2. Prepared a final draft of the DEQ/BLM MOU.

Progress of 319 Grant Funded Projects

Description of Types of 319 Nonpoint Source Projects

DEQ continually seeks projects from government agencies, tribal nations, and nonprofit organizations to address nonpoint sources (NPS) of pollution affecting coastal, river, lake, drinking, and ground water resources of the state. The solicitation occurs annually during the months of October through December as part of the 319 Nonpoint Source Implementation Grants.

The 319 Nonpoint Source Implementation Grant funds target geographically and for specific parameters to effectively improve water quality. The four general focus areas used to develop DEQ project priorities are:

- TMDL Implementation
- 303(d) listings
- Ground Water Management Areas (GWMAs)
- Drinking Water Source Areas

For a more detailed description of DEQ’s geographic and programmatic priorities for the thirty-three (33) 319 funded projects in 2010 as identified in the 2010 319 RFP, see the Geographic and Programmatic Priorities for 319 Funding section below.

Grant Performance Report Summary

The progress of NPS 319 Funded (Pass-Through) Projects is identified in **Table 18** in **Appendix 1**. The data used in the table is as of December 31, 2010. Seventy-one (71) 319-funded projects are still open; including the thirty-three (33), 2010 funded projects.

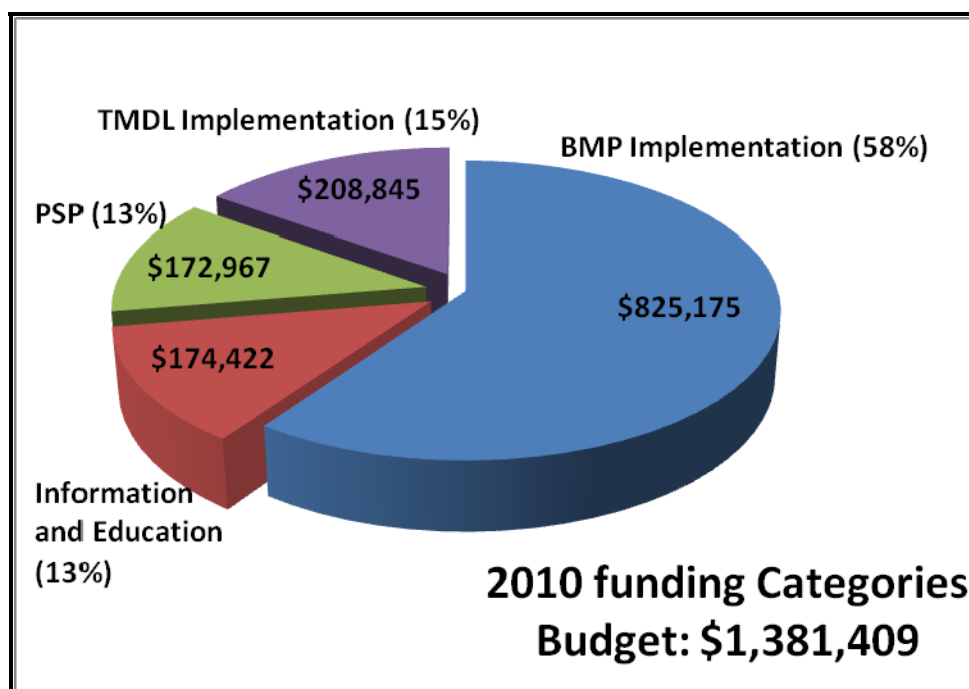
Geographic and Programmatic Priorities for 319 Funding

Table 13 in **Appendix 2** identifies DEQ’s geographic and programmatic priorities for 319 funded projects in 2010 as outlined in the 2010 319 RFP (**Appendix 3**). These priorities were used to prioritize the 2010 319 Funded Projects. The identification of priority basins (as listed below) does not exclude the submission of proposals for work outside these basins. To determine how the “project need” was met by region and basin/subbasin; please refer to **Tables 10 and 11** for a list of the 2010 319 Grant Funded Projects in Response to the RFP.

2010 – 319 Funding Categories

The following **Figure 2** identifies the 2010 – 319 funding categories and funded amounts. The **\$1,381,409** total funds for 2010 was divided in four areas of emphasis, as follows: BMP Implementation (58%), TMDL Implementation, (15%) Pesticide Stewardship Program, (13%) and Information and Education (13%). Note that “BMP Implementation” did not include implementation of BMPs identified in a TMDL Implementation Plan and “TMDL Implementation” primarily focused on effectiveness monitoring.

Figure 2. 2010 Funding Categories



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2010 319 Funded Project Number W10722

Project Location:

Sucker Creek, Illinois Subbasin, Rogue Basin

Project Purpose:

Significantly increase coho salmon spawning and rearing habitat by creating a self-maintaining stable meander pattern, creating pools, riffles, and glides, constructing large wood complexes, reconnecting floodplains, and planting a diverse riparian gallery forest. In addition, the project also proposes to decrease stream temperature by reducing stream width, increasing stream depth, and planting conifers, hardwoods, and shrubs.

Photo Credit:

Liz Berger, Hydrologist, Rogue River-Siskiyou National Forest

Sucker Creek Channel and Floodplain Restoration—Phase II Project Summary

The Sucker Creek Channel and Floodplain Restoration—Phase II Project is located in Sucker Creek, a critical fish-producing tributary to the Illinois River located in the Rogue River basin in southwestern Oregon. Sucker Creek has been dramatically altered by historic mining, road construction, and timber harvest. Effects from these management activities have significantly impacted coho salmon (ESA listed threatened fish species and its critical habitat) and stream temperature within the one-half mile section of channel and floodplain included in this project. The proposed solution is to significantly increase coho salmon spawning and rearing habitat by creating a self-maintaining stable meander pattern, creating pools, riffles, and glides, constructing large wood complexes, reconnecting floodplains, and planting a diverse riparian gallery forest. In addition, the project also proposes to decrease stream temperature by reducing stream width, increasing stream depth, and planting conifers, hardwoods, and shrubs.

Pre-Project Phase II Reach On Private And Public Land From 2010.



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Pre-Project Phase II Reach On Private And Public Land From 2010.



Post-Project Phase II Reach On Private And Public Land. Downstream View Of A Portion Of The Phase II Project Restoration Work Completed In 2010. Note Excavation Depths Were Approximately 20 Feet.



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2010 - 319 Grant Funded Projects

The following **Tables 10 and 11** identify the projects funded in response to the 2010 RFP:

Table 10. 319 Projects Funded in Response to the 2010 RFP by Region and Basin/Subbasin.

OREGON 319 2010 LIST OF PROJECTS FUNDED BY REGION AND BASIN/SUBBASIN				
Project Number	Project Name	Region	Submitted by	Basin/Sub-basin
W10701	Incorporate Oregon Priority Persistent Pollutants List Into Prominent Product Ranking Tools	Statewide	Oregon Association of Clean Water Agencies	Statewide
W10732	Pesticide Stewardship Program	Cross Regions	Pesticide Stewardship Program	Western-Eastern Oregon
W10702	ODF Ripstream: Stream Temperature Changes Over Time	Cross Regions	Oregon Department of Forestry	Statewide
W10731	Streambank: Upper Willamette and South Santiam Subbasin NPS Reduction Project	Cross Regions	Freshwater Trust	Pudding, Willamette
W10704	Central Oregon Low Impact Development	ER	Oregon Environmental Council	Central Oregon
W10705	Warm Springs Irrigation District Return Flow and Land Use Evaluation	ER	Malheur County Soil and Water Conservation District	Malheur
W10703	Strip Tillage In Malheur and Owyhee Watersheds	ER	Malheur County Extension	Malheur
W10707	Apple Sunburn Prevention Using Organic Biofilms	ER	Umatilla County Extension	Umatilla
W10706	Milton Freewater Levee Assessment	ER	Walla Walla Basin Watershed Council	Walla Walla
W10708	Powder River Restoration - Kirk Way Reach	ER	Powder River Basin Watershed Council	Powder River
W10709	2010-11 Nestucca Neskowin Watershed Council Streamside Planting and Maintenance	NWR	Nestucca-Neskowin Watershed Council	Nestucca-Neskowin
W10711	5000 Acres Initiative	NWR	Tualatin Riverkeepers	Tualatin
W10713	DEPAVE	NWR	City Repair, Portland Non Profit Group	Metro-Willamette

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Table 10. 319 Projects Funded in Response to the 2010 RFP by Region and Basin/Subbasin. (Cont.)

OREGON 319 2010 LIST OF PROJECTS FUNDED BY REGION AND BASIN/SUBBASIN				
Project Number	Project Name	Region	Submitted By	Basin/Subbasin
W10714	Blue Lake Invasive Weed Harvesting Project	NWR	Blue Lake Improvement Association Inc	Sandy
W10718	Sauvie Island Pesticide Collection Event	NWR	West Multnomah Soil and Water Conservation District	Sauvie Island
W10719	Regional Best Management Practices Sizing Tool Development to Address Hydromodification	NWR	Clackamas County Water Environmental Services	Clackamas
W10712	Upper Nehalem Riparian Restoration and Basin WQ Monitoring	NWR	Upper Nehalem Watershed Council	Nehalem
W10717	Tillamook Soil And Water Conservation District 2010 Stream Enhancement and Restoration	NWR	Tillamook County Soil and Water Conservation District	Tillamook
W10715	2011 Tillamook County Children Water Festival	NWR	Tillamook Estuary Program	Tillamook
W10716	Backyard Planting Program Year 8	NWR	Tillamook Estuary Program	Tillamook
W10723	Pesticide Roundup Events	NWR	Clackamas RWP	Clackamas
W10731	Streambank: Upper Willamette and South Santiam Subbasin NPS Reduction Project	NWR	Freshwater Trust	Willamette
W10727	Implementation Monitoring of Umpqua Basin, Diamond Lake Total Maximum Daily Load	WR	Partnerships for Umpqua Rivers	Diamond Lake
W10721	Low Impact Development Academy – A Cohort Education and Technical Assistance Program For Small To Medium-Sized Communities	WR	Oregon State University Counselor Education and Supervision (CES) Graduate Program	Willamette
W10730	Mid Coast Basin NPS Implementation Initiative, Part II	WR	Lincoln County Soil and Water Conservation District	Mid Coast

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Table 10. 319 Projects Funded in Response to the 2010 RFP by Region and Basin/Subbasin. (Cont.)

OREGON 319 2010 LIST OF PROJECTS FUNDED BY REGION AND BASIN/SUBBASIN				
Project Number	Project Name	Region	Submitted By	Basin/Subbasin
W10724	Southern Willamette Valley Groundwater Management Area Action Plan Analysis, Marketing and Implementation	WR	Land Council of Governments (LCOG)	Willamette
W10720	Ten Mile Lakes TMDL Implementation	WR	Ten Mile Lakes TMDL Partnership	Ten Mile Lake
W10722	Sucker Creek Channel and Floodplain Restoration Phase II	WR	Illinois Valley Soil and Water Conservation District	Illinois Valley
W10725	Streamside Gardening: An Innovative Approach To Improving Riparian Shade and Function	WR	Oregon State University Extension Service Jackson County	Jackson County
W10726	Medford Bacteria Source Roundup	WR	City of Medford	Rogue
W10728	Diamond Lake Modeling Project, 2010-2011	WR	Partnership For The Umpqua Rivers	Diamond Lake
W10710	Targeted Water Quality Outreach to Coos Bay	WR	Coos Watershed Association	Coos Bay
W10731	StreamBank: Upper Willamette and South Santiam Subbasin NPS Reduction Project	WR	Freshwater Trust	Willamette

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Table 11. 319 Projects Funded in Response to the 2010 RFP by Type of Project, BMPs, and Parameters of Concern.

OREGON 319 2010 PROJECTS FUNDED BY TYPE OF PROJECT, BMPS, AND PARAMETERS OF CONCERN						
Project Number	Project Name	Type of Project	BMPS	Parameters of Concern	Where	Budget
W10701	Incorporate Oregon Priority Persistent Pollutant List into Prominent Product Ranking Tools	Information and Education	Pesticide Management	Planning	Statewide	\$11,057.00
W10732	DEQ	Pesticide Stewardship Program	Pesticide Management	Pesticides	Statewide	\$222,000.00
W10702	ODF Ripstream: Stream Temperature Changes Over Time	BMP Implementation	Ripstream	Temperature	Statewide	\$182,400.00
W10731	StreamBank: Upper Willamette and South Santiam Subbasin NPS Reduction Project	TMDL	Riparian Management	Temperature, Nutrients, Sediment	Upper Willamette and South Santiam	\$30,000.00
W10704	Central Oregon Low Impact Development	BMP Implementation	Low Impact Development	Nutrients, Sediment	Central Oregon	\$27,000.00
W10705	Warm Springs Irrigation District Return Flow and Land Use Evaluation	BMP Implementation	Irrigation Management	Nutrients, Sediment	Malheur County	\$65,542.00
W10703	Strip Tillage In Malheur and Owyhee Watersheds	BMP Implementation	Minimum Tillage	Sediment, Nutrients	Malheur and Owyhee River Basin	\$85,730.00
W10707	Apple Sunburn Prevention Using Organic Biofilms	BMP Implementation	BMP Development	Temperature	Umatilla River Basin	\$108,757.00
W10706	Milton Freewater Levee Assessment	BMP Implementation	Riparian Management	Temperature, Nutrients, Sediment	Milton Freewater	\$142,473.00
W10708	Powder River Restoration - Kirk Way Reach	BMP Implementation	Riparian Management	Temperature, Nutrients, Sediment	Powder River Basin	\$23,400.00
W10709	2010-11 Nestucca Neskowin Watershed Council Streamside Planting and Maintenance	BMP Implementation	Riparian Management	Bacteria, Runoff	Nestucca-Neskowin River Basins	\$40,000.00

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Table 11. 319 Projects Funded in Response to the 2010 RFP by Type of Project, BMPs, and Parameters of Concern. (Cont.)

OREGON 319 2010 PROJECTS FUNDED BY TYPE OF PROJECT, BMPS, AND PARAMETERS OF CONCERN						
Project Number	Project Name	Type of Project	BMPS	Parameters of Concern	Where	Budget
W10711	5000 Acres Initiative	Information and Education	LID Retrofit	Runoff	Tualatin River Basin	\$51,914.00
W10713	DEPAVE	Information and Education	Impervious Surface Management	Runoff	Metro-Willamette	\$9,245.00
W10714	Blue Lake Invasive Weed Harvesting Project	BMP Implementation	Mechanical Weed Control	Aquatic Weed	Blue Lake	\$22,880.00
W10718	Sauvie Island Pesticide Collection Event	Pesticide Stewardship Program	Pesticide Management	Pesticides	Sauvie Island	\$11,720.00
W10719	Regional BMP Sizing Tool Development to Address Hydromodification	BMP Implementation	BMP Development	Runoff	Clackamas County	\$111,000.00
W10712	Upper Nehalem Riparian Restoration and Basin Water Quality Monitoring	BMP Implementation	Riparian Management	Temperature, Runoff	Upper Nehalem River Subbasin	\$42,841.00
W10717	Tillamook Soil and Water Conservation District 2010 Stream Enhancement and Restoration	TMDL	Riparian Management	Sediment, Temperature, Bacteria	Tillamook County	\$44,405.00
W10715	2011 Tillamook County Children Clean Water Festival	Information and Education	Public Information And Education	NPS	Tillamook County	\$6,250.00
W10716	Back Yard Planting Program Year 8	BMP Implementation	Riparian Management	Runoff	Tillamook County	\$40,000.00
W10723	Pesticide Roundup Events	Pesticide Stewardship Program	Pesticide Management	Pesticides	Clackamas County	\$40,000.00

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Table 11. 319 Projects Funded in Response to the 2010 RFP by Type of Project, BMPs, and Parameters of Concern. (Cont.)

OREGON 319 2010 PROJECTS FUNDED BY TYPE OF PROJECT, BMPS, AND PARAMETERS OF CONCERN						
Project Number	Project Name	Type of Project	BMPS	Parameters of Concern	Where	Budget
W10731	StreamBank: Upper Willamette and South Santiam Subbasin NPS Reduction Project	TMDL	Riparian Management	Temperature, Dissolved Oxygen, Habitat	Upper Willamette and South Santiam River Subbasins	\$15,000.00
W10727	Implementation Monitoring of Umpqua Basin, Diamond Lake Total Maximum Daily Load	BMP Implementation	TMDL Implementation, Monitoring	pH, Temperature	Diamond Lake	\$15,000.00
W10721	Low Impact Development Academy – A Cohort Education and Technical Assistance Program For Small to Medium-Sized Communities	Information and Education	Public Information and Education	Low Impact Development	Statewide	\$93,335.00
W10730	Mid Coast Basin NPS Implementation Initiative, Part II	TMDL	Riparian Management	Temperature, Bacteria, Sediment	Mid Coast Basin	\$86,300.00
W10724	Southern Willamette Valley GWMA Action Plan Analysis, Marketing and Implementation	BMP Implementation	BMP Development	BMP Planning	Southern Willamette Valley GWMA	\$94,013.00

Table 11. 319 Projects Funded in Response to the 2010 RFP by Type of Project, BMPs, and Parameters of Concern. (Cont.)

OREGON 319 2010 PROJECTS FUNDED BY TYPE OF PROJECT, BMPS, AND PARAMETERS OF CONCERN						
Project Number	Project Name	Type of Project	BMPs	Parameters of Concern	Where	Budget
W10720	Ten Mile Lakes TMDL Implementation	TMDL	BMP Development, Effectiveness Monitoring	Habitat, Weeds	Ten Mile Lake	\$57,500.00
W10722	Sucker Creek Channel and Floodplain Restoration Phase II	BMP Implementation	Riparian Management	Temperature, Nutrients, Sediment	Illinois River Basin	\$20,000.00
W10725	Streamside Gardening: An Innovative Approach to Improving Riparian Shade and Function	BMP Implementation	Riparian Management	Temperature, Runoff	Jackson County	\$21,555.00
W10726	Medford Bacteria Source Roundup	TMDL	Riparian Management	Bacteria, Runoff	City of Medford	\$7,320.00
W10728	Diamond Lake Modeling Project, 2010-2011	BMP Implementation	BMP Development	NPS, Habitat	Diamond Lake	\$41,184.00
W10710	Targeted Water Quality Outreach to Coos Bay	Information and Education	Public Information And Education	Runoff	Coos Bay	\$39,987.00
W10731	StreamBank: Upper Willamette and South Santiam Subbasin NPS Reduction Project	BMP Implementation	Riparian Management	Temperature, Dissolved Oxygen, Habitat	Upper Willamette and South Santiam Subbasins	\$15,000.00

Estimates of NPS Load Reductions

Section 319 (h) (11) requires states to “*report annually on what their nonpoint source programs are accomplishing, including available information on load reductions and actual water quality improvements*”. The load reduction estimates need to be completed for projects funded by 319 funds annually.

EPA has requested that DEQ complete NPS pollutant load reductions using EPA’s Section 319 Grants Reporting and Tracking System (GRTS). DEQ’s 319-Grant Coordinator attended EPA’s 2010 annual GRTS training, which focused on helping states to develop estimates of NPS load reductions.

DEQ used the load reduction model, “Spreadsheet Tool for Estimating Pollutant Load” (STEPL), within GRTS to estimate nitrogen (pounds per year), and phosphorus (pounds per year), Sedimentation-Siltation (tons per year) for eleven (11) 319 funded projects.

For 2009 - 319 funded projects, load reductions estimates were completed for a select few projects. Not all projects targeted specific pollutants reductions and for other projects that have not started, there was no information to calculate reductions.

The following **Table 12** identifies the total **2009 and 2010** load reduction estimates by pollutant are as follows: **62,518 Pounds/Year Nitrogen Reduction, 25,461 Pounds/Year Phosphorous Reduction, and 20,853 Tons/Year Sedimentation-Siltation Reduction.**

Note: The estimates reported in this table were part of the annual report to EPA for Load Reduction Estimates for the year 2010.

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Table 12. Estimates of NPS Load Reductions of Selected 319 Funded Projects.

2009 AND 2010 NPS PROJECTS – ESTIMATED NPS LOAD REDUCTION (USING STEPL)						
Grant Year	Project No.	Project Name	Basin	Nitrogen Reduction Pounds/Year	Phosphorous Reduction Pounds/Year	Sedimentation-Siltation Reduction Tons/Year
2009	W09703	Strip Tillage in Malheur and Owyhee Watersheds	Malheur/Owyhee	20,141	6,910	6,567
	W09708	Clackamas Planting and Outreach Project	Clackamas	235	59	27
	W09710	North Coast Watersheds Enhancement Project	North Coast	1830	453	54
	W09714	Scappoose Creek Riparian Restoration	Scappoose	180	38	15
	W09716	Backyard Planting Year 9	Tillamook	2124	2355	407
	W09724	Little Butte Creek WQ Enhancement Project	Little Butte	2792	781	426
	W09725	Santiam-Calapooia Landowner Recruitment and Restoration	Santiam/Calapooia	572	116	27
	W09730	Mid Coast Basin NPS Implementation Initiative	Mid-Coast	348	134	109
Total, 2009 Projects				28,079	10,758	7,605

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Table 12. Estimates of NPS Load Reductions of Selected 319 Funded Projects (Cont.).

2009 AND 2010 NPS PROJECTS – ESTIMATED NPS LOAD REDUCTION (USING STEPL)						
Grant Year	Project No.	Project Name	Basin	Nitrogen Reduction Pounds/Year	Phosphorous Reduction Pounds/Year	Sedimentation-Siltation Reduction Tons/Year
2010	W10702	Upper Nehalem Riparian Restoration and Basin WQ Monitoring	Nehalem	63	25	21
	W10712	Strip tillage in Malheur and Owyhee watersheds	Malheur/Owyhee	33,682	14,420	13,023
	W10708	Powder River Restoration - Kirk way Reach	Powder	694	258	204
Total, 2010 Projects				34,439	14,703	13,248
REPORTED ESTIMATES, YEARS 2009-2010				62,518	25,461	20,853

The following accomplishments occurred in 2010:

1. DEQ's 319 Grants Coordinator received additional GRTS load reduction training from EPA.
2. DEQ completed load reductions estimates for eleven (11) 2009 and 2010 319 funded projects.
3. Total 2009 and 2010 load reduction estimates by pollutant are as follows:
 - 62,518 Pounds/Year Nitrogen Reduction
 - 25,461 Pounds/Year Phosphorous Reduction
 - 20,853 Tons/Year Sedimentation-Siltation Reduction

Watershed-Based Plans

Watershed Approach

During 2010, DEQ started implementing the Oregon Watershed Approach to assist in managing water quality in the State of Oregon. The Watershed Approach is a coordinating framework for management that focuses public, private, and non-profit sector efforts to address the highest priority problems within watersheds taking into consideration both ground and surface water flow. This approach provides a broad assessment of the status of water quality and other environmental indicators within a basin, greater opportunities for stakeholder involvement and interagency cooperation, and addresses some of the limitations of the TMDL process.

Unlike a TMDL, the Watershed Approach process is not limited to addressing 303(d) listings using available water quality data. It addresses surface water status for both 303(d) listings and other surface water related concerns, groundwater and upland conditions, and provides an evaluation of the environmental status of the basin as a whole. While the Watershed Approach process is being designed to address some of the limitations of the TMDL process, it will not replace TMDLs.

A key outcome of the Watershed Approach is developing a plan that consists of a Status Report and an Action Plan that summarizes the important water quality problems and the strategies needing to be implemented. Together these sections allow for the adaptive management of the water quality in a geographic area.

It is intended that the Watershed Approach process will eventually be implemented statewide. DEQ is currently envisioning that each DEQ Region (Eastern, Western, and Northwest Oregon) will complete a Watershed Approach Plan for one basin each year. There are approximately 15 basins within the state. This would allow the findings of the Watershed Approach to be revisited and updated every 5 years.

Watershed-Based TMDLs

Watershed-based TMDL plan integrates TMDL Implementation Plan requirements (Oregon TMDL Rule, OAR 340-042-0025), EPA's Key Watershed Planning Components with Nine Key NPS elements (**Table 15**), and drinking water protection program elements. DEQ plans to eventually develop watershed-based plans, where feasible, for future/ongoing implementation.

Oregon's uses a watershed basis as its primary approach for improving state surface waters. The state has 21 river basins and 91 sub-basins. The state's NPDES permitting, assessment, and TMDL work is aligned and prioritized according to these sub-basins. For groundwater areas, there are GWMA and basin coordinators are assigned to each GWMA and basin/subbasin. Each coordinator takes the lead role as GWMA and TMDLs are developed and implemented.

DEQ develops TMDLs for both point and nonpoint sources. TMDL implementation is addressed through a variety of mechanisms including AgWQMA plans, Forest Practices Act, Federal/State MOUs, NPDES permits, 401 certification, and plans developed by DMAs or other entities responsible for pollution not addressed by permit or the Oregon Revised Statutes (ORS). These mechanisms are used to implement the TMDL (as outlined in the TMDL Water Quality Management Plan) and designed to make sure impaired waters eventually will meet water quality standards.

Implementation Ready TMDLs

Based on the CZARA Oregon's Coastal Nonpoint Pollution Control Program (CNPCP) settlement agreement, DEQ is developing Implementation Ready TMDLs for all TMDL basins within the CNPCP boundary. The Mid Coast TMDL is the first basin to be prepared as one.

For each TMDL, a TMDL WQMP is developed to describe a strategy for reducing water pollution to the levels set in the TMDL. OAR 340-042-0050(1) requires DEQ to involve stakeholders in the TMDL process at all levels. The WQMP covers all DMAs within a watershed and includes detailed plans for how individual DMAs intend to achieve TMDL compliance, called Implementation Ready TMDLs. DEQ has authority to develop TMDLs, including Implementation Ready TMDLs, under Oregon's TMDL rule, OAR 340-042-0025 to 0080. OAR 340-042-0040(4) specifies elements that must be included in a TMDL.

For the Coastal Zone Management Area, Implementation Ready TMDLs will be prepared for all new and updated TMDLs. This is being implemented by DEQ due to both NOAA and EPA's requirements for Coastal Zone Management Area program approval (May 12, 2010 letter, **Appendix D**) and EQC directives.

The Implementation Ready TMDLs will:

1. Ensure that surrogate measures are clear and easily applied to meet TMDL load allocations,

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2. Provide information that could be used to identify priority areas for implementation,
3. Identify required and recommended Best Management Practices (BMPs), such as set riparian buffer widths, needed to achieve TMDL goals,
4. Identify the most effective BMPs that will be surrogates for the WLA and LA,
5. Set where and when management measures and restoration projects will be implemented to meet water quality restoration milestones,
6. Identify the load reduction,
7. Develop plans for implementation effectiveness monitoring and tracking,
8. Ensure the monitoring of BMP installation and effectiveness and a process for evaluating BMPs and updating them, if necessary,
9. Estimate costs associated with technical assistance and implementation,
10. Determine adequacy of DMA implementation strategies for meeting load allocations,
11. Select implementation strategy that will provide reasonable assurance for achieving water quality goals, and
12. Individual load allocations are given to significant air deposition and land sources of pollutants subject to TMDLs.

When identified as necessary during scoping or watershed planning process, DEQ will develop TMDLs at a smaller spatial scale (10 or 12-digit HUCs); with DMAs and local stakeholder input. Implementation Ready TMDLs will provide DMAs and local partners with the direction needed to develop TMDL Implementation Plans with specificity as to where and when management measures and restoration projects will be implemented.

5. Success Stories/Environmental Improvement

WQ-10 and SP-12 Projects

Bear Creek Watershed

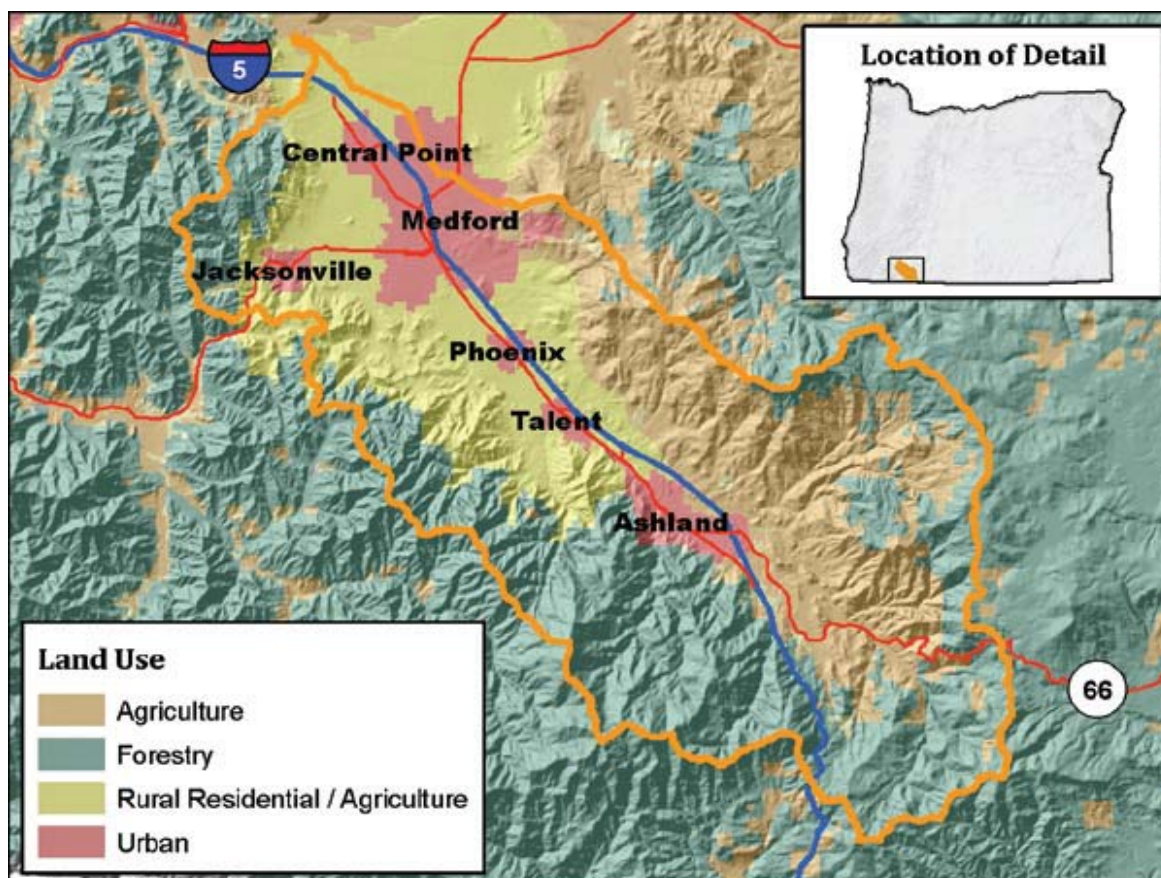
Waterbody Improved

Urban, forested, and agricultural areas contributed nutrients and other pollutants to Oregon's Bear Creek, prompting the DEQ to add 26.3 miles of Bear Creek and some of its main tributaries to the state's Clean Water Act (CWA) section 303(d) list of impaired waters in 1998. To address the problem, watershed stakeholders upgraded a wastewater treatment plant, educated landowners, and implemented numerous agricultural and urban best management practices (BMPs). Phosphorus levels have dropped steadily over time in Bear Creek and in four tributaries, showing that ongoing watershed-wide nonpoint source (NPS) pollution-reduction efforts are improving water quality. Although the data indicate progress toward achieving water quality goals, these waterbodies do not yet meet water quality standards and remain on Oregon's list of impaired waters for phosphorus and/or other pollutants.

Problem

Bear Creek (**Figure 3**) empties into the Rogue River in southwest Oregon. The 362-square-mile Bear Creek watershed includes approximately 290 miles of streams. Another 250 miles of irrigation canals transport water to farms across the watershed. Land use in the watershed is approximately 18 percent urban, 35 percent agriculture, and 46 percent forest.

Figure 3. Southwest Oregon's Bear Creek Watershed Land Uses.



Pollutants from numerous sources have contributed to problems in the Bear Creek watershed for decades. NPS pollution (irrigation return flows and runoff from agricultural and developed areas) have contributed nutrients, sediment and fecal coliform to surface waters. A WWTP along Ashland Creek, a headwaters tributary of Bear Creek, also contributed high levels of nutrients in its effluent.

A combination of point and NPS pollution sources led to low pH, low dissolved oxygen levels, excessive amounts of aquatic weeds, and high levels of fecal coliform in numerous waterbodies in the Bear Creek watershed. As a result, DEQ added 26.3 miles of Bear Creek and numerous tributaries to the state's CWA section 303(d) list of impaired waters in 1998. The pollutants of concern for Bear Creek include phosphorus, dissolved oxygen, chlorophyll *a*, pH, ammonia, temperature, and fecal coliform. DEQ listed Ashland Creek as impaired in 1998 because of fecal coliform, ammonia, and phosphorus. Other tributaries were added to the state's list of impaired waters the same year for a variety of pollutants, including fecal coliform, temperature and dissolved oxygen.

Project Highlights

Many partners have cooperated to identify and implement pollution-reduction efforts. DEQ developed total maximum daily loads (TMDLs) for Bear Creek in 1992 (for pH,

dissolved oxygen and aquatic weeds/algae) and in 2007 (for temperature, sediment, and fecal coliform). The Rogue Valley Council of Governments (RVCOG) and the Bear Creek Watershed Council completed a Watershed Assessment and Action Plan for Bear Creek (in 1995) and for its tributaries (in 2001). In 2005, the Oregon Department of Agriculture (ODA) and the Bear Creek Local Advisory Committee developed an Agricultural Water Quality Management Area Plan to address agriculture-related water quality issues.

The Medford and Talent irrigation districts reduced sediment and nutrients from irrigated lands by converting flood irrigation to sprinkler irrigation and adding protective liners along canals or replacing the canals with pipes to reduce erosion. The Jackson Soil and Water Conservation District (SWCD) and the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) are helping farmers to implement agricultural BMPs such as nutrient management, exclusion fencing (typically to prevent livestock from accessing riparian areas), pesticide management, pasture fencing, and pasture management.

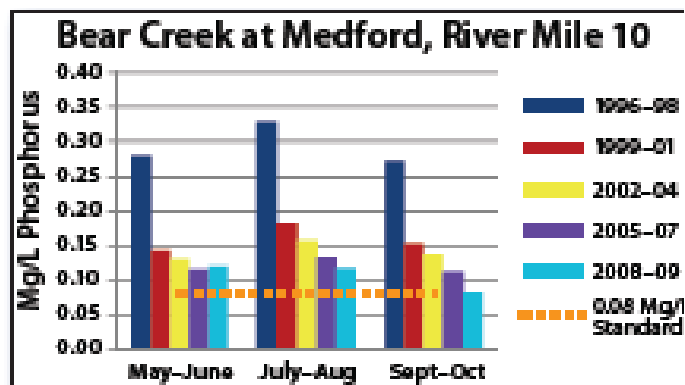
The RVCOG facilitates the local communities' efforts to conduct regional stormwater management planning; it also implements demonstration projects, educates watershed residents about water quality issues, and encourages participation in corrective actions. In 2002, Ashland upgraded its WWTP by adding a tertiary treatment phosphorus removal system that operates from May until November each year. Municipalities installed stormwater control practices, including adding a large stormwater treatment wetland in Ashland.

Results

Water quality has measurably improved since 1996. The 1992 Bear Creek TMDL established that the in-stream concentration of total phosphorus must be less than 0.08 milligram per liter (mg/L) from May 1 through November 15 to meet water quality standards. Although Bear Creek and its tributaries do not yet meet this goal consistently, significant progress had been made.

Data from monitoring stations in the Bear Creek watershed (main stem and tributaries) show that phosphorus levels are steadily declining. At Bear Creek river mile 10 in Medford, for example, phosphorus levels have declined from an average high of 0.33 mg/L in July/August 1996–1998 to an average low of 0.08 mg/L in September/October 2008–2009 (**Figure 4**).

Figure 4. Phosphorus Levels In Bear Creek Have Declined Over Time and Almost Meet Water Quality Standards.



In Ashland Creek, upgrading the wastewater treatment plant (WWTP) contributed to large phosphorus decreases in Ashland Creek and the upper main stem of Bear Creek (Ashland Creek joins Bear Creek at river mile 24). Declines in phosphorus levels in other, NPS pollution-dominated Bear Creek tributary watersheds such as Neil Creek (which joins Bear Creek at river mile 27), indicate that efforts to reduce NPS pollution are also contributing to lower phosphorus levels seen in Bear Creek. Data show that Neil Creek's phosphorus levels have declined from an average high of 0.23 mg/L in May/June 1996–1998 to an average low of 0.07 mg/L in September/ October 2008–2009. Other NPS-dominated Bear Creek tributaries showing declining phosphorus levels include Griffin Creek and Jackson Creek.

Partners and Funding

Many agencies and organizations, including the RVCOG, the Bear Creek Watershed Council and Local Advisory Committee, DEQ, ODA, Oregon Department of Forestry, Oregon State University, USDA's NRCS and Farm Service Agency, Jackson SWCD, local irrigation districts (Talent, Medford and Rogue River Valley), Rogue Valley Sewer Services, and local municipalities, are working to restore the Bear Creek watershed. Jackson County and the cities of Medford, Ashland, Phoenix, Central Point, Jacksonville, and Talent provide financial support to the RVCOG for the ongoing Bear Creek water quality monitoring program.

Since 1997, stakeholders have spent more than \$39.5 million on water quality improvement projects within the Bear Creek watershed. Ashland upgraded its WWTP for \$33.6 million. The Oregon Watershed Enhancement Board provided more than \$715,000 for restoration and watershed management projects by the Jackson SWCD, the RVCOG, and the Bear Creek Watershed Council.

Support for irrigation system upgrades was provided by the Bureau of Reclamation (more than \$1.575 million) and Talent and Medford irrigation districts (more than \$2.2 million). Landowners contributed more than \$1 million to support irrigation upgrades. DEQ's Water Quality Division provided more than \$430,000 in CWA Section 319 funding to support a variety of NPS pollution-reduction projects.

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SP-12 Projects

Next year's report, a Tualatin River Basin success story will most likely be included.

Other DEQ Success Stories

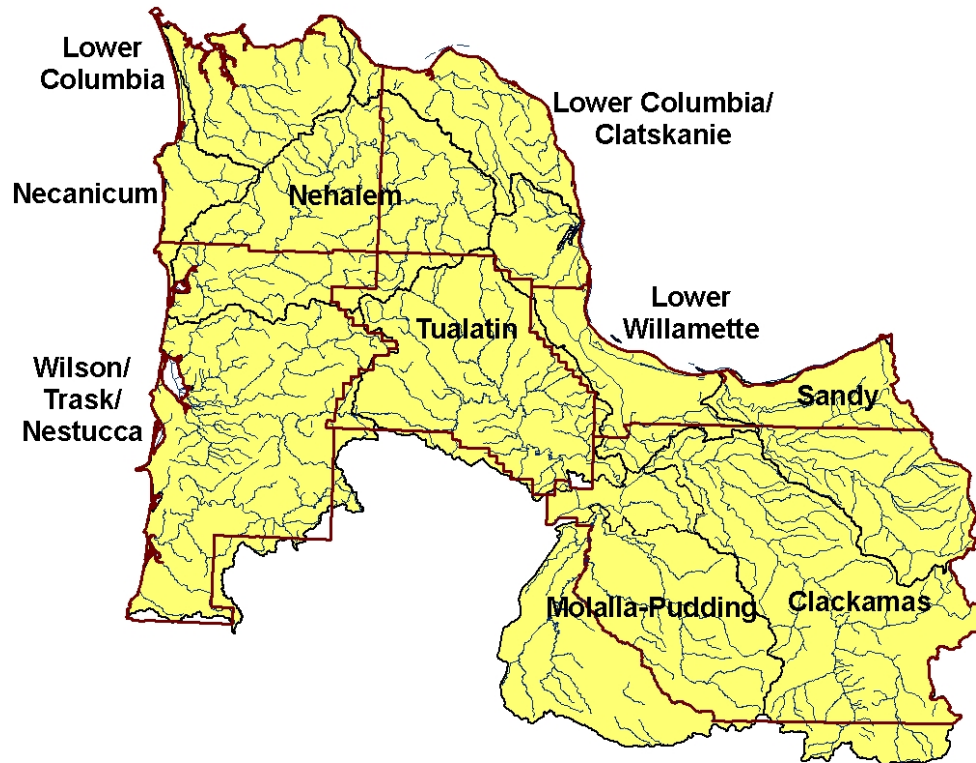
DEQ has many success stories that do not yet fully meet EPA's WQ-10 Projects and SP-12 Projects criteria for reporting. For this NPS Annual Report, DEQ offers success stories from two regions of the state, Northwest Regions and Eastern Region.

Water Quality Improvements in DEQ's Northwest Region

For DEQ's Northwest Region, there are water quality success stories for the Columbia Slough, Tualatin River Basin, Tillamook Basin, and throughout the region in general. There are five basin coordinators in Northwest Region and they provide technical assistance and guidance, monitor and assess progress toward water quality goals, bring partners together, provide access to funding, and respond to complaints. The five basin coordinators, managed by Sally Puent, are Bruce Apple, Doug Drake, York Johnson, Avis Newell, Karen Williams, and Jess Brown as liaison with Clackamas Water Environment Services.

When basin coordinators are "at the table" while watershed plans are being developed, DEQ can encourage flexibility and creative solutions and still provide regulatory certainty. Before the term was in vogue, DEQ and its partners used the "watershed approach" to achieve water quality improvements. If we look back 15 to 20 years in watersheds with effective partnerships and adequate monitoring, we see significant improving trends in water quality as well as associated societal and economic benefits.

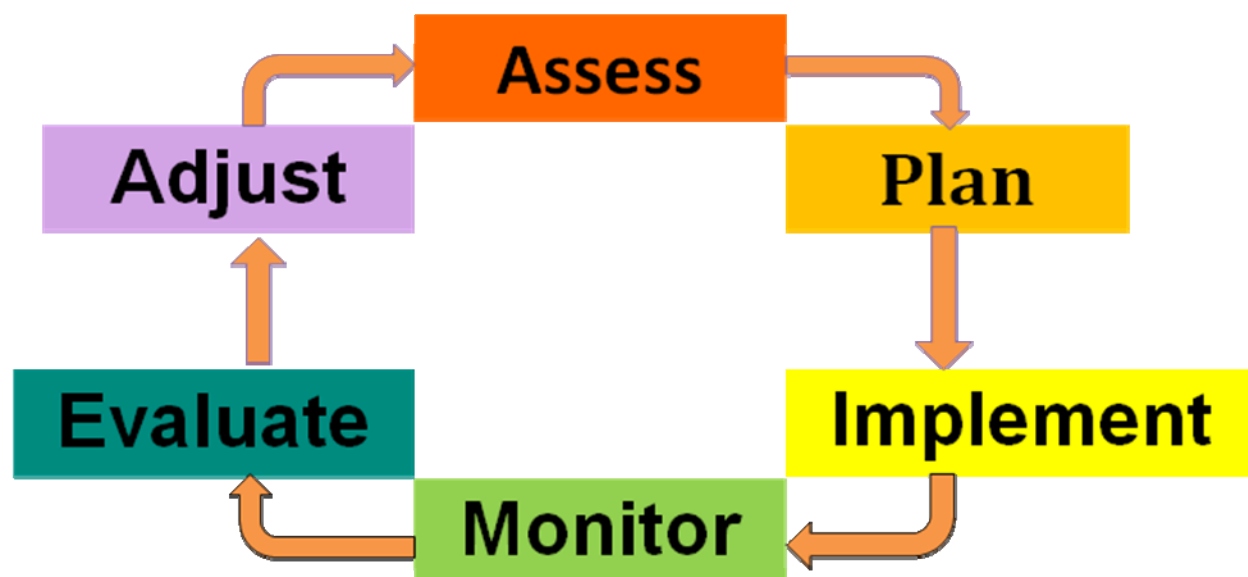
Figure 5. DEQ Northwest Region Watershed Basins



The following are several examples of improvements and partnerships that helped DEQ achieve successes in Northwest Region. This includes providing a few concrete examples of water quality improvements, and some hints on where to look for similar stories in the future. DEQ could not do these improvements in water quality throughout the region without the countless action of many other partners.

DEQ's Northwest region defines a water quality success as "Getting on a path to improving conditions". The path is not straight, is not always built ahead of time, sometimes has to wait for funding, has breaks and intersections, and it can be long sometimes arduous. Therefore, it is important to keep track of the accomplishments that will lead to improvements over time.

Figure 6. DEQ Northwest Region Watershed Approach



The Watershed Approach means we work with our partners in a watershed to identify the priority problems and find solutions together to address them. This approach is iterative and uses the adaptive management steps of assessing the water quality problem, planning to correct the issues, implementing changes, monitoring both implementation progress and water quality changes, evaluating effectiveness of the changes made, and adjusting the approach if necessary.

DEQ's responsibility is to "know" the watershed – all aspects of it: the stream dynamics, the land use, the vegetation, the politics, the economic drivers, the doers, the impediments, appropriate measurements and timescales, etc., as well as to encourage partners to "get on the path to success" and to work in partnerships whenever possible.

Partner's Roles

- Partners have local knowledge.
- Collaboration yields better result.
- Work is done by them!

Partnerships are very important to success. As a partner, DEQ brings specialized skills and information. DEQ has learned that working with basin partners – those folks who live and work in the basin – is far more effective (and sometimes faster) than going in alone with a list of problems to "fix".

Partners bring information that DEQ may not have; partners have lots of local information. Finding ideas among different perspectives yields solutions that are more robust. You have probably heard the expression "two heads are better than one". When we tap into the wisdom of the crowd and get many ideas, we benefit from the

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experience of all and get better results. In addition, most importantly, the implementation work is accomplished by partners.

DEQ NWR Basin Partner Meeting.



DEQ NWR Volunteer Riparian Restoration Project.



Monitoring

Good information is vital to understanding problems and tracking progress. One key partnership activity we have relied on for many years is monitoring. DEQ does not always have the resources to monitor smaller scale watersheds and projects, but that information is crucial to our evaluation of restoration effectiveness. DEQ basin coordinators can help make sure partners are collecting high quality information that answers the right questions. DEQ's statewide volunteer monitoring coordinator is also a crucial resource, providing training and equipment to dozens of watershed partners. In the portions of the NWR where we lack monitoring partnerships, we have much less to say, because we do not have information.

Funding

Identify priorities and leverage resources. We also coordinate with other funding programs whenever possible, in ways appropriate to the partner; by leveraging grant money from various sources, and by providing input on water quality priorities. Some of the other funding groups we work with include Soil and Water Conservation Districts, the Natural Resource Conservation Service, and local municipalities (i.e. Portland, Gresham) and special districts (i.e. Clean Water Services, Metro), and state sources such as the Oregon Watershed Enhancement Board (OWEB).

Columbia Slough

Oregon's most polluted waterway:

- Waste dumping ground until ~ 1950s.
- Combined Sewer Overflows.
- Stormwater and legacy industrial sources.
- Innovative stormwater and restoration work.
- Stormwater program getting stronger.
- Total Maximum Daily Loads and Cleanup activity spur restoration.

The Columbia Slough watershed is located in north Portland and drains one of Oregon's most dense industrial areas. It is also home to 5% of Oregon's residents (~160, 000 people). The Slough had a history as a waste dumping ground until the mid-1950s. DEQ has been working with several partners to actively address the legacy effects of Combined Sewer Overflows (CSOs), urban/industrial stormwater, industrial outfalls, contaminated groundwater, and airport de-icing activities.

The City of Portland has invested \$200 million to remove CSOs.

Restoration work was initiated by the 1998 DEQ TMDL and is continuing under DEQ's Clean-up program. This includes both instream habitat and active bank restoration. For example, as of 2007, Portland had planted more than 20,000 trees and 7,000 shrubs on more than 34 acres of stream bank.

City of Portland's Combined Sewer Overflows "Big Pipe" Construction.



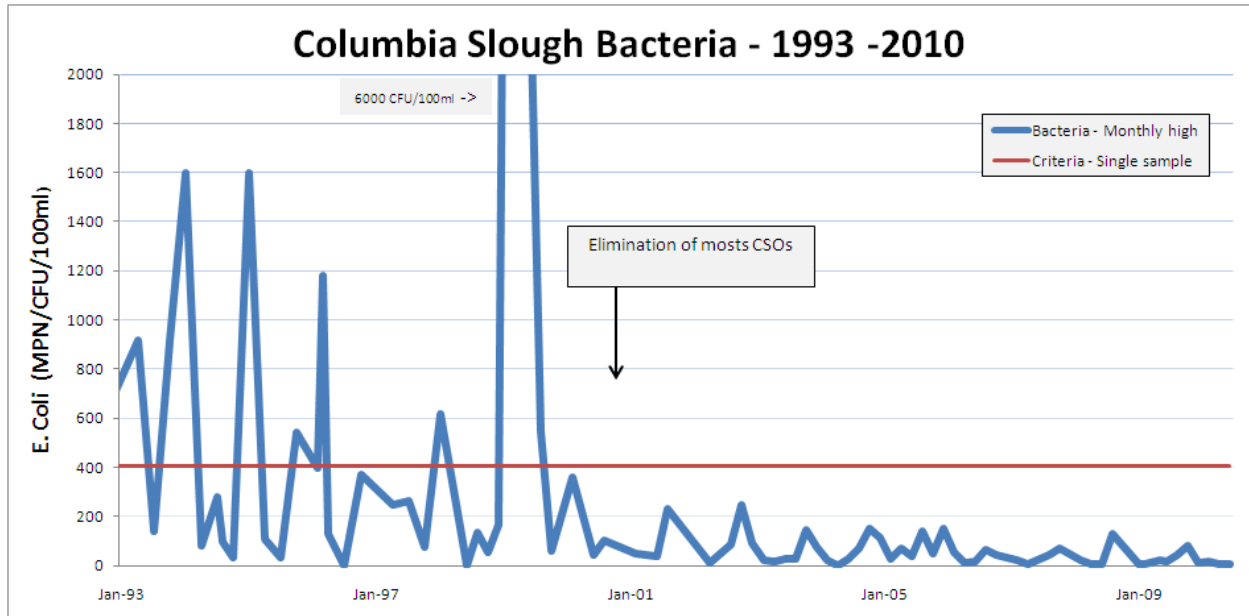
City Of Gresham's Regional Stormwater Facility.



This is a great example of an innovative stormwater project. Finished in 2008, this regional facility treats stormwater runoff from 965 acres of nearby industrial development.

Figure 7 clearly shows lower bacteria levels after installation of the Columbia Slough Combined Sewer Overflow “big pipe”. Because pollutants are commonly associated with sediment particles, similar results are being measured for heavy metals and organics; the numbers are coming down.

Figure 7. Columbia Slough Bacteria Levels Decline Overtime



The Columbia Slough is safer for recreational contact and wildlife use now that bacteria and other water quality pollutants approach standards. Recreational opportunities, specifically paddling sports, have increased in the slough, increasing traffic for nearby shops, and boosting property values. Some salmon are returning to the lower slough. There are clear social benefits to improved water quality; nearby neighborhoods sport signs identifying the Columbia Slough watershed; it is no longer an embarrassment.

Columbia Slough Canoe Trip.



Tualatin River Basin

The Lower Tualatin River was a tourist destination for swimming and summer recreation in the 1930's and 1940's. By the 1960s, population growth had exploded, and sewage treatment failed to keep up; the lower river was full of bacteria, and other undesirable material. Meantime, irrigation withdrawals commonly dried up the upstream river reaches.

DEQs predecessor, the Oregon State Sanitary Authority, imposed a building moratorium in 1969, forcing the area to address the sanitation problem. While municipal treatment facilities were combined and upgraded, the river still suffered high nutrient loads causing unsightly and potentially toxic algal blooms.

In response to a citizen lawsuit, the 1988 TMDL addressed these problems. Additional work with sewage treatment and nonpoint sources led to the following results.

Algal Growth.

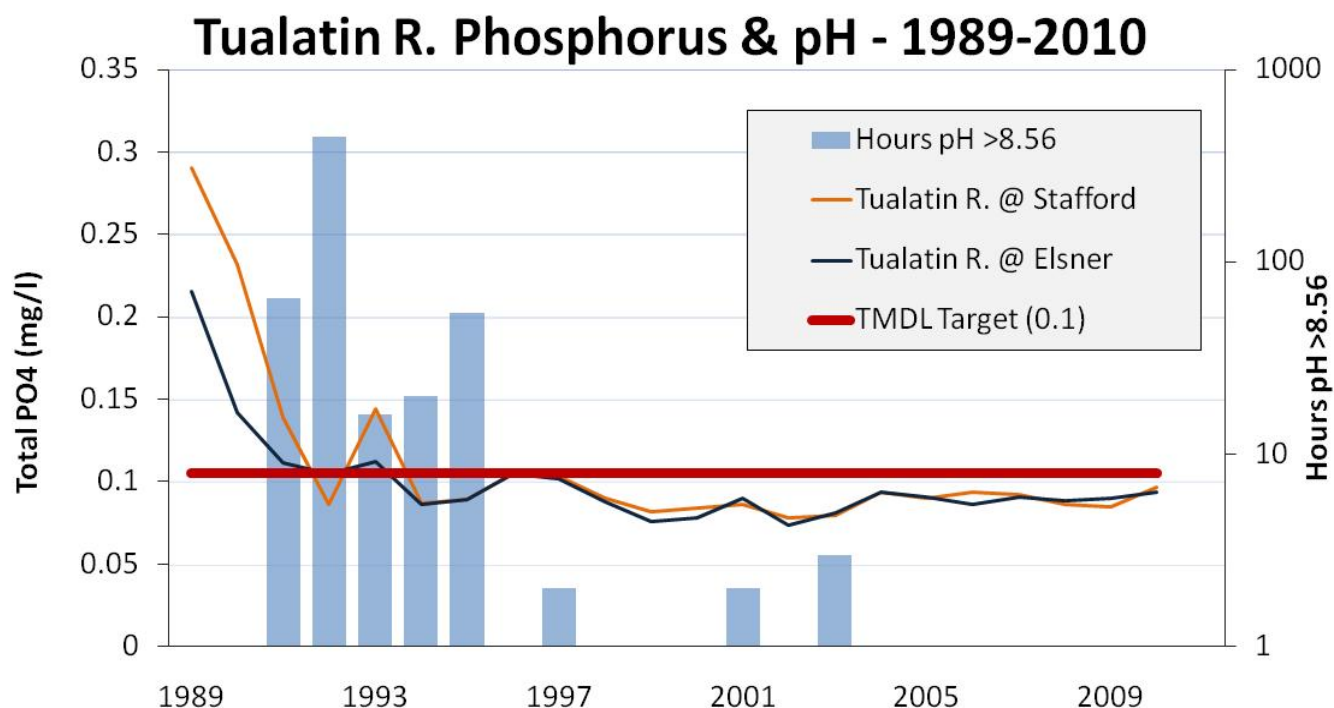


Phosphorus meets TMDL

Figure 8 shows improvements in nutrients at two sites in the lower basin; the 2001 TMDL targets are shown as the solid red line. The TMDL targets are now met at these sites. The light blue bar graph shows the number of hours of pH violations each summer season. These violations have been attributed to algae blooms that are now controlled by lower total phosphorus and higher river flows. The lack of blue bars since 2005 indicate that no violations occurred, and do not reflect a lack of data. The tremendous investment for sewage treatment, and erosion control throughout the watershed resulted in water quality improvements.

The nutrient issues in the basin have been largely addressed; now attention is turning to temperature through a trading program with Clean Water Services to boost riparian shade throughout the watershed, and to water conservation to address both temperature and dissolved oxygen in the tributaries. As in all basins, water quality challenges remain.

Figure 8. Tualatin River Phosphorus and pH Levels Decline Overtime.



Benefits

Washington County still supports a large agricultural economy, and now hosts the largest hi-tech sector in Oregon. High quality water is essential to both. Additional economic benefits to improved water quality include recreation as a business is returning to the lower river with canoe and kayak concessions providing rentals and hosting tours. With the pressure to manage costs while meeting phosphorus limits for discharge inspired Clean Water Services to develop a technique to harvest phosphorus for fertilizer from sewage waste. Now, with attention turned toward river temperature, programs to restore riparian plants have provided jobs, and boosted nursery business.

Social benefits go right along with these. After 2 decades working to improve water quality, local citizens are proud of their accomplishments. The Tualatin Soil and Water Conservation District now lists water quality among its main priorities, and are quick to point out that they completed the first Agricultural Water Quality Management Area Plan in the state. The Tualatin River Watershed Council and Clean Water Services each collaborate with many folks on restoration and educational programs.

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Riparian Tree Planting in The Tualatin River Basin.



Low Impact Development Project In The Northwest Region.



Tillamook Basin

In last year's 2009 NPS Annual Report, the Wilson River, Tillamook Bay was reported as an EPA SP-12 Success Story

<http://www.deq.state.or.us/wq/nonpoint/docs/annualrpts/rpt09.pdf> . For this 2010 annual report, the following update is provided.

Heading west to the coast, the shellfish industry in Tillamook Bay has long been subject to closure from high bacteria counts. Bacterial counts have violated the standard for recreational contact as well. Efforts to address this problem date back to the 1980's and began with an emphasis on manure management and storage. Through the 1990's the population of milk cows increased, while the bacteria problems remained largely unchanged.

Before the TMDL was developed, all lower reaches of the system violated the bacteria criteria. Partnership building and project implementation began even as the TMDL was being developed.

Tillamook Basin Milk Cows.



Benefits

The Wilson River is meeting the water quality standard for recreational contact and has decreasing trends. The Tillamook River has high bacteria levels but is improving. Holden, Bewley, and Mill sites have increasing levels of bacteria and are problem areas that need more work.

Specifically, the Oregon Department of Agriculture (ODA) is about to open 400 more acres for shellfish harvest. Directly related to the decrease in bacteria, ODA is opening additional acreage for shellfish harvest. For one company, the increased shellfish acreage could translate to increased production, and as many as six full time jobs.

Tillamook Basin Estuary.



The methane producing manure-digester is not yet profit making, but does provide cheap fertilizer while reducing bacteria. Anticipated Federal Emergency Management Agency funds for upgrades should improve its performance and make it more profitable.

While DEQ's 319 funds have been small, combined restoration grant efforts have brought four full time and 32 seasonal jobs to Tillamook County. The Tillamook Estuaries Partnership released the Tillamook Bay Water trail maps bringing more dollars to the County.

By concentrating on water quality improvement projects, DEQ has developed stronger partnerships with ODA's CAFO Program, Tillamook Soil and Water Conservation District, Watershed Councils, Tillamook County Creamery Association, City of Tillamook, and many more.

Across the Northwest Region

The three example basins (Columbia Slough, Tualatin River Basin, and the Tillamook Basin) presented have close to two decades of restoration work and monitoring. The improvements in water quality are stepping-stones on the path to water quality improvement all the time across the region.

Benefits

The DEQ Northwest Region work has provided many benefits across the region, such as:

- NWR TMDLs were completed for all 7 NWR basins by 2008.
- DEQ has approved 94% most of the TMDL Implementation plans.
- Addressing complaints allows DEQ to respond directly to the public, and in a few cases, we have strengthened partnerships with other agencies by combining authorities to resolve some larger, complex issues.

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- DEQ provides technical assistance wherever we can; for monitoring programs, encouraging coordination for TMDL Implementation, and providing input with all kinds of pre-project planning processes.
- Nurture Relationships.
- Partners have restored half of impaired riparian zones in the North Coast and 30-plus miles in the Tualatin. PGE has committed to 30 miles along the lower Clackamas.
- Innovative Solutions have been developed such as the Temperature Trading Program in the nation, modifying water release at the Bull Run reservoirs, or moving the City of Portland's stormwater program from "grey-to-green".
- Innovation also takes place at smaller scales, like moving an outfall to a wetland to reduce stream temperature or a citizen group removing impervious surface and planting gardens.
- The Citizen And Watershed Group empowerment and pride that has come out of DEQ's partnerships has set the stage for continued, and perhaps more rapid, improvements.

Storm Drain Label.



Restoration Project.



Fencing Project to Protect Wetland Area.



A Work in Progress

Water quality improvements are still a work in progress. DEQ is providing specific recommendations to Agriculture Water Quality Management Area Plans and will be providing more specific TMDL pollution reduction targets for nonpoint sources.

Limited resources can affect TMDL implementation, both at DEQ, and among its partners. DEQ continues to provide guidance on the specific issues that need to be addressed, and strive to maximize workload efficiencies by encouraging others to submit plans and reports that address more than one requirement.

We face new frontiers in water quality issues including toxics, climate change, stormwater impacts, and many more, some yet unknown to us. Riparian planting is occurring across the region; these activities were initiated to address temperature and bacteria TMDLs, but the improved conditions will help provide resiliency to the global warming effects predicted for our region. When we combine forces and do good things for the environment, we can often address more than one issue with a particular action.

One thing is clear: whatever water quality problems arise, DEQ's ability to both understand the technical aspects and to work with a myriad of partners is the keys to solving them.

Runoff Pollution.



Water Quality Improvements in DEQ's Eastern Region

Changing Agricultural Practices in the Malheur and Owyhee Watersheds

The Malheur Basin in eastern Oregon is facing significant water quality issues. DEQ ranks the Malheur River as having the second worst water quality in the state. Parameters of concern for surface water include excess sediment, nutrients, and E. Coli bacteria. Nitrate contamination of the groundwater in northern Malheur County led DEQ to declare the area a Groundwater Management Area (GWMA) in 1989. Both surface and groundwater contamination has been recognized to be primarily from agricultural practices and irrigation-return flow.

Much of the cropland in Malheur County is under flood irrigation. Flood irrigation utilizes only about half (50%) of the water that is applied to the soil surface. The remaining 50% runs off the end of fields, enriched in nutrients (phosphorus, nitrogen), bacteria, and carrying substantial sediment loads (often more than ten tons per acre of irrigated soil). This excess water makes its way through local irrigation systems and eventually discharges to the Malheur and Snake Rivers. TMDLs for these rivers show concentrations of nutrients, sediment, and bacteria that are often 5 to 10 times greater than the water quality standards established by the State of Oregon.

Agricultural Drain Water Discharging Into A Tributary Of The Malheur River.



Oregon Nonpoint Source Program 2010 Annual Report

Over 142,000 acres in Malheur County are heavily tilled. Irrigated crops grown on these acres include onions, potatoes, sugar beets, corn, dry beans, and other seed crops. Under conventional tillage practices, soils are tilled several times annually, making them susceptible to increased soil erosion from both wind and water movement, and resulting in the breakdown of soil organic matter and soil structure.

Conservation tillage practices (direct seed or no-till planting) decrease soil disturbance, and reduce sediment and nutrient losses to runoff, and erosion potential. Crops commonly planted in the Malheur and Owyhee Basins generate a large amount of plant residue that is left behind after harvest. This residue makes it impossible to plant new seeds without a lot of soil tillage. Conservation tillage practices on these types of high-residue crops are difficult to implement and require expensive, specialized equipment. Often, the initial expense required for equipment purchase is far greater than many family farms can bear and is not supported by local lending agencies.

High Crop Residue Remaining In The Field After Corn Has Been Harvested.



Oregon Nonpoint Source Program 2010 Annual Report

In 2009, the Oregon State University (OSU) Extension Office in Ontario, Oregon together with project partners including Malheur County Soil and Water Conservation District, Oregon Watershed Enhancement Board (OWEB), Ontario Natural Resources Conservation Service (NRCS), Malheur Watershed Council, Owyhee Watershed Council, and Malheur Ground Water Management Area (GWMA) stakeholders, submitted an innovative 319 NPS project proposal to DEQ's Eastern Region. The proposal was to purchase high-residue conservation tillage equipment, demonstrate strip-tillage and direct seed practices on local farms, and make the equipment available to local producers for a small rental fee.

By renting the equipment, local producers would be able to try out new tillage practices without the risks associated with equipment purchase and could work with soil and tillage experts from the Oregon State University Extension office to develop tillage strategies that were specific to their rotation schedules, soil types, and field conformations.

The initial project proposal was split into two phases and the first phase of the project was funded in 2009 (contract active October 2009). A second proposal was submitted to DEQ's Eastern Region in 2010 to fund the second phase of the work. The second project was funded in 2010 (contract active November 2010).

Conservation Tillage Equipment Purchased for Public with DEQ's 319 NPS Grant Dollars.



Oregon Nonpoint Source Program 2010 Annual Report

In late fall 2009; a high residue tillage drill was purchased with attachments specific to the needs of local crops. The drill was made available to producers in the Malheur and Owyhee Basins.

Numerous classes and training sessions on the use and application of the no-till drill have been held for local producers. As part of the project, OSU Extension agents are collecting data on soil moisture levels, erosion rates, planting costs and fuel footprints and, harvests/yields. The data are being used to document improvements in soil structure and water quality responses to changing tillage practices, to establish trends in habitat health and water quality improvement, and to inform future tillage practices and crop selection. Tours have been given of acres in conservation tillage throughout the Malheur and Owyhee Basins.

The purchase of the high-residue direct seed or no-till drill through this project has allowed local producers to deposit new seed directly after harvest, without tilling their fields. This reduces erosion potential, fertilizer needs and helps build and maintain soil structure. The no-till drill has been used to seed crops under both furrow and sprinkler irrigation, reducing water and wind caused erosion and allowing the directed delivery of a smaller amount of fertilizer that is of benefit to both surface and ground water quality.

Benefits

Although the project got a late start due to federal budget concerns, the drill was used to seed over 1,800 acres in conservation tillage in 2009 and 2010. Early results from planting have been so encouraging that many local producers that were initially reluctant to participate in the project are now on a waiting list to use the equipment and the drill equipment is in almost constant use by producers in the area. The no-till drill project is designed so that, over time, rental charges (assessed on a per acre use basis) for use of the drill will be collected to cover storage, transport and maintenance costs for the equipment, making the project self-sustaining.

Total sediment reductions estimated from spring plantings with the drill average 7,200 tons per year (14,400,000 pounds) and are expected to increase with the expanded acreages slated for conservation tillage in the coming years. These reductions are estimates based on known soil erosion rates for furrow crops grown in Malheur County. While the actual sediment reductions may be more or less than the calculated values, the overall magnitude of soil savings and potential for water quality improvements resulting from implementation of conservation tillage practices is substantial.

The project was designed so that acres put under conservation tillage using the drill were matched with nearby acres under conventional tillage practices. This allows direct comparison of harvest/yields, soil moisture, soil erosion rates, and soil structure between the different tillage practices. Preliminary data collected from the first year of planting with the drill has shown silage corn yields in conservation tillage equal to those in conventional tillage and dry bean yields in conservation tillage 7% higher than those in conventional tillage. While these results are preliminary and additional data will need

Oregon Nonpoint Source Program 2010 Annual Report

to be collected to verify long-term performance, local producers are becoming convinced of the benefits of conservation tillage.

Many of the producers participating in the project have noticed increased survival of seedlings in strip tilled fields due to the protection from wind provided by the remaining litter. Many producers have also realized a substantial cost savings from reduced labor, machinery (wear and tear), fuel and fertilizer costs. Several landowners not originally participating in the project but with fields near participants signed up to use the drill after a heavy summer storm packing hard, driving rains caused substantial damage to their conventional tillage fields and resulted in loss of soil and seed while the strip tilled and no-tilled fields nearby weathered the storm without damage.

Sugar Beets Planted with Strip Tillage Equipment into a Harvested Wheat Field (Left) and After Seedling Growth (Right).



Previously in Malheur County, conservation tillage practices were viewed with hesitation and in some cases suspicion to such a degree that no equipment dealers in the area were willing to carry drill equipment. After the first year of this project, local interest in the equipment has swelled by such a large degree that two local equipment dealers now carry drill equipment. Two local landowners have purchased their own conservation tillage equipment and several others are considering purchase. This represents a dramatic change in local opinion and a very positive outlook for sustainable agricultural practices in the area.

The conservation tillage projects in the Malheur and Owyhee Basins have resulted in substantial benefit to local water quality, and improved wildlife habitat; and have helped to promote a growing local understanding and ownership of sustainable agricultural practices despite an increasingly challenging economic environment.

Oregon Nonpoint Source Program 2010 Annual Report

Corn Planted with Strip Tillage Equipment into a Harvested Wheat Field and After Seedling Growth.



Oregon Nonpoint Source Pollution Program 2010 Annual Report

**State of Oregon
Department of Environmental Quality
Water Quality Division**

APPENDIXES

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APPENDIX 1

Progress of NPS 319 Funded Projects (Grant Performance Report)

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report)

Regions: ER = Eastern Region; NWR = Northwest Region; WR = Western Region; and SW = Statewide

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W08700	Meacham Creek. Restoration Bioassessment	2008	ER	Oregon State University	\$44,034.00	\$0.00	\$44,034.00	CLOSED	Dombrowski Tonya	30-Jan-11
W08702	Whychus Creek Restoration at Camp Polk	2008	ER	Upper Deschutes Watershed Council	\$176,300.00	\$9,340.15	\$166,959.85	OPEN	Lamb, Bonnie	30-Apr-11
W08703	Ochoco Creek Stream Enhancement, and Greenway Expansion	2008	ER	Crooked River Watershed Council	\$77,316.00	\$0.00	\$77,316.00	CLOSED	Lamb, Bonnie	30-Jun-10
W08704	Lampson Levee Setback and Channel Stability Project	2008	ER	Confederated Tribes of Umatilla Indian Reservation	\$155,000.00	\$155,000.00	\$0.00	OPEN	Dombrowski Tonya	30-Jan-11
W08705	Nestucca Neskowin Streamside Planting/Maintenance	2008	NWR	Nestucca Neskowin Watershed Council	\$60,000.00	\$0.00	\$60,000.00	CLOSED	Apple, Bruce	31-Dec-09
W08706	Agriculture and Rural Residential Planting	2008	NWR	Tillamook County Estuary Partnership	\$48,473.47	\$0.00	\$48,473.47	CLOSED	Apple, Bruce	31-Dec-09
W08707	Children Clean Water Festival 2009	2008	NWR	Tillamook County Estuary Partnership	\$5,000.00	\$0.00	\$5,000.00	CLOSED	Apple, Bruce	31-Aug-09

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W08708	Gresham NPS Reduction Program Stream Outreach/Restoration	2008	NWR	City of Gresham	\$58,350.00	\$5,840.00	\$52,510.00	OPEN	Apple, Bruce	30-Jun-10
W08709	Upper Nehalem Riparian Restoration & Basin Water Quality Monitoring	2008	NWR	Upper Nehalem Watershed Council	\$53,785.71	\$0.00	\$53,785.71	CLOSED	Apple, Bruce	31-Dec-09
W08710	Riparian & Wetland Restoration	2008	NWR	Columbia Soil and Water Conservation District	\$43,112.68	\$0.00	\$43,112.68	CLOSED	Apple, Bruce	30-Apr-10
W08711	Dry Manure Storage Initiative	2008	NWR	Clatsop Soil and Water Conservation District	\$23,660.00	\$0.00	\$23,660.00	CLOSED	Apple, Bruce	31-Dec-09
W08712	Rinearson Creek Project	2008	NWR	Willamette Riverkeeper	\$22,101.00	\$11,028.72	\$11,072.28	OPEN	Apple, Bruce	30-Jun-10
W08713	North Willamette Chemical Waste Collection	2008	NWR	Marion County Soil and Water Conservation District	\$19,469.82	\$0.00	\$19,469.82	CLOSED	Apple, Bruce	31-Dec-09
W08714	Siltcoos Lake Water Quality and Macro Data Acquisition for TMDL	2008	WR	Portland State University	\$84,983.61	\$0.00	\$84,983.61	CLOSED	Waltz, David	31-Oct-09
W08715	Pringle Creek Riparian Pilot Project	2008	WR	City of Salem	\$3,401.60	\$0.00	\$3,401.60	CLOSED	Gramlich, Nancy	30-Sep-10
W08716	Southern Willamette Valley GWMA Action Plan/Implementation	2008	WR	Lane Council of Governments	\$99,893.00	\$9,789.01	\$90,103.99	OPEN	Eldridge, Audrey	30-Nov-10

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W08717	Mid-Coast Sediment Assessment & Source Control Program	2008	WR	Siuslaw Watershed Council	\$64,412.37	\$0.00	\$64,412.37	CLOSED	Lindberg, Bobbi	31-Dec-09
W08718	Upper Willamette Water Quality Monitoring & Outreach Program	2008	WR	Middle Fork Willamette Watershed Council	\$107,791.00	\$23,622.15	\$84,168.85	OPEN	Wright, Pamela	31-Mar-11
W08719	Partnership Umpqua Rivers Water Quality Monitoring	2008	WR	Partnership for Umpqua Rivers	\$33,220.00	\$15,457.29	\$17,762.71	OPEN	Tugaw, Heather	31-Dec-10
W08720	Ten Mile Lakes Water Quality Implementation Plan Phase II	2008	WR	City of Lakeside	\$109,725.00	\$71,708.30	\$38,016.70	OPEN	Waltz, David	31-Jan-11
W08721	Bear Creek Watershed Water Quality Implementation Plan Development & TMDL Implementation	2008	WR	Rogue Valley Council of Governments	\$49,407.41	\$0.00	\$49,407.41	CLOSED	Tugaw, Heather	31-Dec-09
W08722	Strip Tillage Agreement (#036-10) for OSU Extension	2008	ER	Oregon State University	\$4,300.00	\$4,300.00	\$0.00	OPEN	Dombrowski Tonya	01-Feb-11
W09700	Water Quality and Effectiveness Monitoring in the Crooked River Watershed	2009	ER	Crooked River Watershed Council	\$80,000.00	\$71,666.10	\$8,333.90	OPEN	Dombrowski Tonya	28-Feb-12
W09701	Willow Creek Effectiveness Monitoring	2009	ER	Crooked River Watershed Council	\$50,000.00	\$50,000.00	\$0.00	OPEN	Dombrowski Tonya	21-Dec-12
W09702	Alkali Creek Water Quality Enhancement	2009	ER	Malheur Watershed Council	\$35,000.00	\$17,118.32	\$17,881.68	OPEN	Dombrowski Tonya	31-Dec-12

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W09703	Strip Tillage in Malheur & Owyhee Watersheds	2009	ER	Malheur SWCD	\$83,565.00	\$43,919.99	\$39,645.01	OPEN	Dombrowski Tonya	01-Feb-11
W09704	Owyhee River Improvement Project - Phase 2	2009	ER	Malheur Soil and Water Conservation District	\$35,000.00	\$35,000.00	\$0.00	OPEN	Dombrowski Tonya	31-Dec-12
W09705	City of Prineville Stormwater Pollution Reduction	2009	ER	City of Prineville	\$70,000.00	\$13,880.00	\$56,120.00	OPEN	Dombrowski Tonya	31-Jul-11
W09706	Lower Umatilla Basin GWMA Action Plan Effectiveness Monitoring & Outreach	2009	ER	Umatilla County Soil and Water Conservation District	\$38,000.00	\$21,791.03	\$16,208.97	OPEN	Richerson, Phil	30-Apr-11
W09707	Apple Sunburn Prevention Using Organic Bio Film	2009	ER	Oregon State University	\$93,435.00	\$64,880.10	\$28,554.90	OPEN	Dombrowski Tonya	31-Jul-11
W09708	Clackamas Planting Outreach Project	2009	NWR	Clackamas River Basin Council	\$59,378.00	\$32,035.60	\$27,342.40	OPEN	Apple, Bruce	31-Dec-11
W09709	2009-10 Nestucca Neskowin Watershed Council Streamside Planting & Maintenance	2009	NWR	Nestucca Neskowin Watershed Council	\$60,000.00	\$14,499.15	\$45,500.85	OPEN	Apple, Bruce	31-Mar-11
W09710	North Coast Watersheds Enhancement Project	2009	NWR	Columbia River Estuary Study Taskforce	\$40,000.00	\$40,000.00	\$0.00	OPEN	Apple, Bruce	31-Aug-11
W09711	Pilot Scale Stormwater Master Planning w/Ecosystem Approach	2009	NWR	City of Damascus	\$40,000.00	\$5,800.00	\$34,200.00	OPEN	Apple, Bruce	28-Feb-11

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W09712	Upper Nehalem Riparian Restoration & Basin Water Quality Monitoring	2009	NWR	Upper Nehalem Watershed Council	\$84,652.00	\$10,496.97	\$74,155.03	OPEN	Apple, Bruce	31-Dec-10
W09713	Circle Creek Enhancement Project Phase III	2009	NWR	North Coast Land Conservancy	\$30,495.00	\$18,188.76	\$12,306.24	OPEN	Apple, Bruce	31-Dec-10
W09714	Scappoose Creek Riparian Restoration	2009	NWR	Scappoose Bay Watershed Council	\$30,000.00	\$25,650.33	\$4,349.67	OPEN	Apple, Bruce	30-Apr-11
W09715	2010 Tillamook County Children Clean Water Festival	2009	NWR	Tillamook County Estuary Partnership	\$5,000.00	\$0.00	\$5,000.00	CLOSED	Apple, Bruce	31-Dec-10
W09716	Back Yard Program Planting Year 7	2009	NWR	Tillamook County Estuary Partnership	\$60,000.00	\$12,469.94	\$47,530.06	OPEN	Apple, Bruce	31-Mar-11
W09717	Tillamook SWCD 2007 Stream Enhance & Restoration	2009	NWR	Tillamook County Soil and Water Conservation District	\$40,000.00	\$40,000.00	\$0.00	OPEN	Apple, Bruce	30-Jun-11
W09718	Devil's Lake and D River Water Quality Assessment	2009	WR	Devils Lake Water Improvement District	\$15,000.00	\$7,105.21	\$7,894.79	OPEN	Waltz, David	31-Mar-11
W09719	Coquille North Fork Drinking Water Source Protection	2009	WR	Coquille Watershed Association	\$15,246.00	\$11,364.69	\$3,881.31	OPEN	Fern, Jackie	31-Mar-11
W09720	Targeted Water Quality Outreach to Isthmus & Coalbank Sloughs	2009	WR	Coos Watershed Association	\$20,608.00	\$7,814.33	\$12,793.67	OPEN	Waltz, David	30-Apr-11

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURE RES	BALANCE	STATUS	PROJECT MGR	END DATE
W09721	Low Impact Development Workshops & Technical Assistance Year 2	2009	WR	Oregon Environmental Council	\$17,500.00	\$6,665.83	\$10,834.17	OPEN	Waltz, David	15-Dec-10
W09722	Sucker/Kelly Creeks Communication Education Outreach	2009	WR	Forestry Action Committee	\$5,000.00	\$4,008.45	\$991.55	OPEN	Tugaw, Heather	31-Dec-11
W09723	Coordinated Rogue Basin Water Quality Implementation Plan Development	2009	WR	Rogue Valley Council of Governments	\$45,769.00	\$14,337.99	\$31,431.01	OPEN	Tugaw, Heather	31-Dec-11
W09724	Little Butte Creek Water Quality Enhancement Project	2009	WR	Jackson County Soil and Water Conservation District	\$20,000.00	\$20,000.00	\$0.00	OPEN	Tugaw, Heather	30-Jun-11
W09725	Santiam-Calapooia Landowner Recruitment & Restoration	2009	WR	South Santiam Watershed Council	\$79,868.00	\$50,672.69	\$29,195.31	OPEN	Gramlich, Nancy	30-Sep-11
W09726	School Restoration Program: Restoration, Design, and Stormwater Management	2009	WR	Camas Education Network	\$20,000.00	\$12,636.25	\$7,363.75	OPEN	Bayham, Chris	30-Jun-11
W09727	Implementation Monitoring of Umpqua Basin, Diamond Lake TMDL	2009	WR	Partnership for Umpqua Rivers	\$35,500.00	\$16,522.00	\$18,978.00	OPEN	Tugaw, Heather	31-Dec-11

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W09728	Partnership Umpqua Rivers Water Quality Monitoring & Thermal Refugia Inventory	2009	WR	Partnership for Umpqua Rivers	\$32,425.00	\$17,437.49	\$14,987.51	OPEN	Tugaw, Heather	30-Sep-11
W09729	Groundwater Protection Education to Promote Citizen Involvement	2009	WR	Oregon State University	\$67,985.00	\$44,938.03	\$23,046.97	OPEN	Eldridge, Audrey	30-Jun-11
W09730	Mid Coast Basin NPS Implementation Initiative	2009	WR	Lincoln Soil and Water Conservation District	\$75,581.00	\$0.00	\$75,581.00	CLOSED	Lindberg, Bobbi	30-Sep-10
W09731	Streambank - Willamette Basin Riparian Restoration	2009	SW	Freshwater Trust	\$60,000.00	\$8,500.00	\$51,500.00	OPEN	Michie, Ryan	30-Sep-12
W09732	Pesticide Stewardship Partnership	2009	SW	Wasco County Soil and Water Conservation District and DEQ Laboratory	\$233,700.00	\$58,415.12	\$175,284.88	OPEN	Kishida, Koto	30-Jun-11
W09733	KOIN Channel 6 TV Water Quality Campaign	2009	SW	KOIN Channel 6 TV	\$8,334.00	\$0.00	\$8,334.00	CLOSED	Danab, Marcia	?
W10701	Oregon P3 List into Prominent Product Ranking Tool	2010	SW	Association of Clean Water Agencies, Oregon	\$11,057.00	\$11,057.00	\$0.00	OPEN	Camacho, Ivan	31-May-11

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W10702	Oregon Department of Forestry RipStream Vegetation Survey	2010	SW	Oregon Department of Forestry	\$83,000.00	\$83,000.00	\$0.00	OPEN	Seeds, Joshua	31-Jul-11
W10703	Strip Tillage in Malheur & Owyhee Watersheds -2	2010	ER	Oregon State University	\$85,730.00	\$85,730.00	\$0.00	OPEN	Dombrowski Tonya	30-Jun-13
W10704	Central Oregon Low Impact Development Education Project	2010	ER	Oregon Environmental Council	\$25,000.00	\$25,000.00	\$0.00	OPEN	Dombrowski Tonya	30-Jun-12
W10705	Warm Springs Identification Return Flow and Land Use Evaluation	2010	ER	No Contract Yet Confederated Tribes of Umatilla Indian Reservation	\$60,000.00	\$0.00	\$60,000.00	OPEN	Dombrowski Tonya	TBD
W10706	Milton-Freewater Levee Setback Assessment	2010	ER	Walla Walla Basin Watershed Council	\$106,000.00	\$0.00	\$106,000.00	OPEN	Dombrowski Tonya	30-Jun-12
W10707	Apple Sunburn Prevention	2010	ER	No Contract Yet Oregon State University	\$80,000.00	\$0.00	\$80,000.00	OPEN	Dombrowski Tonya	TBD
W10708	Powder River Restoration - Kirkway Reach	2010	ER	No Contract Yet Powder River Watershed Council	\$23,400.00	\$0.00	\$23,400.00	OPEN	Dombrowski Tonya	TBD
W10709	Streamside Planting & Maintenance	2010	NWR	Nestucca Neskowin Watershed Council	\$40,000.00	\$40,000.00	\$0.00	OPEN	Apple, Bruce	31-Dec-11

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W10710	Targeted Water Quality Outreach to Coos Bay 2010	2010	WR	Coos Watershed Association	\$29,856.00	\$29,856.00	\$0.00	OPEN	Blake, Pamela	30-Jun-12
W10711	5000 Acres Initiative	2010	NWR	No Contract Yet City of Clackamas	\$51,914.00	\$0.00	\$51,914.00	OPEN	Drake, Doug	TBD
W10712	Riparian Restoration & Monitoring - Upper Nehalem	2010	NWR	Upper Nehalem Watershed Council	\$42,841.00	\$42,841.00	\$0.00	OPEN	Apple, Bruce	31-Dec-11
W10713	DEPAVE Summer 2010	2010	NWR	City Repair, Portland Nonprofit Organization	\$9,245.00	\$9,245.00	\$0.00	OPEN	Drake, Doug	31-Aug-11
W10714	Blue Lake Aquatic Macrophytes Reduction	2010	NWR	Blue Lake Improvement Association Incorporated	\$17,600.00	\$12,259.00	\$5,341.00	OPEN	Williams, Karen	31-Dec-12
W10715	Children Clean Water Festival	2010	NWR	Tillamook County Estuary Partnership	\$6,250.00	\$6,250.00	\$0.00	OPEN	Apple, Bruce	31-Dec-11
W10716	Riparian Restoration & Maintenance	2010	NWR	Tillamook County Estuary Partnership	\$40,000.00	\$40,000.00	\$0.00	OPEN	Apple, Bruce	31-Dec-11
W10717	Riparian Restoration	2010	NWR	Tillamook County Soil and Water Conservation District	\$44,045.00	\$44,045.00	\$0.00	OPEN	Apple, Bruce	31-Dec-11
W10718	Sauvie Island Pesticide Collection Event	2010	NWR	No Contract Yet TBD	\$11,720.00	\$0.00	\$11,720.00	OPEN	Newell, Avis	TBD

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W10719	Regional BMP Sizing Tool Development	2010	NWR	No Contract Yet METRO	\$51,385.00	\$0.00	\$51,385.00	OPEN	Drake, Doug	TBD
W10720	Ten Mile Lakes TMDL Implementation	2010	WR	No Contract Yet Ten Mile Lake Watershed Council	\$25,000.00	\$0.00	\$25,000.00	OPEN	Blake, Pamela	TBD
W10721	Low Impact Development Academy	2010	WR	No Contract Yet City of Clackamas	\$66,100.00	\$0.00	\$66,100.00	OPEN	Wright, Pamela	TBD
W10722	Sucker Creek Channel and Floodplain Restoration - II	2010	WR	Illinois Valley Soil and Water Conservation District	\$20,000.00	\$2,020.00	\$17,980.00	OPEN	Tugaw, Heather	30-Jun-11
W10723	Pesticide Roundup Events	2010	SW	No Contract Yet Oregon State University	\$44,000.00	\$0.00	\$44,000.00	OPEN	Harvey, Julie	TBD
W10724	Southern Willamette Valley Groundwater Management Area Action Plan Implementation	2010	WR	Lane Council of Governments	\$72,480.00	\$72,480.00	\$0.00	OPEN	Eldridge, Audrey	31-May-12
W10725	Streamside Gardening: Innovative Approach	2010	WR	Oregon State University	\$21,555.00	\$21,555.00	\$0.00	OPEN	Tugaw, Heather	30-Jun-12
W10726	Medford Bacteria Source Roundup	2010	WR	No Contract Yet City of Medford	\$7,320.00	\$0.00	\$7,320.00	OPEN	Tugaw, Heather	TBD

Table 13. Progress of NPS 319 Funded Projects (Grant Performance Report) (Cont.)

PROGRESS OF NPS 319 FUNDED PROJECTS (GRANT PERFORMANCE REPORT)										
PROJECT NO.	PROJECT TITLE	YEAR	REGION	CONTRACT WITH	PROJECT BUDGET	EXPENDITURES	BALANCE	STATUS	PROJECT MGR	END DATE
W10727	Implementation Monitoring of Umpqua Basin, Diamond Lake TMDL	2010	WR	Partnership for Umpqua Rivers	\$15,000.00	\$15,000.00	\$0.00	OPEN	Tugaw, Heather	30-Nov-12
W10728	Diamond Lake Modeling Project 2010-11	2010	WR	Partnership for Umpqua Rivers	\$41,184.00	\$41,184.00	\$0.00	OPEN	Waltz, David	31-Dec-11
W10730	Mid-Coast Basin NPS Implementation Initiative, Year 2	2010	WR	Lincoln Soil and Water Conservation District	\$72,480.00	\$72,480.00	\$0.00	OPEN	Lindberg, Bobbi	30-Apr-12
W10731	StreamBank: Willamette Upper and South Santiam Watershed Council	2010	SW	No Contract Yet Freshwater Trust	\$60,000.00	\$0.00	\$60,000.00	OPEN	Michie, Ryan	TBD
W10732	Pesticide Stewardship Program	2010	SW	DEQ Laboratory	\$117,247.00	\$112,453.39	\$4,793.61	OPEN	Masterson, Kevin	TBD

APPENDIX 2

DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010

Note: The identification of priority basins (as listed below) does not exclude the submission of proposals for work outside these basins. Exceptional project proposals for stream restoration, effectiveness monitoring, and pollutant reduction in non-priority basins will be considered.

EASTERN REGION PROJECT PRIORITIES: <u>TMDLS/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS/ 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
EASTERN REGION Stormwater	Region Wide		Bacteria, Nutrients, Metals, Turbidity, Sediment	Targeted projects include water quality improvement specific to stormwater impacts including local planning, stakeholder and homeowner education, and information program development, feasibility studies and similar efforts.
Grande Ronde Basin Channel and Riparian Restoration Effectiveness Monitoring	Basin Wide (Upper Grande Ronde, Lower Grande Ronde, Imnaha, and Wallowa)	Upper Grande Ronde TMDL approved by EPA (May 2000) Lower Grande Ronde, Imnaha, and Wallowa TMDLs (in progress)	Temperature, Nutrients, pH, Dissolved Oxygen	Targeted restoration projects include stream restoration activity in the area of on-going multi-year, multi-agency project work. Basin-wide targeted restoration project elements include restoring morphologic function (increased sinuosity, decreased width/depth ratios, and floodplain reconnection), revegetation of riparian area, and increased instream flow. Targeted effectiveness monitoring projects include development and implementation of monitoring protocols to characterize the effectiveness of implementation projects and project types/elements specific to improving water quality and habitat in the basin. Proposed project(s) are expected to include an extensive portion of the stream channel over time rather than isolated small-length segments. Projects correlated with and/or adjacent to other restoration work will be given priority.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>TMDLS/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS/ 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
John Day Basin Channel and Riparian Restoration Effectiveness Monitoring	Lower John Day, Middle Fork John Day, North Fork John Day, Upper John Day	TMDL in progress	Temperature, Bacteria, Biological Criteria, Dissolved Oxygen, and Sediment	<p>On the Middle Fork John Day River, targeted restoration projects include stream restoration activities in the area of on-going multi-year, multi-agency project work. On the North Fork and Upper John Day River, targeted restoration projects include those activities addressing bacteria, sediment, and low dissolved oxygen. Basin-wide targeted restoration project elements include restoring morphologic function (increased sinuosity, decreased width/depth ratios, and floodplain reconnection), revegetation of riparian area, and increased instream flow.</p> <p>Targeted effectiveness monitoring projects include development and implementation of monitoring protocols to characterize the effectiveness of implementation projects and project types/elements specific to improving water quality and habitat in the basin.</p> <p>Proposed project(s) are expected to include an extensive portion of the stream channel over time rather than isolated small-length segments. Projects correlated with and/or adjacent to other restoration work will be given priority.</p>

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>TMDLS/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS/ 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Mid-Columbia – Hood Subbasin Channel and Riparian Restoration Effectiveness Monitoring	Western Hood Subbasin, and Miles Creeks Subbasin	Western Hood TMDL approved by EPA (Jan 2002) Miles Creeks TMDL approved by EPA (Feb 2009)	Temperature Sediment Bacteria Pesticides	<p>Targeted projects include activities addressing temperature, sediment, bacteria, and pesticides.</p> <p>Targeted restoration projects include stream restoration activity in the area of on-going multi-year, multi-agency project work. Targeted restoration project elements include restoring morphologic function (increased sinuosity, decreased width/depth ratios, and floodplain reconnection), revegetation of riparian area, and increased instream flow.</p> <p>Targeted effectiveness monitoring projects include development and implementation of monitoring protocols to characterize the effectiveness of implementation projects and project types/elements specific to improving water quality and habitat in the basin.</p> <p>Proposed project(s) are expected to include an extensive portion of the stream channel over time rather than isolated small-length segments. Projects correlated with and/or adjacent to other restoration work will be given priority.</p>
Mid-Columbia – Hood Subbasin Pesticide Stewardship Activities	Western Hood Subbasin, Miles Creeks Subbasin	Western Hood TMDL approved by EPA (Jan 2002) Miles Creeks TMDL approved by EPA (Feb 2009)	Pesticides	<p>Targeted projects include the design and implementation of programs to reduce pesticide transport to surface and ground waters and related impacts to water quality and increase public awareness of improved pesticide use and application practices. Targeted project elements include development of methodologies to monitor and track trends associated with changes in application practices and development of a public education program to increase public awareness of water quality concerns and their role in the solution of identified problems, designing and implementing tools for outreach specific to reduction of pesticides in surface and ground waters, and analysis of outreach success.</p> <p>Projects correlated with and/or adjacent to other implementation work will be given priority.</p>

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>TMDLS/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS/ 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Malheur River Basin Pollutant Source Characterization	Lower Malheur Subbasin	TMDL in progress	Temperature Dissolved Oxygen Bacteria Pesticides Nutrients	Targeted projects include development and implementation of monitoring programs specific to source characterization of elevated water temperatures, nutrients, bacteria, pesticide concentrations, depressed dissolved oxygen in local surface and groundwater, and agricultural drains in support of targeting and refining TMDL implementation efforts and changes in management practices. Proposed project(s) are expected to include an extensive portion of the stream channel over time rather than isolated small-length segments. Projects correlated with and/or adjacent to other restoration work will be given priority.
Malheur River Basin Nutrient Reduction	Lower Malheur River, Willow Creek, and Bully Creek Subbasins	TMDL in progress	Temperature Dissolved Oxygen Bacteria Pesticides Nutrients	Targeted projects include research, design, and implementation activities that will reduce nutrient loading to the Lower Malheur River, its tributaries and groundwater in the Northern Malheur County Groundwater Management Area. Projects correlated with and/or adjacent to other restoration work will be given priority.
Malheur River Basin Agricultural Implementation	Upper Malheur River Subbasin, Warm Springs Reservoir, Bully Creek	TMDL in progress	Temperature Dissolved Oxygen Bacteria Pesticides Nutrients	Targeted projects include riparian area restoration activities in the Malheur River Basin. Targeted project elements include revegetation, fencing, grazing management, irrigation management, and effectiveness monitoring to characterize watershed response to implementation projects. Proposed project(s) are expected to include an extensive portion of the stream channel over time rather than isolated small-length segments. Projects correlated with and/or adjacent to other restoration work will be given priority.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>TMDLS/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS/ 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Malheur River Basin Changes in Agricultural Tillage Practices	Lower Malheur Subbasin	TMDL in progress	Pesticides Nutrients	<p>Targeted projects include the design and implementation of programs to reduce tillage related impacts to water quality and increase public awareness of improved tillage practices. Targeted project elements include identification of mechanisms to provide ready local access to conservation tillage equipment for multiple producers/landowners, development of a public education program to increase public awareness of water quality concerns and their role in the solution of identified problems, designing and implementing tools for outreach specific to conservation tillage, and analysis of outreach success.</p> <p>Proposed project(s) are expected to include substantial cropped acreage rather than small isolated sections. Projects correlated with and/or adjacent to other implementation work will be given priority.</p>
Walla Walla River, Mid Columbia Basin Milton-Freewater Levee Assessment and Potential Restructure	Walla Walla River	TMDL approved by EPA (Sept 2005)	Temperature	<p>Targeted projects include the design and implementation of levee setbacks or restructure to allow increased sinuosity and floodplain reconnection while not contributing to downstream flooding risks. Targeted projects also include design and implementation of a community education program specific to the benefits and concerns associated with a levee setback. Projects should be designed to increase public awareness of water quality, fishery habitat, and aesthetic improvements related to levee restructure. The Milton-Freewater Levee has been identified as a primary contributor to temperature increases in the river system. Feasibility, design, implementation, and public information projects should be constructed with the goal of allowing water-quality issues to help guide the identification of future levee construction/repair options.</p>

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>TMDLS/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS/ 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Walla Walla River, Mid Columbia Basin Upstream Levee Set back / Removal Assistance Opportunities	Walla Walla River	TMDL approved by EPA (Sept 2005)	Temperature	<p>Targeted projects include the design and implementation of levee setbacks or removal on stream segments upstream of the Milton-Freewater levee to allow the river to reconnect with the historic floodplain while not contributing to downstream flooding risks. These projects should be designed to increase public awareness of water quality, fishery habitat, and aesthetic improvements related to levee restructure.</p> <p>Projects correlated with and/or adjacent to other implementation work will be given priority.</p>
Walla Walla River, Mid Columbia Basin Pesticide Stewardship Activities	Walla Walla River	TMDL approved by EPA (Sept 2005)	Pesticides	<p>Targeted projects include the design and implementation of programs to reduce pesticide transport to surface and ground waters and related impacts to water quality and increase public awareness of improved pesticide use and application practices. Targeted project elements include development of methodologies to monitor and track trends associated with changes in application practices and development of a public education program to increase public awareness of water quality concerns and their role in the solution of identified problems, designing and implementing tools for outreach specific to reduction of pesticides in surface and ground waters and analysis of outreach success.</p> <p>Projects correlated with and/or adjacent to other implementation work will be given priority.</p>

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>GROUNDWATER MANAGEMENT AREAS (GWMAS)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: GWMA	WATER QUALITY PROBLEM	PROJECT NEED
Lower Umatilla Basin Groundwater Management Area (LUB-GWMA) Action Plan	Umatilla Subbasin Middle Columbia Basin	Lower Umatilla Basin GWMA Established in 1990	Nitrate-Nitrogen	<p>Targeted projects include those specific to reduction of nitrogen concentrations in groundwater including:</p> <ul style="list-style-type: none"> • Research and development of activities or products that will reduce nitrate loading to groundwater. Targeted projects should address one of the five potential nitrate sources identified in the GWMA. • Revise fertilizer guides and recommended BMPs. Revised guidelines should describe the deficiencies of the current documentation and the number of acres that will be affected by the revisions; as well as evaluate the environmental aspects of the revisions. • Document BMP implementation on the GWMA scale in a system that allows spatial analysis (e.g., GIS). Develop and implement a program to track BMP implementation (temporally and spatially) to facilitate quantification and documentation of projects and allow analysis of and linkage to monitoring well water quality relative to BMP implementation. • Perform field scale BMP performance evaluations. Identify appropriate locations and mechanisms to perform evaluations of BMPs (both existing and experimental) at the field scale. Proposed project plans should have very well developed monitoring plans capable of documenting BMP performance. • Evaluation of the Mineralization N Test. Comparison of the mineralization N test to other commonly used analyses to allow more accurate budgeting of nitrogen in the GWMA. • Develop and implement groundwater workshop for growers and certified crop advisors. Develop and sponsor workshops specific to groundwater protection. Ensure that the content is consistent with the intent of the action plans and with groundwater protection goals of DEQ and ODA. • Develop outreach material/strategy for small acreage growers and/or lawn and garden care – Develop targeted outreach and education programs to educate and reduce loading from small acreage growers and homeowners within the GWMA.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

EASTERN REGION PROJECT PRIORITIES: <u>GROUNDWATER MANAGEMENT AREAS (GWMA)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: GWMA	WATER QUALITY PROBLEM	PROJECT NEED
Northern Malheur County Ground Water Management Area (NMC- GWMA) Nitrate Reduction	Lower Malheur River Subbasin	Northern Malheur County GWMA Established in 1989	Nitrate- Nitrogen	Targeted projects include: <ul style="list-style-type: none"> Research and development of activities or products that will reduce nitrate loading to groundwater. Targeted projects should address a potential nitrate source identified in the GWMA. Document BMP implementation on the GWMA scale in a system that allows spatial analysis (e.g., GIS). Develop and implement a program to track BMP implementation (temporally and spatially) to facilitate quantification and documentation of projects and allow analysis of and linkage to monitoring well water quality relative to BMP implementation.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Coos Subbasin (4th field HUC)	Tenmile Lakes Basin (5th field HUC)	TMDL Implementation	<p>Sediment and Nutrient Delivery from Land Management Activities in the Watershed.</p> <p>Nuisance and Harmful Algae Blooms and Cyanotoxins Exceeding Human Health Guidelines</p>	<p>Evaluation and interpretation of data acquired post-TMDL (e.g., cyanobacteria/algae monitoring data) to derive information and develop technical reports; explore relationships among pollutant loading, water quality, lake and environmental conditions. Determine if data adequately address data needs identified in the TMDL and WQMP, and identify data gaps and data needs.</p> <p>Data management: format and submit data for upload into LASAR. Establish/maintain an effective, accessible system for managing water quality and environmental data that is not currently categorized in the LASAR database (e.g., cyanobacteria/algae monitoring data).</p> <p>Monitoring water quality parameters to address remaining data gaps identified in the TMDL and WQMP.</p> <p>Engage in partnerships to implement high priority projects identified in Designated Management Agencies' Implementation Plans.</p>
Coos Subbasin (4th field HUC)	Coos Estuary – Isthmus and Coalbank Sloughs	<p>303(d) Listed Segments</p> <p>TMDLs are Currently Pending Development</p>	Land Development And Management Practices Resulting In Increased Pollutant Delivery and Modified Hydrology	<p>Outreach and Education on pollution prevention (P2) measures to landowners, developers, and light industrial entities present on Isthmus Slough. Identification of specific areas for implementation of stormwater best management practices and/or Low Impact Development (LID) Demonstration projects.</p> <p>LID projects will be implemented that reduce pollutant loading and interrupt accelerated pollutant delivery, including those resulting from stream channel modifications.</p> <p>Partnerships involving local jurisdictions (Cities of Coos Bay and North Bend) to better define pollutant loading into urban streams and into Coos Bay from stormwater runoff and conveyance systems (Pony Creek, Blossom Creek, and Coalbank Slough).</p>

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Coos Subbasin (4th field HUC)	Coos Estuary	303(d) Listed Segments TMDLs are Currently Pending Development	Elevated Bacteria - Recreational Contact And Shellfish Growing Waters Standards Exceedance	Source assessment and “hotspot” identification to identify high priority projects with measurable bacterial reduction targets and that have demonstration potential.
Mid Coast Basin TMDL Implementation and Effectiveness Monitoring	Siletz- Yaquina, Alsea, Siuslaw and Siltcoos Subbasins	In Development; To Be Completed In 2010	Bacteria Temperature Dissolved Oxygen Sedimentation	Funds for the Mid Coast Basin have already been allocated to a two-year project that began last year; however, smaller projects that fill gaps in effectiveness monitoring will be considered for this year.
Diamond Lake/Lemolo Reservoir / North Umpqua River	Diamond Lake Lake Creek Lemolo Reservoir North Umpqua River	TMDLs Adopted	Aquatic Weeds Algae pH	Continued monitoring of lake water quality and biology trends tracking restoration efforts and lake health. Includes impacts to downstream waters.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Umpqua Basin Umpqua and South Umpqua Rivers	Streams Providing and Having Potential to Provide Temperature Refugia For Main Stems Only	TMDLs Adopted	Elevated Water Temperature	Improving and protecting riparian condition and riparian planting enhancement and/or restoration. Structures enhancing hyporheic flow. Needs includes identification of such areas of refugia and potential areas.
Umpqua Basin	Streams Lacking System Potential Vegetation	TMDLs Adopted	Elevated Water Temperature	Improving and protecting riparian conditions and riparian planting enhancement and/or restoration. Including structures enhancing hyporheic flow.
Umpqua Basin	Watersheds with Specific Load Reduction Needs as Noted in TMDLs	TMDLs Adopted	Elevated Bacteria and Nutrients	Improving and protecting riparian conditions and riparian planting enhancement and/or restoration, livestock fencing, and off-channel watering, and "other" source reduction implementation BMPs (Rural Residential, Urban, Cities, etc.)

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Umpqua Basin	Streams with Elevated Levels Above Background	TMDLs Adopted	Bacteria and Nutrients	Additional monitoring to further identify existing elevated levels of NPS loading. Also includes pre and post monitoring documenting effectiveness of project implementation measures.
Umpqua Basin	Water Quality Plan Development and Implementation	TMDLs Adopted	All Parameters	Assistance to Designated Management Agencies (predominantly Cities and Douglas County) for WQMP development and implementation. Refinement of Action Plans to Water Quality Implement Plan.
Umpqua Basin	Areas of Need (such as Sutherlin Stormwater Impacts to Sutherlin and Cook Creeks Reducing Toxics)	303(d) Listed Waters	Accelerated pollutant delivery	Stormwater management planning and implementation assistance for local jurisdictions not required to develop stormwater plans (i.e., Urbanized Area not meeting designation for MS4 permit).
Umpqua Basin Diamond Lake Priority Area	All waters		Invasive Species	Outreach and Education Development of materials and programs to provide educational opportunities and awareness noting water quality beneficial use impairment possible from invasive species introductions.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Willamette River Basin (Outside Portland Metro) Subbasins: Middle Willamette (River Mile 50-108) North Santiam Upper Willamette Subbasin (River Mile 108-187)	Gibson Gulch and Labish Ditch Amazon Creek Long Tom River Lukiamute River Tributaries Beaver, Boulder Pierce, Mackey, and Morgan Creeks Tributaries to North Santiam Mission and Champoeg Creeks /Middle Willamette Tributaries	TMDLs Adopted and 303 (d) Listings	Arsenic Bacteria Dissolved Oxygen Mercury Pesticides Temperature Turbidity	Temperature reduction proposals addressing water quality conditions in both urban and rural settings. Outreach for and implementation of collaborative riparian restoration projects in both urban and rural settings to address temperature and/or erosion of sediment on TMDL streams and tributaries and projects identified in TMDL Implementation Plans. Stormwater planning and implementation of stormwater runoff control strategy or management practice to address erosion of sediments laden with parameters such as, bacteria, metals, and pesticides (ex., retrofit surveys, and project list; retrofit project; LID urban projects; and conveyance mapping). Specific toxic/parameter reduction projects and/or special partner projects.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Willamette River Basin (Outside Portland Metro) Subbasins: Middle Willamette River (River Mile 50-108) South Santiam River	Rickreall Creek and Tributaries South Santiam River Tributaries/ Hamilton, Ames, and Noble Creek Tributaries	TMDLs Adopted and 303 (d) Listings	Bacteria Dissolved Oxygen Iron Mercury Nitrates Pesticides Temperature	Stormwater planning and implementation of stormwater runoff control strategy or management practice to address erosion of sediments laden with parameters such as, bacteria, metals, and pesticides (ex., retrofit surveys, and project list; retrofit project; LID urban projects; and conveyance mapping). Special partner projects for the implementation of educational measures addressing illicit discharge for the protection of water quality in urban areas.
Willamette River Basin (Outside Portland Metro) Subbasins: Coast Fork McKenzie Middle Fork	Mohawk River Tributaries Little Fall Creek and Tributaries Coast Fork Tributaries	TMDLs Adopted and 303(d) Listings	Bacteria Dissolved Oxygen Mercury Pesticides Temperature	Stormwater planning and implementation of stormwater runoff control strategy or management measure to address erosion of sediments laden with parameters such as, bacteria, metals, and pesticides (ex., retrofit surveys, and project list; retrofit project; LID urban projects; and conveyance mapping). Outreach for and implementation of collaborative riparian restoration projects in urban and/or rural settings to address temperature and/or erosion of sediment on TMDL streams and tributaries and projects identified in TMDL Implementation Plans.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Willamette River Basin (Outside Portland Metro) Subbasins Pudding River Yamhill River	Pudding River and Tributaries (e.g., Brush, Mill, Little Pudding, Senecal, Zollner and Silver Creeks; Labish and Walker Ditch) Yamhill River and Tributaries	TMDLs Adopted, TMDLs Under Development and 303(d) Listings	Bacteria Dissolved Oxygen Iron Mercury Nitrates Temperature Legacy and Current Use Pesticides	Temperature reduction proposals addressing water quality conditions in both urban and rural settings (e.g., temperature trading plan). Specific toxic/parameter reduction or bacteria reduction projects and/or special partner projects (e.g., pesticide collection events, legacy pesticide hotspot monitoring, education/outreach to rural and agricultural landowners in areas of reduced pesticides, manure management, and fertilizer management). Development of riparian or stormwater control ordinances for small sized communities. Stormwater planning and implementation of stormwater runoff control strategy or management measure (ex., retrofit project; LID urban project, and conveyance mapping). Outreach for and implementation of collaborative riparian restoration projects in urban and/or rural settings to address temperature and/or erosion of sediment on TMDL streams and tributaries and projects identified in TMDL Implementation Plans.
Rogue Basin	Upper Rogue HUC 17100307 Middle Rogue HUC 17100308 Lower Rogue HUC 17100310 Illinois HUC 17100311	TMDLs Adopted	Temperature Bacteria	Implementation of efforts identified in Water Quality Implementation Plans or Water Quality Management Plans (WQMP). Potentially including: <ul style="list-style-type: none"> • Development of riparian ordinance, • Stormwater management for non-phase ii communities, • Low impact development projects, • Improvement of riparian shade and function, • Control livestock access to streams, • Irrigation improvement projects, and • Science-based projects to restore floodplain connectivity and natural wood recruitment.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Rogue Basin	Applegate HUC 17100309	TMDLs Adopted	Temperature Sedimentation	Implementation of efforts identified in Water Quality Implementation Plans or Water Quality Management Plans (WQMP). Potentially including: <ul style="list-style-type: none"> • Improvement of riparian shade and function, • Control sediment sources, • Control livestock access to stream, and • Science-based projects to restore floodplain connectivity and natural wood recruitment.
Rogue Basin	Lobster Creek HUC 1710031007 Sucker Creek HUC 1710031103	TMDLs Adopted	Temperature	Implementation of efforts identified in Water Quality Implementation Plans or Water Quality Management Plans (WQMP). Potentially including: <ul style="list-style-type: none"> • Improvement of riparian shade and function, • Control sediment sources, • Control livestock access to stream, and • Science-based projects to restore floodplain connectivity and natural wood recruitment.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

WESTERN REGION PROJECT PRIORITIES: <u>TMDL DEVELOPMENT AND IMPLEMENTATION</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Rogue Basin	Bear Creek HUC 1710030801	TMDLs Adopted	Temperature Bacteria Sedimentation Aquatic Weeds or Algae Phosphorus Dissolved Oxygen	Implementation of efforts identified in Water Quality Implementation Plans or Water Quality Management Plans (WQMP). Potentially including: <ul style="list-style-type: none"> • Development of riparian ordinance, • Stormwater management for non-phase ii communities, • Low impact development projects, • Improvement of riparian shade and function, • Irrigation improvement projects, • Control livestock access to streams, and • Science-based projects to restore floodplain connectivity and natural wood recruitment.
Rogue Basin	Bear Creek HUC 1710030801	303(d) Listing	Mercury	Investigation of Emigrant Lake 303(d) listing for mercury.
Rogue Basin	Upper Rogue, HUC 17100307	303(d) Listing	Cyanobacteria (Blue-Green Algae)	Investigation of lost Creek Lake, Lake Slemac or other 303(d) listed waterbodies for Cyanobacteria (blue-green algae).
Rogue Basin	Lower Rogue, HUC 17100310	Category 3B Listing	bacteria – Shellfish Standard	Investigation of the Rogue River Estuary 303(d) listing for bacteria.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

Western Region Project Priorities: <u>Drinking Water Source Protection (DWSP)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Siletz- Yaquina Subbasin	Drinking Water Source Areas Upstream of Newport Intake	Source Water Assessments Complete	Bacteria Toxics Sediment Nutrients	Projects addressing higher risk nonpoint source potential contamination documented in DEQ/DHS Source Water Assessments including: stormwater, forest management, agricultural activities, land application sites, and/or river recreation. Projects that include multiple stakeholders/water systems will be given priority. Project activities can supplement TMDL implementation efforts.
Umpqua Basin – South Umpqua	Tributaries and Sections of The South Umpqua River Within Drinking Water Source Areas	Approved TMDLS; Source Water Assessments Complete	Elevated Bacteria and Nutrients, Toxics Sediment Public Water Systems Reporting High E. Coli Counts to EPA	Projects addressing higher risk nonpoint source potential contamination documented in DEQ/DHS Source Water Assessments including agriculture and forest management. Projects that also address TMDL implementation efforts are encouraged.
Rogue Basin	Drinking Water Source Areas Upstream of Gold Beach Intake	Approved TMDLS, Source Water Assessments Complete	Bacteria Toxics Sediment Nutrients	Projects addressing higher risk nonpoint source potential contamination documented in DEQ/DHS Source Water Assessments including: forest management, stormwater, agriculture, and residential land-use activities. Projects that include multiple stakeholders/water systems will be given priority. Projects that also address TMDL implementation efforts are encouraged.
Coquille Subbasin	Drinking Water Source Areas Within Subbasin	Source Water Assessments Complete	Bacteria, Toxics, Sediment, Nutrients	Projects Addressing Higher Risk Non-Point Source Potential Contamination Documented In DEQ/DHS Source Water Assessments Including Stormwater, Agricultural Activities, And Forest Management. Project Activities Can Supplement TMDL Development Efforts.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

Western Region Project Priorities: <u>Drinking Water Source Protection (DWSP)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Western Region	Southern Willamette Valley Groundwater Management Area	GWMA	Nitrate in Groundwater	<p><u>Analysis:</u> Gaps analysis based on the GWMA Action Plan Evaluation. Identify any actions needed to complete strategies, and any strategies that are either missing or require some modifications to arrive at the GWMA goal. Prioritize based on GWMA Committee criteria.</p> <p><u>Marketing:</u> Prepare and implement a social marketing program. Include the use of focus Groups for branding the GWMA, identifying barriers for recognition; and/or targeting residents and farmers and their barriers for testing water/using aquifer-safe fertilizer/irrigation practices.</p> <p><u>Outreach:</u> Prepare GWMA materials for other agencies. Include a train-the-trainer program. Follow-up on commitment from other agencies to use and present. Tour with involved agencies, staff, etc.</p> <p><u>Implementation:</u> Implement priority strategies in the GWMA Action Plan, as identified by the GWMA Committee. Assist with GWMA Committee meeting preparations, schedule, and follow-up with meeting minutes.</p>

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

Areas identified can be found at <http://www.deq.state.or.us/wq/dwp/results.htm>

Northwest Region Project Priorities: <u>Drinking Water Source Protection (DWSP)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
All NWR Basins	Drinking Water Source Areas With Focus on Riparian Areas/ Sensitive Areas Affecting Intakes and Sensitive Areas Contributing to Groundwater Wells.	Source Water Assessments Should Be Completed Prior To Awarding 319 Funding	Bacteria Blue Green Algae Toxics (Emerging Pollutants) Sediment Nutrients	Projects addressing higher risk nonpoint source potential contamination within sensitive areas based on data and recommendations from the DEQ/DHS Source Water Assessment reports and surface water sampling (by USGS and DEQ). This includes household hazardous waste, stormwater, pesticides, agricultural crops, nurseries, forestry, and onsite septic systems. Activities can supplement TMDL implementation activities.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

Northwest Region Project Priorities: <u>TMDLs/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
All NWR Basins/TMDL Implementation	Clackamas River	TMDLs Completed	Temperature	Riparian and in-channel restoration (erosion control, large wood placement). Pesticide partnership projects and/or specific toxic reduction projects. Innovative storm water planning/tools, education, and demonstration projects (includes hydromodification modeling, tools, and Low Impact Development approaches practices (LIDA)). Agriculture BMPs (includes fencing and digester projects).
	Lower Willamette River		Bacteria	
			Dissolved Oxygen	
	Molalla River		Nutrients (Phosphorus)	
	North Coast		Sediment	
	Tillamook		Toxics (Mercury)	
All NWR Basins/ TMDL Implementation	Tualatin	TMDLs Completed Implement ation Plans in Place	Temperature	Project or TMDL (watershed) Effectiveness Monitoring. Evaluating effectiveness of projects, strategies, and desired outcomes (e.g., increased shade, lower pollutant levels, water quality TMDLs targets met).
	Clackamas, Lower Willamette, North Coast, Tillamook, Tualatin,		Bacteria	
			Nutrients (Phosphorus)	
			Sediment	
			Toxics (Mercury)	

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

Northwest Region Project Priorities: <u>TMDLs/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Molalla River/TMDL Implementation	Mainstem	Completed December 2008	Temperature	Restoration/protection activities in upper mainstem coordinated with BLM recreation corridor planning and Molalla River Alliance planning. TMDL implementation monitoring for cities of Canby, Molalla, and Scotts Mills. Also for Clackamas County, and Oregon Department of Geology and Mineral Industries. Molalla Irrigation District TMDL implementation plan. Field studies and/or models to quantify hyporheic flow; Studies to better understand geomorphology and hydrology (specifically channel widening) that help identify stable restoration areas and reaches that should be protected.
Molalla River/TMDL Implementation	North Fork		Temperature	Riparian restoration. Monitoring pre/post logging. Land acquisition. Road abandonment.
Molalla River/TMDL Implementation	Milk Creek		Temperature	Riparian restoration. Stream flow monitoring.
Molalla River/TMDL Implementation	Table Rock Fork		Temperature	Riparian restoration/protection activities coordinated with BLM recreation corridor planning and Molalla River Alliance planning. Road abandonment.

Table 14. DEQ Geographic and Programmatic Priorities for 319 Nonpoint Source Implementation Grants in 2010 (Cont.)

Northwest Region Project Priorities: <u>TMDLs/303(d)</u>				
BASIN / PRIORITY ACTIVITY	SPECIFIC LOCATION	STATUS: TMDLS / 303(d)	WATER QUALITY PROBLEM	PROJECT NEED
Lakes	Blue Lake	Data Collection	Nutrients Algae Invasive Weeds ph	<p>Invasive weed harvesting/prevention/education efforts.</p> <p>Pilot projects demonstrating invasive weed control techniques.</p> <p>Boat cleaning station.</p> <p>Equipment and apparatus associated with aquatic weed and blue-green algae control.</p> <p>Water quality, phytoplankton, and plankton project effectiveness monitoring.</p>

Appendix 3

2011 - 319 Grant Request for Proposal

Evaluation Criteria for 2011 - 319 Project Proposals

Project's Emphasis

The 2011 Request for Proposal (RFP) encourages projects that will benefit water quality in the focus areas, especially impaired waters.

It emphasizes the concept of on-the-ground implementation activities or measurement of pollution reduction programs in the following areas:

- TMDL Implementation
- 303(d) listings
- Ground Water Management Areas (GWMAs)
- Drinking Water Source Areas

Eligibility

Those eligible to apply include public and private nonprofit organizations and institutions, including watershed councils and SWCDs. Also, eligible are state, local, tribal, and federal governments.

Selection Process for This Year

DEQ continues to implement a similar strategy used for the 2010 319 Grant Request for Proposal, which is to rely on DEQ's regional staff recommendation for funding. Regions should select and prioritize the proposals they received for their Region. DEQ Headquarter staff will review the prioritized proposals.

EPA Region 10 will be involved early in the process of ranking. EPA comments will be addressed as needed. Finally, the DEQ Regional and Headquarter Managers will make the final recommendation to the DEQ Water Quality Division Administrator.

The process will be:

- Regional review and prioritization of proposals received for that Region or by HQ staff where appropriate,
- Review of Regional recommendations by HQ and EPA Region 10,
- Feedback to Regions on proposals to be recommended for funding,
- Recommendation to DEQ Regional and Headquarter Managers and WQ DA for funding, and
- Submittal to EPA Region 10.

Only projects that are ranked “high” by the DEQ Headquarters (HQ) and Regions will be funded.

Ranking Criteria

The 319 project priorities are updated yearly and included in the annual Request for Proposals (RFPs). The priorities provide the guidance for on the ground activities at the watershed level. As such, the review for the proposed workplans received, as a result of the RFP, are initially reviewed at the regional level, and then given a final perusal at the statewide level.

We encourage our stakeholders considering applying for 319 funds to develop a strategy for implementation of the on-the-ground projects and cultivate the working relationships at various levels, including leveraging our funds. This aspect of the proposed workplan is considered in the review. This review at the regional level provides the proposed work a very thorough input that has proved very valuable for the applicants for its focused plan.

Project proposals will be evaluated and prioritized for funding based on how well the proposal addresses a DEQ geographic and programmatic priority identified in Appendix A of the 2011 319 RFP for 319 funded projects. The 2011 RFP states that for projects not in *Appendix A* (319 RFP); contact the DEQ 319 Grant Project Officer to determine if your project would be a priority for DEQ. Contact your DEQ 319 Grant Project Officer for specifics on the ranking criteria and the selection process that will be used in that DEQ Region.

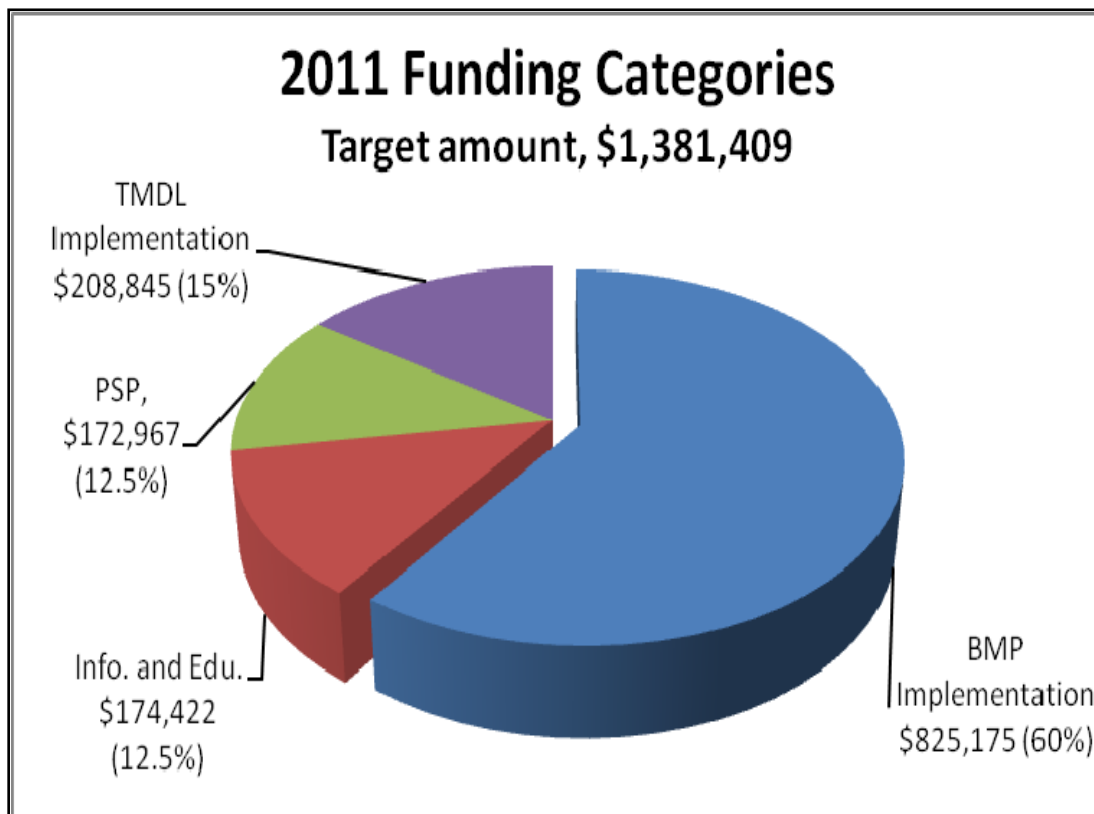
The amount of funding per Region is around \$375,000 and \$187,332 for HQ \$390,000. If not all funds are used by a Region or HQ, then a group will be convened to recommend how the remaining funds should be spent. The group will be one person from each Region and one person from HQ.

2011 – 319 Funding Categories

In **Figure 9**, the 2011 – 319 funding categories and funded amount are identified. The total funds for 2011 includes re-obligated funds of \$142,224. For the 2011 319 NPS Implementation Grants, Oregon has received 319 funded project requests for a total of \$3,365,481 (and \$237,888 for HQ) with **DEQ funding \$1,312,332** in the following project categories:

- BMP Implementation (60%),
- TMDL Implementation (15%),
- Information and Education (12.5%), and
- Pesticide Stewardship Partnership (12.5%).

Figure 9. 2011 Funding Categories of Project Proposals Received in Response to the 2011 RFP.



Project Proposals Received

The following Figure 10 provides a list of the 319 Grant proposed projects received in response to the 2011 RFP.

Table 15. Project Proposals Received in Response to the 2011 RFP.

PROJECT PROPOSALS RECEIVED, OREGON DEQ 2011 319 PROJECT SOLICITATION								
Project No.	Region	Basin	Applicant	Title	Proposed 319 Budget	Match	Total	DEQ Recommended
W11-01	ER	Walla Walla	Oregon State University	Salmon-Safe Certification of Sweet Cherries in Umatilla County and Wasco County	\$125,937	\$59,500	\$185,437	--
W11-02	ER	Walla Walla	Walla Walla Basin Watershed Council	Milton-Freewater Levee Design Phase 2	\$101,146	\$55,135	\$156,281	\$82,702
W11-03	ER	Umatilla	Oregon State University	Meacham Creek Restoration Bioassessment	\$50,326	\$35,844	\$86,170	--
W11-04	ER	Deschutes	Upper Deschutes Watershed Council	Whychus Creek Temperature and Macroinvertebrate Restoration Effectiveness Monitoring	\$52,300	\$36,270	\$88,570	--
W11-05	ER	Klamath	Klamath Watershed Partnership	Urban Issues Working Group Nonpoint Source Education Project	\$23,414	\$16,476	\$39,890	\$23,414
W11-20	ER	Lower Umatilla GWMA	Umatilla Soil and Water Conservation District	Preserving Umatilla's Natural Resources Through Education	\$59,300	\$96,000	\$155,300	\$59,300
W11-28	ER	Tumalo Area	Deschutes County	Tumalo Area Local Wetland Inventory	\$28,000	\$21,063	\$49,063	--
W11-29	ER	Cusick Creek	Keating Soil and Water Conservation District	Cusick Creek "Going Back On Time"	\$99,050	\$167,135	\$266,185	--
W11-30	ER	Powder Basin	Powder Basin Watershed Council	Powder Basin Monitoring Program – Phase I	\$25,385	\$50,000	\$75,385	\$25,385
W11-31	ER	Indian Creek Watershed	Deschutes County Soil and Water Conservation District	Indian Ford Creek Riparian Restoration: Phalarope Phase	\$60,000	\$45,980	\$105,980	--
W11-32	ER	John Day	North Fork John Day Watershed Council	North Fork John Day Watershed Council Landowner & Community Outreach Program	\$54,646	\$40,000	\$94,646	\$56,646
W11-33	ER	John Day	North Fork John Day Watershed Council	Upper Middle Fork John Day River Weed Assessment and Landowner Coordination	\$20,970	\$32,000	\$52,970	--
W11-34	ER	John Day	North Fork John Day Watershed Council	Effectiveness Monitoring Using Physiological Metrics In Chinook Salmon	\$60,287	\$63,500	\$123,787	--

Table 15. Project Proposals Received in Response to the 2011 RFP. (Cont.)

PROJECT PROPOSALS RECEIVED, OREGON DEQ 2011 319 PROJECT SOLICITATION								
Project No.	Region	Basin	Applicant	Title	Proposed 319 Budget	Match	Total	DEQ Recommended
W11-35	ER	John Day	North Fork John Day Watershed Council	Red Boy Mine Assessment and Restoration Project	\$35,716	\$82,000	\$117,716	\$35,716
W11-36	ER	Deschutes	City Madras	Central Corridor Stormwater Collection and Water Quality Project	\$100,000	\$110,500	\$210,500	--
W11-37	ER	John Day	Wasco County Soil and Water Conservation District	Rock Creek Restoration Design	\$43,680	\$36,000	\$79,680	\$43,680
W11-38	ER	Hood River	Hermiston Research and Extension Center	Reducing Pesticide Contamination of Surface Water in Hood River Through Integrated Areawide Codling Moth Management	\$68,376	\$130,000	\$198,376	\$68,376
ER Requested Funds								\$395,219
ER Available Funds (\$375,000 plus \$20,556 ¹)								\$415,775

¹ "Recycled" De-Obligated Funds (\$20,556 Per Region and HQ)

Table 15. Project Proposals Received in Response to the 2011 RFP. (Cont.)

PROJECT PROPOSALS RECEIVED, OREGON DEQ 2011 319 PROJECT SOLICITATION								
Project No.	Region	Basin	Applicant	Title	Proposed 319 Budget	Match	Total	DEQ Recommended
W11-07	NWR	Various	Oregon Environmental Council	"Love Your River"	\$19,000	\$30,830	\$49,830	\$19,000
W11-06	NWR	North Coast	Upper Nehalem Watershed Council	Upper Nehalem - Riparian Restoration and Nehalem Basin Water Quality Monitoring	\$71,000	\$93,960	\$164,960	\$71,000
W11-08	NWR	Tillamook	Tillamook Estuary Program	2011 Tillamook County Children Clean Water Festival	\$6,250	\$4,276	\$10,526	\$6,250
W11-09	NWR	Tillamook	Tillamook Estuary Program	Back Yard Program Planting Year 9	\$60,000	\$42,000	\$102,000	\$60,000
W11-10	NWR	North Coast	Columbia River Estuary Study Taskforce	North Coast Watershed and Riparian Enhancement Project	\$35,000	\$61,200	\$96,200	\$35,000
W11-11	NWR	Willamette	Johnson Creek Watershed Council	Johnson Creek Effectiveness Monitoring: Temperature, Bacteria, and Hydrology	\$49,156	\$84,400	\$133,556	\$49,156
W11-18	NWR	Nestucca Neskowin	Nestucca Neskowin Watershed Council	Nestucca Neskowin Watershed Council Streamside Planting and Maintenance Year 11	\$60,000	\$40,200	\$100,200	\$60,000
W11-19	NWR	North Coast	Clatsop Soil and Water Conservation District	Clatsop Nutrient Management	\$28,640	\$32,000	\$60,640	\$28,640
W11-28	NWR	Molalla	Clackamas County Soil and Water Conservation District	Milk Creek Streambank and Riparian Buffer Restoration Project	\$35,050	\$45,000	\$80,050	\$35,050
W11-42	NWR	North Coast	City of Cannon Beach	Cannon Beach Stormwater Planning	\$1,372,629	\$1,511,269	\$2,803,848	\$45,454
NWR Requested Funds								\$409,550
NWR Available Funds (\$375,000 plus \$20,556 ² plus \$15,000 ³)								\$410,556

² "Recycled" De-Obligated Funds (\$20,556 Per Region and HQ)

³ Streambank Project Cancellation (\$15,000 For WR and NWR Each and \$30,000 for HQ)

Table 15. Project Proposals Received in Response to the 2011 RFP. (Cont.)

PROJECT PROPOSALS RECEIVED, OREGON DEQ 2011 319 PROJECT SOLICITATION								
Project No.	Region	Basin	Applicant	Title	Proposed 319 Budget	Match	Total	DEQ Recommended
W11-16	WR	Various	University of Oregon	Non-Structural and Structural Tools & Technical Assistance to Address Nonpoint Source	\$42,000	\$28,780	\$70,780	\$32,000
W11-12	WR	Southern Willamette	Oregon State University	Groundwater Protection Education to Promote Community Involvement in Southern Willamette Valley	\$77,486	\$54,935	\$132,421	\$48,800
W11-13	WR	Umpqua	Partnership for Umpqua Rivers	Southern Umpqua Water Quality/Hazardous Algal Blooms Monitoring and Project Development	\$48,474	\$26,812	\$75,286	\$43,474
W11-14	WR	Mid Coast	Lincoln County Soil and Water Conservation District	Upper Siletz Assessment and Restoration Project	\$41,994	\$70,000	\$111,994	\$41,994
W11-15	WR	Santiam	South Santiam Watershed Council	Recruiting Landowners Beyond Early Adopters to Restore Riparian Function	\$88,770	\$80,330	\$169,100	\$34,900
W11-17	WR	Upper Willamette	Camas Education Network.	School Restoration Program: Recruitment, Restoration Design and Water Management	\$30,000	\$32,845	\$62,845	\$28,750
W11-21	WR	Mid Coast	Salmon Drift Creek Watershed Council	2012 Salmon Drift Creek Watershed Council Water Quality Monitoring and Source Identification	\$15,165	\$15,000	\$30,165	\$10,406
W11-22	WR	Willamette	Oregon State University	Low Impact Development Academy Cohort Education and Technical Assistance Program for Small to Medium Sized Communities	\$35,281	\$23,544	\$58,825	\$35,281
W11-23	WR	Pudding	Marion County Soil and Water Conservation District	Evaluation of Land Use Practices to Reduce Pesticides Surface Water Loading	\$55,665	\$73,560	\$129,225	--

Table 15. Project Proposals Received in Response to the 2011 RFP. (Cont.)

PROJECT PROPOSALS RECEIVED, OREGON DEQ 2011 319 PROJECT SOLICITATION								
Project No.	Region	Basin	Applicant	Title	Proposed 319 Budget	Match	Total	DEQ Recommended
W11-24	WR	Coos Bay	Oregon Coast Community Action	Reducing Stormwater Runoff Pollution Through The Utilization of a Green Roof	\$25,400	\$71,650	\$97,050	\$19,162
W11-25	WR	Rogue	Rogue Valley Council of Governments	Bear Creek and Rogue Basin TMDL Implementation Coordination	\$30,000	\$37,800	\$67,800	\$30,000
W11-26	WR	Siuslaw	Oregon Toxics Alliance	Siuslaw Watershed Water Quality and Salmon Habitat Preservation	\$5,000	\$21,580	\$26,580	\$3,000
W11-27	WR	Sucker Creek	Illinois Valley Soil and Water Conservation District/ Watershed Council	Sucker Creek Channel and Floodplain Restoration - Phase II - A	\$40,000	\$276,651	\$316,651	\$20,000
W11-39	WR	Coos Bay	Coos Watershed Association	Coos Bay Watershed Approach to Water Quality Impairment	\$39,988	\$40,931	\$80,920	\$39,988
W11-40	WR	Coos	City of North Bend	North Bend Stormwater Management	\$25,000	\$10,000	\$35,000	\$4,000
W11-41	WR	Umpqua	Partnership for Umpqua	TMDL Monitoring of Diamond Lake	\$20,000	\$15,000	\$35,000	\$9,926
WR Requested Funds								\$401,681
WR Available Funds (\$375,000 plus \$20,556 ⁴ plus \$15,000 ⁵)								\$410,556

⁴ “Recycled” De-Obligated Funds (\$20,556 Per Region and HQ)

⁵ Streambank Project Cancellation (\$15,000 For WR and NWR Each and \$30,000 for HQ)

Table 15. Project Proposals Received in Response to the 2011 RFP. (Cont.)

PROJECT PROPOSALS RECEIVED, OREGON DEQ 2011 319 PROJECT SOLICITATION								
Project No.	Region	Basin	Applicant	Title	Proposed 319 Budget	Match	Total	DEQ Recommended
W11-43	HQ	NWR - ER	DEQ	Pesticide Stewardship Partnership	\$177,888	---	\$177,888	\$177,888
W11-44	HQ	Statewide	Oregon Department of Forestry	RipStream: Stream Temperature Changes Over Time	\$60,000	---	\$60,000	\$60,000
HQ Requested Funds								\$237,888
HQ Available Funds (\$187,332 plus \$20,556 ⁶ plus \$30,000 ⁷)								\$237,888
TOTALS: 2011 319 "PASS THROUGH" FUNDS (\$375,000 PER REGION AND \$187,332 PER HQ)								\$1,312,332

⁶ "Recycled" De-Obligated Funds (\$20,556 Per Region and HQ)

⁷ Streambank Project Cancellation (\$15,000 For WR and NWR Each and \$30,000 for HQ)

