DEQ Water Quality Division

2014 Draft Oregon Nonpoint Source Management Program Plan

State of Oregon
Department of Environmental Quality

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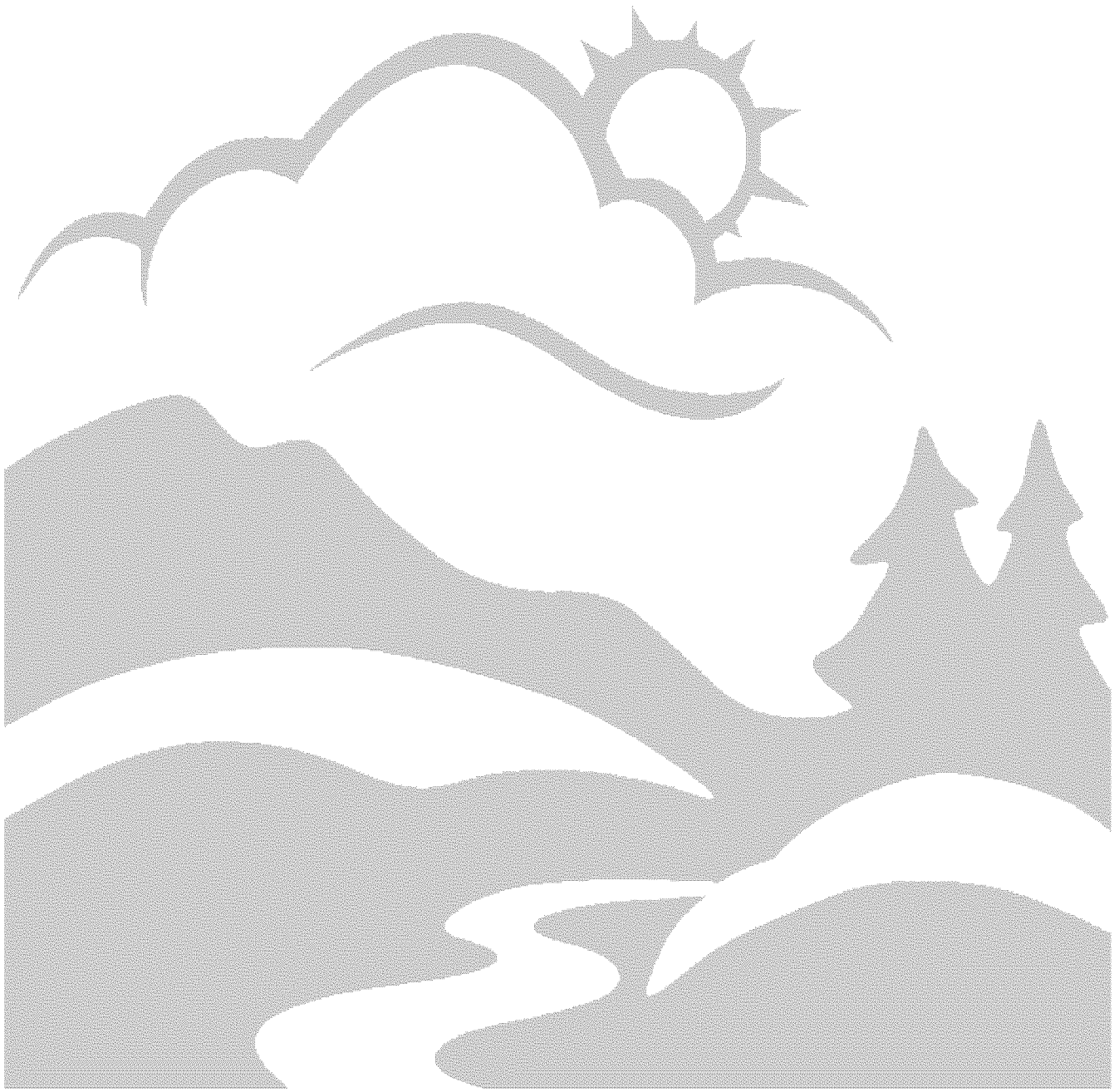

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Table of Contents

1. Executive Summary....1

Local Partners.... 1

State Agencies.... 1

Federal Agencies....2

2. Introduction....6

3. Oregon's NPS Management Program.... 10

3.1 General Description of NPS Management Program.... 10

3.2 Partnerships.... 17

3.2.2 State Agencies.... 17

3.2.1 Federal Agencies....17

3.2.3 Local Partners.... 17

3.2.4 DEQ Memorandum of Understandings and Memorandum of Agreements.... 17

3.3 Baseline Regulatory Statutes.... 19

3.3.2 Water Quality Standards.... 19

3.3.1 Integrated Report [303(d) and 305(b)].... 20

3.3.3 Total Maximum Daily Loads (TMDLs) and Water Quality Management Plans.... 20

3.3.4 General Permits for Pesticides.... 3

3.4 Other Management Programs that Address NPS....22

3.4.1 Watershed Approach Basin Reports.... 23

3.4.2 Cross Program Efforts to Address Toxic Chemicals....24

3.4.2.1 Pesticides Stewardship Partnerships (PSPs)....24

3.4.2.2 Water Quality Pesticide Management Team (WQPMT)....25

3.4.3 Drinking Water Protection....26

3.4.4 Groundwater Protection and Groundwater Management Areas (GWMAs).... 27

3.4.5 Coastal Zone NPS Management Program.... 29

3.4.6. Incorporate EPA Watershed Plans Elements into TMDLs and Watershed Approach Basin Reports....31

4. Management of NPS by Land Use....35

4.1. Agricultural Lands....35

4.1.1. Agricultural Water Quality Management Program.... 35

4.1.1.2 Memorandum of Agreement.... 36

4.1.2. Other programs and partners.... 37

4.1.3. Water Quality Management Program Priorities 37
4.1.4. The NPS Program Measures, Timelines, and Milestones 39
4.1.5 ODA's Tracking 40
4.1.5.1. Water Quality Program Compliance Summary 40
4.1.5.2. Outreach and Education Summary 41
4.2 State and Private Forest Lands 41
4.2.1 RipStream (Riparian Function and Stream Temperature) Study 42
4.2.2 Forest Practices Act Sufficiency Analysis 43
4.3 Federal Forest Lands 44
4.3.1 Coordination with USFS and BLM to Meet State and Federal Water Quality Rules and Regulations 44
4.3.2 Revision of BLM Resource Management Plan and EIS for Western Oregon 46
4.3.3 USFS and BLM BMPs for Land Management Activities 47
4.3.3.1. USFS BMPs for All Land Management Activities 47
4.3.3.2. BLM Best Management Practices to Reduce Sediment Delivery from BLM Roads in Oregon 48
4.4 Urban and Rural Residential 49
4.4.1. TMDL Implementation for Urban and Rural Residential DMAs 49
4.4.2 NPDES MS4 Stormwater Permit 50
4.4.3 State Land Use Planning Goals 51
5. Oregon 319 Grant Program 51
5.1 Federal CWA Section 319(h) NPS Grant Funding 51
5.2 Performance Partnership Agreement 52
5.3 Incremental (Pass Thru) Grants 53
5.4 Project Funding 54
5.5 EPA Grants Reporting and Tracking System – GRTS 54
6. Other State Operated NPS Funding Sources 56
6.1 Clean Water State Revolving Fund 56
6.2 Drinking Water Revolving Loan Fund (DWRLF) 57
6.3 OWEB 57
6.3.1 Oregon Watershed Restoration Inventory (OWRI) 59
6.3.2. Oregon Conservation Reserve Enhancement Program (CREP) 60
7. Water Quality Data and Assessments 61

Tables

Table 1: NPS MP Actions, Priorities, and Milestones 2014 to 2018....12
Table 2: EPA Watershed Plans Nine Key Elements....32
Table 4: Example SWCDs Outreach and Education Summary....41
Table 5: Other SWCD Activities....41
Table 6: Oregon Total Section 319 Funding 2007 to 2013....52
Table 7: OWEB Grant Funding Example....59

1. Executive Summary

The Oregon NPS Management Program Plan (Oregon NPS Plan) describes the goals, priorities, objectives, and strategies of the Oregon NPS Management Program (NPS Management Program) used to achieve the mission to prevent, control, and eliminate water pollution from nonpoint sources in waters of the state to meet water quality standards and Total Maximum Daily Load (TMDL) allocations.

The state's long-term goals reflect a strategically focused state NPS management program designed to achieve and maintain water quality standards and to maximize water quality benefits. The shorter-term objectives consist of activities, with annual milestones, designed to demonstrate reasonable progress toward accomplishing long-term goals as expeditiously as possible.

The federal CWA requires states to develop a program to protect the quality of water resources from the adverse effects of NPS water pollution. NPS pollution is water pollution that does not originate from regulated point sources and occurs when rainfall flows off the land, roads, buildings, and other features of the landscape. This diffuse runoff carries pollutants into drainage ditches, lakes, rivers, wetlands, bays, and aquifers.

Common NPS pollutants include, but are not limited to:

- Temperature
- Fertilizers, herbicides, and insecticides
- Oil, grease, and toxic chemicals
- Sediment; and
- Bacteria and nutrients

Since the NPS management program is a longer-term planning document, the annual milestones may be more general than are expected in an annual section 319 grant work plan, but are specific enough for the state to track progress and for EPA to determine satisfactory progress in accordance with section 319(h)(8). Annual milestones in a state's NPS management program describe outcomes and key actions expected each year, e.g., delivering a certain number of WQ-10 success stories or implementing projects in a certain number of high priority impaired watersheds.

The state program includes objectives that address nonpoint sources of surface water and ground water pollution as appropriate (including sources of drinking water) in alignment with the goals of the Clean Water Act. The objectives include both implementation steps and how results will be tracked (e.g., water quality improvements or load reductions).

Responsibility for managing water resources in Oregon is divided between several state agencies that work in an active and effective partnership to protect state waters. They are the following local, state, and federally agencies:

Local Partners

- Cities (League of Oregon Cities) http://www.orcities.org/
- Counties (Association of Oregon Counties) http://www.aocweb.org/aoc/default.aspx
- Watershed Councils (Network of Oregon Watershed Councils) http://oregonwatersheds.org/

State Agencies

- Oregon Department of Agriculture (ODA) www.oda.state.or.us
- Oregon Department of Forestry (ODF) www.odf.state.or.us
- Oregon Health Authority (OHA) http://www.oregon.gov/oha/Pages/index.aspx
- Oregon Parks and Recreation Department (OPRD) http://egov.oregon.gov/OPRD/index.shtml
- Oregon Department of State Lands (DSL) http://www.oregon.gov/DSL/index.shtml
- Oregon Department of Geology and Mineral Industries (DOGAMI)

http://egov.oregon.gov/DOGAMI/index.shtml
- Oregon State Marine Board (OSMB) (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

- Soil and Water Conservation Districts (Oregon Association of Conservation Districts) http://oacd.org/
- U.S. Environmental Protection Agency (EPA) http://www2.epa.gov/aboutepa/epa-oregon
- U.S. Forest Service (USFS) 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/
- U.S. National Marine Fisheries Service (NMFS) http://www.westcoast.fisheries.noaa.gov/index.html
- US Army Corps of Engineers (USACE) http://www.nwp.usace.army.mil/
- U.S. Bureau of Reclamation (USBR) http://www.usbr.gov/pn/
- U.S. National Resource Conservation Services (NRCS) http://www.nrcs.usda.gov/wps/portal/nrcs/site/or/home/
- U.S. Farm Service Agency (FSA) http://www.fsa.usda.gov/FSA/stateoffapp?mystate=or&area=home&subject=landing&topic=landing

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

- Description of NPS Management Program
- Partnerships: Federal Agencies, State Agencies, and Local Partners
- DEQ Memorandum of Understandings and Memorandum of Agreements
- Baseline Regulatory Statutes
  - Water Quality Standards
  - Total Maximum Daily Loads (TMDLs) and Water Quality Management Plans (WQMP)
  - General Permits for Pesticides
- Other Management Programs that Address NPS
  - Watershed Approach Basin Reports
  - Water Quality Basin Status/Action Plans
  - Cross Program Efforts to Address Toxic Chemicals
  - Drinking Water Protection
  - Groundwater Protection and Groundwater Management Areas (GWMAs)
  - Coastal Zone Act Reauthorization Amendments (CZARA), Coastal Zone NPS Management Program
  - Incorporate EPA Watershed Plans Elements into TMDLs and Watershed Approach Basin Reports
- Management of NPS by Land Use
  - Agricultural Lands
  - State and Private Forest Lands
  - Federal Forest Lands
  - Urban and Rural Residential
- Oregon 319 Grant Program
- Other NPS Funding Sources
  - Clean Water State Revolving Fund
  - Drinking Water State Revolving Loan Fund (DWSRLF)
  - OWEB

- Pacific Coastal Salmon Recovery Fund (PCSRF)
- Assessment of water quality and landscape condition
- Success Stories/Environmental Improvement (WQ-10) and (SP-12) Projects and Other

Oregon's NPS Management Program includes all "*Water or Waters of the State*" as defined by ORS 468B.005(8) means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

The Oregon NPS Management Program uses baseline water quality management programs and regulatory, voluntary, financial, and technical assistance approaches to achieve a balanced program. NPS pollution is managed through assessment, planning, implementation, and education. The DEQ has established goals and objectives for guiding and tracking the progress of NPS management in Oregon. Success in achieving the goals and objectives are reported annually in the Oregon NPS Pollution Program Annual Report, which is submitted to the EPA in accordance with the federal CWA.

Implementation of the Oregon NPS Management Program involves partnerships among many organizations. With the extent and variety of NPS issues across the state, cooperation across political boundaries is essential. Many local, regional, state, and federal agencies play an integral part in managing NPS pollution, especially at the watershed level. They provide information about local concerns and infrastructure and build support for the kind of pollution controls that are necessary to prevent and reduce NPS pollution.

In addition, they are vital partners in working with landowners to implement best management practices (BMPs) that prevent and abate urban and rural residential, agricultural, and forestry NPS water pollution. By establishing coordinated frameworks to share information and resources, the state can more effectively focus its water quality protection efforts.

The Oregon Non Point Source (NPS) Plan meets the requirements of the federal Clean Water Act (federal CWA) (33 USC 1329) and the U.S. Environmental Protection Agency's (EPA) *Section 319 Program Guidance: Key Components of an Effective State Nonpoint Source Management Program November 2012* http://water.epa.gov/polwaste/nps/upload/key_components_2012.pdf.
Section 319(b) of the federal CWA requires states to prepare and submit to for approval a Nonpoint Source (NPS) Management Plan. The EPA approved the Oregon Department of Environmental Quality's (DEQ's) current NPS Plan in 2000 following EPA's 1996 guidance for updating NPS program plans.

Below is a cross-reference between EPA's NPS Management Plan eight (8) key components and how and where they are addressed in the NPS MP:

EPA KEY COMPONENT #1

Oregon's program contains explicit short- and long-term goals, objectives, and activities (including financial and technical assistance) to restore and protect Oregon's surface water and ground water.

Sections 3.1, 3 Table __, 3.3.4, and 4

NPS Management Plan Sections 3 through 7, particularly Sections 3.1 General Description of NPS Management Program, Section 3, Table __ Oregon NPS Plan Outcomes And Key Actions, Section 3.3.4 DEQ Memorandum of Understandings and Memorandum of Agreements, and Section 4 Oregon's Management of NPS by Land Use all contain descriptions of the plan's short and long-term goals, objectives, and activities to restore and protect Oregon's waters of the state, both surface and groundwater.

EPA KEY COMPONENT #2

The state strengthens its working partnerships and linkages to appropriate state, interstate, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.

Sections 3.2, 3.4, and 5

NPS Management Plan Sections 3 through 6, particularly Section 3.2 Partnerships which includes descriptions of the partners that are included in order for the Oregon NPS Plan to be effective in meeting the Oregon NPS Plan objective of meeting state and federal water quality standards and TMDL load allocations. Sections 3.4 Other Management Programs and Section 5 Oregon 319 Grant Program address NPS are important sections that describe the other management programs available by local, state, and federal, watershed councils and other funding partners necessary to ensure the plan includes all the programmatic and project funding sources that are needed to complete and implement the State of Oregon NPS Plan.

EPA KEY COMPONENT #3

Oregon NPS Management Program uses a combination of statewide programs and on-the-ground projects to achieve water quality standards and/or TMDL load allocations. Oregon's NPS Management Program uses many state and federal regulatory and non-regulatory programs and existing baseline requirements that are well integrated to prevent, control, and eliminate NPS pollution.

Sections 3.1, 3.3, and 4

NPS Management Plan Sections 3 through 6, particularly 3.1 General Description of NPS Management Program, 3.3 Baseline Regulatory Statutes, Table __ Oregon NPS Plan Outcomes And Key Actions, 3.3 Baseline Regulatory Statutes, and Section 4 Oregon's Management of NPS by Land Use describe the legal authorities, both regulatory and non-regulatory programs, the requirements that are well integrated to prevent, control, and eliminate NPS pollution.

EPA KEY COMPONENT #4

Oregon's program describes how resources will be allocated between (a) abating known water quality impairments from NPS pollution and (b) protecting threatened and high quality waters from significant threats caused by present and future NPS impacts.

Sections 3.4, 4.1.1.2, and 5

NPS Management Plan Sections 3 through 6 (six), particularly Sections 3.4 Other Management Programs, Section 4.1.1.2 Water Quality Management Program Objectives and Strategies DEQ's ongoing efforts to provide protection of high quality waters that are prioritized locally through Basin Planning process. In addition, protection is considered during triennial review, and Section 5 Oregon 319 Grant Program describe how resources, both programmatic and project actions, are allocated between (a) abating known water quality impairments from NPS pollution and (b) protecting threatened and high quality waters from significant threats caused by present and future NPS impacts that are needed to complete and implement the State of Oregon NPS Plan.

EPA KEY COMPONENT #5

Oregon's program identifies and prioritizes waters and watersheds impaired by NPS pollution to prevent, control, and eliminate NPS pollution. The state establishes a process to assign priority and to progressively address identified watersheds by conducting more detailed watershed assessments, developing watershed-based plans and implementing the plans.

Sections 3.3.1, 3.3.3, 3.4, 3.4.1, 5.1, and 6

NPS Management Plan Sections 3 through 6, particularly Section 3.3.1, Integrated Report [303(d) and 305(b)]which every two years, DEQ is required to assess water quality and report to EPA on the condition of Oregon's waters and identifying waters that do not meet water quality standards. DEQ uses the list of impaired waters to set priorities for TMDL development. Sections 3.3.3 Total Maximum Daily Loads (TMDLs) and Water Quality Management Plans and 3.4 Other Management Programs that Address NPS identify the pollution management programs, strategies, and resources that are currently in place or that are needed to minimize or prevent current or future NPS pollution effects.

Section 3.4.1 Watershed Approach Basin Reports are developed by DEQ so that the action plans are used to determine basin priorities and how resources will be allocated. Sections 5.1 Federal CWA Section 319(h) NPS Grant Funding and Section 6 Other NPS Funding Sources. The NPS Grant Program is administered by DEQ for providing funding as grants to cooperating entities for activities that address the goals, objectives, and overall strategy to further develop its own and other agencies' or individual's capabilities, emphasizing watershed protection and enhancement, voluntary stewardship, and partnerships between all watershed stakeholders. DEQ also reaches out to other federal, state, tribal, local and private partners to assist in program development and implementation beyond DEQ's regulatory jurisdiction and financial abilities.

EPA KEY COMPONENT #6

The state implements all program components required by section 319(b) of the Clean Water Act, and establishes strategic approaches and adaptive management to achieve and maintain water quality standards as expeditiously as practicable. The state reviews and upgrades program components as appropriate. The state program includes a mix of regulatory, non-regulatory, financial and technical assistance, as needed. In addition, the state incorporates existing baseline requirements established by other applicable federal or state laws to the extent that they are relevant.

Sections 3.1, 3.2, 3.3, 4, 3.4, and 5

NPS Management Plan Sections 1 through 6, particularly 1. Executive Summary, 3.1 General Description of NPS Management Program, Section 3.2 Partnerships which includes descriptions of the partners that are included in order for the Oregon NPS Plan to be effective in meeting the Oregon NPS Plan objective of meeting state and federal water quality standards and TMDL load allocations. Sections 3.4 Other Management Programs, 3.3 Baseline Regulatory Statutes, Table __ Oregon NPS Plan Outcomes And Key Actions, and Section 4 Oregon's Management of NPS by Land Use describe the legal authorities, both regulatory and non-regulatory programs, the requirements that are well integrated to prevent, control, and eliminate NPS pollution. and Section 5 Oregon 319 Grant Program address NPS are important sections that describe the other management programs available by local, state, and federal, watershed councils and other funding partners necessary to ensure the plan includes all the programmatic and project funding sources that are needed to complete and implement the NPS Plan.

EPA KEY COMPONENT #7

The state manages and implements its NPS management program efficiently and effectively, including necessary financial management.

Sections 3.1, 5, 5.4

Section 3.1 General Description of NPS Management Program Describes the state process for managing and implementing its NPS management program efficiently and effectively, including necessary financial management. Section 5, Oregon 319 Grant Program manages the Section 319 funds so that they are primarily intended for organizational capacity development, implementation activities, including monitoring used to support TMDL development, implementation and measuring progress towards achieving TMDL allocations 319 Grant Program: It is critical for the 319 Grant Program to be implemented strategically and efficiently. Oregon's priorities are to streamline as much of grant administration and reporting, and to allocate funds strategically. Section 5.4 EPA Grants Reporting and Tracking System – GRTS is the primary tool for management and oversight of the EPA's NPS pollution control program. DEQ reports annually to EPA the progress in meeting milestones, including: Estimates of loading reductions of NPS pollutant and on improvements to water quality achieved by implementing NPS pollution control practices.

EPA KEY COMPONENT #8

Section 3.1 and 5.1

Section 3.1 General Description of NPS Management Program describes how Oregon prepares annual reports that document the activities and accomplishments of the State of Oregon in general and the Oregon DEQ in particular regarding the administration of Oregon's NPS Management Program and reviews and evaluates its program using

environmental and functional measures of success, and updates its NPS Management Program Plan every five years. 5.1 Federal CWA Section 319(h) NPS Grant Funding describes the use of Annual NPS Report to track yearly progress of implementation of the approved NPS Management Program and prepare annual nitrogen, phosphorus, and sedimentation-siltation NPS pollutant load reduction estimates for NPS projects and include in Oregon's Annual NPS Program Update Report.

2. Introduction

The Oregon Nonpoint Source Management Plan describes the goals, priorities, objectives, and strategies of the Oregon Nonpoint Source Program (NPS Management Program) used to achieve the mission to prevent, control, and eliminate water pollution from nonpoint sources in waters of the state to meet water quality standards.

The short-term goal of the NPS Management Program is to reduce NPS pollutants in waterbodies not meeting water quality standards and assure continued attainment for waterbodies meeting water quality standards.

The long-term goal is for Oregon water bodies to meet water quality standards.

EPA recently issued guidance, *Section 319 Program Guidance: Key Components of an Effective State Nonpoint Source Management Program November 2012* http://water.epa.gov/polwaste/nps/upload/key_components_2012.pdf directing all states to update their NPS programs. This 2012 guidance is an update of previous EPA guidance and contains a description of the eight key components that characterize an effective state NPS management program.

EPA expects all states to review and, as appropriate, revise and update their NPS management program plan every five years. An updated, comprehensive program is critical to the states and EPA. It allows EPA and Oregon to ensure that section 319 funding, technical support and other resources are directed in an effective and efficient manner to support state efforts to address water quality issues on a watershed basis.

This plan updates Oregon's *October 2000 Water Quality Nonpoint Source Control Management Program Plan* http://www.deq.state.or.us/wq/nonpoint/docs/plan/plan.pdf. EPA is requiring an update of Oregon's 2000 Plan since many EPA and state rules, regulations, and programs have changed over the past fourteen years. An update of Oregon NPS Plan reflects current and planned goals, priorities, actions and milestones for next five-years. This five-year plan then provides the basis for tracking annual progress under the program.

The DEQ's NPS Management Program supports and promotes collaborative efforts of state, federal, and local agencies as well as private organizations to achieve NPS goals. The State of Oregon is committed to implementing a 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.

The DEQ NPS Program integrates with other relevant programs to restore and protect water quality, aligning priority setting processes and resources to increase efficiency and environmental results.

The Oregon Department of Environmental Quality (DEQ) has the responsibility of overseeing and implementing the State's NPS Management Program. The NPS Program is implemented by coordinating with many local, State and federal agencies and organizations throughout the State of Oregon. The NPS Management Program uses a combination of federal and state authority for implementing statewide, programmatic, and geographic priorities, objectives, and strategies to achieve the short and long-term goals of the NPS Management Program. The NPS Management Program tracks and reports on administrative outputs and water quality outcomes from these activities in Oregon's NPS Annual Report submitted to EPA annually as a requirement of section 319.

The Oregon NPS Management Plan:

- Meets the requirements of section 319(h) (8) & (11) of the federal Clean Water Act (33 USC 1329) and the

EPA Section 319 Program Guidance: Key Components of an Effective State Nonpoint Source Management Program (November 2012).

- Establishes strategic approaches and adaptive management to achieve and maintain water quality standards or TMDL load allocations by reviewing and upgrading program components as appropriate.
- Contains explicit short- and long-term goals, objectives, and activities (including financial and technical assistance) to restore and protect Oregon's surface water and ground water.
- Identifies how the NPS Management Program will be implemented and funding will be directed into watersheds impaired by NPS pollution.
- Strengthens its working partnerships and linkages to appropriate state, interstate, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.
- Uses many state and federal regulatory and non-regulatory programs and existing baseline requirements that are well integrated to prevent, control, and eliminate NPS pollution.
- Uses a combination of statewide programs and on-the-ground projects to achieve water quality standards or TMDL load allocations.
- Describes a balanced approach of education, research, technical assistance, financial incentives, and regulation.
- Identifies and prioritizes waters and watersheds impaired by NPS pollution to prevent, control, and eliminate NPS pollution.
- Continues to place a strong emphasis on taking a watershed-based approach to restore NPS-impaired waters with the development and implementation of Watershed Based Plans and Implementation Ready TMDLs.
- Uses a strategy for improving state waters on a geographic basis with the state's National Pollutant Discharge Elimination System (NPDES) permitting, assessment, Ground Water Management Area (GWMA), and TMDL work aligned and prioritized according to the watersheds.
- Includes the criteria used for identifying priority problems and watersheds, and deploys resources in a timely fashion to address priorities, including any critical areas requiring treatment and protection within watersheds.
- Identifies the pollution management programs, strategies, and resources that are currently in place or needed to minimize or prevent nonpoint source pollution in the priority watersheds.
- Promotes and supports programs and activities that are guided by best available science and implemented through an adaptive management approach.
- Establishes a process to assign priority and progressively address identified watersheds by conducting more detailed watershed assessments and integrating Watershed-based Plans and TMDLs.
- Describes the state process for managing and implementing its NPS management program efficiently and effectively, including necessary financial management.
- Describes the annual reports that document 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 Oregon's NPS Management Program and reviews and evaluates its program using environmental and functional measures of success.

DEQ uses the following guiding principle to achieve the short and long-term goals of the NPS Management Program:

- Education and outreach;
- Planning for the implementation of restoration and protection projects;
- Technical assistance to local groups for the use of sound science for water quality protection, restoration, and management;
- Financial incentives to encourage actions on statewide, program, or geographic priorities;
- Use of various types of data to provide information to develop knowledge and understanding of the effects on the landscape and water quality
- Work within our existing federal and state authorities;
- Collaborate, coordinate, and communicate with our local, state, and federal partners

Priorities for the NPS Management Program are:

- Watershed Approach Basin Reports: These reports are in-depth assessments conducted by DEQ of the state's basins. These assessments take the form of local water quality status and action plans, which describe water quality conditions and include recommendations for actions that DEQ and others who are interested in these basins can take to improve water quality. Where reports have been developed, DEQ has been able to use the action plans and basin priorities to determine how resources will be allocated.
    - Combining the expertise of DEQ's 17 water quality subprograms to ensure that DEQ's resources and scientific information are put to use effectively.
    - Consulting with local, state and federal agencies, as well as local interest groups and watershed councils, to help DEQ identify problems and solutions. The watershed approach allows opportunities for direct, interactive feedback between DEQ and its many stakeholders.
- TMDLs: DEQ focuses on development and implementation of TMDLs.
    - Development: Draft and implement a guidance document that identify the TMDL process.
    - Development: Areas where land uses and land management are a source or potential source of the pollutant TMDLs will be developed to address the nonpoint source(s) and point sources as appropriate.
    - Development: Provide better reasonable assurance during TMDL development process.
    - Implementation: Working with Designated Management Agencies (DMAs) to assure they are meeting TMDL priorities that address their responsibilities identified in the TMDL or WQMP.
    - Implementation: Identify lead staff to work with sister agency DMAs to achieve consistency and efficiency.
    - Implementation: Conduct additional analysis to provide better reasonable assurance and guide implementation for existing TMDLs that are identified as priorities.
    - Implementation: Continue to build relationships with funding agencies and entities to direct funding toward high priority projects.
- Agriculture: Agriculture Water Quality Management Program has been implemented for more than a decade. During that time, implementation of conservation practices and restoration has occurred. However, implementation activities have been opportunistic and difficult to show that progress has been made. Implementation on agricultural lands should be strategic and future actions should be documented in order to demonstrate accountability and to leverage various funding sources.
    - Participate in biennial review process to assist ODA to prioritize, identify and document implementation actions.
    - Provide water quality data analysis during the biennial review process.
    - Support ODA to establish measures to quantify implementation and evaluate program accomplishments.
    - Participate in local grant funding process to direct resources to high priority agricultural issues.
- Forestry: Participate as appropriate in private Forest Practices Act rule analysis and concept development for water quality issues; revisions to management plans for state forests; and federal forest management planning to ensure that forestland management is consistent with water quality standards and TMDL load allocations.
    - Prevent, reduce, eliminate, or remediate nonpoint source water pollution and, where necessary, improve water quality to support beneficial uses on forestlands.
    - Provide comment on FPA rules for private forestlands in cooperation with Oregon Department of Forestry (ODF) Private Forest Division staff to ensure that water quality standards are being attained, TMDL load allocations are being met, and beneficial uses are being supported on private forestlands in Oregon.
    - Evaluate voluntary implementation of Oregon Plan for Salmon and Watersheds effectiveness in reducing water quality risks and impacts, identify information gaps, and collect additional information as needed in cooperation with ODF and landowners.
    - Review any changes to state forest management plans and work with ODF State Forest Division staff so changes to plans continue to protect water quality and beneficial uses on state-owned forestlands.
    - Cooperate on priorities, strategies, and funding using a watershed approach to protect and restore water quality on federal forestlands.

- Urban and rural residential: Establishment of TMDLs provides opportunities for DEQ to work with DMAs that have authority to regulate urban and rural residential areas.
    - Improve and establish consistent coordination between TMDL and Stormwater programs.
    - Finalize and implement post construction stormwater guidance.
- 319 Grant Program: It is critical for the 319 Grant Program to be implemented strategically and efficiently. Oregon's priorities are to streamline as much of grant administration and reporting, and to allocate funds strategically.
    - Continue process improvement of Request for Proposals for timely and efficient issuance;
    - Provide guidance to DEQ staff and grant recipients for grant administration including contracting and invoicing;
    - Continue to report 319 Grant data into GRTS and meet reporting deadlines.
    - Coordinate with NRCS and OWEB for reporting on implementation activities;
    - Incorporate measures, timelines, and milestones in NPS Annual Report
- Source Water Protection: Identify where nonpoint sources of pollution are significant threats to drinking water sources and incorporate into Nonpoint Source Program priorities (including forestry and agriculture).
- Groundwater: Identify where nonpoint sources of pollution are impacting groundwater quality; incorporate into Nonpoint Source Program priorities (including forestry and agriculture); and utilize state authorities for groundwater protection as needed.
- Assessments and Monitoring: DEQ conducts various types of assessments as required by the federal CWA and uses monitoring data for these assessments as appropriate.

To promote watershed restoration and protection, DEQ:

- Collects information necessary to assess the state's waterbodies to determine if designated uses are being met;
- Uses Oregon's Integrated Report to evaluate progress made in restoring designated use support of all waters;
- Produces TMDLs for impaired waters where near-term delisting is not apparent;
- Uses TMDLs to establish NPS pollutant reduction goals;
- Uses watershed coordinators to assist local stakeholders and resource agencies to implement TMDLs at the local level;
- Collaborates with DMAs, federal, state and local agencies and watershed groups, to develop and/or implement TMDL Implementation Plans;
- Promotes TMDL Implementation Plans as the basis for allocating resources to reduce NPS pollution entering the water body;
- Administers CWA Section 319 Grant Program and other applicable grants to enable actions that achieve water quality goals;
- Reviews existing monitoring data for priority watersheds and recommend supplemental data to measure water quality trends associated with watershed activities;
- Reports data to local stakeholders and general public;
- Reports progress made in water quality improvement to USEPA and the public through the NPS Annual Reports and the NPS website; and
- Produces Success Stories for water bodies that meet water quality standards because NPS activities have been implemented.

The DEQ efforts identified in the NPS Management Plan have been funded by a combination of federal 319 funds, Oregon general fund, Oregon lottery funds, and other sources of revenue. However, reduction in Oregon's 319 funds from disapproval of the additional management measures in the Coastal Nonpoint Control Plan (CNPCP) would affect DEQ's ability to implement most, if not all, of the NPS Management Plan (see Section ### for additional information).

3. Oregon's NPS Management Program

3.1 General Description of NPS Management Program

The primary purpose of Oregon's NPS program and plan is to develop and implement strategies to prevent, control, and eliminate water pollution from nonpoint sources in waters of the state to meet water quality standards and TMDL load allocations. The plan represents a unified approach reflecting the fact that the State intends to continue to plan, implement and prioritize actions to address NPS problems on a statewide basis.

The NPS Management Program uses a combination of federal and state authority and funding for implementing statewide, programmatic, and geographic priorities, objectives, and strategies to achieve the short and long-term goals of the NPS Management Program. The state program includes objectives that address nonpoint sources of surface water and ground water pollution as appropriate (including sources of drinking water) in alignment with the goals of the federal CWA.

Oregon's NPS program conducts water quality monitoring and analysis, develops and uses technical water quality/GIS data, with watershed partners using a balanced approach of education, research, technical assistance, financial incentives, and regulation. DEQ also develops and implements pollution control and reduction strategies for 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 and restoration, public education, water resources, and other activities that affect the quality of the state's waters.

Another key component of Oregon's NPS Program is the coordination of EPA Section 319 funds that fund DEQ's program staff and the NPS Grant Program. The 319-grant program provides funding to cooperating entities for activities emphasizing watershed protection and enhancement, voluntary stewardship, and partnerships between all watershed stakeholders. The DEQ NPS Program integrates with other relevant programs to restore and protect water quality, aligning priority setting processes and resources to increase efficiency and environmental results.

Oregon's NPS Management Program Plan describes outcomes and key actions expected over the 5-Year plan period. Some actions occur every year, others have fixed end target dates, and some occur every 5-Years such as updates to Oregon's NPS Program Management Plan and a 5-Year Bureau of Land Management (BLM)/United States Forest Service (USFS)/DEQ MOU progress report and recommendations for revisions/updates to the MOUs. Some example annual milestones are developing annual section 319 grant work plan, implementing projects in a certain number of high priority impaired watersheds, and delivering a certain number of WQ-10 success stories in Oregon's NPS Annual Report submitted to EPA annually as a requirement of Section 319(h) (8) & (11) of the federal Clean Water Act (33 USC 1329).

The NPS Management Program is based on a combination of the following state and federal laws, local ordinances and collaboration efforts:

Section 319 of the federal Clean Water Act requires states to have NPS pollution management programs based on assessments of the amounts and origins of NPS pollution in the state. The State of Oregon's NPS Management Program relies on a combination of state and federal laws, local ordinances, and incorporates several state agencies for its implementation. Key agencies for NPS sectors are Oregon's Departments of Forestry and Agriculture. ODA implements the Agriculture Water Quality Management Act and oversees agriculture and rural residential land uses. ODF implements the Forest Practices Act and oversees timber harvest on nonfederal forestlands. DEQ also works with counties and municipalities to promote integration of local NPS efforts. These agencies work in cooperation with DEQ to protect and restore waters of the state affected by NPS pollution.

Other agencies that also have rules and regulations that help in controlling, reducing, and treating NPS pollution are Oregon Department of Land and Conservation Development (DLCD) and Division of State Lands (DSL). The DLCD implements the State of Oregon land use planning laws and regulations that are required of each city, county, and other jurisdictions. They are required to protect environmentally sensitive areas such as wetlands, riparian areas, and hazard areas such as steep slopes and floodplains on comprehensive plans and implementing zoning maps. Local communities are required to adopt water quality related zoning and development ordinances such as riparian and wetland protection, stormwater control and treatment, and hazardous areas (e.g., floodplains, steep slopes,

earthquake prone areas ordinances, etc.).

The DSL implements the Oregon Removal-Fill Law (ORS 196.795-990). This law requires projects that would involve the removal or fill material in waters of the state to obtain a permit from DSL. The purpose of the law is to protect public navigation, fishery, and recreational uses of the waters. "Waters of the state" are defined as "natural waterways including all tidal and non tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and non-navigable, including that portion of the Pacific Ocean that is in the boundaries of this state". The law applies to all landowners, whether private individuals or public agencies.

DEQ has also been working with staff from the Oregon Water Enhancement Board (OWEB), Natural Resource Conservation Service (NRCS), and other funding entities to prioritize and coordinate the state's efforts to address nonpoint sources of pollution. DEQ coordinates the 319 NPS Grant proposals with OWEB and watershed councils.

OWEB has the Oregon Watershed Restoration Inventory (OWRI) http://www.oregon.gov/OWEB/monitor/Pages/owri.aspx that includes completed projects funded by OWEB grants, USFS and BLM, private landowners, and 319 at subbasin scale from 2011. NRCS funds used as match for OWEB grants are also included in this database. NRCS data, available at subbasin scale through Cooperative Agreement includes NRCS funded projects that have been implemented within a given year at subbasin scale. NRCS and OWEB categorize practices differently, so there is a need to complete a practice crosswalk between these agencies.

BLM and the FS coordinate with restoration and monitoring efforts with state, federal, and local groups. This includes fish and wildlife agencies, watershed councils, environmental groups, timber companies, Tribes, Soil and Water Conservation Districts, DEQ, EPA, and OWEB. Specifically, the agencies provide staff for technical review of Oregon Watershed Enhancement Board (OWEB) grant proposals that include watershed council submissions. In addition, BLM and USFS are represented on the OWEB Board. The agencies support the **Watershed Council Consortium** that brings watershed council coordinators together on an annual basis. The agencies also contribute through water quality planning, projects, and implementation of the Governor's **Oregon Plan for Salmon and Watersheds, 1997, Coastal Salmon Restoration Initiative.** (http://egov.oregon.gov/OPSW/archives/archived.shtml#Anchor-Plan).

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 Fund, and 319 Project Grants. DEQ has also 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.

Coordination among agencies is evidenced by the successful implementation of on-the-ground restoration projects with funding through many opportunities including agency base funds, partnerships through OWEB, watershed councils, and 319 projects.

Oregon's total 2013 319-Grant allocation of $2,172,000 was distributed as follows: $905,000 or approximately 41.7% was directed to the twenty-six (26) 319 projects grant and the remainder, $1,267,000 or approximately 58.3 %, was directed to the PPA grant to fund 9.45 DEQ staff positions for the NPS program.

The $905,000 total funds for 319 funded projects in 2013 was divided in four areas of emphasis, as follows: BMP Implementation (22.4%), TMDL Implementation (57.2%), Pesticide Stewardship Program (11.1%), and Information and Education (9.3%). Note that "BMP Implementation" did not include implementation of BMPs identified in a TMDL Implementation Plan and "TMDL Implementation" primarily focused on effectiveness monitoring.

The following table of Key Oregon NPS Plan Goals, Actions, Milestones and Timeframe are taken from the plan. These key elements are used to track and report on administrative outputs, overall program goals, and planned actions over the next five years. The table is organized by the program plan contents.

DEQ will report on progress made on each of these actions through the Oregon DEQ NPS Annual Report submitted to USEPA Region 10 for approval each year. The annual report is required by Section 319 of the federal Clean Water Act in order for Oregon to receive annual 319 grant funding from EPA.

The actions and priorities to achieve the goals and objectives described in the NPS MP are summarized in Table 1.

Table 1: NPS MP Actions, Priorities, and Milestones 2014 to 2018

GOALS	ACTION	MILESTONES	TIMEFRAME
MAJOR NPS PLANS			
Update NPS MP every 5 years	Update Oregon's NPS Plan that describes how the state's NPS management program achieves water quality standards and TMDL load allocations through restoration and protection.	DEQ issues and submits to EPA For Approval	2014
Implement NPS MP	Implement the NPS MP to achieve the NPS Program goals and priorities	Various milestones	2014 to 2018
Issue NPS Annual Report	The NPS Annual Report describes the progress in implementing the NPS MP and achieving the NPS Program goals and objectives.	DEQ issues and submits annually for EPA Approval	2014 to 2018
Complete the Coastal Nonpoint Control Plan	Submit to EPA and NOAA a plan for achieving: • Management Measures for Urban Areas, Urban Runoff: Operating Onsite Disposal Systems Management. • Management Measures for Urban Areas, Urban Runoff: New Development. • Additional Management Measures for Forestry	DEQ/DLCD issues and submits to EPA and NOAA for Approval	2014
BLM Annual Report	The 2011 MOU between the BLM and DEQ requires BLM to submit an Annual Report to DEQ	BLM submits to DEQ for Approval	2014-2018
USFS Annual Report	The 2013 MOU between the USFS and DEQ requires USFS to submit an Annual Report to DEQ	USFS submits to DEQ for approval	2014-2018
BLM 5-Year Progress Report	The 2011 BLM/DEQ MOU require the preparation of a BLM/ DEQ 5-Year MOU Progress Report.	Document Progress In Implementing MOU Actions and Update MOUs	2016
USFS/DEQ 5-Year Progress Report	The 2013 USFS/DEQ MOU require the preparation of a USFS/ DEQ 5-Year MOU Progress Report.	Document Progress In Implementing MOU Actions and Update MOUs	2018
319 GRANT PROGRAM			
319 Grant Funding DEQ NPS Program	DEQ uses some of the 319 Grant to fund DEQ activities to support work to achieve the NPS Program goals and priorities	DEQ NPS Program Funding	2014-2018
319 Grant Funding for pass through Grants	319 Grant funding of projects that address Region and HQ NPS Program priorities.	Continue funding NPS Program high priority projects with 319 Grant	2014-2018

319 GRANT PROGRAM (Cont.)			
Priority projects to receive 319 Grant Funding for pass through Grants	Region and HQ staff identify and rank projects to receive pass though 319 grant funds for addressing NPS Program priorities	List of priority projects in the 319 Grant request for proposals	2014-2018
319 Grant RFPs	Continue process improvement of 319 Grant RFPs for timely and efficient issuance. Provide training to DEQ NPS and TMDL staff to increase efficiency and timeliness.	DEQ Provides Timely And Efficient Issuance of 319 Grant RFPs.	2014-2018
319 Grant Administration	Provide guidance to DEQ staff and grant recipients for grant administration. Guidance includes, contracting, invoicing and reporting	DEQ Develops, Receives EPA Approval and Issues 319 Grant Administration Guidance	2015
GRTS	Continue to report 319 Grant Data into GRTS; Meet annual reporting deadlines.	Provide GRTS Reporting On Time to EPA for Approval	2014-2018
NPS Implementation	Collect information from NRCS, USFS, BLM and OWEB on annual NPS project implementation activities including 319 Grant projects.	Include information in the DEQ NPS Annual Report	2014-2018
NPS Pollutant Load Reduction Estimates	Collect information on annual nitrogen, phosphorus, and sedimentation-siltation NPS pollutant load reduction estimates for NPS projects.	Include information in DEQ NPS Annual Report	2014-2018
DEQ's NPS Program Website	DEQ's NPS Program Website updated as needed	DEQ NPS Program website updates at least annually to reflect current RFP and NPS Annual Report and other documents as needed	2014-2018
WATERSHED APPROACH BASIN REPORTS			
Watershed Basin Status and Action Plans	Develop a template for Watershed Basin Status and Action Plans. Provide training to DEQ NPS and TMDL staff on its use.	Make Watershed Basin Status and Action Plans Template available to DEQ staff	2015
Watershed Basin Status and Action Plans	Develop Watershed Basin Status and Action Plans within identified priority watersheds that identify priority problems and waters.	DEQ issues Watershed Basin Status and Action Plans	2014-2018
EPA's Nine Key Elements	Report on how TMDL Implementation Plans and Watershed Basin Status and Action Plans meet EPA's Nine Key Elements	Include information in the DEQ NPS Annual Report	2014-2018
Volunteer Monitoring	Volunteer Monitoring Watersheds Sample Plans Are Developed.	QAPPs and SAPs reviewed by DEQ	2014-2018
BASIN SPECIFIC PROJECTS			
Basin Specific Activities	Basin specific activities and projects will be prioritized through the various TMDL/NPS Program processes	Basin specific activities reported in DEQ's NPS Annual Report	2014-2018
TMDLS AND OTHER WQ PROGRAMS			

TMDL Guidance or IMD	Develop TMDL Guidance or IMD on how to produce work plans that identify data needs and designing a monitoring study.	TMDL Data Needs and Monitoring Study Produces Implementation Ready TMDLs and WQMPs	2015
Technical Assistance	HQ will provide technical assistance on TMDL development and TMDL implementation efforts.	DEQ Staff Provide TMDL Technical Assistance to Ensure TMDL Load Allocations and Water Quality Standards Are Met	2014-2018
TMDL IMPLEMENTATION			
TMDL Implementation Plans	Work with DMAs to develop and implement TMDL Implementation Plans (including annual reports) as described in the TMDL/WQMP.	DMAs Meet TMDL/WQMP responsibilities	2014-2018
TMDL Implementation Plans	DEQ reviews TMDL Implementation Plan annual reports	DMAs Meet TMDL/WQMP responsibilities	2014-2018
TMDL Implementation Plan	Develop a process for DEQ staff for TMDL Implementation Plan review	DMAs Meet TMDL/WQMP responsibilities	2015
TMDL & NPS Implementation	Develop a spreadsheet and process for DEQ to track and report on landscape condition for achieving TMDL implementation timelines and milestones including water quality status and trends	Information included in the DEQ NPS Annual Report	2014
Reasonable Assurance	Conduct analysis during TMDL/WQMP development to provide reasonable assurance and guide implementation for TMDLs	Information included in the DEQ NPS Annual Report	2014-2018
TOXICS			
Water Quality Pesticide Management Team and Pesticide Stewardship Partnerships (PSPs)	Continue to work with the WQ-PMT and implement programs to address water quality pesticide issues including the PSP projects as identified in the Toxics Reduction Strategy	Reduce, where needed, instream pesticide concentrations	2014-2018
Public Water System (PWS)	Continue developing contaminant-specific reduction strategies for public water system use, such as for nitrates and pesticides from urban and rural residential lands.	Reduce or protect PWSs from NPSs of pollution	2014-2018
AGRICULTURE			
Landscape Condition for TMDLs and WQS	Document definition of system potential and site capable vegetation	Coordination between, and effective implementation of, the TMDL/NPS Programs and Agriculture Water Quality Program	2014
AGRICULTURE (Cont.)			

Landscape Condition for TMDLs and WQS	Conduct effective shade assessments for evaluating implementation to achieve TMDL/WQS goals under area rules and plan	Coordination between, and effective implementation of, the TMDL/NPS Programs and Agriculture Water Quality Program	2014
Biennial Review of Area Rule and Plan	Participate in ODA's biennial review process by providing water quality status and trends and landscape condition in priority areas	DEQ provides substantive input during the Area Rule and Plan revision	2014-2018
Update DEQ Guidance for Biennial Reviews	Collaborate with ODA for updating DEQ guidance for providing comment during ODA's Biennial review Process	Complete updating DEQ guidance by end of 2015.	2015
Grant Funding	DEQ participate in local grant funding process to direct resources to high priority agricultural issues.	Coordination between, and effective implementation of, the TMDL/NPS Programs and Agriculture Water Quality	2014-2018
ODA Area Rule Compliance	Work with ODA to prioritize and help develop assessment methodologies for addressing sediment and sedimentation, bacteria, nutrients, and pesticides.	Coordination between, and effective implementation of, the TMDL/NPS Programs and Agriculture Water Quality	2014-2018
FORESTRY			
FPA Sufficiency Analysis	Participate with ODF to jointly develop evaluation methods and study designs (with funding sources) to specifically address unanswered questions from the 2002 FPA Sufficiency analysis and emerging issues.	Private and State Forestlands Meet TMDL Load Allocations and Water Quality Standards	2015
Forest Practices Act Rule	Participate in private Forest Practices Act rule analysis and concept development for water quality issues and revisions to management plans for state forests.	Private and State Forestlands Meet TMDL Load Allocations and Water Quality Standards	2014
ODF/DEQ MOA	Participate with ODF on revising the current MOA between ODF and DEQ	Revision to the 1998 DEQ/ODF MOA	2015
URBAN/ RURAL RESIDENTIAL LANDS			
TMDL and Stormwater	Development of DEQ guidance to improve and establish consistent coordination between TMDL and stormwater programs.	Finalize guidance and provide training to DEQ staff and urban DMAs	2014 - 2018
FEDERAL LANDS			
USFS Annual Status Report	The USFS will submit to DEQ a Statewide Annual Status Report to meet the MOU and any DEQ TMDL reporting requirements.	USFS submittal of the document to DEQ	2014 - 2018
BLM Annual Status Report	The BLM will submit to DEQ a Statewide Annual Status Report to meet the MOU and any DEQ TMDL reporting requirements.	BLM submittal of the document to DEQ	2014 - 2018
FEDERAL LANDS (Cont.)			

Coordination of USFS and BLM with DEQ	The USFS and BLM will coordinate with DEQ for establishing priorities, strategies, and funding using a watershed approach to protect and restore water quality on federal forestlands, this will include WQRPs.	Annual check in on Federal Lands progress towards meeting TMDL Load Allocations and Water Quality Standards	2014 - 2018
USFS BMPs	As needed, USFS will develop Oregon specific land use activities BMPs and monitor implementation and effectiveness of BMPs following the USDA National Best Management Practices for Water Quality national protocols. http://www.fs.fed.us/biology/resources/pubs/watershed/index.html.	Annual check in on Federal Lands progress towards meeting TMDL Load Allocations and Water Quality Standards	2014 - 2018
BLM BMPs	BLM develops Oregon specific land use activities BMPs and monitor implementation and effectiveness of BMPs and submits to DEQ for review and comment.	Annual check in on Federal Lands progress towards meeting TMDL Load Allocations and Water Quality Standards	2014 - 2018
Pre-TMDLs and Post-TMDL	The USFS and BLM will use the Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters, May 1999, Version 2.0.	Annual check in on Federal Lands progress towards meeting TMDL Load Allocations and Water Quality Standards	2014 - 2018
Agricultural Activities	The USFS and BLM will develop and implement a programmatic strategy to address agricultural activities on federal lands, such as grazing.	Annual check in on Federal Lands progress towards meeting TMDL Load Allocations and Water Quality Standards	2014 - 2018

3.2 Partnerships

The cornerstone of the Oregon NPS 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 NPS pollution. Many of the state's departments, boards, and commissions are now actively involved in addressing NPS pollution and other watershed concerns. In addition, federal agencies are also partners.

DEQ partners include but are not limited to the following:

3.2.2 State Agencies

- Oregon Department of Agriculture (ODA) www.oda.state.or.us
- Oregon Department of Forestry (ODF) www.odf.state.or.us
- Oregon Health Authority (OHA) http://www.oregon.gov/oha/Pages/index.aspx
- 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
- Oregon State Marine Board (OSMB) (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

3.2.1 Federal Agencies

- U.S. Environmental Protection Agency (EPA) http://www2.epa.gov/aboutepa/epa-oregon
- U.S. Forest Service (USFS) 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/
- U.S. National Marine Fisheries Service (NMFS) http://www.westcoast.fisheries.noaa.gov/index.html
- US Army Corps of Engineers (USACE) http://www.nwp.usace.army.mil/
- U.S. Bureau of Reclamation (USBR) http://www.usbr.gov/pn/
- U.S. National Resource Conservation Services (NRCS) http://www.nrcs.usda.gov/wps/portal/nrcs/site/or/home/
- U.S. Farm Service Agency (FSA) http://www.fsa.usda.gov/FSA/stateoffapp?mystate=or&area=home&subject=landing&topic=landing

3.2.3 Local Partners

- Cities (League of Oregon Cities) http://www.orcities.org/
- Counties (Association of Oregon Counties) http://www.aocweb.org/aoc/default.aspx
- Watershed Councils (Network of Oregon Watershed Councils) http://oregonwatersheds.org/
- Soil and Water Conservation Districts (Oregon Association of Conservation Districts) http://oacd.org/

3.2.4 DEQ Memorandum of Understandings and Memorandum of Agreements

DEQ has memorandum of understandings or memorandum of agreements with many partners that identify the specific roles and responsibilities to either develop and/or implement water quality programs to jointly meet water quality standards or TMDL load allocations. This includes but is not limited to the following:

State Agencies

DEQ/ODA – *2012 Memorandum of Understanding Between Oregon Department of Agriculture and Oregon Department of Environmental Quality Relating to Agricultural Nonpoint Source Pollution.* http://www.deq.state.or.us/wq/nonpoint/docs/ODADEQMOA2012.pdf. The MOA is intended to assist DEQ and ODA in collaborative efforts to meet their legal responsibilities related to agricultural NPS pollution, and to help ensure to the maximum extent practicable, that agricultural activities in compliance with Area Rules do not cause or contribute to exceedances of water quality standards and that with implementation of Area Plans TMDL allocations are achieved in agricultural areas.

DEQ/ODOT – *2011 Memorandum of Understanding between Oregon Department of Transportation (ODOT) and Oregon Department of Environmental Quality (DEQ)* http://www.deq.state.or.us/wq/pubs/igas/ODOTMOU2011.pdf**.** The MOU is entered into to protect water quality while efficently implementing ODOT and DEQ missions.

DEQ/EPA – *2010 Clean Water State Revolving Loan Fund Operating Agreement between the Oregon Department of Environmental Quality and U.S. Environmental Protection Agency Region 10.* http://www.deq.state.or.us/wq/pubs/igas/CWSRFopAgrmt20100909.pdf . The purpose of the Clean Water State Revolving Loan Fund (CWSRF) is to provide financial assistance for the construction, replacement or improvement of wastewater treatment works that are publically owned, for the implementation of a management program for nonpoint sources of water pollution, and for the development and implementation of a comprehensive conservation and management plan for estuaries designated under the national estuary program.

DEQ/ODF/ODA/DLCD/ODFW/OPRD – *2006 Memorandum Of Understanding Among Oregon Department of Forestry (ODF),Oregon Department of Agriculture (ODA), Oregon Division of State Lands (DSL), Oregon Department of Land Conservation and Development (DLCD), Oregon Department of Fish and Wildlife (ODFW), Oregon Parks and Recreation Department (OPRD), and Oregon Department of Environmental Quality (DEQ).* *E:\WINWORD\Forestry and Forestland Conversion\Conversions MOA Final 2006.doc* The agencies have common interests and responsibilities in protecting waters of the state and other natural resources during the conversion of forestland to non-forest uses.

Federal Agencies

DEQ/NRCS/OWEB – *2010 Memorandum Of Understanding Among U.S. Department Of Agriculture- Natural Resource Conservation Service And Oregon Watershed Enhancement Board And Oregon Department Of Environmental Quality* http://www.oregon.gov/OWEB/docs/board/2010-09/itemk_att_a.pdf USDA-NRCS, OWEB and DEQ will work together to share information and technical expertise to monitor, evaluate and report the effectiveness of cumulative conservation and restoration actions in achieving natural resource outcomes.

DEQ/USFS – *20132 Memorandum of Understanding between U.S. Department of Agriculture-Forest Service's Pacific Northwest Region and State of Oregon Department of Environmental Quality to meet state and federal water quality rules and regulations was completed.* http://www.deq.state.or.us/wq/nonpoint/docs/USFSDEQWQMU02.pdf. This MOU documents the USFS and DEQ strategy for managing and controlling point and NPS water pollution from USFS-managed lands in the State of Oregon. This MOU sets out the procedures for the USFS and DEQ to cooperatively implement State and Federal water quality rules and regulations. The physical, chemical, and biological conditions of "Waters of the State" that support beneficial uses (defined in Oregon Revised Statute (ORS), Chapter 468B — Water Quality and Oregon Administrative Rules (OAR), Division 41) will be protected, restored, and maintained by working in a proactive, collaborative, and adaptive manner through this MOU.

DEQ/BLM – *2011 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.* http://www.deq.state.or.us/wq/nonpoint/docs/DEQBLMMOU20110401.pdf.
This MOU documents the USFS and DEQ strategy for managing and controlling point and NPS water pollution from USFS-managed lands in the State of Oregon. This MOU sets out the procedures for the USFS and DEQ to cooperatively implement State and Federal water quality rules and regulations. The physical, chemical, and biological conditions of "Waters of the State" that support beneficial uses (defined in Oregon Revised Statute (ORS), Chapter 468B — Water Quality and Oregon Administrative Rules (OAR), Division 41) will be protected, restored, and maintained by working in a proactive, collaborative, and adaptive manner through this MOU.

Idaho DEQ, Washington DOE, Oregon DEQ, EPA Region X, and the Columbia Basin Tribes – *2000 Memorandum of Agreement Columbia/Snake Rivers Total Maximum Daily Load for Total Dissolved Gas and Temperature.* http://www.deq.state.or.us/wq/tmdls/docs/columbiariver/tdg/tmdlmoa.pdf. The purpose of this MOA is to document a mutual understanding on the approach and roles among Idaho DEQ, Washington DOE, Oregon DEQ, EPA Region X, and the Columbia Basin Tribes to complete a total dissolved gas and temperature TMDL for the mainstem Columbia and Snake Rivers to River Mile 188. Expected roles of non-signatory agencies are also included. The environmental purpose of this effort is to understand the sources of total dissolved gas and temperature loadings and to allocate those loadings based on numeric water quality criteria in order to meet water quality standards. The Total Dissolved Gas TMDL was completed and issued by the states of Oregon and Washington and approved by EPA in 2002. EPA has not yet completed the Columbia River temperature TMDL.

3.3 Baseline Regulatory Statutes

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

- Federal Clean Water Act http://www.epw.senate.gov/water.pdf
- Federal Safe Drinking Water Act https://webinsight.arielresearch.com/ArielFT/NAdoc/law/L00072.htm
- EPA National Estuary Program http://water.epa.gov/type/oceb/nep/index.cfm#tabs-2
- NOAA CZARA Section 6217 Coastal NPS Control Program http://coastalmanagement.noaa.gov/about/czma.html#section6217
- Oregon Revised Statute 468B http://www.deq.state.or.us/wq/sb737/docs/LegRpAtt120100601.pdf
- Oregon Water Quality Standards http://www.deq.state.or.us/wq/standards/standards.htm
- Oregon TMDL Rule http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_340/340_042.html
- Oregon Forest Practices Act http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_629/629_670.html
- Oregon Agricultural Water Quality Act http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_603/603_095.html
- Oregon State Land Use Planning Program, specifically Goal 5 (protection of riparian and wetlands) and Goal 6 (protection of air, water and land resources) http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_660/660_023.html
- Oregon Groundwater Quality Protection rules http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_340/340_040.html

3.3.2 Water Quality Standards

Establishing water quality standards for waters of the state in Oregon is at the core of DEQ's water quality activities. Standards include beneficial uses of water, such as drinking water, aquatic life, recreation, etc., http://www.deq.state.or.us/wq/standards/uses.htm and the water quality criteria designed to protect those uses. The Water Quality Program then acts to protect and restore water quality by implementing those standards, including evaluating whether Oregon's water quality standards http://www.deq.state.or.us/wq/standards/standards.htm are being met through the development of the biennial Integrated Report http://www.deq.state.or.us/wq/assessment/2010Report.htm , which includes the section 303(d) list of impaired waters and the section 305(b) report describing the status of Oregon's surface water quality.
The staff who work on these program areas perform the following activities:

- Conduct triennial standards reviews to establish and update scientifically based water quality standards and related policies.
- Develop and maintain internal directives for and provide guidance to regional and headquarters staff on implementation of water quality standards in various water programs.
- Identify waterbodies not meeting water quality standards and develop Integrated Reports that are linked to the Watershed Approach Basin Reports.

Create a process to develop Integrated Report that complements and supports basin planning efforts.

- Develop guidance for antidegradation for nonpoint sources (EQC asked for this as part of toxics standards development)
- Revise turbidity standard to clarify implementation of the standard and better protection of beneficial uses
- Explore options for protecting waterbodies from impairment due to nutrients. If needed, develop nutrient standard
- Ensure that water quality assessment and basin planning efforts provide a comprehensive evaluation of water quality and other environmental information resulting in a basin-based water quality status and action plans. DEQ is committed to continue taking this approach.
- Work with our stakeholders to promote development of integrated plans based upon EPA's integrated planning framework. Guided by DEQ's basin assessments and local community needs and priorities, implementation will allow communities to address Clean Water and Safe Drinking Water Act program requirements that yield highest environmental and public health benefits with a commitment to meet all regulatory obligations.

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, http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_340/340_041.html . The associated tables and figures and additional information may be found on DEQ's water quality standards web page at: http://www.deq.state.or.us/wq/standards/standards.htm.

3.3.1 Integrated Report [303(d) and 305(b)]

Every two years, DEQ is required to assess water quality and report to EPA on the condition of Oregon's waters. DEQ prepares an Integrated Report http://www.deq.state.or.us/wq/assessment/assessment.htm that meets the requirements of the federal CWA for Section 305(b) and Section 303(d).

- Federal CWA Section 305(b) requires a report on the overall condition of Oregon's waters.
- Federal CWA Section 303(d) requires identifying waters that do not meet water quality standards and where a TMDL pollutant load limit needs to be developed.

The Integrated Report includes an assessment of each water body where data are available, a comparison of water quality information to Oregon's water quality standards, and identification of the Section 303(d) list of water quality limited waters needing a TMDL. DEQ uses the list of impaired waters to set priorities for TMDL development. DEQ's monitoring provides data that is collected to support decisions and for implementing the NPS Management Program.

The Integrated Report provides a comprehensive evaluation of water quality throughout the state. The NPS program uses information from the Integrated Report and the 303(d) list of impaired waters to identify the waters and watersheds where pollutants are likely related to nonpoint sources in the watersheds. DEQ then can focus and prioritize 319 program activities to prevent, control, and eliminate NPS pollution. The Integrated Report information can also complement and support basin-planning efforts, development of basin-based water quality status and action plans, and assist in allocating resources between impaired waters and waters with good water quality.

3.3.3 Total Maximum Daily Loads (TMDLs) and Water Quality Management Plans

The federal Clean Water Act requires that water pollutant reduction plans, called TMDLs, be developed for waterbodies that are listed in Category 5 of the Integrated Report (303(d) List). TMDLs describe the maximum amount of pollutants from anthropogenic sources including natural sources, which can enter the river or stream and meet 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. TMDLs include a margin of safety to account for uncertainty. They may include a reserve capacity that allows for future discharges to a river or stream. DEQ typically develops TMDLs on a watershed, subbasin, or basin level and occasionally at the reach level depending on the type and extent of impairments.

The Water Quality Management Plan (WQMP) is the framework for TMDL implementation that is issued by Oregon along with the TMDL (OAR 340-042-0040(1)). The WQMP lays out the strategies for TMDL implementation and serves as a multi-sector plan and provides the reasonable assurance that the TMDL will be implemented and allocations achieved.

Process for TMDL and WQMP Development:

- Review existing data and monitor to determine the type and amount of pollutants that are causing water quality impairments. The review and monitoring attempts to determine how much of the pollution comes from point sources, nonpoint sources, including natural sources such as wildlife.
- Uses techniques such as water quality or watershed modeling to determine what effect the pollution is having on the stream or river and how much of the pollutant can be discharged and meet water quality standards.
- Use this information to establish waste load allocations for point sources (the amount of pollutant the permitted source is allowed to discharge which will be incorporated into NPDES permits) and load allocations for nonpoint sources, which are, implemented through the WQMP and TMDL Implementation Plans, Agricultural Area Rules and Plans, Forest Practices Act Best Management Practices, Water Quality Restoration Plans, and other planning documents.
- Typically, DEQ develops TMDLs on a basin, subbasin, or watershed scale (generally on a third (3rd) field US Geological Survey Hydrologic Unit Code or smaller).
- Typically, staff in the program conduct all facets of work in collecting, analyzing, and presenting results. Staff will also perform public and stakeholder outreach to ensure input when decisions are being made. The combination of outreach and development provides for the transition from development of loading capacity and allocations to implementation in permits and planning documents, such as TMDL Implementation Plans.

TMDL Wasteload Allocations are implemented through effluent limits in permits for point source discharges, and NPS Load Allocations are implemented by DMAs and other designated sources.

DEQ staff actively implements TMDLs by:

- Revising industrial and municipal wastewater permits to incorporate revised permit limits.
- Working with the Oregon Department of Agriculture through the Agriculture Water Quality Management Act 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.
- Working with ODA and ODF for implementing their programs to meet TMDL allocations.
- Assisting local governments identified as DMAs in developing TMDL Implementation Plans for urban and rural residential areas.
- Working with the USFS, BLM and other federal agencies on developing their implementation planning documents and implementing their programs for lands under their jurisdiction.

Under most circumstances, TMDL Implementation plans for improved water quality rely on cooperation among landowners and land managers within a river basin. Local watershed councils, Soil and Water Conservation Districts, or other organizations will serve as community-based coordination points for these united efforts. Agencies and municipalities with jurisdiction over sources of NPS pollution and sources not covered by permit are required to submit TMDL implementation plans to DEQ. These plans describe actions that will be taken to reduce their contribution of the TMDL pollutant.

Priorities for the TMDL Program for DEQ to better develop and implement TMDLs/WQMPs for nonpoint and point sources:

- Development: Draft a guidance document for TMDL and WQMP development.
- Development: Areas where land uses and land management are a source or potential source of the pollutant TMDLs will be developed to address the nonpoint source(s)
- Development: Provide better reasonable assurance during TMDL development process.
- Implementation: Working with DMAs to assure they are meeting TMDL priorities that address their responsibilities identified in the TMDL or WQMP.
- Implementation: Identify lead staff to work with sister agency DMAs to achieve consistency and efficiency.
- Implementation: Conduct additional analysis to provide better reasonable assurance and guide implementation for existing TMDLs that are identified as priorities.
- Implementation: Continue to build relationships with funding agencies and entities to direct funding toward high priority projects.
- Align TMDL development source assessment, linkage analysis, and allocation methods with WQMP development and TMDL implementation methods and priorities so that administrative outputs and landscape and water quality outcomes can be measured and tracked for reporting of Program effectiveness.

3.3.4 General Permits for Pesticides

Pesticide applications that result in the discharge to waters of the state from the use of biological pesticides or chemical pesticides that leave a residue require an NPDES permit. The need for the permit resulted from federal court decision requiring permits for pesticide applications in, over or near water.

Pesticide general permit 2300-A provides permit coverage for Mosquito and Other Flying Insect Pest Control, Weed and Algae Control, Nuisance Animal Control, Forest Canopy Pest Control, and Area-wide Pest Control. An estimated 1,500 entities that decide to apply pesticides or have day-to-day control over pesticide application may require permit coverage. These entities include weed control districts, vector control districts, golf courses, lake and marina managers, public utilities, property owners and federal, state and municipal agencies who apply pesticides in, over or near water. Pesticide general permit 2300-A is not for pesticide applications to dry land. This general permit does not cover the discharge to a water body that has been identified as water quality limited on the 303(d) list for a pesticide, its chemical residual or degrades when a waste load allocation for the relevant pollutant parameter does not exist. A discharge to a water quality limited water body may require an individual permit with more detailed site-specific evaluation that results in additional technology-based and/or water quality-based effluent limitations.

DEQ is developing a new permit (the 2000-J) for pesticide use in irrigation systems. DEQ conducted a public comment period on the proposed permit that ended in fall 2012. Until this permit is made available, pesticide use at irrigation systems can continue to use pesticide general permit 2300-A.

NPDES permits do not apply to agricultural stormwater discharges and irrigation return flow from irrigated agriculture because these are excluded from permitting under the Clean Water Act.

More information on these permits is available at this DEQ web site.
http://www.deq.state.or.us/wq/wqpermit/pesticides.htm

3.4 Other Management Programs that Address NPS

Oregon's NPS Control Program Plan identifies the pollution management programs, strategies, and resources that are currently in place or that are needed to minimize or prevent NPS 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 describes the unified effort of many agencies and individuals and their various pollution control strategies that are currently taking place or are proposed for future implementation.

3.4.1 Watershed Approach Basin Reports

DEQ coordinates its work to protect and improve Oregon's water by following the watershed approach. DEQ uses the term "watershed" to describe an area of land that contains related waterways. These watersheds may be traditional basins, areas that drain into a single waterway or an area that contains similar waterways, such as a group of coastal rivers.

Watershed Approach Basin Reports are in-depth assessments conducted by DEQ of the state's basins. These assessments take the form of local Water Quality Status and Action Plans, which describe water quality conditions and include recommendations for actions that DEQ and others who are interested in these basins can take to improve water quality. Where reports have been developed, DEQ has been able to use the action plans and basin priorities to determine how resources will be allocated.

The DEQ water quality program has increased its emphasis on the "watershed approach" as a way to better identify and address water quality issues in a basin or region. The watershed approach combines the expertise of DEQ's 17 water quality sub-programs to produce basin-based assessments that are data-driven and contain quantitative elements that describe all water quality conditions. This means that in some basins the pollutants identified as causing water quality issues includes additional (different) pollutants than that included on DEQ's 303(d) list or in TMDL Water Quality Management Plan. This is one of the values of conducting a watershed approach.

DEQ develops the Watershed Approach Basin Reports that includes Water Quality Status and Action Plans with the help of local stakeholders, such as communities, watershed councils and conservation districts, as well as local, state and federal agencies, to provide data and smart solutions to local water quality issues. The watershed approach allows opportunities for direct, interactive feedback between DEQ and its many stakeholders. An important need for producing better basin reports is to obtain additional funding, particularly for LIDAR work. DEQ staff have identified the need to work with natural resource agencies on a legislative package to fund additional LIDAR.

The watershed approach framework is being used by DEQ to improve water quality throughout Oregon, protect drinking water, fish habitat, and water quality in general, which can also boost Oregon's economy. A clean and more dependable water supply is good for industry, promotes healthier commercial and recreational fisheries, and encourages tourism. Clean waterways also help ensure that Oregonians of all ages have safe places to swim and play.

Watershed Plans identify strategy for improving state waters on a geographic basis with the state's National Pollutant Discharge Elimination System (NPDES) permitting, assessment, GWMA, and TMDL work aligned and prioritized according to the watersheds.

The watershed approach uses available information to identify water quality priorities and actions to protect or restore water quality. This Watershed Approach Basin Reports are used by DEQ to:

- Identify and address all water quality issues in a basin or region.
- Share its findings with affected stakeholders and residents, so all parties learn how to better manage our watersheds.
- Prioritize immediate and long-term actions that can be taken in a particular basin or watershed that have been identified through DEQ's Watershed Approach Basin Reports and Water Quality Status and Acton Plans.
- Encourage all involved to be flexible and open to new ways of solving problems (including voluntary collaboration where possible) and avoiding duplication of efforts.

- Regularly assess the situation in each basin, to determine in an outcome-based approach what is working and what is not.

DEQ plans to cover the state's major basins in the next few years and then re-visit each to mark progress and reassess how to deal with lingering water quality problems.

The DEQ Watershed Approach Basin Reports Water Quality Status and Acton Plans can be found at http://www.deq.state.or.us/wq/watershed/watershed.htm

3.4.2 Cross Program Efforts to Address Toxic Chemicals

DEQ developed a comprehensive, integrated approach to address toxic pollutants in the environment. An integrated approach is essential because these pollutants readily 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 is meant to ensure that DEQ is addressing the problem of toxics in the environment in the most effective and efficient way.

A short summary of the Draft Toxics Reduction and Assessment Actions, and a document providing more detailed (1-2 page) descriptions of each of the draft actions can be found on DEQ's Toxics Reduction web page. The summary of Strategy actions, some of which directly involve NPS staff, can be found at http://www.deq.state.or.us/toxics/docs/ToxicsStrategyNov28.pdf

The objectives of the DEQ Cross Program Efforts to Address Toxic Chemicals:

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

DEQ is currently focused on implementing five short-term priority actions identified in the Toxics Reduction Strategy: (a) expanding and enhancing the Pesticide Stewardship Partnership Program (see below), (b) developing and implementing a pesticide waste collection strategy, (c) working with consumer product retailers to reduce toxics in products, (d) integrating business technical assistance across programs to advance green chemistry, and (e) developing and implementing low toxicity state purchasing guidelines.

The technical assistance and state purchasing initiatives are also directly linked to an executive order (#12-05) signed by Oregon's Governor in April 2012. Most recently, DEQ supported the state Department of Administrative Services (DAS) in developing a new janitorial supplies contract with comprehensive and detailed guidelines and specifications that ensure the janitorial and cleaning products purchased by the state contain low toxicity ingredients. The State of Washington is also participating in this contract, which is estimated to represent approximately $20 million in total purchasing power.

3.4.2.1 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.

In 2013, DEQ and the Oregon Department of Agriculture obtained funding from state legislature to implement and expand PSPs. New funding allows DEQ and ODA to add new PSP projects in more watersheds around the state, conduct several pesticide waste collection events, and enlist Oregon State University's expertise in providing pesticide risk reduction technical assistance.

The following PSP objectives are proposed:

- Identify additional watersheds for PSP projects.
- Provide timely water quality information to local partners.
- 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.

The PSP approach of using water-monitoring data to inform voluntary actions continues to show success in selected watersheds. Since 2010, significant decreases (up to 90%) in average and median stream concentrations of pesticides of concern (Malathion and diuron) have been observed in the Mill Creek (The Dalles) and Walla Walla (Milton-Freewater) watersheds. DEQ, ODA and other partners are currently working on refining PSP efforts in Western Oregon watersheds to produce similar demonstrable water quality improvements as have been observed in Eastern Oregon watersheds.

3.4.2.2 Water Quality Pesticide Management Team (WQPMT)

The Water Quality Pesticide Management team (WQPMT) is an inter-agency team composed of representatives from DEQ, ODA, OHA, 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 State of Oregon departments and university:

- Department of Agriculture
- Department of Forestry
- Oregon Health Authority
- Department of Environmental Quality
- Oregon State University

The priorities for the WQPMT are:

- Expansion and coordination of PSP-type monitoring programs and integrate into individual WQPMT member agency activities. Expansion should include urban pesticide use and groundwater and sediment monitoring efforts.
- Determine ways of prioritizing allocation of limited pesticide monitoring and outreach resources at a smaller scale in watersheds.
- Possibly expand scope of WQPMT to include legacy pesticides and fertilizers.
- Watershed vulnerability assessments and prioritization.
- Coordination of state agencies in implementing management Tasks 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 consensus on how to assess the presence of mixtures in monitoring samples.
- Actively engage in policy discussions/decisions regarding the coordination and overlap of federal CWA-FIFRA issues.
- Minimize duplicate work by coordinating with TMDL, PSP and other management and monitoring efforts.
- Continue coordination with various DEQ toxics programs through the DEQ Toxics Reduction Strategy.
- 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.

3.4.3 Drinking Water Protection

The State of Oregon Drinking Water Protection Program works to implement strategies ensuring the highest quality water is provided to public 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 Management Program and is readily accessible by others. It is utilized to assist other DEQ programs to 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, Oregon State Marine Board (OSMB), Oregon Water Resources Department (OWRD), United States Forest Service (USFS), USDA, and the BLM to facilitate incorporation of protection strategies into their respective programs.

Maps and downloadable statewide GIS shape files are also available on the DEQ Drinking Water Protection website at http://www.deq.state.or.us/wq/dwp/dwp.htm and can be accessed on DEQ's Facility Profiler, DEQ's Laboratory Analytical Storage and Recovery database, DEQ's Incident Response Information System, Oregon State University's Institute for Natural Resources Oregon Explorer, and the Oregon Geospatial Data Clearinghouse. DEQ receives an average of 3-4 requests for data every month from local governments, federal contractors, and consultants. GIS shape files and coverages of locations and drinking water source areas are provided when effective security of the data is provided.

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. DEQ developed a BMPs database for the 88 most common potential contaminant sources for drinking water in Oregon (available under "technical assistance" in DEQ's Drinking Water Protection (DWP) website). The database provides tasks 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.

DEQ's NPS analyst for drinking water protection regularly assists the DEQ NPS program with forestry and agriculture issues, provides reviews of NPS Management Program activities, and participates in efforts to evaluate and improve if necessary the Oregon Forest Practices Act (FPA) rules for stream protection benefiting fish and drinking water, especially in Western Oregon.

An analysis of nitrate risks at public water systems showed the factors (e.g. well construction) which create vulnerability and identified soil/aquifer characteristics that relate to nitrate contamination. GIS layers were created that show this vulnerability. That information is being made available for producers and Soil and Water Conservation Districts. Further dissemination and use of this information is a program priority.

Analysis of turbidity trends at several Coast Range Public Water Systems showed increasing trends in some sources, documented high-turbidity events, and cataloged land uses that could be contributing to nonpoint pollution. Staff also reviewed the technical basis for turbidity standard revisions, participated as part of Internal Review Team, and wrote a draft document detailing drinking water protection options for private forestlands. Staff is also engaged in scientific review and analysis of sediment regimes and the adequacy of related forest practice rules in cooperation with ODF staff and managers. Please refer to the "State and Private Forest Land" section of this report for further information on priorities with regard to forest practices.

3.4.4 Groundwater Protection and Groundwater Management Areas (GWMAs)

Groundwater makes up approximately 95 percent of available freshwater resources in Oregon. Approximately 70 percent of all Oregon residents rely solely or in part on groundwater for drinking water. Over 90 percent of rural Oregonians rely on groundwater for drinking water. The goals of the Oregon Groundwater Quality Protection Act of 1989 (ORS 468B.150 – 468B.190) are to prevent contamination of groundwater resources, conserve and restore groundwater, and maintain the high quality of Oregon's groundwater resource for present and future uses.

Groundwater is present beneath almost every land surface and is sometimes at very shallow depths. It is vulnerable to contamination from NPS and activities that take place on the land as well as from discharges of wastes and pollutants at or below the ground surface. DEQ uses a combination of water quality and land quality programs to help prevent groundwater contamination from point and nonpoint sources of pollution, clean up pollution sources, and monitor and assess groundwater and drinking water quality. Once groundwater becomes contaminated, it is very difficult to clean up. This contamination may impair groundwater for use as drinking water and may affect the quality of the surface waters where it comes to the surface.

Groundwater protection authority under Oregon state law is primarily vested in DEQ, although other agencies and counties have important roles, particularly with regard to controlling NPS that could pollute groundwater. This can include DEQ designating Groundwater Management Areas (GWMAs) when groundwater in an area has elevated contaminant concentrations resulting, at least in part, from nonpoint sources. A contaminant is considered elevated when its concentration in an area is greater than or equal to 70% if the Maximum Contaminant Level set by EPA under the Safe Drinking Water Act.

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 a GWMA Action Plan that will reduce groundwater contamination in the area. This plan contains a description of the voluntary actions that, when implemented by the various agencies and organizations involved, could reduce the amount of NPS and/or point source pollution leaching into the groundwater. The action plan will identify sources such as irrigated agriculture, land application of food processing water, septic systems (rural residential areas), and confined animal feeding operations.

Priorities for ground water protection are:

- Identify areas outside of GWMAs that may need additional groundwater protection actions.
- Coordinate DEQ programs with roles in groundwater protection to reach GWMA program objectives more efficiently.
- DEQ and ODA continue to fund groundwater projects through various grants and loans including a groundwater research grant, federal Clean Water Act 319 grants, and Clean Water State Revolving Fund loans.

Objectives for ground water protection are:

- Prevent pollution of groundwater by implementing water quality programs related to agriculture, underground storage tanks, underground injection control, on-site septic systems, development, and other activities that have the potential to pollute groundwater.
- Continue to implement GWMA Action Plans in Oregon's three GWMAs.
- Monitor groundwater quality and trends throughout the state.

Strategies in non-GWMAs include:

- Continue to work cooperatively with Deschutes County to implement groundwater protection programs in the La Pine area.
- Disseminate information about soil and aquifer characteristics that increase vulnerability of groundwater.
- Continue funding and support of research, education, and implementation of BMPs for groundwater

protection, as funding allows.

Oregon has designated three GWMAs because of elevated nitrate concentrations in groundwater. 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.

Northern Malheur County GWMA:

The Northern Malheur County (NMC) GWMA was declared in 1989. An Action Plan was adopted in 1991 that identifies the source of contamination and measures to be taken to reduce the contamination. The nitrate trend in the Northern Malheur County GWMA is slightly declining. Some of the activities in the NMC GWMA were:

- Continue to implement the North Malheur County GWMA Action Plan and evaluate the performance or success of the management plan in reducing groundwater contamination.
- Continued sampling of Northern Malheur County GWMA well network consisting of 36 wells sampled quarterly. The next regional trend analysis should be completed in Spring 2014.

Lower Umatilla Basin GWMA:

The Lower Umatilla Basin (LUB) GWMA was declared in 1990. An Action Plan was adopted in 1997 that details the sources of nitrate and measures to be taken to reduce the nitrate contamination. The nitrate trend in the LUB GWMA continues to increase, although at a slower and slower rate. Some of the activities in the LUB GWMA were:

- Continue to implement the Lower Umatilla Basin Action Plan and evaluate the performance or success of the management plan in reducing groundwater contamination.
- Continued sampling of Lower Umatilla Basin GWMA well network consisting of 31 wells sampled quarterly.
- Completed in January 2013 the document *Third Four-Year Evaluation of Action Plan Success in the Lower Umatilla Basin GWMA* that is currently in preparation. Revision of the LUB GWMA action plan by the LUB GWMA Committee after the *Third Four-Year Evaluation of Action Plan Success in the Lower Umatilla Basin GWMA is finalized*
- Completion of the Communications and Outreach Plan that the Lower Umatilla Basin GWMA Committee in the first half of 2014.
- DEQ will work with the City of Irrigon to develop their voluntary Source Water Protection Plan.

Southern Willamette Valley GWMA

The Southern Willamette Valley (SWV) GWMA 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 application, septic systems, and animal waste. In 2004, DEQ designated the Southern Willamette Valley as a 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. The 2009 "Synoptic Event' included one-time sampling of a little over 100 additional wells brought new understanding to the depth of nitrate impacts in some areas of the SWV GWMA. We have added several additional monitoring wells and six surface water locations to the long-term monitoring program, in order to better assess this concern. In addition, EPA has volunteered to run stable isotopic analyses on surface and groundwater samples collected by the DEQ Lab.

Some of the other activities in the SWV GWMA are:

- 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. Then provide EPA samples for stable isotopes analyses.
- Collaborate with EPA and Benton Soil and Water Conservation District on two grants that will focus on the evaluation of the effectiveness of conservation enhancement practices in reducing nitrate pollution to the groundwater in the Southern Willamette Valley GWMA.
- Conduct a focus group with randomly selected neighbors of two small schools in the GWMA, which have Public Water Systems with nitrate at or near 10 mg/L nitrate-N, to determine how to best incorporate groundwater protection into the daily life of those GWMA residents.
- Plan for a similar focus group targeting those growers managing large acreages.
- Use a social marking approach to facilitate behavior change regarding groundwater protection.
- Update the Southern Willamette Valley Action Plan, to reflect activities that have been completed, and include additional voluntary strategies that were not part of the original Action Plan.
- Use the analyses to direct future work and GWMA Committee meeting topics.
- Evaluate funding sources for the Southern Willamette Valley GWMA, which may become a non-profit entity.
- Evaluate the potential nitrate impact to a 'deeper' aquifer in the Linn County area of the Southern Willamette Valley GWMA.

3.4.5 Coastal Zone NPS Management Program

Section 6217 of the Coastal NPS Control Program, CZARA
http://coastalmanagement.noaa.gov/about/czma.html#section6217
requires states and territories to develop Coastal Nonpoint Pollution Control Programs (CNPCP) to reduce polluted runoff into coastal waters. CZARA is jointly administered by the National Oceanic and Atmospheric Administration

(NOAA) and the EPA. EPA and NOAA must approve a state's nonpoint pollution control program. If the federal

agencies do not approve a state's CNPCP program, federal funding for DLCD's coastal land management program and DEQ's pollution control programs are lost. Oregon's CNPCP program has not yet received full approval by NOAA and EPA. If EPA 319 funding reductions occur, it will make it difficult to implement Oregon's NPS Management Plan measures.

This NPS Management Program is unique in that it establishes a set of 63 management measures for states to use to control or prevent NPS pollution to attain water quality standards and thereby protect the beneficial uses of all state waters. The measures are designed to control runoff from six main sources: forestry, agriculture, urban areas, marinas, hydromodification (such as dams or shoreline and stream channel modification), and wetlands and vegetated shorelines, or riparian areas.

According to NOAA and EPA, a state's program is expected to build on existing coastal zone management and water quality programs by applying a consistent set of economically achievable management measures to prevent and mitigate polluted runoff. To obtain approval, a state must describe how it will implement 63 NPS pollution controls management measures that conform to those described in Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters http://water.epa.gov/polwaste/nps/czara/index.cfm.

Oregon's CNPCP is being developed by DEQ and the Department of Land and Conservation (DLCD). Oregon's coastal nonpoint pollution control boundary includes roughly all lands west of the crest of the Coast Range and the entire Rogue and Umpqua River watersheds. At the north end, the area extends up the Columbia River to Puget

Island, near the Clatsop - Columbia County line. The primary land use is forestry (90 percent), urban (1 percent), agriculture (8 percent), and water and wetlands (1 percent).

CZARA requires Oregon's program to describe the programs and enforceable policies and mechanisms the state will use to implement management measures to prevent and control polluted runoff in coastal waters. Oregon DEQ, in conjunction with the ODF and ODA, has broad authority to prevent and control water pollution from nonpoint sources within the state. Together, these agencies have the statutory authority to prevent NPS pollution; the authority to adopt additional rules to require implementation of the management measures as necessary to control discharges from nonpoint sources, to enforce prohibitions on NPS discharges, and to require restoration, as necessary.

Oregon began submitting elements of its plan for approval to NOAA and EPA in 1995. On January 13, 1998, the federal agencies approved the Oregon Coastal Nonpoint Program subject to specific conditions that the State still needed to address (see "Oregon Conditional Approval Findings") at http://coastalmanagement.noaa.gov/nonpoint/docs/findor.txt

Oregon has received approval on 60 of the 63 required management measures.

However, on December 20, 2013 NOAA and EPA issued a notice of public comment in the *Federal Registrar Docket: Proposed Disapproval Findings of Oregon's Coastal Nonpoint Program* *http://coastalmanagement.noaa.gov/nonpoint/oregonDocket/OR%20CZARA%20Decision%20Doc%2012-20-13.pdf* NOAA and EPA state that *"the document contains the bases for the proposed determination by the NOAA and the EPA that the State of Oregon (State) has failed to submit an approvable Coastal Nonpoint Pollution Control Program (Coastal Nonpoint Program) as required by Section 6217(a) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), 16 U.S.C. 1455b. NOAA and EPA arrive at this proposed decision because the federal agencies find that the State has not fully satisfied all conditions placed on the State's Coastal Nonpoint Program."*

The public notice document also includes a request for public comment on the adequacy of the State's programs and policies for meeting the 6217(g) agriculture management measures and conditions placed on Oregon's Coastal Nonpoint Program. EPA and NOAA state *"Then in 2004, NOAA and EPA provided Oregon with an interim approval of its agriculture conditions, believing that the State had satisfied those conditions. More recently, the federal agencies have received comments that raise concerns about the adequacy of the agricultural measures to achieve this goal."*

The following three management measures have received "conditional approval":

- Management Measures for Urban Areas, Urban Runoff: Operating Onsite Disposal Systems Management
- Management Measures for Urban Areas, Urban Runoff: New Development
- Additional Management Measure, Forestry
  - protect medium, small, and non-fish bearing streams
  - protect high-risk landslide areas
  - effectively address the impacts of road operation and maintenance, particularly legacy roads; and
  - ensure the adequacy of stream buffers for the application of certain chemicals.

Oregon is addressing the three remaining management measures in the following ways in order to gain program approval:

- Management Measures for Urban Areas, Urban Runoff: Operating Onsite Disposal Systems Management.

- Oregon will address onsite septic system issues through a time - of - property transfer inspection program to ensure septic systems are inspected when a property in the coastal zone area changes hands.

- Management Measures for Urban Areas, Urban Runoff: New Development.
  - DEQ will issue a "Guidance to Urban and Rural Residential DMAS for Including Post - Construction Elements in TMDL Implementation Plans".
  - DEQ and DLCD will train local governments and other stakeholders about the guidance and help them develop effective stormwater management plans.

- Additional Forestry Measures Addressing Medium, Small And Non - Fish Bearing Streams, High - Risk Landslide Areas, The Impacts Of Road Operation And Maintenance, Particularly Legacy Roads.
  - On July 1, 2013, Oregon submitted its plan to address the additional forestry measures. The state's submittal included a description of Oregon's regulatory and policy framework for managing private forestlands to ensure protection of water quality and associated beneficial uses.
  - This framework involves a comprehensive, science - based program of regulatory and voluntary measures that includes periodic evaluation and course correction to ensure environmental outcomes can be achieved.
  - Ongoing investment in monitoring to update the *Sufficiency Analysis: A Statewide Evaluation of Forest Practices Act Effectiveness in Protecting Water Quality by: Oregon Department of Forestry and Oregon Department of Environmental Quality, October 2002* http://www.deq.state.or.us/wq/nonpoint/docs/suffanalysis.pdf to determine the effectiveness of rules, with a commitment to making adjustments as necessary to meet standards.
  - Oregon and other partners have invested in long - term evaluations of water quality in several areas containing streams where there are no fish.
  - Enhancement of landslide protections, with rules that require leave trees along slide - prone streams, to slow downstream movement and add large wood to streams.
  - Forestland owners must also avoid locating roads, must not build skid roads, and must prevent deep or extensive ground disturbance during log felling and yarding in high - risk landslide areas.

- Oregon's Environmental Quality Commission and Board of Forestry work closely together to achieve compliance with water quality standards on forestlands.
- Current Board of Forestry consideration of additional protections for small - and medium - sized streams where fish are present based on recent scientific findings that current rules might not sufficiently protect these streams from temperature increases after harvest.
- New rules adopted in 2002 - 03 addressing forest roads, including avoiding road construction in critical locations, limiting road use in wet weather, and requiring drainage systems that direct runoff away from streams.
- Older roads are addressed through voluntary measures (more than $93 million in landowner investment), and Forest Practices Act restrictions on delivering sediment to streams still apply.
- In addition, key to Oregon's framework is a strong land - use system that seeks to conserve working forestlands.

3.4.6. Incorporate EPA Watershed Plans Elements into TMDLs and Watershed Approach Basin Reports

EPA recommends that the EPA Watershed Plans Nine Key Elements be used by the States for water quality planning purposes when addressing nonpoint sources in a watershed. In Oregon, TMDLs, WQMPs, and TMDL implementation plans in combination with watershed council plans could be used to address the EPA Watershed Nine Key Elements (Table ?).

State and local groups provide most if not all the nine key elements in watershed plans, TMDLs, WQMPs, TMDL implementation plans, Watershed Council watershed plans, and other local planning documents. If the existing plans/strategies do not formally address the nine elements, they can still provide a valuable framework for producing updated plans. For example, some TMDL Water Quality Management Plans and TMDL Implementation Plans developed by DMAs contain information on hydrology, topography, soils, climate, land uses, water quality problems, and management practices needed to address water quality problems but have no quantitative analysis of current pollutant loads or load reductions that could be achieved by implementing targeted management practices.

The Nine Key Elements describe broad expectations for nonpoint source management, in particular:

1. Explicit short- and long-term goals, objectives and strategies to protect surface and groundwater.
2. Strong working partnerships and collaboration with appropriate State, interstate, Tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and Federal agencies.
3. A balanced approach that emphasizes both Statewide nonpoint source programs and on-the ground management of individual watersheds where waters are impaired or threatened.
4. The State program (a) abates known water quality impairments resulting from nonpoint source pollution and (b) prevents significant threats to water quality from present and future activities.
5. An identification of waters and watersheds impaired or threatened by nonpoint source pollution and a process to progressively address these waters.
6. The State reviews, upgrades and implements all program components required by section 319 of the Clean Water Act, and establishes flexible, targeted, iterative approaches to achieve and maintain beneficial uses of water as expeditiously as practicable.
7. An identification of Federal lands and objectives, which are not managed consistently with State program

objectives.

8. Efficient and effective management and implementation of the State's nonpoint source program, including necessary financial management.
9. A feedback loop whereby the State reviews, evaluates, and revises its nonpoint source assessment and its management program at least every five years.

Table 2: EPA Watershed Plans Nine Key Elements

EPA WATERSHED PLANS NINE KEY ELEMENTS [1]
ELEMENT 1
Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan.
a. Include the geographic extent of the watershed covered by the plan.
b. Identify the measurable water quality goals, including the appropriate water quality standards and designated uses.
c. Identify the causes & sources or groups of similar sources that need to be controlled to achieve the water quality standards.
d. Break down the sources to the subcategory level.
e. Estimate the pollutant loads entering the waterbody.
ELEMENT 2
An estimate of the load reductions expected from management measures needed to meet the water quality goals. **(DEQ does not do this in the Watershed Approach Basin Reports. However, DEQ estimates the load reduction by pollutant for 319 funded projects and reports the load reductions in the NPS Annual Reports.)**
ELEMENT 3
A description of the nonpoint source management measures that need to be implemented to achieve load reductions, and a description of the critical areas in which those measures will be needed to implement this plan.
a. Identify the management measures that need to be implemented to achieve the load reductions.
b. Identify critical areas in which management measures are needed.
ELEMENT 4
Estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon to implement this plan.
a. Estimate the costs to implement the plan, including management measures, administration, information/education activities, and monitoring.
b. Identify the sources and amounts of financial and technical assistance and associated authorities available to implement the management measures.
ELEMENT 5
Prepare an information and education component used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.

[1] From: EPA's Handbook for Developing Watershed Plans to Restore and Protect Our Waters, March 2008, EPA 841-B-08-002. http://water.epa.gov/polwaste/nps/upload/2008_04_18_NPS_watershed_handbook_app_c.pdf

ELEMENT 6
Develop a schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.
EPA WATERSHED PLANS NINE KEY ELEMENTS (Cont.)
ELEMENT 7
Prepare a description of interim measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented.
ELEMENT 8
Develop a set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining (or maintaining) water quality standards, and specify what measures will be taken if progress has not been demonstrated.
ELEMENT 9
Develop a monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under Element 8 immediately above.
a. Develop a monitoring component to determine whether the plan is being implemented appropriately and whether progress toward attainment or maintenance of water quality goals is being achieved.
b. Develop an evaluation framework.

The developed guidance for those elements will include example TMDL Implementation Plans and Watershed Approach Basin Reports that meet the nine key elements. The following chart in Table _?__ will be included in the guidance for each example plans and reports. This chart will indicate how the nine key elements are being met (noted as Yes or No) on a watershed basis. The filled –out chart will also indicate how the Oregon NPS Plan's goals, actions, milestones and planned actions with associated timelines (i.e. the nine key elements) are or are not included in the TMDL Implementation Plans and Watershed Approach Basin Reports.

ANALYSIS OF TMDL IMPLEMENTATION PLANS AND WATERSHED BASIN APPROACH REPORTS' INCLUSION OF EPA'S WATERSHED PLANS NINE KEY ELEMENTS		NAME AND DATE OF TMDL IMPLEMENTATION PLAN OR WATERSHED APPROACH BASIN REPORT (INCLUDE WATERSHED NAME)
Watershed Plans Nine Key Element	**Included Y/N**	**Where To Be Found/Comments**
1. Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, present in the watershed		
2. An estimate of the load reductions expected from management measures.		
3. A description of the NPS management measures that will need to be implemented to achieve load reductions, and a description of the critical areas in which those measures will be needed to implement this plan.		
4. Estimation of the amounts of technical and financial assistance needed associated costs, and/or the sources and authorities that will be relied upon to implement this plan.		
5. An information and education component is used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the NPS management measures that will be implemented.		
6. Schedule for implementing the NPS management measures identified in this plan that is reasonably expeditious.		
7. A description of interim measurable milestones for determining whether NPS management measures or other control actions are being implemented.		
8. A set of criteria that can be used to determine whether loading reductions are being achieved overtime and substantial progress is being made toward attaining water quality standards.		
9. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established.		

4. Management of NPS by Land Use

Land management activities on agricultural, forested, and urban lands can affect water quality. 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 NPS the prevention, control, and reduction pollution sources to achieve water quality improvements. Oregon programs have been developed to address NPSs.

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.

In Oregon, the legislature has adopted statutes directing the roles and responsibilities of the state agencies for managing water quality affected by agriculture activities, timber harvest, and urban landscapes. Oregon's NPS Program is intended to control or prevent nonpoint source pollution from causing impairments and allow waterbodies 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.

4.1. Agricultural Lands

One of the goals of the NPS Management Program is to assure agricultural land management does not cause water quality impairments and meet TMDL load allocations where applicable through implementation of the Agricultural Water Quality Management Act, and the CWA. Some of this working relationship has been memorialized in the MOA between DEQ and ODA and some of this work requires coordination with other state, federal, and local partners.

DEQ's NPS program works with Oregon Department of Agriculture's Natural Resource Division to prevent pollution and improve water quality on agricultural lands as required under the Agricultural Water Quality Management Act. DEQ and ODA's program staff and management work collaboratively on various water quality related projects to address agricultural nonpoint sources. DEQ's NPS Management Program also coordinates with DEQ programs as well as agency partners such as Natural Resource Conservation Service, Soil and Water Conservation Districts, USGS, Oregon State University, and watershed councils.

4.1.1. Agricultural Water Quality Management Program

The Agricultural Water Quality Management Act (ORS 568.900 to 568.933) authorizes ODA to develop Agricultural Water Quality Management (AgWQM) Area Plans (area plans) and rules throughout the state if the EQC has determined that a TMDL is necessary for a water body, DEQ establishes a groundwater management area, or an agricultural water quality management plan is otherwise required by state or federal law. ORS 568.909.

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. ORS 561.191 states that ODA shall develop and implement any program or rules that directly regulate farming practices to protect water quality.

Agricultural Water Quality Management Program is the main regulatory tool to prevent and control nonpoint source pollution from agricultural lands. Water quality standards and TMDL load allocations for agricultural lands should be met through implementation of area plans and enforcement of area rules. The program also is involved with the development of Ground Water Management Act action plans and leads implementation for agricultural nonpoint sources to improve groundwater quality.

ODA began developing AgWQM area plans once water quality issues in a watershed were identified and a watershed plan was required by state and federal law. The reasons for initiating this planning process were a listing under section 303(d) of the federal Clean Water Act and declaration of Ground Water Management Areas.

ODA has adopted area plans and rules for all 38 regions of Oregon. Each of these area plans were developed with a local advisory committee (LAC) consisting of stakeholders residing in the watershed. The LACs were responsible for developing a draft area plan to address water quality issues from agricultural activities in its area. Most of the area plans have undergone one or more biennial reviews.

ODA is a Designated Management Agency (DMA) for TMDL implementation. ODA has been a partner for TMDL development. DEQ's basin coordinators and ODA staff have ongoing working relationships with the review and implementation of area plans, as well as local water quality issues related to drinking water. Soil and Water Conservation Districts (SWCDs) have contractual relationships with ODA to act as a local management agencies (LMAs) to meet water quality goals on agricultural lands.

Area plans must describe a program to achieve the water quality goals and standards necessary to protect designated beneficial uses related to water quality, as required by state and federal law (OAR 603-090-0030(1).

At a minimum, an area plan must:

- Describe the geographical area and physical setting of the Management Area
- List water quality issues of concern
- List impaired beneficial uses
- State that the goal of the area plan is to prevent and control water pollution from agricultural activities and soil erosion in order to achieve applicable water quality standards
- Include water quality objectives
- Describe pollution prevention and control measures deemed necessary by the Oregon Department of Agriculture (ODA) to achieve the goal
- Include an implementation schedule for measures needed to meet applicable dates established by law
- Include guidelines for public participation
- Describe a strategy for ensuring that the necessary measures are implemented

The area plans as well as the reports can be found at the following link:
http://egov.oregon.gov/ODA/NRD/water_agplans.shtml.

4.1.1.2 Memorandum of Agreement

DEQ and ODA negotiated and signed a Memorandum of Agreement in May 2012. The MOA is intended to guide the agencies to fulfill respective legal responsibilities and obligations in an efficient and effective manner.

The following objectives are applicable to DEQ staff and management:

- Leverage and strategically invest funds and resources by engaging in local and statewide watershed protection and restoration effort.
- Support ODA to develop and implement AgWQM area plans that would, when implemented, achieve TMDL load allocations and water quality standards including groundwater.
- Support ODA to develop and ensure compliance of AgWQM Area Rules that would, when implemented, help achieve TMDL load allocations and water quality standards.
- Evaluate program effectiveness by designing, coordinating, and conducting water quality monitoring projects and compare with implementation activities.
- Through Water Quality Pesticide Management Team (WQPMT) partnerships, develop and implement Pesticide Management Plan that would, when implemented, achieve water quality standards and other benchmarks including groundwater.

4.1.2. Other programs and partners

- DEQ works with other partners and ODA programs to meet water quality goals for agricultural lands. The following programs and partnerships are active in Oregon:

Conservation Effectiveness Partnership (NRCS, OWEB, ODA, and DEQ)

USDA-NRCS, Oregon Water Enhancement Board(OWEB), and ODEQ recognized a benefit to the public and agencies if the programs could more readily share information, and began exploring opportunities for collaboration on the shared grant program goals of improving water quality, watershed functions and processes. The agencies signed a memorandum of understanding in 2010 to formalize this collaboration and allow the sharing of certain types of data. The goals of the partnership are to:

- Build an understanding of the extent of the investment in watershed improvement actions through the agencies' collective grant programs
- Develop a better understanding of how local organizations are utilizing the agencies' respective grant programs, in concert
- Evaluate the impacts of grant investments on water quality and watershed health;
- Describe gaps in the treatment of watersheds; and
- Design tools and methods to report accomplishments to the public.

The partner agencies selected two "pilot watersheds," the Wilson River in Tillamook Bay, and Wychus Creek along the Upper Deschutes River. The pilots were selected due to the length of time and investment of grant program dollars, the magnitude of projects undertaken, the availability of current data sets for these watersheds, and the potential to detect trends of change.(3.2.4 MOA between NRCS, OWEB, and DEQ)

- Water Quality Pesticide Management Program (ODA, DEQ, ODF, OSU) 3.4.2.2.
- Local and Statewide groups for strategic implementation

There are a number of committee meetings held at the state and regional level in order to develop and implement strategies for implementation.

- Oregon Technical Advisory Committee (OTAC): The Natural Resources Conservation Service (NRCS) State Conservationist and Farm Service Agency (FSA) State Director co-chair the OTAC under section 1446 of the 1990 Farm Bill. The Oregon USDA established the committee to provide advice for technical considerations and guidance for implementing programs in the Farm Bill such as Environmental Quality Inceintive Program and Conservation Innovation Grants.
-
- Local and Basin Work Groups: NRCS holds meetings in each basin and county to allocate available funding in strategic manner.
- Oregon Watershed Enmancement Board, grants review group: OWEB convenes regional meetings to prioritize projects for OWEB funding.
-

4.1.3. Water Quality Management Program Priorities

Nonpoint Source Program

Due to limited resources and fluctuating state revenues, it is necessary for DEQ's nonpoint source program to be selective when allocating funds and resources. DEQ has been working with partners in agriculture sector to coordinate and focus efforts.

TMDL Implementation, Biennial Reviews and Basin Plans

The priority work for DEQ for the next five years is to improve water quality on agricultural lands. DEQ considers it important to build Oregon's capacity to be able to measure and report on nonpoint source activities and water quality trends on agricultural lands at various scales.

This is accomplished by the following actions:

- The Oregon Nonpoint Source Pollution Program Annual Report summarizes implementation of activity to reduce nonpoint sources of pollution and water quality responses.
- TMDL implementation for TMDLs developed to address nonpoint sources could include DMA reporting that would be used by DEQ for reporting on NPS activities and water quality responses.
- DEQ will participate in biennial review process to assist ODA to identify and document implementation actions. Implementation on agricultural lands should be strategic and future actions should be documented in order to demonstrate accountability and to leverage various funding sources.
- Decisions should be made while considering unique water quality issues. Basin priorities will be identified through basin plan development process. Where basin plans have been developed, DEQ will use the action plans and basin priorities to determine how resources for agriculture will be allocated. DEQ is committed to developing and revising basin plans for each basin every five years.
- Evaluation and reporting capacity is completed by DEQ, which prioritizes program activities in order to build capacity to report on the effectiveness of agricultural programs and water quality trends.

Strategic Implementation Areas

ODA went through a strategic planning process in 2012, which resulted in Resolution 331 by the Board of Agriculture in March 2013. The resolution supports ODA to establish a strategic program implementation process that identifies key geographic areas (strategic implementation areas) and targets resources to achieve compliance with local water quality regulations. The Board of Agriculture resolution noted that the effort should be founded on the basic conservation principles of erosion control, nutrient management, stream bank stabilization, and moderation of solar heating of streams, promoted by aligning resources with local, state and federal natural resource partners.

Within strategic implementation areas, ODA will work with local, state, and federal partners to outreach to agricultural landowners. Following the outreach period, ODA will identify locations likely not meeting water quality regulations and schedule site visits to seek compliance. In addition, ODA has asked SWCDs to select "Focus Areas" for implementation in each management area.

National Water Quality Initiative and State Resource Assessment Process

The Natural Resources Conservation Service identified and works in priority watersheds throughout the Nation to improve water quality through the National Water Quality Initiative. NRCS provides financial assistance to help producers and ranchers to implement conservation practices and systems to reduce water quality pollution from agricultural lands. In Oregon, NRCS worked with local as well as federal partners including DEQ, ODA, USFWS and others to identify NWQI watersheds based on needs as well as opportunities. In addition, EPA has directed the states to conduct effectiveness monitoring using 319 funds in NWQI watersheds.

As of January 2014, EPA has awarded technical assistance grant for Oregon to develop monitoring plan for Fifteenmile and Willow NWQI effectiveness monitoring projects. DEQ and its partners will be developing and implementing the effectiveness monitoring projects in those watersheds during 2014-2019.

4.1.4. The NPS Program Measures, Timelines, and Milestones

The following strategies are applicable to DEQ staff and management between 2014 and 2019. DEQ currently work on many of the tasks identified here:

Statewide/Programmatic Projects:

- DEQ's projects often involve partners. DEQ will continue to seek opportunities to collaborate with others. (Ongoing) Protection of high quality waters are prioritized locally through Basin Planning process. In addition, protection is considered during triennial review. (Ongoing)
- Basin priorities for agriculture are identified through basin plan development process to ensure decisions are made while considering unique water quality issues. (Ongoing)
- DEQ works with local, state, and federal partners that provide technical assistance to producers to promote conservation practices and restoration. DEQ will continue those partnerships. (Ongoing)
- DEQ considers AgWQM to be a key program for implementation. Review and update AgWQMP biennial review guidance document. (Annually)
- DEQ considers various programs that provide funding for implementing conservation practices and protection to be key programs for implementation. DEQ will continue to participate in existing statewide efforts to direct funds, and continue to seek other opportunities. (Ongoing)
- DEQ considers TMDL to be a key program for implementation. Revise and finalize TMDL Guidance document. (4/2014 to 4/2015, revise as necessary)
- Define and identify gap between "system potential" and "site capable" vegetation for continued discussion of developing a common goal on agricultural lands. (9/2013 to 12/2014)
- Develop and incorporate source water protection guidance into AgWQMP biennial review guidance document. (Annually)
- Develop and provide training related to agricultural land use, policy, and regulations to staff and partners. (As resources allow, at least at one event per year)
- Participate in Oregon Technical Advisory Committee meetings and subcommittees to direct funds to high priority projects. (Ongoing)
- Work with Clean Water State Revolving Fund program and Source Water programs to identify opportunities to streamline and leverage each other's resources. (Ongoing)
- Develop and implement a programmatic strategy to address agricultural activities on federal lands, such as grazing. (1/2016 to 12/2016)
- Support ODA to develop vegetation assessment methodology for SIA and FA. (6/2013 to 12/2013, evaluate and revise in 9/2015)
- Work with ODA to prioritize and help develop assessment methodologies for other area rule compliance. (6/2013 to 1/2019)
    - Erosion and sedimentation
    - Manure and nutrients
    - Pesticides
    - 468B
- Develop a monitoring plan for TMDL and NPS Management Program s in order to measure WQ status and trends on agricultural lands over time, and implement according to priorities (9/2013 to 3/2014)
- Develop capacity and provide GIS and water quality information to ODA during biennial reviews to facilitate prioritization and development of measurable milestones and timelines for implementation. (12/2013 to 6/2014, then ongoing) - evaluate and revise as needed
- Participate in CEP. Develop success stories by analyzing existing data or collecting additional data. (Ongoing)
- Collaborate with NRCS and OWEB to align reporting categories so that implementation information reported to both sources could be aggregated and reported by subbasin and basin scale. (11/2013 to 4/2014)

Basin/ Local Level Projects

- DEQ's projects often involve partners. DEQ will continue to seek opportunities to collaborate with others. (Ongoing)
- DEQ will consider protection of high quality waters are prioritized locally through Basin Planning process. (Ongoing)
- Participate in biennial review process. Provide written comments on the contents including the plan objectives, focus area selection, measurable milestones, and timelines for implementation by using internal guidance document. (Ongoing)
- As mentioned above, DEQ works with local, state, and federal partners that provide technical assistance to producers to promote conservation practices and restoration. DEQ will continue those partnerships. (Ongoing)
- DEQ considers AgWQM to be a key program for implementation. Participate in AgWQMP biennial review and provide comments consistent with the guidance document. (Biennially)
- DEQ considers various programs that provide funding for implementing conservation practices and protection to be key programs for implementation. Participate in existing statewide efforts to direct funds, and continue to seek other opportunities. See other applicable strategies. (Ongoing)
- DEQ considers TMDL to be a key program for implementation. Engage and work with agricultural partners. Once TMDL Guidance document is drafted, use it to ensure consistency. (Ongoing)
- As resources allow, work with other WQ programs as well as local partners to leverage their resources. (Ongoing)
- Participate in Local Working Groups and OWEB Grant meetings. (Ongoing)
- Work with federal land management agencies to address agricultural activities on federal lands, such as grazing where they have been identified as priorities in basin plans. (Ongoing)
- Conduct additional vegetation assessment for SIA and FA where applicable. (1/2014 to 1/2019)
- Evaluate vegetation assessment data with ODA and estimate percent of SIA and FA meeting TMDL/WQS goals. (6/2015 to 1/2019)
- Implement monitoring plan and measure water quality trend on agricultural lands over time as indicated in monitoring plan (4/2014 to 1/2019)

4.1.5 ODA's Tracking

ODA keeps record of compliance related information, as well as summarize and report annually to interested entities including Oregon DEQ, ODA and the SWCDs also produced seventeen reports in 2011 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 and 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. ODA followed up on complaints by conducting site visits or driving by the sites. More compliance investigations were initiated due to issues related to manure management than other water quality issues. The area plans as well as the reports can be found at the following link: http://egov.oregon.gov/ODA/NRD/water_agplans.shtml.

4.1.5.1. Water Quality Program Compliance Summary

ODA provides the following information to DEQ annually. In the past fourteen years, there have been 582 compliance investigations. Over half of the complaints were submitted by the public. In 2012, DEQ referred 23 cases to ODA. A total of 81 actions were taken in 2012. Four notices of noncompliance (an enforcement order), five civil penalties, and one settlement agreement were reached in 2012. In addition, 18 cases were either dropped due to lack of authority or referred to other agencies with jurisdiction, and 11 "fix it" letters (issued prior to advisory and

warming letters) were issued.

- Total number of site visits by ODA's regions
- Compliance Investigations by Pollutant
- Source of Compliance Investigation
- ODA compliance action taken

4.1.5.2. Outreach and Education Summary

ODA provides funding to 45 Soil and Water Conservation Districts for implementation of water quality programs. One of the core components of the water quality program at ODA is its relationships with the SWCDs. ODA and the SWCDs negotiate scope of work agreements to clarify conservation projects to be completed. In Fiscal year 2011, the SWCDs used various venues to reach agricultural producers and rural land residents to promote conservation practices. Additional information on conservation practices is captured under funding partner section.

Table 4: Example SWCDs Outreach and Education Summary

SWCDS OUTREACH AND EDUCATION	# EVENTS	ATTENDANCE OR DISTRIBUTION
Presentations	**213**	**7002**
Demonstrations	**24**	**598**
Tours	**73**	**1507**
Displays	**127**	**38457**
Student Events	**201**	**16171**
Fact Sheets	**62**	**20265**
Newsletter articles	**579**	**54641**

Table 5: Other SWCD Activities

OTHER SWCD ACTIVITIES	
Number of Site Visits	**2689**
Water Quality Monitoring Sites	**470**

4.2 State and Private Forest Lands

Oregon's NPS program for forestry uses cooperation between Oregon's DEQ and ODF, respectively to reduce and prevent NPS pollution from non-federal forestlands. Under the Oregon Forest Practices Act (FPA), the ODF has exclusive jurisdiction over water quality regulation on non-federal forestlands unless additional protections are required by the federal Clean Water Act.

Rules and Best Management Practices (BMPs) are required under the FPA to protect natural resources including water quality. The FPA also requires that rules and BMPs be periodically evaluated to ensure that forest practices do not contribute to violations of water quality standards and that changes be made if the state Board of Forestry issues a finding of resource degradation. Oregon DEQ works cooperatively with ODF to evaluate rules and BMPs, design, implement, and analyze studies of forest practice effectiveness, and alter rules and BMPs when necessary.

DEQ and ODF have the following State and Private Forest Lands Priorities:

- Evaluate FPA rules for private forestlands in cooperation with ODF Private Forest Division staff to ensure that water quality standards are being attained, TMDL load allocations are being met, and beneficial uses are being supported on private forestlands in Oregon.
- Evaluate voluntary implementation of Oregon Plan for Salmon and Watersheds effectiveness in reducing

water quality risks and impacts, identify information gaps, and collect additional information as needed in cooperation with ODF and landowners.
- Review any changes to state forest management plans and work with ODF State Forest Division staff so changes to plans continue to protect water quality and beneficial uses on state-owned forestlands.

DEQ and ODF have the following State and Private Forest Lands Objectives:

1. Ensure that in-process changes to small and medium fish-bearing stream protection rules for private forests will meet the Protecting Cold Water criterion and biologically based numeric criteria of Oregon's temperature standard and temperature TMDL load allocations under the Human Use Allowance.
2. Continue contributing to evaluation of RipStream data on riparian stand characteristics to determine if riparian stand function under the private forest practice rules and state forest management plans will provide adequate large woody debris recruitment for maintenance and creation of aquatic habitat, sediment regulation, and cold-water refugia.
3. Evaluate sufficiency of private forest rules for protection of water quality and beneficial uses with regard to small non-fish-bearing streams, landslide-prone areas, sediment-related processes, pesticide use, and drinking water sources.
4. Provide review on any proposed changes to state forest management plans that may impact water quality.
5. Collect information on voluntary measures implemented under the Oregon Plan, fill information gaps on remaining water quality risks and impacts, and devise a means to remedy risks and impacts using incentives, timelines, technical assistance, and other mechanisms, as appropriate.

4.2.1 RipStream (Riparian Function and Stream Temperature) Study

The products of the RipStream Study relate to Objectives 1 and 2 above.

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. DEQ is also providing assistance through scientific, geographic, and policy analysis.

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

- Are the FPA riparian rules and strategies effective in meeting DEQ water quality standards regarding protection of stream temperature and attaining the water quality standard?
- Are the FPA riparian rules and strategies effective in maintaining large wood recruitment to streams, downed wood in riparian areas, and shade?
- What are the trends in riparian area regeneration?
- 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 in 40% of post-harvest cases compared to a natural background rate of 5%. The high PCW non-compliance rate also indicates an inability to meet TMDL load allocations for forestry. Private streams are typically meeting the numeric criteria, although 3 of 18 experimental stream reaches showed an exceedance due to harvest. It should be noted that the starting temperatures in these streams are usually far below the numeric criteria.

Streams managed by private land riparian rules showed a post-harvest average increase of 0.7 degrees C in the daily maximum temperature. State forest rules resulted in no change in the average daily maximum. Subsequent analysis has shown that reductions in shade are the primary factor driving these temperature changes, and shade decreases

are primarily connected to lower basal areas. These results demonstrate the need for changes in riparian protection rules for small- and medium-sized fish-bearing streams on private forestlands in Oregon in order to meet the PCW criteria.

The Oregon Board of Forestry issued a finding of degradation of resources (water quality) and initiated rulemaking. Rule alternatives are currently being designed and analyzed. Staff from ODF have done further analysis of RipStream data and conducted a Systematic Review of the scientific literature on harvest effects on shade and/or stream temperature. The results of the Systematic Review and analysis will be used to identify alternative rules that can meet the temperature standard, particularly the PCW criterion. The rule changes for temperature protection on small and medium fish-bearing streams should be completed over the next year and will have continued involvement and assistance from DEQ. Future analysis will be needed to determine if riparian management prescriptions are sufficient for riparian large woody debris recruitment needs.

4.2.2 Forest Practices Act Sufficiency Analysis

Analysis of Oregon FPA sufficiency relates to Objective 3 above.

Oregon's DEQ and ODF completed "Sufficiency Analysis: A Statewide Evaluation of Forest Practices Act Effectiveness in Protecting Water Quality" in 2002. The Sufficiency Analysis described forest practice rules and their degree of certainty in terms of meeting water quality standards. It identified, among other things:

- Uncertainties in the ability of riparian rules for small and medium fish-bearing and non-fish-bearing streams to meet the temperature standard;
- Uncertainties in the ability of riparian rules for small and medium fish-bearing and non-fish-bearing streams to provide enough large woody debris over time for habitat creation and maintenance;
- Road rules being insufficient to meet turbidity and sedimentation standards due to inadequate cross-drain spacing and wet-weather hauling problems;
    - Corrected in 2003 rule changes;
- Adequacy in current fish passage rules when implemented.

While the Sufficiency Analysis did contain discussion of forest practice (specifically clear cutting) effects on shallow landslide processes, it did not reach any conclusions or evaluate whether current rules for harvest on landslide-prone areas are protective of water quality. There are landslide rules in effect for public safety considerations. There is also a lack of information on upgrades to roads built before the current rules were in effect. Some locations (e.g. steep side slopes and riparian/floodplain areas), types of construction (e.g. cut-and-fill), and stream crossings represent a higher risk for catastrophic failures.

Voluntary upgrades and storm proofing have been extensive, but there is little information about remaining risk on the landscape. In addition, the science around sediment regimes has advanced substantially over the last decade. Other water quality concerns include; monitoring shows low-levels of herbicides applied in forestry are reaching surface waters, and there are water quality problems (turbidity and disinfection by-products) for Public Water Systems in the Coastal Zone that may be related to forest practices. These uncertainties and issues need addressing.

The NPS program plans an evaluation of FPA sufficiency for small non-fish-bearing streams, landslide-prone areas, sediment processes, pesticides, and drinking water protection. This would incorporate past and ongoing agency work (e.g. Turbidity Report on Coast Range Public Water Systems, FPA compliance monitoring, Regional Solutions projects, PSPs, MidCoast TMDL work) and research (e.g. peer-reviewed studies; Trask, Alsea, Hinkle Creek watershed studies). It might also require new monitoring projects, so scoping and perhaps initiation of those studies would take place during the next 2 years.

The NPS Program Measures, Timelines, and Milestones:

- Continue to participate in ODF/BOF rule work for changes to stream protection rules for small and medium fish-bearing streams [Complete during 2014].

- Participate in analysis of riparian stand information to determine if large wood recruitment and other riparian functions are being maintained [Create timeline in cooperation with ODF during 2014; Continue assisting ongoing analysis]
- Discuss with ODF the scoping and initiation of new private forest practice sufficiency analysis for small non-fish-bearing streams, landslide-prone areas, sediment processes, pesticide use, and drinking water sources [In cooperation with ODF during 2014]
- Work with ODF to develop timeline for completion of draft new sufficiency analysis [In cooperation with ODF by end of 2015]
- Scoping of monitoring or analysis needed for drinking water protection on private forestland [In cooperation with ODF during 2014]
- Evaluate whether the 1998 MOA between ODF and DEQ needs to be updated and initiate updating process, if necessary [In cooperation with ODF by December 2014]
- Review proposed changes to state forest management plans and comment as needed to ensure state forest plans will meet water quality standards and TMDL load allocations. [As necessary]
- Collect information on work done under the Oregon Plan and remaining water quality risks and impacts not covered by combination of forest practice rules and Oregon Plan implementation. [In cooperation with ODF by December 2015]
- Create plan to remedy risks and impacts not covered by rules and Oregon Plan [In cooperation with ODF by December 2016]

4.3 Federal Forest Lands

4.3.1 Coordination with USFS and BLM to Meet State and Federal Water Quality Rules and Regulations

Oregon DEQ has Memoranda of Understanding (MOUs) with both the BLM (BLM) and U.S. Forest Service (USFS). The purpose of the MOUs is to document the cooperation between the parties to ensure that the agencies cooperatively meet State and Federal water quality rules and regulations related to point and NPS water pollution from USFS and BLM managed lands.

The federal CWA and associated Oregon Revised Statutes (ORS) and Administrative Rules (OARs) were created to assure that waters of the state (e.g., lakes, ponds, rivers, streams, and groundwater, etc.) in Oregon meet water quality standards. In addition, the implementing programs and regulations require that all feasible steps be taken toward achieving the highest quality water attainable. Federal agencies located within the state are held to the same standards as all other entities to manage waters under their jurisdiction to meet these standards.

The specific tasks identified in the MOU are:

- The USFS will conduct BMP implementation and effectiveness monitoring following the USDA National Best Management Practices for Water Quality on National Forest System Lands National Core BMP Technical Guide BMPs monitoring protocols that will also be required in Forest Plans and projects.
- The USFS will review and revise BMPs as necessary to improve their effectiveness.
- The USFS will evaluate whether Regional programmatic and structural BMPs are needed to supplement the national BMPs and develop any deemed necessary. (All developed BMPs will be provided to DEQ for review and comment.)
- Work with the USFS and BLM to develop a water quality-monitoring program that identifies the number, type, and location of WQRP management measures (BMPs) including restoration projects being implemented and the instream water quality effects of implementing the BMPs over time in meeting

TMDL Load Allocations and water quality standards.

- Work with the USFS and BLM to ensure all TMDLs issued by DEQ have WQRPs completed and submitted to DEQ for approval.
- The BLM and FS rely on the BMP process (as specified in the FS NPS Plan) 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 NPS 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.
- Establish a process for joint review of ongoing watershed protection, restoration, and compliance activities; including a plan of short and long-term work.
- Participate in Forest Plan and Resource Management Plan revision processes to attain agreement on water quality goals to reduce the need for project level EA and EIS reviews
- Work with the USFS and BLM to establish a process for joint review (both office and field) of ongoing watershed work/priorities.
- To develop a process of joint review of planning and upcoming activities that will assist with identifying and adjusting where feasible agency priorities, resources and funding, and facilitate implementation and monitoring of WQRP BMPs and restoration activities.

The Legal Authorities identified in the MOU are:

- Authority for controlling point and NPS pollution is provided in the Federal Water Pollution Control Act [As Amended through P.L. 107–303, November 27, 2002, (33 U.S.C. 1251 et seq. SEC. 101 (a) (7))]. The federal CWA establishes a national framework for protecting and improving water quality. The federal CWA was amended in 1987 to require States to develop plans for controlling nonpoint sources of water pollution. Oregon's NPS Control Program was established in 1978 before the passage of the Section 319 amendments in 1987.
- Section 313(a) (33 U.S.C. 1323) of the federal CWA directs the Federal Government to comply with all Federal, State, and local requirements with respect to the control and abatement of both point and NPS water pollution. Executive Order 12088 reinforced federal CWA requirements. Section 319(k) of the federal CWA (33 U.S.C. 1329) specifically addresses NPS pollution by directing Federal agencies to accommodate the concerns of the State regarding the consistency of agency projects with the State's NPS pollution management program.
- The National Forest Management Act (NFMA) of 1976 (P.L. 94-588; an amendment to the Forest and Rangeland Renewable Resources Planning Act of 1974) is the primary statute governing the administration of the USFS which called for the management of renewable resources on national forest lands.

The MOU identified priorities:

- Work with USFS and BLM to get water quality data and riparian restoration information for inclusion in the Oregon NPS Annual Report
- Prevent, reduce, eliminate, or remediate point and NPS water pollution and, where necessary, improve water quality to support beneficial uses on federal forestlands.
- Cooperate on priorities, strategies, and funding using a watershed approach to protect and restore water quality on federal forestlands.
- Foster and enhance communication, coordination, and working relationships between the USFS, BLM, and DEQ.
- Identify and implement USFS, BLM, and DEQ authorities, policies, programs, and practices that collectively ensure attainment of Federal and State water quality standards and TMDL load allocations on federal forestlands.
- Identify, clarify, and support DEQ, BLM and USFS roles and responsibilities specific to water quality in a manner that reduces duplication of work.

- Establish a process and time line for joint review of ongoing watershed protection, restoration, and compliance, including development of a plan for short and long-term work.
- Evaluate progress and success in meeting or surpassing water quality goals and requirements.

The Objectives identified in the MOU to be used by DEQ, the USFS, and BLM:

- Acquire and utilize information collected by USFS and BLM about BMP implementation, effectiveness, and water quality responses on federal forestlands.
- Identify information gaps/uncertainties and means to fill those gaps.
- Define BLM, USFS, and DEQ's roles and responsibilities when contractor actions, vandalism, or other third party actions result in violations of state water quality rules and standards on federal forestlands.
- A Statewide Annual Status Report will be written with involvement from each agency. This written report will satisfy MOU and DEQ TMDL reporting requirements.
- The federal forestland agencies will provide updates to WQRP status (e.g., "in progress", "completed", "approved", "being revised", other.) using a WQRP/TMDL tracking table. The federal forestland agencies and the DEQ will work together to develop a centralized streamlined process using existing databases and reporting mechanisms.
- The federal forestland agencies will provide a summary of WQRP accomplishments including restoration and WQRP coverage with spatial context for federal forestlands.
- The federal forestland agencies will provide the results of BMP implementation and effectiveness monitoring required in management plans and WQRPs.
- The agencies will provide updates on internal strategic planning that could affect MOU implementation.
- The agencies will provide updated contact lists to include the DEQ subbasin coordinators and NPS Coordinator along with BLM Oregon districts, USFS Regional Office, and USFS and BLM Oregon Water Program contacts.
- During the fifth year of implementation, the MOU will be reviewed to evaluate effectiveness and discuss MOU update and renewal. A five-year progress report will be prepared by the USFS Pacific Northwest Regional Office and the DEQ headquarters with input from the DEQ Regional and USFS National Forest offices and transmitted to the DEQ Water Quality Administrator and USFS Regional Forester.
    - The 5-Year Report will use information gathered in each Annual Status Report and recommend any changes to the future MOU. The MOU should serve as an outline for the 5-Year Report. The basic elements would include the following:
    - The spatial coverage of Federal land ownership, WQRP extent, and WQRP status ("in progress", "completed", "approved", "being revised", and "other").
    - Individual WQRP development and implementation progress.
    - A summary of BMP implementation and effectiveness monitoring.
    - An evaluation of agency activities in meeting Federal and State Water Quality programs and standards.
    - The recommendations for MOU updates.

4.3.2 Revision of BLM Resource Management Plan and EIS for Western Oregon

In March 2012, the BLM began the process of revising the Resource Management Plans (RMPs) for 2.5 million acres of forested lands across six BLM Districts in western Oregon. BLM intends to revise the six RMPs with an associated EIS for the Western Oregon Planning Area. BLM has begun the scoping process, to determine the scope of issues to be addressed by the environmental analysis, including alternatives and the significant issues related to the planning process.

The Federal Land Policy and Management Act of 1976 (FLPMA) requires the development, maintenance, and revision of land use plans. Preparation of the RMPs and EIS will conform to federal and state management laws including the Endangered Species Act, the Clean Water Act, and the National Environmental Policy Act.

In 2012, the State of Oregon signed an MOU defining the process and scope of the state's involvement in developing an RMP that involves and receives better understating of how the state and federal clean water act and state rules and regulations are included in the RMP. DEQ, ODF, ODFW, and DSL directors signed the MOU. The key federal and state natural resources agencies are members of the Cooperating Agencies Advisory Group and technical workgroups such as riparian/aquatic resources.

BLM is on a schedule to have a final RMP and EIS completed by 2015.

4.3.3 USFS and BLM BMPs for Land Management Activities

4.3.3.1. USFS BMPs for All Land Management Activities

The purpose and objectives of the USFS National BMP Program is to provide a standard set of core BMPs and a consistent means to track and document the use and effectiveness of BMP use on NFS lands across the country. The objectives of the National BMP Program are:

- To consolidate direction applicable to BMP use for NPS pollution control on all NFS lands to avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources.
- To establish a uniform process of BMP implementation that will meet the intent of the federal and state water quality laws and regulations, Executive Orders, and the United States Department of Agriculture (USDA), and Forest Service directives.
- To establish a consistent process to monitor and evaluate Forest Service efforts to implement BMPs and the effectiveness of those BMPs at protecting water quality on regional and national scales.
- To establish a consistent and creditable process to document and report agency BMP implementation and effectiveness.

There are two components to the National BMP Program:

- A national core set of BMPs, and
- A procedural guide for monitoring BMP implementation and effectiveness.

This technical guide contains the national core set of BMPs to be used in the National BMP Program. A separate technical guide is being prepared that will contain the national BMP monitoring protocols.

This technical guide provides information for implementing the National Core BMP portion of the Forest Service National BMP Program. The National Core BMPs were compiled from Forest Service manuals, handbooks, contract and permit provisions, policy statements and state or other organization's BMP documents. The National Core BMPs are not intended to supersede or replace existing regional, state, Forest or Grassland BMPs. Rather; the National Core BMPs provide a foundation for water quality protection on NFS lands and facilitate national BMP monitoring.

The National Core BMPs encompass the wide range of activities on NFS lands across the nation. The primary intent of the National Core BMPs is to carry out one of the federal CWA purposes to maintain the chemical, physical and biological integrity of the Nation's waters. To that end, the National Core BMPs are focused on water pollution control. The National Core BMPs also address soil, aquatic, and riparian resources, but only to the extent that they contribute to maintenance of chemical, physical and biological water quality.

The National Core BMPs in this technical guide are deliberately general and non-prescriptive. As this document is national in scope, it cannot address all possible practices or practices specific to local or regional soils, climate, vegetation types, or state-specific requirements. The National Core BMPs require the development of site-specific prescriptions based on local site conditions and requirements to achieve compliance with established state or national water quality goals. It is expected that State requirements and BMP programs, Forest Service regional guidance, and Forest or Grassland Plans will provide the criteria for site-specific BMP prescriptions. The National Core BMPs provide direction on "what to do" and the local direction will provide "how to do it". Table 1 contains two examples comparing the National Core BMP direction with Forest Service regional direction and state BMPs. Forest Service Regions may supplement the National Core BMPs with additional practices or practices that are more specific to meet Regional needs.

The federal CWA does not regulate NPS pollution. Instead, Sections 208 and 319 require states to develop a process to identify, as appropriate, agricultural, silvicultural and other categories of nonpoint sources of pollution and to set forth procedures and methods, including land use requirements, to control to the extent feasible such sources. Each state has a NPS Management Program and Plan that directs how the state will control NPS pollution. The NPS Management Plan describes the process, including intergovernmental coordination and public participation, for identifying BMPs to control identified nonpoint sources and to reduce the level of pollution from such sources.

Once BMPs have been approved by a state, the BMPs become the primary mechanism for meeting water quality standards in that state. Proper installation, operation and maintenance of state-approved BMPs are presumed to meet a landowner or manager's obligation for compliance with applicable water quality standards. If subsequent evaluation indicates that approved and properly installed BMPs are not achieving water quality standards, the state should take steps to revise the BMPs, evaluate and, if appropriate, revise water quality standards (designated uses and water quality criteria), or both. Through the iterative process of monitoring and adjustment of BMPs and/or water quality standards, it is anticipated and expected that BMPs will lead to achievement of water quality standards (EPA-823-B-94-005a (SAM 32)).

The US Forest Service Manual Direction requires all land use activities on national forests to meet federal and state water quality standards; Clean Water Act Section 303(d) and federal and state TMDL requirements (including, as required in some states, the development and implementation of TMDL Implementation Plans (sometimes called WQRPs); point source NPDES permits; Drinking Water Protection; and Groundwater Protection requirements. BMPs applied should be based on site-specific conditions and political, social, economic and technical feasibility. Methods that reflect NPS conditions should be used to measure effectiveness of those BMPs.

4.3.3.2. BLM Best Management Practices to Reduce Sediment Delivery from BLM Roads in Oregon

BLM has developed a BMPs list for roads that is being used throughout Oregon (\\Deqhq1\wqnps\BLM and USFS\BLM Roads BMP List 2011\W_Or_BLM Road_BMP_Draft_2_ODEQ_Review_4_15_11 DY 5-4-11 epf 20110504_jds5-6-2011.xlsx). DEQ has approved this list.

The Road BMPs include the following:

- Written Plans for Road Construction
- Road Location
- Road Design
- Road Prism
- Stream Crossing Structures
- Drainage
- Waste Disposal Areas
- Road Construction
- Disposal of Waste Materials
- Drainage
- Stream Protection
- Stabilization
- Rock Pit and Quarry
- Road Maintenance
- Vacating Forest Roads
- Wet Weather Road Use
- Guidelines for maximum distance between contiguous cross drains based on U.S. Conservation Service soil erodibility groups
- Waterbar Spacing By Gradient And Erosion Class

4.4 Urban and Rural Residential

Although much of Oregon is in forestry and agricultural land uses, urban and rural residential areas can contribute much more pollution on a per acre basis. For the mostly urbanized watersheds, the impacts of urban development can include a longer list of different types of pollutants, including heavy metals, urban use pesticides, nutrients, sediment, hydrocarbons and combustion related by-products, bacteria, and emerging pollutants like fire retardant products. Increased levels of impervious surfaces (e.g., roads, rooftops and parking lots) associated with urbanization alter the hydrology of the landscape, often causing an increase in stormwater runoff volume/rates – resulting in unstable stream banks or increased flooding – and the discharge of additional pollutants to surface waterbodies. In these urban or urbanizing watersheds, natural surface water systems are replaced by stormwater infrastructure, connecting this water pollution source directly to the nearest stream, lake or wetland.

In Oregon, it is important to note that polluted runoff from urban areas is addressed by NPS programs or stormwater point source permits, and in some instances both programs. For example, larger cities or more populated counties may have both NPS and permitted stormwater requirements or commitments. Whereas, most medium and small sized communities may only address stormwater runoff through NPS programs and Clean Water State Revolving Fund (CWSRF) for funding NPS projects

Oregon relies on the following programs for the prevention, control, and treatment of urban pollution:

TMDL Water Quality Management Plan – DEQ Identifies the urban pollutants located within a city, county and/or stormwater district's waters of the state that do not meet water quality standards and require TMDL load allocations to be met in order to protect beneficial uses.

TMDL Implementation Plan – The TMDL identifies those city, county, and/or stormwater district DMAs that need to develop and implement a TMDL Implementation Plan. The Plan, developed by DMAs and approved by DEQ, must identify the programmatic and structural BMPs that are needed to control, reduce, and treat pollutants that have TMDL load allocations. The goal is for the DMA to meet water quality standards.

NPDES Municipal Separate Storm Sewer System (MS4) Phase I or II Stormwater Permit - The Oregon TMDL rule requires that all Phase I or Phase II MS4 communities prepare a TMDL Implementation Plan. To address this requirement for urban runoff-related pollutants (e.g., bacteria, sediment), the MS4 permittees must develop a Stormwater Management Plan (SWMP) and submit it to DEQ for approval and incorporation as permit conditions.

For all TMDL impairments and listed pollutants, the SWMP must include BMPs (reflected as benchmarks) that are necessary to make progress towards achieving the applicable TMDL wasteload/load allocations. In addition, for those waterbodies located within a MS4 Phase I permitted community that do not yet have a TMDL, the permit requires the permittee to evaluate all 303(d) listed pollutants to determine whether the SWMP includes BMPs to reduce the 303(d) listed pollutant to the maximum extent practicable.

4.4.1. TMDL Implementation for Urban and Rural Residential DMAs

Each DMA identified in the Water Quality Management Plan is required to prepare an individualized implementation plan that provides a description of the management strategies necessary to prevent, control, and/or treat specific sources of the TMDL pollutant. The TMDL WQMP may provide information that the DMA *must* include in the TMDL Implementation Plan.

Each TMDL Implementation Plan must include the management strategies the DMA will use to reduce pollutant loading and achieve the load allocations. The TMDL Implementation Plan must describe the selected management strategies and measurable milestones in sufficient detail, such as providing siting criteria and operating methods, to inform DEQ's independent and objective review and effectiveness evaluation. The TMDL Implementation Plan must also include implementation timelines and performance monitoring, including specific timelines for each

practice to ensure that the TMDL load allocation is met within a reasonable timeframe.

The DMA should also include in the Implementation Plan reasonable assurances that the strategies described in the plan will work. There are two elements to these assurances. First, the management strategies selected should to be justified with estimates of their contribution to load reduction targets. Second, a description of funding sources and other mechanisms that will be used to assure implementation of strategies is essential for a complete plan. The cost of administration, operation and maintenance, and monitoring should be considered for the long-term implementation of the Implementation Plan.

TMDL Implementation Plan Development
A TMDL Implementation Plan describes the actions that are needed to improve water quality once a TMDL has been established. Generally, a TMDL Implementation Plan includes a list of pollutants of concern and the sources (if known), proposed treatment strategies, a timeline for implementation activities, and proposed methods for monitoring the effectiveness of implementation activities. These TMDL Implementation Plans are necessary because typically a TMDL only describes what needs to happen and does not set out a schedule for implementing the specific improvements (see applicable TMDL/WQMP for specific requirements).

The required components of a TMDL Implementation Plan are described in OAR 340-042-0080(4) excerpted below. See DEQ's May 2007 TMDL Implementation Plan Guidance for additional information.

OAR 340-042-0080(4):
Persons, including DMAs other than the Oregon Department of Forestry or the Oregon Department of Agriculture, identified in a WQMP as responsible for developing and revising sector-specific or source-specific implementation plans must:

(a) Prepare an implementation plan and submit the plan to the Department for review and approval according to the schedule specified in the WQMP. The implementation plan must:
(A) Identify the management strategies the DMA or other responsible person will use to achieve load allocations and reduce pollutant loading;
(B) Provide a timeline for implementing management strategies and a schedule for completing measurable milestones;
(C) Provide for performance monitoring with a plan for periodic review and revision of the implementation plan;
(D) To the extent required by ORS 197.180 and OAR chapter 340, division 18, provide evidence of compliance with applicable statewide land use requirements; and
(E) Provide any other analyses or information specified in the WQMP.
(b) Implement and revise the plan as needed.

4.4.2 NPDES MS4 Stormwater Permit

EPA's NPDES Phase I or Phase II Stormwater rules (http://cfpub.epa.gov/npdes/stormwater/munic.cfm) require the Municipal Separated Storm Sewer Systems (MS4) permitted community to implement a stormwater management program and to prepare a Stormwater Management Plan (SWMP) in order to reduce the discharge of pollutants into the storm sewer system to the maximum extent practicable. The Oregon TMDL rule requires that all Phase I or Phase II MS4 communities prepare a plan to guide implementation of management strategies identified in a TMDL WQMP. To address this requirement, a NPDES MS4 Phase I or II stormwater community prepares a TMDL Implementation Plan (typically for non-runoff related pollutants, such as temperature) or incorporates BMPs into its MS4 SWMP to address runoff-related pollutants, such as sediment or bacteria.

The MS4 permittee submits its SWMP (or TMDL Implementation Plan) to DEQ for approval and incorporation as permit conditions. The SWMP must include BMPs (reflected as benchmarks) that are necessary to make progress towards achieving the applicable TMDL wasteload/load allocations for all applicable TMDL impairments and listed pollutants. In addition, for those impaired waterbodies that a MS4 Phase I permitted community discharges to that do not yet have an approved TMDL, the MS4 permit requires the permittee to evaluate all 303(d) listed pollutants to determine the adequacy of the SWMP to reduce the 303(d) listed pollutant to the maximum extent practicable, and

make modifications to the SWMP BMPs as needed.

4.4.3 State Land Use Planning Goals

The Oregon Department of Land Conservation and Development (DLCD) implements the State of Oregon land use planning laws and regulations. The land use goals that interface with urban and rural residential land uses most directly are Goals 5, 6, and 7. These goals protect environmentally sensitive areas, such as wetlands, riparian areas, coastal areas by ensuring local communities, cities and counties, identify environmentally sensitive areas on comprehensive plans and adopt zoning ordinances that protect identified environmental sensitive areas. In addition, the goals require other water quality related zoning and development ordinances such as riparian and wetland protection, stormwater control and treatment, and hazardous areas (e.g., floodplains, steep slopes, earthquake prone areas ordinances, etc.).

Urban and rural nonpoint contributing sources need development-related controls administered through local land use ordinances. **Goal 6** requires local jurisdictions to comply with state and federal water, land, and air quality laws. Land use planning is one of the most important first steps in meeting an urban and rural residential TMDL Load Allocation. It is essential that city and county land use related TMDL Implementation Plan measures are enforced through the local plan.

A city or county will need to review, and if required, amend their comprehensive plan and applicable implementing ordinances. Specifically, revising or adopting the following development ordinances are recommended:

- Erosion and Sediment Control.
- Stormwater Quantity and Quality Management Control and Treatment.
- Wetland, Riparian, and Other Environmentally Sensitive Areas Protection.
- Hillside Development.
- Floodway and Floodplain Protection.
- Drinking Water Protection (DWP) Overlay Zone for Groundwater Wells.

It is however important to note that a DMA will still need to meet both the TMDL load allocations and the state land use-planning goals individually. For example, even if a local jurisdiction has adopted a Goal 5 “safe harbor” for riparian and wetland areas protection, the DMA will need to analyze the adequacy of their Goal 5 program in meeting their TMDLs, particularly the shade requirements with a temperature TMDL. For most urban areas, the riparian areas are degraded and may contain very few trees. In addition, the “safe harbor” buffer widths may not provide sufficient shade to meet the temperature TMDL shade surrogates in some instances. A local jurisdiction may determine that they comply with Goal 5 and not Goal 6 or their TMDL.

In order to better protect water quality and beneficial uses, this process must be reversed. The city and counties natural resources must be identified and protected first. Then land uses should be located in a manner that both protects and utilizes the natural resources as an integral part of the developed landscape. This alternative process has shown that development, mitigation, and in many cases, maintenance costs are less with an increase in quality of life for both humans and fish and wildlife.

5. Oregon 319 Grant Program

5.1 Federal CWA Section 319(h) NPS Grant Funding

The NPS Grant Program is administered by the Oregon DEQ for providing funding as grants to cooperating entities for activities that address the goals and objectives of the NPS Management Program. Through Section 319(h), federal funds are provided annually through the EPA to States for the development and implementation of each State's NPS Management Program.

DEQ's overall strategy is to further develop its own and other agencies' or individual's capabilities, emphasizing

watershed protection and enhancement, voluntary stewardship, and partnerships between all watershed stakeholders. DEQ also reaches out to other federal, state, tribal, local and private partners to assist in program development and implementation beyond DEQ's regulatory jurisdiction and financial abilities. 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.

Section 319 funds are primarily intended for organizational capacity development, implementation activities, including monitoring used to support TMDL development, implementation and measuring progress towards achieving TMDL allocations. The 319 funds used for Base (PPG) are used to fund DEQ NPS staff positions for implementing the NPS Program (Sect. 5.2) and the Incremental (Pass Thru) are used to fund priority projects (Sect. 5.3) (Table 6). Project priorities for 319 Pass Thru Grants are identified by DEQ NPS staff and used in the development of the request for proposals.

Table _? __ identifies the total Section 319(h) dollars, for the years 2007-2013. Funding of both, on the ground and planning, coordinating, prioritizing and implementing NPS activities in Oregon has been approximately $17 million.
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Table 6: Oregon Total Section 319 Funding 2007 to 2013

YEAR	BASE (PPG)	INCREMENTAL (PASS THRU')	TOTAL
2013	$1,301,492	$756,508	$2,058,000
2012	$1,249,000	$905,000	$2,154,000
2011	$1,230,168	$1,111,832	$2,342,000
2010	$1,288,300	$1,387,400	$2,675,700
2009	$1,288,300	$1,387,400	$2,675,700
2008	$1,288,300	$1,387,400	$2,675,700
2007	$1,279.900	$1,387,400	$2,667,300
TOTALS	$7,646,840	$8,322,940	$17,248,400

5.2 Performance Partnership Agreement

A portion of DEQ's NPS program activities are funded through the EPA and DEQ Performance Partnership Agreement (PPA). The current PPA is for activities occurring from July 1, 2012 to June 30, 2014. This funding is used in waters impaired by NPS pollution to support program management, administration, TMDL development and implementation, mainstem Columbia water quality management, and agency coordination.

These funds support 9.45 FTE positions within DEQ that were involved in the following programs /projects:

- Implement TMDLs for NPS in watersheds 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, GWMAs, 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.
- Characterization of NPS problems/concerns.
- Monitoring to support and determine effectiveness of BMP programs.
- Best management practices 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)/SSC1 as related to NPS activities.
- Public education.
- 319 Grant administration for individual projects.

5.3 Incremental (Pass Thru) Grants

The Oregon DEQ requests proposals for watershed assessment, planning, implementation, demonstration and education projects within the boundaries of impaired watersheds on a yearly basis. Since 2012, the RFP process has been a two-step application. The pre proposal application is the first step to gather concept project ideas from potential applicants. Requesting full proposal from selected pre proposal applicants is the second step.

Benefits to applicants of the pre-proposal process include:

- Simplified process for matching project ideas to DEQ's priorities,
- Increased focus on achieving desired results,
- Technical assistance and guidance from DEQ staff to develop final proposal, budget, and project that meet EPA 319 program requirements,
- Reduced risk to applicant of investing time and resources to develop a full proposal that may not be funded.

The projects funded are very specific in targeting the NPS priorities in the RFP. Additional information can be found in the 2014 Oregon 319 NPS Implementation Pre-Proposal Application
http://www.deq.state.or.us/wq/nonpoint/grants.htm

The proposals must focus on the restoration of water quality consistent with the goals, objectives, and priorities identified in the RFP. DEQ Region and HQ NPS and TMDL staff use existing information such as: TMDL/WQMP; Integrated Report; Watershed Approach Basin Reports; GWMA Action Plans; agricultural biennial reviews of area rules and plans; water quality data; and other relevant information to identify and prioritize projects for the RFP. Region and HQ RFP priorities are reviewed by NPS and TMDL staff and managers before inclusion in the RFP. The NPS and TMDL staff score and select preproposals for full proposals which are then reviewed by NPS and TMDL staff and management for funding. In addition, DEQ NPS and TMDL staff are 319 Grant Administrators for the individual project grants. Typically, DEQ targets Incremental (Pass Thru) Grant funds for the following types of projects:

- TMDL implementation plans,
- Surface and ground water quality monitoring,

- Data analysis and modeling,
- Demonstration of innovative BMPs,
- Technical assistance to landowners for conservation planning,
- Public outreach/education,
- Implementation and development of EPA's nine-element, including the formation and facilitation of stakeholder groups,
- In addition, monitoring activities to determine the effectiveness of specific pollution prevention methods.

Project proposals should, where applicable, stress interagency coordination, demonstrate new or innovative technologies, use comprehensive strategies that have statewide applicability, and stress public participation. Examples of project proposals previously funded by Oregon are available by contacting Ivan Camacho, at DEQ, at camacho.ivan@deq.state.or. Additionally, applicants are encouraged to review EPA's Grant Guidelines for the NPS Management Program, available at http://water.epa.gov/polwaste/nps/cwact.cfm.

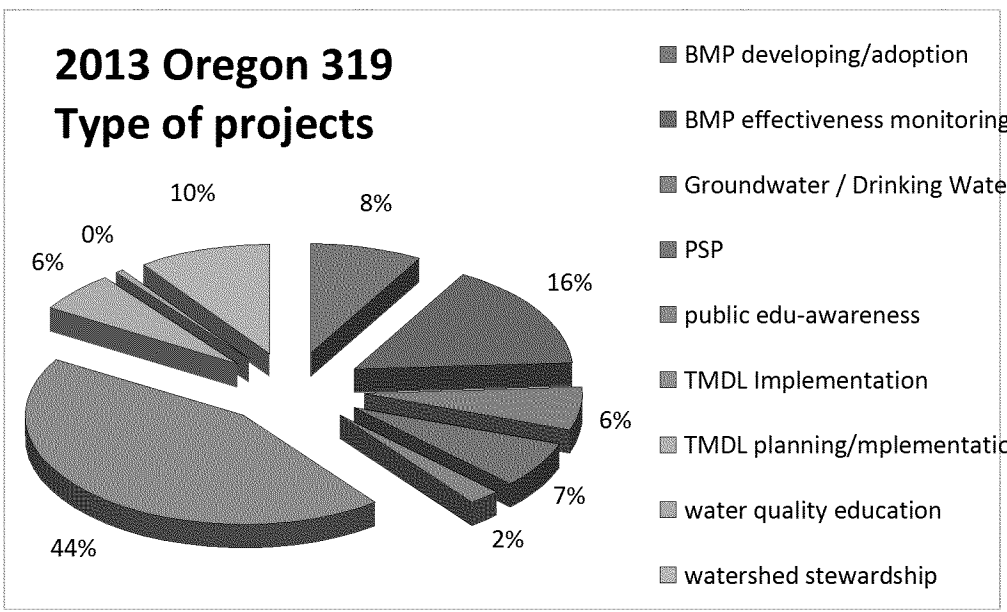
5.4 Project Funding

DEQ seeks proposals from government agencies, tribal nations and nonprofit organizations to address non-point sources (NPS) of pollution affecting coastal, river, lake, drinking and ground water resources of the state.

DEQ identifies specific regional priorities for implementation of the Oregon 319 NPS Grant. The priorities provide the objective and the type of strategy to implement. Please refer to Appendix A for the 2013 grant project objectives. DEQ prioritizes the projects on how well the proposal reflects the listed priorities.

DEQ encourages proposals that show a strong sense of collaboration and partnership with stakeholders, including other state, local, federal and/or tribal nations to ensure the most effective coordination of funding and matching from a variety of sources and to provide the greatest water quality benefit.

As an example of the priorities and pass-thru' funding distribution, the following chart presents the projects for the year 2013 by type based on funding. Total project (incremental) funding for the year 2013 was $756,508.



5.5 EPA Grants Reporting and Tracking System – GRTS

The Grants Reporting and Tracking System (GRTS) is the primary tool for management and oversight of the EPA's

NPS pollution control program. GRTS pulls grant information from EPA's centralized grants and financial databases and allows grant recipients to enter detailed information on the individual projects or activities funded under each grant.

Oregon DEQ reports annually to EPA the progress in meeting milestones, including:

- Estimates of loading reductions of NPS pollutants
- Improvements to water quality achieved by implementing NPS pollution control practices

The Section 319 Grants Reporting and Tracking System (GRTS) is used by Oregon to supply information about the State's NPS Management Programs and annual Section 319 funded work programs, which include watershed-based BMP implementation projects. GRTS includes information about Best Management Practices (BMPs) implemented under 319-funded watershed projects, and the NPS load reductions achieved because of implementation. EPA uses GRTS to compile and report information about state section 319 program projects, including load reductions for nitrogen, phosphorus, and sediment.

As part of the reporting via GRTS Oregon fulfills requirements of the federal CWA Sections 319(h)(11) and 319(m)(1); however, GRTS also provides EPA and other stakeholders greater and more efficient access to data, information, and program accomplishments than would otherwise be available. Besides load reduction information, GRTS, in conjunction with WATERS (see below) provides detailed geo-referencing (i.e., National Hydrograph Dataset (NHD) or NHD reach addresses) for 319-funded projects, project cost information, and a host of other elements.

GRTS is also part of the Watershed Assessment, Tracking, and Environmental Results System (WATERS), which is used to provide water program information and display it spatially using a geographic information system integrated with several existing databases. These databases include the STOrage and RETrieval (STORET) database, the Assessment TMDL Tracking and Implementation System (ATTAINS) the Water Quality Standards Database (WQSDB), and GRTS.

Oregon continues to enter load reduction data for identified 319-funded projects into GRTS. Oregon is in the process of identifying additional watershed models to estimate the load reductions resulting from implementation of BMPs. In the meantime, Oregon continues to use the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) directly supported by EPA and the "Region 5" model to estimate loading reductions of the following parameters:

- Sediment
- Sediment-borne phosphorus and nitrogen
- Feedlot run-off
- Commercial fertilizer, pesticides, and manure utilization

5.6 319 Grants Reporting to OWRI

In addition to GRTS reporting, DEQ requires that 319 project accomplishments for water quality and habitat restoration projects be entered into the Oregon Watershed Enhancement Board's Oregon Watershed Restoration Inventory (OWRI) database located at http://apps.wrd.state.or.us/apps/oweb/owrio/selectproject.aspx.

Watershed restoration projects information included in this database is as follows:

- Activities designed to restore aquatic, riparian, estuarine, wetland, upland, or overall watershed conditions or functions
- Completed projects or a completed phase of a project

5.7 NPS Annual Report

The DEQ prepares a NPS Annual Report that is submitted to EPA for review and approval prior to the following

year's release of 319 Grant funds to the state. The NPS Annual Report contains the previous year's NPS Program performance including reports on progress on meeting goals, objectives, and priorities. Progress on projects funded by both Base (PPG) and by Incremental (Pass Thru) are reported.

6. Other State Operated NPS Funding Sources

Oregon's NPS Management Program is funded from other DEQ, state, and federal programs. For DEQ, there is the Clean Water State Revolving Loan program. Other state funding programs include the Clean Water State Revolving Fund (CWSRF), Drinking Water Revolving Loan Fund (DWRLF), the following OWEB grants: Small Grants; Local Capacity Support Grants; Partnership Investments; Investments in Longer-Term, Larger-Scale Activities; and Partnership Investments; Investments In Longer-Term, Larger-Scale Activities.

6.1 Clean Water State Revolving Fund

With the amendments to the Clean Water Act in 1987, Congress ushered in a new era in financing water quality improvements. Under Title VI, the CWA established the innovative Clean Water State Revolving Fund program. The CWSRF program is available to fund a wide variety of water quality projects including all types of nonpoint source, watershed protection or restoration, and estuary management projects, as well as more traditional municipal wastewater treatment projects.

The CWSRF loan operates much like an environmental infrastructure bank that is capitalized with federal and state contributions. The fund loans to public agencies and loan repayments are recycled back into the program to fund additional water quality improvement projects. The revolving nature of the loan provides for an ongoing funding source intended to be available in perpetuity.

Many think of the CWSRF program as a source of funding for municipal projects. It is. Yet, it is also a significant resource for funding nonpoint source and estuary management projects. To date, the CWSRF has provided over $3 billion in funding for nonpoint source projects nationally.

In Oregon, the loan program provides low-cost loans to public agencies for the planning, design or construction of various projects that prevent or mitigate water pollution. The Oregon Department of Environmental Quality administers the program. Eligible public agencies include federally recognized Indian tribal governments, cities, counties, sanitary districts, soil and water conservation districts, irrigation districts, various special districts and certain intergovernmental entities.

When used to address nonpoint source pollution, the CWSRF loan can be a very effective source of financing. Not a grant perhaps, but these are low-cost loans that are apt to qualify as match for a 319 grant, an OWEB grant or USDA conservation programs.

In addition to direct, nonpoint source loans, Oregon's CWSRF program includes a specific form of loan, our Sponsorship Option that encourages a partnership between an operator of a publicly owned wastewater system and an organization seeking funding for a qualifying nonpoint source project. By agreeing to fund a nonpoint source project in conjunction with wastewater project, the operator could be eligible for a discounted CWSRF loan resulting in the funding of both the wastewater project and the nonpoint source project at a cost equivalent to just the wastewater project. The goal of this approach is to match an existing source of funding to those needed water quality improvements that would likely be overlooked for funding.

DEQ accepts new applications year-round. Applicants must provide information on the project's water quality benefits, environmental impact and estimated cost. DEQ reviews and scores all applications against specific ranking criteria using the information submitted. DEQ then lists applicant's projects for possible funding, in rank order, within the program's project priority list.

Applicants whose projects are placed on the project priority list must still complete all required program documents.

These documents may include land-use compatibility statements evidence of authority to undertake the project, and financial reports. Once DEQ approves the required documentation, DEQ considers the project ready-to-proceed. DEQ only considers those projects identified as ready-to-proceed for a loan. DEQ offers loans to applicants in rank as funds become available. The program typically provides about $50 million annually for funding planning, point source and nonpoint source projects.

In order to receive CWSRF funds, all proposed nonpoint source projects must align with, and support the goals of Oregon's Nonpoint Source Control Program Plan. Nonpoint source staff at DEQ headquarters review the proposed project's information and goals. With input from the appropriate basin coordinator, headquarters staff determines whether the proposed project aligns with the Nonpoint Source Control Program Plan. If the proposed project does not align with the Nonpoint Source Control Program Plan, it is not eligible for CWSRF funding.

In 2013, DEQ revised its administrative rules to improve the program's ability to provide financial assistance to public agencies that have diverse water quality improvement needs. The new rules:

- Encourage public agencies to address water quality improvements through integrated approaches and encourage planning efforts.
- Broaden and clarify current project eligibility to include more types of water quality improvements. Previous project eligibility may have been a barrier to funding nonpoint source projects.
- Clarify that stormwater improvement projects (both point source and nonpoint source) are eligible for CWSRF funding, and project criteria are now more inclusive of these types of projects.
- Shift ranking criteria emphasis to encourage projects to integrate sustainable and "green" components with conventional "gray" infrastructure.
- Encourage those projects that address water quality benefits and the relationship of those benefits to a watershed.

For almost two decades, DEQ's CWSRF staff has administered Oregon's implementation of EPA's Clean Watershed Needs Survey. This national survey and other recent studies consistently indicate nonpoint sources of pollution continue to be an important source of water impairment. DEQ's CWSRF loan program continues to scrutinize effective avenues to financial support projects addressing nonpoint source pollution.

6.2 Drinking Water Revolving Loan Fund (DWRLF)

In Oregon, the Drinking Water Revolving Loan Fund (DWRLF) is administered by the Oregon Health Authority (OHA), the state agency that regulates drinking water under state law and the Safe Drinking Water Act. OHA works cooperatively with DEQ on source water protection efforts. Money from the DWRLF is used to fund:

- Source Water Protection Grants (up to $30,000) to fund source water protection activities, monitoring, and planning in Drinking Water Source Areas (DWSAs);
- Loans for improving drinking water treatment, source water protection activities, or land acquisition in DWSAs; and
- DWRLF set-asides for administration fund five Drinking Water Protection positions at Oregon DEQ, which delineate DWSAs, integrate Clean Water Act programs (including the NPS Program) with source water protection needs, provide technical assistance to public water systems, and research NPS impacts on surface and ground drinking water sources.

6.3 OWEB

The Oregon Watershed Enhancement Board (OWEB) is a state agency that provides grants to help Oregonians take care of local streams, rivers, wetlands and natural areas. OWEB grants http://www.oregon.gov/OWEB/GRANTS/pages/grant_faq.aspx are funded from the Oregon Lottery, federal dollars, and salmon license plate revenue. OWEB offers a variety of grant types and programs. The OWEB mission of

restoring, maintaining, and enhancing watersheds implicitly recognizes that specific goals for improvement will vary between watersheds.

OWEB has the following grants for the various watershed improvement activities identified in watershed assessments, action plans, restoration plans, and other plans such as DEQ's TMDLs and Water Quality Basin Status and Action Plans, local Watershed Plans prepared by Watershed Councils. These plans focus on water quality improvements to meet water quality standards and TMDL load allocations. These grants are also used to do habitat, stream, and fish and wildlife restoration projects.

Small Grants:
The Small Grant Program is a competitive grant program that awards funds of up to $10,000 for on-the-ground restoration projects that address local priorities. Watershed councils, soil and water conservation districts and tribes submit applications on behalf of landowners.

Local Capacity Support Grants:
These grants are used for investing in the watershed restoration infrastructure. OWEB supports the capacity of watershed councils and soil and water conservation districts so that the state has an enduring, high capacity local infrastructure for conducting watershed restoration and conservation http://www.oregon.gov/OWEB/GRANTS/pages/grant_faq.aspx.

- Watershed Council Support
  Watershed councils are locally organized, voluntary, non-regulatory groups established to improve the condition of watersheds in their local area. Watershed councils bring varied interests together to form a common vision for the watershed, prioritize activities, and identify landowner participants for important projects. OWEB council support grants provide funds for watershed council coordinator salary, operating costs, risk management and accountability insurance, and other costs. Watershed Council Support Grants

- Soil and Water Conservation Districts
  Soil and water conservation districts historically focused primarily on helping farmers and ranchers. Today, there are 45 districts providing technical information and guidance to landowners, managers, and citizens across the state. OWEB and the ODA provide funding to support the capacity of soil and water conservation districts to work with landowners in support of the Oregon Plan for Salmon and Watersheds and the local Agricultural Water Quality Management Plans.

Partnership Investments; Investments In Longer-Term, Larger-Scale Activities:
The Partnership Investment Program is a means by which OWEB works closely with partners and utilizes a different process to invest in longer-term activities intended to result in larger-scale ecological outcomes. Ideally, a Partnership Investment contributes to a historic change or surge of progress in the recovery of a species, the restoration of an ecosystem, or the launching of an initiative that addresses widespread issues.

- The Special Investment Partnership (SIP) Program
  Partnerships have been established in the Upper Deschutes and Willamette basins. Additional SIPs are being considered.

- Deschutes Special Investment Partnership
  The goal of the Deschutes SIP is to re-establish the stream flow, restore habitat, and re-establish extirpated salmon and steelhead runs in the Deschutes River and tributaries above the Round Butte Dam.

- Willamette Special Investment Partnership
  The main goal of the Willamette SIP is to restore the mainstem river's meanders, natural floodplains, and fish and wildlife habitats in order to slow floodwaters and allow the river to interact with the land and plants around it. The Willamette SIP is built on a companion effort of the Meyer Memorial Trust who is an active funding partner and committed to increasing the pace of restoration in the Willamette basin.

- Whole Watersheds Restoration Initiative (EcoTrust and WWRI)

WWRI is a partnership with U.S. Forest Service, NOAA Fisheries, and EcoTrust that focuses funding on restoring land across public and private ownerships within priority watersheds.

The goal of this prioritization framework is to create a science-guided process that incorporates local priorities into regional (basin) improvement project priorities. Input from other stakeholders, like DEQ, are used to identify watershed improvement project priorities.

OWEB's process for establishing watershed improvement activity priorities:

- Information from watershed assessments, action plans, other studies such as DEQ's TMDLs and Water Quality Basin Status and Action Plans, and input from local Watershed Councils and other stakeholders, like DEQ, have been used to identify watershed improvement project priorities.
- Five general types of activities have been identified to address watershed function improvement:
    - Actions that restore habitat connectivity
    - Actions that address impaired watershed processes that affect the aquatic system or water quality
    - Actions that address key habitats and water quality for ESA-listed species
    - Actions that reduce human impacts and inputs to the watershed.
    - Actions that address symptoms of impaired watershed processes (e.g., placing large wood in streams) that impact fish habitat or water quality, or affect specific wildlife concerns (e.g. wildlife guzzlers).

OWEB staff work with DEQ basin coordinators, watershed councils and other conservation entities to develop basin priorities. The priorities are intended to be used as guidance by OWEB in the review of grant applications and to help ensure a clear and strategic approach to prioritizing the funding of projects. Click here to see which basin priorities are complete.

The following table __?_ provides an example of identified restoration priorities at the basin scale:

Table 7: OWEB Grant Funding Example

OWEB GRANT FUNDING EXAMPLE **Hood River Basin: Watershed Improvement Priorities.**		
Key Principles	***Issues (watershed location)***	***Watershed Improvement Priorities***
Actions that address impaired watershed processes that affect the aquatic system or water quality Actions that address key habitats and water quality for ESA-listed fish: Winter Steelhead Summer Steelhead Spring Chinook Fall Chinook Bull Trout Actions that restore habitat connectivity	Fish Passage Barriers due to Roads and dams, including Clear Branch Dam In stream sedimentation, particularly Fifteenmile Creek Water quality concerns: temperature Irrigation diversions create low summer flows and dewater some reaches (Hood, Fifteenmile, Mosier) Retain water and soil in upland areas, particularly Fifteenmile Creek	Restore / improve fish passage at road crossings, irrigation diversions and dams Restore instream flows, increase irrigation efficiency or water leasing Promote ecologically sound range management to improve vegetative cover in grasslands and reduce grazing pressure on riparian areas Encourage conversion to no-till or perennial crops Restore riparian conditions for habitat and aquatic shade

6.3.1 Oregon Watershed Restoration Inventory (OWRI)

The Oregon Watershed Restoration Inventory (OWRI) originated at the onset of the Oregon Plan for Salmon and Watersheds to track Oregonians' voluntary efforts to restore habitats for salmon and wildlife. While the database is managed by OWEB and contains information about grants funded by OWEB, the majority of the OWRI entries represent voluntary actions of private citizens and landowners who have worked in partnership with federal, state, and local groups to improve aquatic habitat and water quality conditions. With over 14,000 records of projects completed since 1995, OWRI is the single largest restoration information database in the Western United States.

The DEQ Section 319 NPS Grant Program and the OWEB grant program http://www.oweb.state.or.us/ complement each other as many projects are co-funded by these programs. It is a requirement of all projects funded by the DEQ Section 319 NPS Grant Program to report also into the OWRI database if the project involves restoration.

Watershed restoration activities included in the inventory are:

- Activities designed to restore aquatic, riparian, estuarine, wetland, upland, or overall watershed conditions or functions
- Completed projects or a completed phase of a project
- Activities beyond normal maintenance and management procedures in cases such as road and culvert improvements, erosion control, etc.

How OWRI information is used:

- To report Oregon Plan for Salmon and Watershed accomplishments
- To support effectiveness monitoring of restoration activities
- To inform watershed assessments and future restoration project planning and prioritization

For more information on the OWRI program, please refer to
http://www.oregon.gov/OWEB/monitor/Pages/owri.aspx

DEQ is beginning to use data in OWRI for tracking and reporting on restoration activities that are expected to reduce NPS pollution. This information will be reported in the Oregon NPS Pollution Program Annual Reports.

6.3.2. Oregon Conservation Reserve Enhancement Program (CREP)

The Conservation Reserve Enhancement Program (CREP) is a state and federal partnership that allows landowners to receive incentive payments and conservation rental payments from the USDA Farm Services Agency for establishing long-term riparian buffers on eligible land. The Oregon CREP was approved in 1998. As an offspring of the Conservation Reserve Program, CREP is a voluntary program for agricultural landowners.
http://www.oregon.gov/OWEB/GRANTS/pages/crep_tech_assist_grants.aspx

What projects are funded:

- Projects addressing stream water quality issues; primarily stream temperature
- Establishing long-term riparian buffers on eligible land
- In addition to providing partial funding to direct landowner payments for conservation activities, OWEB has participated in providing funding for outreach, technical assistance and program coordination
- DEQ, ODA, ODF and Water Resources also assist in CREP implementation and coordination
- OWEB has funded 11 grants from January 1, 2012 to December 31, 2013 that will provide funding for staff positions to assist landowners with conservation plan development and implementation, including the completion of Endangered Species Act and cultural resources reviews.

7. Water Quality Data and Assessments

The NPS Program using data and information from water quality monitoring performed by a variety of entities including: DEQ, watershed councils, ODF, USFS, BLM, and others. This data and information is used for helping with identifying implementation priorities and effectiveness of the program.

Some of the DEQ monitoring activities include:

- TMDL Development – Collect data to develop TMDLs for 303(d) listed streams.
- 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 parties and increase the data accessibility for local and state assessments.
- Coastal Environmental / Bacteria Monitoring – Collects data to determine the need for beach advisories.
- Toxics Monitoring - Toxics Monitoring Project for surface waters in watersheds across Oregon and Drinking Water Toxics Monitoring. These projects will give information about current and emerging contaminants that threaten aquatic life and human health.
- Pesticide Stewardship Partnership - Collaborative approach to reduce instream pesticide concentrations in agricultural, urban and forest areas. Instream pesticide information is shared with growers to help them target management practices that reduce pesticides in water.
- Effectiveness monitoring in some 319 grant-funded projects.

Priorities for future monitoring and data collection by DEQ or in cooperation with related agencies are:

- Implementation and effectiveness monitoring for private and state forest practices rules.
- Implementation and effectiveness monitoring and reporting on work-to-be-done for voluntary improvements to forest roads and other voluntary conservation practices on private forestlands.
- Implementation and effectiveness monitoring for federal forestlands to ensure that approved BMPs are being correctly implemented by agency personnel, stewardship contractors, and timber operators.
- Implementation and effectiveness monitoring for agricultural area rules.
- Implementation and effectiveness monitoring for agricultural area plans and other voluntary conservation practices on agricultural lands.
- Updating of Real Estate Transaction data for private domestic wells to include recent years of time-of-transfer data for required nitrate, coliform bacteria, and arsenic testing.
- Collection of raw water data from Public Water Systems for analysis of amount and sources of turbidity/sediment, pesticides, and organic matter contributing to disinfection by-products. These data would be used to evaluate whether nonpoint sources are causing impairments of drinking water provision in the state.