



Oregon
Department
of Agriculture

Burnt River Agricultural Water Quality Management Area Plan

Developed by the:

Burnt River Local Advisory Committee

Oregon Department of Agriculture

With support from the:

Burnt River Soil and Water Conservation District

Date: April 15, 2014

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Acronyms and Terms Used in this Document

Ag Water Quality Program – Agricultural Water Quality Management Program
Area Plan – Agricultural Water Quality Management Area Plan
Area Rules – Agricultural Water Quality Management Area Rules
CAFO – Confined Animal Feeding Operation
CNPCP – Coastal Nonpoint Pollution Control Program
CWA – Clean Water Act
CZARA – Coastal Zone Act Reauthorization Amendments
DEQ – Oregon Department of Environmental Quality
GWMA – Groundwater Management Area
HUC – Hydrologic Unit Code
LAC – Local Advisory Committee
Management Area – Agricultural Water Quality Management Area
MOA – Memorandum of Agreement
NPDES – National Pollution Discharge Elimination System
NRCS – Natural Resources Conservation Service
OAR – Oregon Administrative Rules
ODA – Oregon Department of Agriculture
ODFW – Oregon Department of Fish and Wildlife
ORS – Oregon Revised Statute
OWEB – Oregon Watershed Enhancement Board
PMP – Pesticides Management Plan
PSP – Pesticides Stewardship Partnership
Regulations – Agricultural Water Quality Management Area Regulations
RUSLE – Revised Universal Soil Loss Equation
SWCD – Soil and Water Conservation District
T – Soil Loss Tolerance Factor
TMDL – Total Maximum Daily Load
USDA – United States Department of Agriculture
U.S. EPA – United States Environmental Protection Agency
WQPMT – Water Quality Pesticides Management Team

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Foreword

This Agricultural Water Quality Management Area Plan (Area Plan) provides guidance for addressing agricultural water quality issues in the Agricultural Water Quality Management Area (Management Area). The purpose of this Area Plan is to identify strategies to prevent and control water pollution from agricultural lands through a combination of educational programs, suggested land treatments, management activities, compliance, and monitoring.

The provisions of this Area Plan do not establish legal requirements or prohibitions, as described in Oregon Revised Statute (ORS) 568.912(1).

Required Elements of Area Plans

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 (Oregon Administrative Rule (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, and 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.

Plan Content

Chapter 1: Agricultural Water Quality Management Program Purpose and Background. The purpose is to have consistent and accurate information about the Agricultural Water Quality Management Program.

Chapter 2: Local Background. Provides the local geographic, water quality, and agricultural context for the Management Area. Describes the water quality issues, regulations (Area Rules), and available or beneficial practices to address water quality issues.

Chapter 3: Local Goals, Objectives, and Implementation Strategies. Chapter 3 presents goal(s), measurable objectives and timelines, and strategies to achieve the goal(s) and objectives.

Chapter 4: Local Implementation, Monitoring, and Adaptive Management. ODA and the Local Advisory Committee (LAC) will work with partners to summarize land condition and water quality status. Trends are summarized to assess progress toward the goals and objectives in Chapter 3.

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Chapter 1: Agricultural Water Quality Management Program Purpose and Background

1.1 Purpose of Agricultural Water Quality Management Program and Applicability of Area Plans

As part of Oregon’s Agricultural Water Quality Management Program (Ag Water Quality Program), this Area Plan guides landowners and partners such as Soil and Water Conservation Districts (SWCDs) in addressing local agricultural water quality issues. The purpose of this Area Plan is to identify strategies to prevent and control water pollution from agricultural activities and soil erosion (ORS 568.909(2)) on agricultural and rural lands for the area within the boundaries of the Management Area (OAR 603-090-0000(3)) and to achieve and maintain water quality standards (ORS 561.191(2)). This Area Plan has been developed and revised by ODA, the Local Advisory Committee (LAC), with support and input from the SWCD and the Oregon Department of Environmental Quality (DEQ). Throughout the development and revision processes, the public was invited to participate. This included public comment at meetings and public hearings during the Area Plan approval process. This Area Plan is implemented using a combination of outreach and education, conservation and management activities, compliance, monitoring, evaluation, and adaptive management.

The provisions of this Area Plan do not establish legal requirements or prohibitions (ORS 568.912(1)). Each Area Plan is accompanied by OAR regulations that describe local agricultural water quality regulatory requirements. ODA will exercise its regulatory authority for the prevention and control of water pollution from agricultural activities under the Ag Water Quality Program’s general regulations (OARs 603-090-0000 to 603-090-0120) and under the regulations for this Management Area (OARs 603-095-3200 to 603-095-3260). The Ag Water Quality Program’s general OARs guide the Ag Water Quality Program, and the OARs for the Management Area are the regulations that landowners must follow.

This Area Plan and its associated regulations apply to all agricultural activities on non-federal and non-Tribal Trust land within the Management Area, including:

- Large commercial farms and ranches.
- Small rural properties grazing a few animals or raising crops.
- Agricultural lands that lay idle or on which management has been deferred.
- Agricultural activities in urban areas.
- Agricultural activities on land subject to the Forest Practices Act (ORS 527.610).

1.2 History of the Ag Water Quality Program

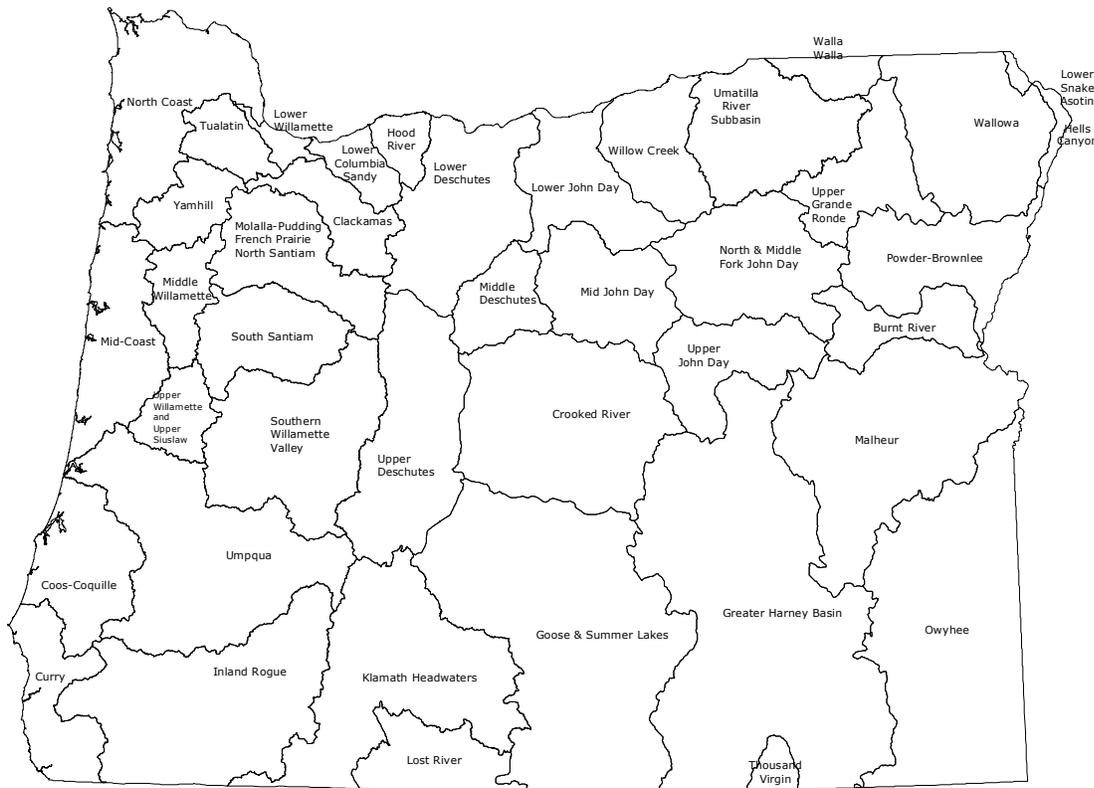
In 1993, the Oregon Legislature passed the Agricultural Water Quality Management Act, directing ODA to develop plans to prevent and control water pollution from agricultural activities and soil erosion, and to achieve water quality standards (ORS 568.900 through ORS 568.933). Senate Bill 502 was passed in 1995 to clarify that ODA regulates agriculture with

respect to water quality (ORS 561.191). This Area Plan and its associated regulations were developed and subsequently revised pursuant to these statutes.

Between 1997 and 2004, ODA worked with LACs and SWCDs to develop Area Plans and associated regulations in 38 watershed-based Management Areas across Oregon (Figure 1). Since 2004, ODA, LACs, SWCDs, and other partners have focused on implementation, including:

- Providing education, outreach, and technical assistance to landowners.
- Implementing projects to improve agricultural water quality.
- Investigating complaints of potential violations of regulations.
- Conducting biennial reviews of Area Plans and regulations.
- Monitoring, evaluation, and adaptive management.
- Developing partnerships with SWCDs, state, federal, and tribal agencies, watershed councils, and others.

Figure 1: Map of 38 Agricultural Water Quality Management Areas



1.3 Roles and Responsibilities

1.3.1 Oregon Department of Agriculture (ODA)

ODA is the agency responsible for implementing the Ag Water Quality Program (ORS 568.900 to 568.933, ORS 561.191, OAR 603-090, and OAR 603-095). The Ag Water Quality Program is intended to meet the needs and requirements related to agricultural water pollution, including:

- State water quality standards.
- Load allocations for agricultural nonpoint source pollution assigned under Total Maximum Daily Loads (TMDLs) issued pursuant to the Clean Water Act (CWA), Section 303(d).
- Approved management measures for Coastal Zone Act Reauthorization Amendments (CZARA).
- Agricultural activities detailed in a Groundwater Management Area (GWMA) Action Plan (if a GWMA has been established and an Action Plan developed).

ODA has the legal authority to develop and implement Area Plans and associated regulations for the prevention and control of water pollution from agricultural activities and soil erosion, where such plans are required by state or federal law (ORS 568.909 and ORS 568.912). ODA will base Area Plans and regulations on scientific information (ORS 568.909). ODA works in partnership with SWCDs, LACs, DEQ, and other partners to implement, evaluate, and update the Area Plans and associated regulations. ODA has responsibility for any actions related to enforcement or determination of noncompliance with regulations (OAR 603-090-0080 through OAR 603-090-0120). ORS 568.912(1) and ORS 568.912(2) give authority to ODA to adopt regulations that require landowners to perform actions necessary to prevent and control pollution from agricultural activities and soil erosion.

The emphasis of this Area Plan is on voluntary action by landowners or operators to control the factors effecting water quality in the Management Area. The regulations are outlined as a set of minimum standards that must be met on all agricultural or rural lands. Landowners and operators who fail to address these regulations may be subject to enforcement procedures, which are outlined below.

Enforcement Action—ODA will use enforcement mechanisms where appropriate and necessary to gain compliance with water quality regulations. Any enforcement action will be pursued only when reasonable attempts at voluntary solutions have failed. If a violation is documented, ODA may issue a pre-enforcement notification or an Order such as a Notice of Noncompliance. If a Notice of Noncompliance is issued, the landowner or operator will be directed by ODA to remedy the condition through required corrective actions under the provisions of the enforcement procedures outlined in OAR 603-090-060 through OAR 603-090-120. If a landowner does not implement the required corrective actions, civil penalties may be assessed for continued violation of the regulations. See the Compliance Flow Chart, section 3.3, for a diagram of the compliance process. If and when other governmental policies, programs, or regulations conflict with this Area Plan or associated regulations, ODA will consult with the agency(ies) and attempt to resolve the conflict in a reasonable manner.

1.3.2 Local Management Agency

A Local Management Agency is an organization that ODA has designated to implement an Area Plan (OAR 603-090-0010). The legislative intent is for SWCDs to be Local Management Agencies to the fullest extent practical, consistent with the timely and effective implementation of Area Plans (ORS 568.906). SWCDs have a long history of effectively assisting landowners who voluntarily address natural resource concerns. Currently, all Local Management Agencies in Oregon are SWCDs.

The day-to-day implementation of the Area Plan is accomplished through an intergovernmental agreement between ODA and each SWCD. Each SWCD implements the Area Plan by providing outreach and technical assistance to landowners. SWCDs also work with ODA and the LAC to establish implementation priorities, evaluate progress toward meeting Area Plan goals and objectives, and revise the Area Plan and associated regulations as needed.

1.3.3 Local Advisory Committee (LAC)

For each Management Area, the director of ODA appoints an LAC (OAR 603-090-0020) with up to 12 members, to assist with the development and subsequent biennial reviews of the local Area Plan and regulations. The LAC serves in an advisory role to the director of ODA and to the Board of Agriculture. LACs are composed primarily of landowners in the Management Area and must reflect a balance of affected persons.

The LAC may meet as frequently as necessary to carry out their responsibilities, which include, but are not limited to:

- Participate in the development and ongoing revisions of the Area Plan.
- Participate in the development and revisions of regulations.
- Recommend strategies necessary to achieve goals and objectives in the Area Plan.
- Participate in biennial reviews of the progress of implementation of the Area Plan and regulations.
- Submit written biennial reports to the Board of Agriculture and the ODA director.

1.3.4 Agriculture's Role

Each individual landowner or operator in the Management Area is required to comply with the regulations, which set minimum standards. However, the regulations alone are not enough. To achieve water quality standards, individual landowners also need to attain land conditions that achieve the goals and objectives of the voluntary Area Plan. Each landowner or operator is not individually responsible for achieving water quality standards, agricultural pollution limits, or the goals and objectives of the Area Plan. These are the responsibility of the agricultural community collectively.

Technical and financial assistance is available to landowners who want to work with SWCDs (or with other local partners) to achieve land conditions that contribute to good water quality. Landowners may also choose to improve their land conditions without assistance.

Area regulations only address impacts that result from agricultural activities. A landowner is responsible for only those conditions caused by activities conducted on land managed by the landowner or occupier. Conditions resulting from unusual weather events or other circumstances not within the reasonable control of the landowner or operator are considered when making compliance decisions. Agricultural landowners may be responsible for some of the above impacts under other legal authorities.

Under the Area Plan and associated regulations, agricultural landowners and operators are not responsible for mitigating or addressing factors that do not result from agricultural activities, such as:

- Hot springs, glacial melt water, extreme or unforeseen weather events, and climate change.
- Septic systems and other sources of human waste.
- Public roadways, culverts, roadside ditches and shoulders.
- Dams, dam removal, hydroelectric plants, and non-agricultural impoundments.
- Housing and other development in agricultural areas.

1.3.5 Public Participation

The public was encouraged to participate when ODA, LACs, and SWCDs initially developed the Area Plans and associated regulations. ODA and the LAC in each Management Area, held public information meetings, a formal public comment period, and a formal public hearing. ODA and the LACs modified the Area Plans and regulations, as needed, to address comments received. The director of ODA adopted the Area Plans and regulations in consultation with the Board of Agriculture.

ODA, LACs, and SWCDs conduct biennial reviews of the Area Plans and regulations. Partners, stakeholders, and the general public are invited to participate in the process. Any future revisions to the regulations will include a public comment period and a public hearing.

1.4 Agricultural Water Quality

1.4.1 Point and Nonpoint Sources of Water Pollution

There are two types of water pollution. Point source water pollution emanates from clearly identifiable discharge points or pipes. Significant point sources are required to obtain permits that specify their pollutant limits. Agricultural operations regulated as point sources include permitted Confined Animal Feeding Operations (CAFOs) and pesticide applications in, over and within three feet of water. Many CAFOs are regulated under ODA's CAFO Program. Irrigation water discharges may be at a defined discharge point, but does not currently require a permit.

Nonpoint water pollution originates from the general landscape and is difficult to trace to a single source. Nonpoint sources include erosion and contaminated runoff from agricultural and forest lands, urban and suburban areas, roads, and natural sources. In addition, groundwater can be impacted from nonpoint sources including agricultural amendments (fertilizers and manure).

1.4.2 Beneficial Uses and Parameters of Concern

Beneficial uses of clean water include: public and private domestic water supply, industrial water supply, irrigation, livestock watering, fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, aesthetic quality, hydropower, and commercial navigation and transportation. The most sensitive beneficial uses are usually fish and aquatic life, water contact recreation, and public and private domestic water supply. These uses are generally the first to be impaired as a water body is polluted, because they are affected at lower levels of pollution. While there may not be severe impacts on water quality from a single source or sector, the combined effects from all sources contribute to the impairment of beneficial uses in the Management Area. Beneficial uses that have the potential to be impacted in this Management Area are summarized in Chapter 2.

Many water bodies throughout Oregon do not meet state water quality standards. These water bodies may or may not have established water quality management plans documenting needed reductions. The most common water quality concerns related to agricultural activities are temperature, bacteria, biological criteria, sediment and turbidity, phosphorous, algae, pH, dissolved oxygen, harmful algal blooms, nitrates, pesticides, and mercury. These parameters vary by Management Area and are summarized in Chapter 2.

1.4.3 Impaired Water Bodies and Total Maximum Daily Loads (TMDLs)

Every two years, the DEQ is required by the federal Clean Water Act (CWA) to assess water quality in Oregon. CWA Section 303(d) requires DEQ to identify a list of waters that do not meet water quality standards. The resulting list is commonly referred to as the 303(d) list. DEQ, in accordance with the CWA, is required to establish TMDLs for pollutants on the 303(d) list.

A TMDL includes an assessment of water quality data and current conditions and describes a plan to restore polluted waterways to conditions that meet water quality standards. TMDLs specify the daily amount of pollution that a water body can receive and still meet water quality standards. Through the TMDL, point sources are assigned pollution limits as “waste load allocations” in permits, while nonpoint sources (agriculture, forestry, and urban) are assigned pollution limits as “load allocations.” TMDLs are legal orders issued by the DEQ, so parties assigned waste or load allocations are legally required to meet them. The agricultural sector is responsible for meeting the pollution limit (load allocation) assigned to agriculture specifically, or to nonpoint sources in general, as applicable.

TMDLs generally apply to an entire basin or subbasin, and not just to an individual water body on the 303(d) list. Once a TMDL is developed for a basin, the basin’s impaired water bodies are removed from the 303(d) list, but they remain on the list of impaired water bodies. When data show that water quality standards have been achieved, water bodies will be identified on the list of water bodies that are attaining water quality standards.

As part of the TMDL process, DEQ identifies the Designated Management Agency or parties responsible for submitting TMDL implementation plans. TMDLs designate that the local Area Plan is the implementation plan for the agricultural component of the TMDLs that apply to this

Management Area. Biennial reviews and revisions to the Area Plan and regulations must address agricultural or nonpoint source load allocations from TMDLs.

The list of impaired water bodies (303(d) list), the TMDLs, and the agricultural load allocations for the TMDLs that apply to this Management Area are summarized in Chapter 2.

1.4.4 Water Pollution Control Law – ORS 468B.025 and ORS 468B.050

Senate Bill 502 was passed in 1995, authorizing ODA as the state agency responsible for regulation of farming activities for the purpose of protecting water quality. A Department of Justice opinion dated July 10, 1996, states that “...ODA has the statutory responsibility for developing and implementing water quality programs and rules that directly regulate farming practices on exclusive farm use and agricultural lands.” In addition, this opinion states, “The program or rule must be designed to achieve and maintain Environmental Quality Commission’s water quality standards.”

To implement Senate Bill 502, ODA incorporated ORS 468B into all of the Area Plans and associated regulations in the state. A Department of Justice opinion, dated September 12, 2000, clarifies that ORS 468B.025 applies to point and nonpoint source pollution.

ORS 468B.025 states that:

“(1) ...no person shall:

- (a) Cause pollution of any waters of the state or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means.
- (b) Discharge any wastes into the waters of the state if the discharge reduces the quality of such waters below the water quality standards established by rule for such waters by the Environmental Quality Commission.

(2) No person shall violate the conditions of any waste discharge permit issued under ORS 468B.050.”

The aspects of ORS 468B.050 that apply to the Ag Water Quality Program, state that:

“(1) Except as provided in ORS 468B.053 or 468B.215, without holding a permit from the Director of the Department of Environmental Quality or the State Department of Agriculture, which permit shall specify applicable effluent limitations, a person may not:

- (a) Discharge any wastes into the waters of the state from any industrial or commercial establishment or activity or any disposal system.”

Definitions (ORS 468B.005)

“Wastes” means sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive or other substances, which will or may cause pollution or tend to cause pollution of any waters of the state. Additionally, OAR 603-095-0010(53) includes but is not limited to commercial fertilizers, soil amendments, composts, animal wastes, vegetative materials, or any other wastes.

“Pollution or water pollution” means such alteration of the physical, chemical, or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt

or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.

“Water” or “the waters of the state” include 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 affect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

1.5 Other Water Quality Programs

1.5.1 Confined Animal Feeding Operation (CAFO)

ODA is the lead state agency for the CAFO Program. The CAFO Program was developed to ensure that operators and producers do not contaminate ground or surface water with animal manure. Since the early 1980s, CAFOs have been registered to a general Water Pollution Control Facility permit designed to protect water quality, while allowing the operators and producers to remain economically viable. A properly maintained CAFO does not pollute ground or surface water. To assure continued protection of ground and surface water, ODA was directed by the 2001 Oregon State Legislature to convert the CAFO Program from a Water Pollution Control Facility permit program to a federal National Pollutant Discharge Elimination System (NPDES) program. ODA and DEQ jointly issued a NPDES CAFO Permit in 2003 and 2009. The 2009 permit will expire in May 2014, and it is expected that a new permit will be issued at that time. The NPDES CAFO Permit is compliant with all Clean Water Act requirements for CAFOs; it does allow discharge in certain circumstances as long as the discharge does not violate Water Quality Standards.

Oregon NPDES CAFO Permits require the registrant to operate according to a site-specific, ODA approved, Animal Waste Management Plan that is incorporated into the NPDES CAFO Permit by reference. CAFO NPDES Permits protect both surface and ground water resources.

1.5.2 Drinking Water Source Protection

Oregon implements its drinking water protection program through a partnership between DEQ and the Oregon Health Authority. The program provides individuals and communities with information on how to protect the quality of Oregon’s drinking water. DEQ and the Oregon Health Authority encourage community-based protection and preventive management strategies to ensure that all public drinking water resources are kept safe from future contamination. For

more information see: www.deq.state.or.us/wq/dwp/dwp.htm. Agricultural activities are required to meet those water quality standards that contribute the safe drinking water.

1.5.3 Groundwater Management Areas

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

Oregon has designated three GWMAs because of elevated nitrate concentrations in groundwater. These include the Lower Umatilla Basin GWMA, the Northern Malheur County GWMA, and the Southern Willamette Valley GWMA. Each GWMA has a voluntary action plan to reduce nitrate concentrations in groundwater. If after a scheduled evaluation point DEQ determines that the voluntary approach is not effective, then mandatory requirements may become necessary.

1.5.4 Pesticide Management and Stewardship

The ODA Pesticides Program holds the primary responsibility for registering pesticides and regulating their use in Oregon, under the Federal Insecticide Fungicide Rodenticide Act. ODA's Pesticide Program administers regulations relating to pesticide sales, use, and distribution, including pesticide operator and applicator licensing, as well as proper application of pesticides, pesticide labeling, and registration.

In 2007, the interagency Water Quality Pesticide Management Team (WQPMT) was formed to expand efforts to improve water quality in Oregon related to pesticide use. The WQPMT includes representation from ODA, Oregon Department of Forestry, DEQ, and the Oregon Health Authority. The WQPMT facilitates and coordinates activities such as monitoring, analysis and interpretation of data, effective response measures, and management solutions. The WQPMT relies on monitoring data from the Pesticides Stewardship Partnership (PSP) Program and other monitoring programs to assess the possible impact of pesticides on Oregon's water quality. Pesticide detections can be addressed through multiple programs and partners, including the PSP Program described above.

Through the PSP Program, state agencies and local partners work together to monitor pesticides in streams and to improve water quality (www.deq.state.or.us/wq/pesticide/pesticide.htm). DEQ, ODA, and Oregon State University Extension Service work with landowners, SWCDs, watershed councils, and other local partners to voluntarily reduce pesticide levels while improving water quality and crop management. There has been noteworthy progress since 2000 in reducing pesticide concentrations and detections.

ODA led the development and implementation of a Pesticides Management Plan (PMP) for the state of Oregon (www.oregon.gov/ODA/PEST/water_quality.shtml). The PMP, completed in 2011, strives to protect drinking water supplies and the environment from pesticide

contamination, while recognizing the important role that pesticides have in maintaining a strong state economy, managing natural resources, and preventing human disease. The PMP sets forth a process for preventing and responding to pesticide detections in Oregon's ground and surface water resources by managing the pesticides that are currently approved for use by the U.S. EPA and Oregon in both agricultural and non-agricultural settings.

1.5.5 The Oregon Plan for Salmon and Watersheds

In 1997, Oregonians began implementing the Oregon Plan for Salmon and Watersheds referred to as the Oregon Plan (www.oregon-plan.org). The Oregon Plan seeks to restore native fish populations, improve watershed health, and support communities throughout Oregon. The Oregon Plan has a strong focus on salmon, because they have such great cultural, economic, and recreational importance to Oregonians, and because they are important indicators of watershed health. ODA's commitment to the Oregon Plan is to develop and implement Area Plans and associated regulations throughout Oregon.

1.6 Partner Agencies and Organizations

1.6.1 Oregon Department of Environmental Quality (DEQ)

The U.S. EPA has delegated authority to DEQ under the CWA authority for protection of water quality in Oregon. In turn, DEQ is the lead state agency with overall authority to regulate for water quality in Oregon. DEQ coordinates with other state agencies, including ODA and Oregon Department of Forestry, to meet the needs of the CWA. DEQ sets water quality standards and develops TMDLs for impaired waterbodies. In addition, DEQ develops and coordinates programs to address water quality including National Pollution Discharge Elimination Permits (for point sources), 319 program, Source Water Protection, 401 Water Quality Certification, and GWMA. DEQ also coordinates with ODA to help ensure successful implementation of Area Plans as part of its 319 program.

DEQ designated ODA as the Designated Management Agency for water pollution control activities on agricultural and rural lands in the state of Oregon to coordinate meeting agricultural TMDL load allocations. A Memorandum of Agreement (MOA) between DEQ and the ODA recognizes that ODA is the agency responsible for implementing the Ag Water Quality Program established under ORS 568.900 to ORS 568.933, ORS 561.191, and OAR Chapter 603, Divisions 90 and 95. The MOA between ODA and DEQ was updated in 2012 and describes how the agencies will work together to meet agricultural water quality requirements.

The MOA includes the following commitments:

- ODA will develop and implement a monitoring strategy, as resources allow, in consultation with DEQ.
- ODA will evaluate Area Plans and regulation effectiveness in collaboration with DEQ.
 - ODA will determine the percentage of lands achieving compliance with Management Area regulations.

- ODA will determine whether the target percentages of lands meeting the desired land conditions, as outlined in the goals and objectives of the Area Plans, are being achieved.
- ODA and DEQ will review and evaluate existing information with the objective of determining:
 - Whether additional data are needed to conduct an adequate evaluation.
 - Whether existing strategies have been effective in achieving the goals and objectives of the Area Plan.
 - Whether the rate of progress is adequate to achieve the goals of the Area Plan.

The Environmental Quality Commission, which serves as DEQ’s policy and rulemaking board, may petition ODA for a review of part or all of any Area Plan or its associated regulations. The petition must allege with reasonable specificity that the Area Plan or associated regulations are not adequate to achieve applicable state and federal water quality standards (ORS 568.930(3)(a)).

1.6.2 Other Partners

ODA and SWCDs work in close partnership with local, state, and federal agencies and organizations, including: DEQ (as indicated above), the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and Farm Service Agency, watershed councils, Oregon State University Extension Service, livestock and commodity organizations, conservation organizations, and local businesses. As resources allow, SWCDs and local partners provide technical, financial, and educational assistance to individual landowners for the design, installation, and maintenance of effective management strategies to prevent and control agricultural water pollution.

1.7 Measuring Progress

Agricultural landowners and operators have implemented effective conservation projects and management activities throughout Oregon to improve water quality for many years. However, it has been challenging for ODA, SWCDs, and LACs to measure this progress. ODA is working with SWCDs, LACs, and our partners to develop and implement objectives and strategies that will produce measurable outcomes for agricultural water quality.

1.7.1 Measurable Objectives

Measurable objectives allow the Ag Water Quality Program to better evaluate progress toward meeting water quality standards and load allocations where TMDLs have been completed. Many of these measurable objectives relate to land condition and are mainly implemented through focused work in small geographic areas (section 1.7.3). The measurable objectives for this Area Plan are in Chapter 3, and progress toward achieving the objectives is summarized in Chapter 4.

At a minimum, the measurable objectives of the Ag Water Quality Program and this Area Plan are to:

- Increase the percentage of lands achieving compliance with the regulations.

- Increase the percentage of lands meeting desired land conditions outlined in the Area Plan.

1.7.2 Land Condition and Water Quality

Land conditions can serve as useful surrogates (indicators) for water quality parameters. For example, streamside vegetation is generally used as a surrogate for water temperature, because shade blocks solar radiation from warming the stream. In addition, sediment can be used as a surrogate for pesticides and nutrients, because many pesticides and nutrients adhere to sediment particles.

The Ag Water Quality Program focuses on land conditions, in addition to water quality data, for several reasons:

- Landowners can see land conditions and have direct control over them.
- It can be difficult to separate agriculture’s influence on water quality from other land uses.
- It requires extensive monitoring of water quality at an intensive temporal scale to evaluate progress; it is expensive and may fail to demonstrate short-term improvements.
- Improved land conditions can be documented immediately, but there may be a significant lag time or a need for more extensive implementation before water quality improves.
- Agricultural improvements in water pollution are primarily through improvements in land and management conditions.

Water quality monitoring data may help ODA and partners to measure progress or identify problem areas in implementing the Area Plan; although, as described above, it may be less likely to evaluate the short-term effects of changing land conditions on water quality parameters such as temperature, bacteria, nutrients, sediment, and pesticides.

1.7.3 Focused Implementation in Small Geographic Areas

Focus Areas

A Focus Area is a small watershed with significant water quality or land condition concerns that are associated with agriculture. ODA’s intent in selecting Focus Areas is to deliver systematic, concentrated outreach and technical assistance in small geographic areas (“Focus Areas”) through the SWCDs. A key component of this approach is measuring conditions before and after implementation to document the progress made with available resources. The focused implementation approach is consistent with other agencies’ and organizations’ efforts to work proactively in small geographic areas, and is supported by a large body of scientific research (e.g., Council for Agricultural Science and Technology, 2012).

Systematic implementation in Focus Areas can provide the following advantages:

- Measuring progress is easier in a small watershed than across an entire Management Area.
- Water quality improvement may be faster since small watersheds generally respond more rapidly.
- A proactive approach can address the most significant water quality concerns.

- Partners can coordinate and align technical and financial resources.
- Partners can coordinate and identify the appropriate source specific conservation practices and demonstrate the effectiveness of these conservation practices.
- A higher density of projects allows neighbors to learn from neighbors.
- A higher density of prioritized projects leads to greater connectivity of projects.
- Limited resources are used more effectively and efficiently.
- Work in one Focus Area, followed by other Focus Areas, will eventually cover the entire Management Area.

SWCDs choose a Focus Area in cooperation with ODA and other partners. In some cases, a Focus Area is selected because of efforts already underway or landowner relationships already established. The scale of the Focus Area matches the SWCD's capacity to deliver concentrated outreach and technical assistance, and to complete (or initiate) projects over a biennium. The current Focus Area for this Management Area is described in Chapter 3.

Working within a Focus Area is not intended to prevent implementation within the remainder of the Management Area. The remainder of the Management Area will continue to be addressed through general outreach and technical assistance.

Strategic Implementation Areas

Strategic Implementation Areas are small watersheds selected by ODA, in cooperation with partners, and after review of water quality and other available information. ODA leads the assessment of current conditions and the landowner outreach. Strategic Implementation Areas and Focus Areas are both tools to concentrate efforts in small geographic areas to achieve water quality standards. As with Focus Areas, SWCDs and partners work with landowners to improve conditions that may impact water quality. However, Strategic Implementation Areas also have a compliance evaluation and assurance process that allows ODA to proactively gain compliance with Ag water quality regulations.

1.8 Implementation, Monitoring, Evaluation, and Adaptive Management

Implementation of the Area Plan and associated regulations will be assessed by evaluating the status and trends in agricultural land conditions. Measurable objectives will be assessed across the entire Management Area and within the Focus Area. ODA conducts land condition and water quality monitoring at the statewide level and will analyze this and other agencies' and organizations' local monitoring data. The results and findings will be summarized in Chapter 4 for each biennial review. ODA, DEQ, SWCDs, and LACs will examine these results during the biennial review and will revise the goal(s), objectives, and strategies in Chapter 3, as needed.

1.8.1 Statewide Aerial Photo Monitoring of Streamside Vegetation

Starting in 2003, ODA began evaluating streamside vegetation conditions using aerial photos acquired specifically for this purpose. ODA focuses on land condition monitoring efforts on streamside areas because these areas have such a broad influence over water quality. Stream segments representing 10 to 15 percent of the agricultural lands in each Management Area were

randomly selected for monitoring. ODA examines streamside vegetation at specific points in 90-foot bands along the stream from the aerial photos and assigns each sample stream segment a score based on ground cover. The score can range from 70 (all trees) to 0 (all bare ground). The same stream segments are re-photographed and re-scored every five years to evaluate changes in streamside vegetation conditions over time. Because site capable vegetation varies across the state, there is no one correct riparian index score. The main point is to measure positive or negative change. The results are summarized in Chapter 4 of the Area Plan.

1.8.2 Agricultural Ambient Water Quality Monitoring Assessment

ODA currently evaluates water quality data from monitoring sites in DEQ's water quality database that reflects agricultural influence on water quality. These data are also published in the DEQ water quality database and evaluated at the statewide level to determine trends in water quality at agricultural sites statewide. Results from monitoring sites in the Management Area, along with local water quality monitoring data, are described in Chapter 4.

1.8.3 Biennial Reviews and Adaptive Management

The Area Plan and associated regulations undergo biennial reviews by ODA and the LAC. As part of each biennial review, ODA, DEQ, SWCDs, and the LAC discuss and evaluate the progress on implementation of the Area Plan and associated regulations. This evaluation includes enforcement actions, landscape and water quality monitoring, and outreach efforts over the past biennium across the Management Area and for the Focus Area. In addition, progress toward achieving agricultural load allocations may be documented (if a TMDL has been established). As a result of the biennial review, the LAC submits a report to the Board of Agriculture and the director of ODA. This report describes progress and impediments to implementation, and recommendations for modifications to the Area Plan or associated regulations necessary to achieve the purpose of the Area Plan. The results of this evaluation will be used to update the goal(s), measurable objectives, and strategies in Chapter 3.

Chapter 2: Local Background

2.1 Local Roles and Responsibilities

2.1.1 Local Advisory Committee (LAC)

This Area Plan was developed with the assistance of a LAC. The LAC was formed in 2005 to assist with the development of the Area Plan and regulations and with subsequent biennial reviews. Members are:

Name	Location	Description
Lynn Shumway, Co-Chair	Bridgeport	Rancher, BRID
Kent Nelson, Co-Chair	Baker City	Rancher, SWCD
Jerry Franke	Hereford	BRID
Bonnie Clugston	Unity	Rancher
Pat Sullivan	Hereford	Rancher
Eugene Hawes	Baker City	Rancher
Dick D'Ewart	Durkee	Rancher, SWCD
Ted Bloomer	Durkee	Rancher
Rodd Bunch	Durkee	Rancher
Waynette Morin	Hereford	Rancher
Wes Morgan	Sumpter	BRID

2.1.2 Local Management Agency

The implementation of this Area Plan is accomplished through an Intergovernmental Agreement between ODA and the Burnt River SWCD. This Intergovernmental Agreement defines the SWCD as the Local Management Agency for implementation of the Area Plan. The SWCD was also involved in development of the Area Plan and associated regulations.

2.2 Area Plan and Regulations: Development and History

The Area Plan and regulations were approved by the director of ODA in 2003.

Since approval, the LAC met in 2006, 2008, 2010, 2012, and 2014 to review the Area Plan and regulations. The review process included assessment of the progress of Area Plan implementation toward achievement of Plan goals and objectives.

The Area Plan was revised in 2012 to discussion of focus areas and additional measures needed to evaluate program effectiveness. The Area Plan was reformatted in 2014 to make the Plan more consistent with state-wide implementation strategies.

2.3 Geographical and Physical Setting

2.3.1 Geographic Area

This Area Plan applies specifically to agricultural activities on all agricultural, rural, and forest lands within the Burnt River Agricultural Water Quality Management Area that are not owned by the federal government. The Area Plan applies to agricultural lands in current use, those lying idle or on which management has been deferred, and lands (like private roads) not strictly in agricultural use but that support agricultural activities.

Activities governed by the Forest Practices Act are outside the jurisdiction of this Area Plan and the associated Rules. The Pesticide Control Act (ORS 634) governs the use of pesticides on farms and ranches. ODA's Pesticides Division administers those laws.

2.3.2 Physical Setting

The Burnt River basin generally drains east from the Blue Mountains to the Snake River. After leaving the forested lands, the Burnt River and its main tributaries, the North, West, Middle and South forks, pass through meadowlands in the area above Unity Reservoir. These streams converge into Unity Reservoir.

Downstream from the reservoir the river flows through mountainous terrain for more than a mile. It then emerges into a relatively flat meadow near Hereford. After meandering through these flat meadow areas for about 35 miles, the river enters the 16-mile long Burnt River Canyon—a steep, rocky canyon with limited irrigation and very limited grazing. After leaving the canyon, the river meanders through another meadow area around Durkee. This meadow reach is 7.5 miles, and then the river enters another canyon. East of Huntington the Burnt River joins the Snake River. The river drains about 1,100 square miles, ranging in elevation from about 7,900 feet above sea level at the headwaters to some 2,100 feet near Huntington.

The irrigated portions of the basin, or the valley floors, were primarily settled in the mid-to-late 1800s. Much of the uplands were taken up later under the Grazing Homestead Act in the early 1900s. Cow/calf beef operations are the predominate industry in the Plan area. Most ranches are situated along the Burnt River and its tributaries where water is diverted from the river system to supplement sparse rainfall for forage production. Ranchers use these irrigated lands adjacent to the river primarily for pasture and forage production with about 25 to 30 percent dedicated to alfalfa production. There are also large areas of public and private land adjacent to streams that are suited for livestock grazing, wildlife habitat, recreation, timber production and limited mining.

Flood irrigation is the predominate practice for most of the 20,000 acres in the Burnt River Irrigation District and for several thousand acres outside the irrigation district. A few sprinkler systems are used on bench areas. Historically, 85 percent of the Burnt River watershed's runoff occurs from March through June with very low stream flows occurring the remainder of the year. The U.S. Bureau of Reclamation (BOR) completed construction of the Unity Reservoir in 1939

to provide supplemental irrigation water for about 12,000 acres of land. Prior to the construction of the reservoir, this land depended entirely on natural stream flow from the Burnt River for its irrigation supply. At that time, late summer flows on the main stem were often intermittent. At times, ranchers in the Bridgeport area had to go upstream tearing out beaver dams to get stock water in the fall. Records tell of pioneers coming over the Oregon Trail in late summer and fall being able to use the Burnt River's dry riverbed for the trail in an area below Durkee Valley.

The average Unity Dam stream flow release to the Burnt River is about 90 cubic feet per second (cfs), 125 to 140 cfs during the irrigation season (April 1 to October 1) and two to 40 cfs during the non-irrigation season. The reservoir holds about 25,000 acre-feet, which is less than one-third the average annual runoff for the basin. Sediment accumulation during the past 60 years has resulted in a negligible reduction in reservoir storage capacity.

2.3.3 History of Conservation in the Burnt River Basin

Landowners in the Burnt River Basin have been practicing good stewardship for many, many years. This section of the Plan highlights a few programs to show the concern local citizens have for the well being of their watershed.

Burnt River Streambank Stability Study

In the late 1980's, the Burnt River SWCD initiated a study of the Burnt River Basin's hydrology because of possibly accelerated streambank erosion. The SWCD hired an engineering firm to assess the entire system. A copy of the final report can be obtained from the Burnt River SWCD office.

The engineers concluded that, for the most part, the streambank erosion rates in the basin were not unusually high. However, some areas do need corrective measures. The SWCD, with the help of the Natural Resources Conservation Service (NRCS), is working with landowners, to obtain funding assistance, to implement projects and to correct the problems. Most projects implemented to date have successfully curbed erosion and have endured the last ten or more years.

In recent years, many landowners have installed more bank protection measures. One notable practice is the use of juniper riprap. This is the practice of cutting juniper trees in the uplands, placing them on streambanks to protect the bank and to capture sediment. This practice not only slows erosion, it also thins overstocked juniper stands and provides good fish habitat.

Burnt River Coordinated Resource Management Planning (CRMP)

Local citizens, working with state and federal agencies, have developed three CRMPs for the Burnt River drainage. The three CRMPs are the South Fork Burnt River, the North Fork Burnt River and the Middle Burnt River. These plans are available at the Baker City SWCD office.

The plans follow the CRMP process and include a list of natural resource and community objectives. Some examples of the issues discussed include:

- Water quality and quantity,
- Wildlife management,
- Noxious weeds, and
- Range management.

Burnt River Temperature Study

During 1997 through 2000, the Burnt River Water Quality Study was conducted as a cooperative effort involving landowners, Burnt River Irrigation District, and a number of federal and state agencies, OSU Rangeland Resources and the BOR. Implicit within the development of the studies and modeling effort was the collective intent of the cooperators to determine if natural conditions within the drainage would allow attainment of the statewide standards.

Proper Functioning Condition (PFC) assessments were conducted along most of the river at landowner request. Assessments were conducted and completed with the landowner with the understanding that they would be placed in private landowner files. Large segments of the river were classified as being at or near proper functioning condition.

Two parts of the project were initiated: a model was developed to assess the influence of various factors on water temperature and field studies and data analyses were conducted to test actual river basin conditions. Two field research studies were conducted by OSU Rangeland Resources Department and the BOR conducted the modeling study. The modeling runs and field investigations were undertaken to evaluate factors that could influence how fast stream temperatures approach thermal equilibrium and influences that could occur after a thermal equilibrium was achieved. The results of the studies provide a description of vegetation site potential, and associations between headwater, elevation, weather, and land use to observed patterns of stream temperature.

Model runs and field tests were performed to determine if there was an association between elevation and mean air, soil, and water temperature. Results from both the model and field observations showed a strong association between elevation and mean daily air, soil, and water temperatures. Mean daily air, soil, and water temperatures increased several degrees with each 500-foot drop in elevation (adiabatic rate of heating). This natural rate of heating raised stream temperatures above 64 degrees on a regular basis at and below 4,500 feet in elevation.

Monthly water temperature differences in 1998 and 1999 were strongly associated with air temperature differences and elevation. Water temperature patterns followed air temperature patterns.

Meteorological conditions were dominant when compared to existing anthropogenic attributes that may influence water temperature along the Burnt River. Climatic conditions determine the feasible range of water temperature and are a dominant component of the equilibrium temperature for the environment.

The shade potential for most of the main-stem channel is between two and five percent. The pattern of woody vegetation establishment is dictated by channel characteristics, soils, and the growth characteristics of the vegetation. Reed canary grass, an invasive species, impedes the growth of woody vegetation but does provide some bank stability and filtration.

The influence of land use was evaluated by comparing segments of the main-stem that are managed for a specific land use. Temperature increases of water flowing (river) through hay meadow (approximately one hour flow periods) and summer grazing treatments were not different at the 95 percent level. River segment uses of hay meadow and grazing were found to

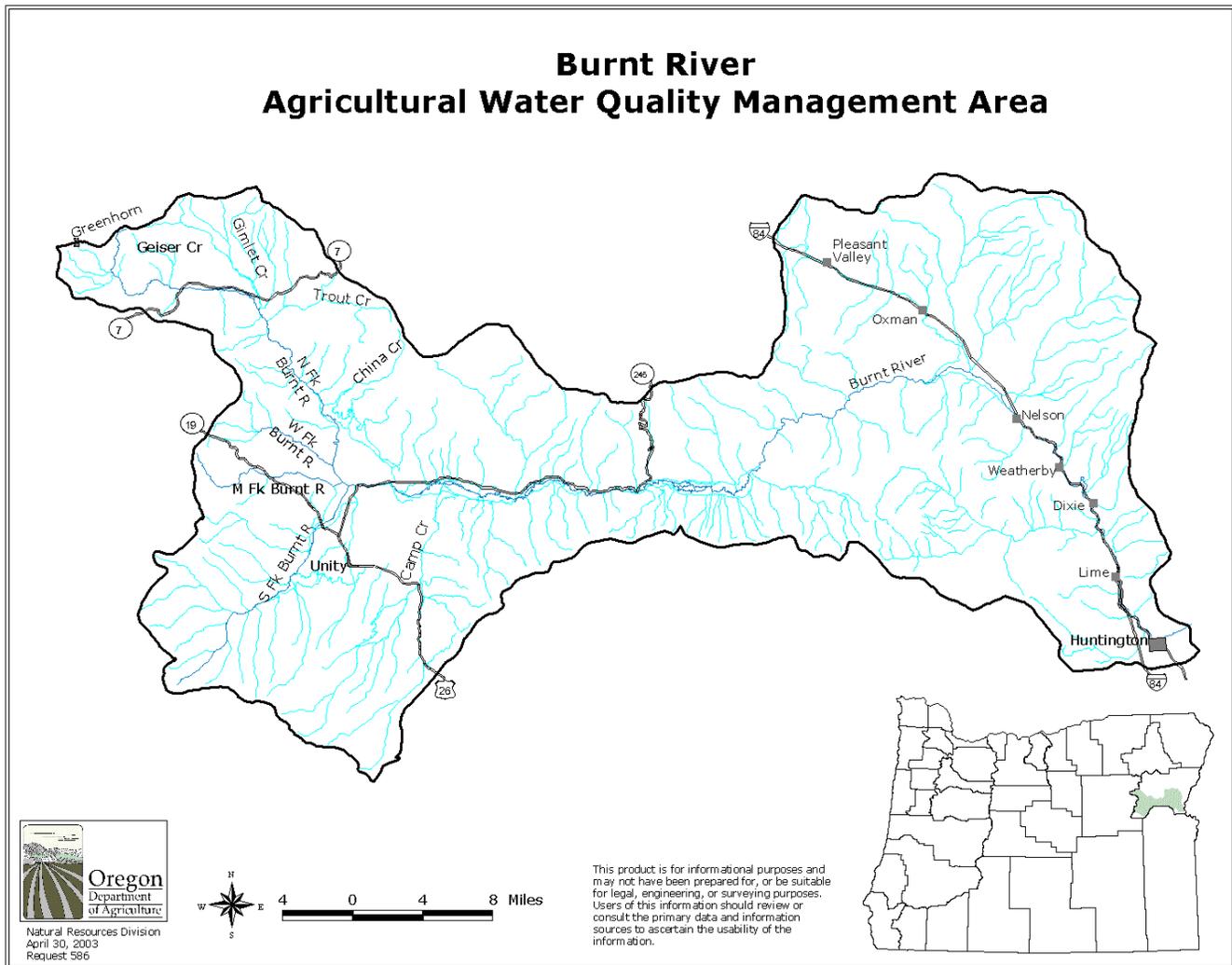
be temperature neutral in their impact upon river temperature. Study results indicate that each segment of the river accumulated similar (non-significant) amounts of energy regardless of the treatment.

Ecosystem function along the Burnt River is dependent upon the ability of riparian systems to capture resources and facilitate further use by the biotic communities. Current land use has more-or-less maintained the natural structure of the plant communities along the Burnt River and has been managed to stabilize and/or enhance biomass production.

The model and field data both recognized that flood irrigation and dam management enhance desirable watershed characteristics along the Burnt River. Without Unity Reservoir, the stream flows in the Burnt River during the summer and fall would be much lower than current levels. Summertime releases from the bottom of Unity reservoir often exceed 70 degrees. Main-stem temperatures from above Hereford to Bridgeport also exceed 70 degrees in late summer and then continue to heat with the thermal environment (adiabatic heating) down the canyon to above 80 degrees near Huntington. Model runs evaluated at two times the shade potential of the main-stem were ineffective in reducing river temperature.

The effect of irrigation diversion dams on in-stream temperatures was insignificant in the Burnt River. Return flows tend to reduce the in-stream temperatures in the river due to the lower water temperature of subsurface return flows. Modeling comparisons of conservation management alternatives indicate that increased irrigation efficiencies would increase in-stream temperatures due to a lower subsurface return flow gained by current irrigation practices.

2.3.4 Map of the Management Area



2.4 Agricultural Water Quality in the Management Area

2.4.1 Local Issues of Concern/303(d) List of Impaired Water Bodies

Section 303(d) of the Clean Water Act (CWA) requires each state to develop a list of water bodies that do not meet the standards designed to protect the most sensitive beneficial use. Water bodies that do not meet standards are placed on the 303(d) water quality limited list.

The complete list of water bodies in the Plan Area the Environmental Quality Commission (EQC) has determined to be water quality limited are in Appendix A. Readers should note that

most of these streams are almost entirely on U.S. Forest Service land. Most of the listings that occur within private lands are for the main stem of the Burnt River. The Burnt River is listed for:

- Temperature
- Chlorophyll a (Burnt River from Clarks Creek to Unity Reservoir)
- Dissolved Oxygen (Burnt River Unity Reservoir to Mouth)
- *E. coli*
- Arsenic

There is also a total phosphorus allocation of 0.07 mg/l for all Snake River tributaries, including Burnt River that was developed in the Snake River Hells Canyon TMDL in 2004.

2.4.2 Basin TMDLs and Agricultural Load Allocations

As of the 2014 biennial review, the TMDL and load allocations have not been completed.

2.4.3 Beneficial Uses Adversely Affected

Clean water supports many uses. Water quality standards are established to protect beneficial uses of Oregon's waters, which are defined in OAR 304-041-0002(17) and designated for the Powder/Burnt Basin in 304-041-0260 – Table 260A. Beneficial uses include: public and private domestic water supply, industrial water supply, irrigation, livestock watering, fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, and aesthetic quality.

The following beneficial uses have been identified as adversely affected in the Plan area:

- Salmonid fish rearing and spawning (OAR 340-41-762)
- Resident fish and aquatic life (OAR 340-41-762)

Of the beneficial uses of water in the Burnt River Basin, the most sensitive use for most waters and parameters of concern is spawning and rearing of cold-water fisheries. There are no anadromous salmonids or bull trout in the Burnt River. Redband trout exist only in the headwater streams.

2.4.4 Water Quality Parameters Of Concern

The following discussion of water quality parameters of concern in the watershed addresses the CWA requirements that require standards be established for the most sensitive beneficial use.

Temperature

Water temperature is the most widespread concern in the basin. The causes of stream heating are solar radiation, decreased groundwater interaction and instream flow reduction. These can result from natural disturbances and human-related stream modifications such as vegetation disturbance, irrigation withdrawal and channel straightening. The Plan calls for increased stream shade to moderate water temperatures. Water conservation and flow restoration are encouraged.

The streamside landscape provides shade that reduces solar heating of the water. The Total Maximum Daily Load will estimate the amount of natural, streamside vegetation needed to reduce solar heating to acceptable levels. Vegetation species and heights are determined by considering climate, soils, slope, elevation, historic vegetation, and protected areas.

Excessive water temperatures affect the survival of aquatic species. Cold-water fish, such as salmon and trout, are particularly sensitive to stream warming at all life stages. The purpose of the temperature criteria is to protect designated temperature-sensitive beneficial uses, including specific salmonid life cycle stages in waters of the state.

OAR 340-041-0028 provides numeric and narrative temperature criteria. The map provided in OAR 340-041-260A specifies where and when the criteria apply. The biologically-based numeric criteria applicable to the Burnt River Basin, as measured using the seven-day average maximum stream temperature consists of:

The seven-day-average maximum temperature of a stream identified as having Lahontan cutthroat trout or redband trout use on subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Tables 121B, 140B, 190B, and 250B, and Figures 180A, 201A, 260A and 310A may not exceed 20.0 degrees Celsius (68.0 degrees Fahrenheit)

Dissolved Oxygen

Low levels of dissolved oxygen can harm fish and other aquatic life. The availability of nutrients, warm temperatures and light stimulate aquatic plant and algae growth that reduces the oxygen content of water. Animal manure (livestock, wildlife, and fowl) and other organic wastes break down and also remove oxygen from water.

The dissolved oxygen standard for water bodies identified as providing cool-water aquatic life habitats, which applies to most of the basin, is as follows:

OAR 340-041-0016(3)-For water bodies identified by the Department as providing cool-water aquatic life, the dissolved oxygen may not be less than 6.5 mg/l as an absolute minimum (as a 30 day mean minimum).

Cold water DO criteria, of 8.0 mg/l or 90 percent saturation, applies to headwater streams.

Bacteria

Bacteria levels, particularly Escherichia coli, *E. coli*, pose a threat to the health of water contact recreation users and domestic water supplies. Potential sources of bacteria include animal manure, waterfowl and septic systems.

The DEQ bacteria standard (OAR 340-41-0009(1)(a)) states that organisms of the coliform group commonly associated with fecal sources shall not exceed a 30-day log mean of 126 E. coli organisms per 100 ml, based on a minimum of five samples and no single sample shall exceed 406 E. coli organisms per 100 ml.

Sediment

Sediment includes fine silt and organic particles suspended in the water column, settled particles, and larger gravel and boulders that move at high flows. Sediment movement and deposition is a natural occurrence but high levels of sediment can degrade fish habitat by filling pools, creating a wider and shallower channel and covering spawning gravels

Sediment above natural levels affects drinking water for humans and impacts salmonid reproduction and rearing. The formation of appreciable deposits of sediment interferes with the quality of gravels in the streambed that are essential for successful spawning, incubation, and rearing of salmonids.

DEQ is in the process of developing quantitative methods and benchmarks to evaluate sedimentation impairment in Oregon streams. Because this work is not yet complete, DEQ postponed the sedimentation TMDL until these methods are in place.

This Area Plan addresses sedimentation through prevention and control measures that reduce runoff from upland areas, provide filtration in riparian areas, and reduce overland return flows from irrigated areas.

Chlorophyll a

Chlorophyll a is associated with the growth of phytoplankton or algae in water bodies. It is not the focus of this Plan because Chlorophyll a problems primarily originate in Unity Reservoir as a result of it being a shallow, warm, stagnant pool during the hot summer months, which is a situation landowners have no control over.

Nuisance Phytoplankton Growth OAR 340-041-0019 (1)(a) The following values and implementation program must be applied to lakes, reservoirs, estuaries and streams, except for ponds and reservoirs less than ten acres in surface area, marshes and saline lakes:

(b) The following average Chlorophyll a values must be used to identify water bodies where phytoplankton may impair the recognized beneficial uses:

(A) Natural lakes that thermally stratify: 0.01 mg/l;

(B) Natural lakes that do not thermally stratify, reservoirs, rivers and estuaries: 0.015 mg/l.

However, the Burnt River studies by Borman, Larson and Mangelson have indicated that irrigation withdrawals on the main stem are beneficial to water quality in as much as they provide late-season, cool subsurface return flows. It has also been pointed out, although not mentioned in the studies, that the withdrawals are also beneficial in filtering out Chlorophyll a.

One solution that could be beneficial to both problems would be the construction of the two

proposed storage projects on the headwaters of the Burnt River - the 14,000 acre-foot Hardman project on the South Fork Burnt River and the 6,500 acre-foot Ricco project on the North Fork. Both projects could provide additional in-stream flows to address flow modification and at the same time provide fresh water infusion to Unity Reservoir. This would avert the stagnation, which could reduce Chlorophyll a concentrations and improve water quality.

2.4.5 Sources of Impairment and Conditions Affecting Water Quality

Both point and nonpoint sources contribute to water pollution. The accumulation of point and nonpoint source pollution results in water quality impairment. Point sources discharge pollutants into the water through a pipe or conveyance. In contrast, nonpoint source pollution is pollution emanating from landscape scale sources and typically cannot be tracked to a single point of discharge. Nonpoint sources of pollution in the area can include the effects of weather events causing runoff and erosion from agricultural and forest lands, leaching of pollutants to groundwater, eroding stream banks, and runoff from roads and urban areas. Pollutants from nonpoint sources can be carried to the surface water or groundwater through the actions of rainfall, snowmelt, irrigation, and leaching. Increased heat input due to vegetation removal, seasonal flow reduction, changes in channel shape, and floodplain alteration are major sources of water quality impairment. Channelization and bank instability may alter gradient, width/depth ratio, and sinuosity, thereby causing undesirable changes in sediment transport regime, erosional and depositional characteristics, and elevated temperature.

The high stream temperatures and low summer streamflows are the main water quality problems in the Burnt River subbasin. Stream temperatures can increase or decrease from various types of land management activities and natural disturbances, that cause the removal of riparian vegetation or changes in channel morphology, from hydrological factors such as groundwater recharge and discharge and from other factors such as high sediment loads.

Protection of riparian and streamside areas for moderation of stream temperatures is the subject of rules created from this Area Plan. Low summer streamflows often result from channel loss and water withdrawals for beneficial uses, primarily irrigation, along with normal seasonal reductions of streamflow. Water withdrawals are regulated by the Oregon Water Resources Department (WRD) and will not be addressed by rule or in this Area Plan.

2.5 Prevention and Control Measures

Voluntary efforts are the focus of the ODA, the Burnt River SWCD and the LAC. However, if a particular landowner refuses to correct a verified adverse condition on his or her property the ODA has a regulatory backstop to ensure pollution control. At the same time, ODA does not want to mandate or prohibit any specific agricultural activity. To maintain this flexibility, this Plan and its associated administrative rules describe Prohibited Conditions.

Readers should note that this AgWQM Area Plan is only a guidance document. By itself it is not regulatory. However, it does refer to administrative rules that set requirements for landowners. To help distinguish between this Area Plan and its associated rules, all rule language is separated from the rest of the text by solid lines.

This Plan encourages farmers and ranchers to manage their land to control conditions that have been identified as contributing to undesirable water quality using adaptive management techniques.

OAR 603-095-3240

Prohibited Conditions

(1) A landowner shall be responsible for only those conditions caused by activities conducted on land owned or managed by the landowner. Criteria do not apply to conditions resulting from unusual weather events or other exceptional circumstances that could not have been reasonably anticipated.

2.5.1 Pollution and Waste Management

ORS 468B.025 was developed to address water pollution from all sources. The LAC did not write this Condition. A Department of Justice Opinion dated September 12, 2000, clarifies that ORS 468B.025 applies to point and non-point source pollution as that term is commonly applied.

SB502 was passed in 1995 so that ODA could be the state agency responsible for direct regulation of farming activities for the purpose of protecting water quality. A Department of Justice opinion dated July 10, 1996, states, ‘...ODA has the statutory responsibility for developing and implementing water quality programs and rules that directly regulate farming practices on Exclusive Farm Use (EFU) and agricultural lands.’ In addition, this opinion states: ‘The program or rule must be designed to achieve and maintain Environmental Quality Commission’s (EQC) water quality standards.’

To implement SB502, ODA is incorporating ORS 468B.025 and 050 into all of the basin Agricultural Water Quality Management Administrative Rules in the state. ORS 468B.025 and 050 are incorporated by including the following language into the individual basins administrative rules.

As this is an existing statute, this rule will go into effect when the rules are filed with the Office of the Secretary of State.

OAR 603-095-3240

(2) Pollution And Waste Management

Effective upon adoption, no person subject to these rules shall violate any provision of ORS 468B.025 or ORS 468B.050. *(See Section 1.4.4 Water Pollution Control Law, page 13, for complete text of 468B rules and definitions)*

2.5.2 Streamside Conditions

Maintaining and improving riparian vegetation is an important factor to help achieve our goal of working toward a reduction in any identified undesirable water quality issues related to agricultural land use practices. Healthy, functioning riparian vegetation communities in the Burnt River will help stabilize stream banks, filter sediments and nutrients and protect critical aquatic and riparian habitat.

Healthy riparian vegetation can also help control stream temperatures in certain circumstances. However, because of natural factors and the technical and biological challenges (e.g. site capability, and beaver, ungulate, and rodent damage) of developing riparian vegetation it is unlikely that all of the listed tributaries of the Burnt River will meet the temperature criteria of 68 degrees. Some headwater streams meet criteria or are likely to meet it with healthy riparian vegetation and improved flood plain connection. It is also noted that no amount of riparian vegetation can of itself produce sufficient benefit to bring any portion of the main stem into compliance with the 68° criterion in as much as summertime releases from Unity reservoir often exceed 70°.

However, the numerical criteria are only part of the temperature standard. The standard itself focuses on limiting human-caused warming of surface waters to the extent it is feasible.

Industries, agencies, cities and other groups including agriculture are required to write and implement a basin-wide management plan, such as this Agricultural Water Quality Management Area Plan, that describes how these groups will attempt to control stream temperatures if a stream in the basin exceeds the temperature criterion.

OAR 603-095-3240

(3) Streamside Conditions

(a) By January 1, 2006, activities will allow the establishment and development of riparian vegetation, consistent with site capability. Site capability will be determined by ODA in consultation with local resource management agencies. (b) Landowners are not responsible for browsing and grazing by wildlife.

The Riparian Rule does not specify any activities that must cease and does not require any particular activity to take place. Landowners are not responsible for wildlife browsing and grazing.

The Rule allows for management activities to take place. Some examples of management that are compatible with water quality objectives are:

- Properly managed grazing
- Hazard tree removal
- Traditional harvesting of forages

This rule only applies to the streamside area of natural streams and not to authorized irrigation

ditches and diversion points which are used for the primary purpose of delivering irrigation and stock water to lands that hold a valid water right. The streamside area is defined as the area near the stream where management practices can most directly influence the conditions of the water.

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Chapter 3: Goals, Objectives, and Strategies

The purpose of this Plan is to address possible water quality issues on private agriculture land within the Burnt River Basin in as much as the main stem and several tributaries are on the 303(d) water quality limited list, pursuant to the Federal Clean Water Act (CWA).

The Local Advisory Committee (LAC) determined that an extensive Plan was not necessary because of the previous work, such as the Burnt River Temperature Study, done in this basin. Interested readers can obtain a copy of the Burnt River Temperature Study from the Bureau of Reclamation and Oregon State University (OSU). All studies and related materials are available at the Baker County Soil and Water Conservation Districts (SWCD) office in Baker City. This Plan will present a summary of the study in section titled “History of Conservation in the Burnt River Basin.” This Plan relies on the findings of this study, which was conducted to identify factors affecting water temperature in the basin. We will use the results of the study to identify strategies that will minimize the affects of agricultural activities on water temperature.

3.1 Goals

The goals of the Plan are to:

- Prevent and control water pollution from agricultural activities and soil erosion and achieve applicable water quality standards;
- Work toward a reduction in any identified undesirable water quality areas by attempting to prevent and control characteristics on agricultural lands in the Plan area that contribute to undesirable water quality;
- Continue and expand, if necessary, the current water quality monitoring program established by the SWCD and the Burnt River Irrigation District; and
- Apply the lessons learned from the Burnt River Temperature Study.

3.1.1 Water Quality Objectives

To achieve its purpose and goals, the LAC establishes the following water quality related objectives for agricultural land in the Plan area that contribute to good water quality:

- Stream bank erosion remains within expected levels;
- Maintain or improve the ability of riparian vegetation to provide streambank stability, filtration of overland flow, and moderation of solar heating within the capabilities of the site;
- No visible sediment loss from cropland through precipitation or irrigation induced erosion and;
- Continue and expand, if necessary, the current monitoring program as outlined in the Burnt River Temperature Study.

3.2 Measurable Objectives

To achieve the Area Plan goal, measurable objectives, strategies, milestones, and timelines will be developed. At a minimum, the measurable objectives of the Ag Water Quality Program and

this Area Plan are to:

- Increase the percentage of lands achieving compliance with the regulations.
- Increase the percentage of lands meeting desired land conditions outlined in the Area Plan.

3.2.1 Milestones (Targets) and Timelines

The following milestones and timelines were developed in cooperation with ODA, DEQ, the LAC, and the SWCDs. Focus Area Action Plans are developed as a tool with milestones and timelines for implementation of the Area Plan within a defined geographic area.

- By 2012, a small geographic area (focus area) will be identified within the Management Area, where voluntary outreach and technical assistance work will be focused for the next two years.
- By 2013, ODA and/or the LMA will complete an assessment in the focus area that identifies:
 - The amount of streamside areas meeting water quality goals,
 - Streamside areas that are improving, and
 - Streamside areas that need work.
- Objectives and timelines will be established for the areas needing work. ODA and the LMA will report back to the LAC on the status of land conditions, and outreach and technical assistance efforts in the small area, at the 2014 biennial review.
- By the 2014 biennial review, the SWCD will have offered technical assistance to all landowners in the small area with lands where agricultural activities appear to prevent streamside vegetation from establishing. The LMA will report back to the LAC and ODA on the amount of lands where landowners accept voluntary assistance to allow streamside vegetation to establish and develop.
- By the 2014 biennial review, ODA and/or the SWCD will complete a follow-up assessment in the area and evaluate land condition changes over the two-year period.

3.2.2 Focus Area

ODA's current efforts include evaluating program effectiveness by focusing work in small geographic areas, such as small watersheds. ODA water quality staff work with the SWCD, serving as the LMA, to select these areas, based on land condition and water quality concerns. ODA and the SWCD develop action plans with identified milestones and corresponding timelines to improve streamside vegetation and/or other land conditions. A reporting mechanism is identified in the action plan, which includes assessments provided to LACs at their biennial reviews.

The current Focus Area for this management area is Camp Creek and South Fork Burnt River. An Action Plan for the current biennium has been developed and approved by ODA outlining the key components of the process.

- Conduct a pre-assessment of current land conditions.
- Identify areas of concern.
- Conduct education and outreach to landowners.

- Offer technical assistance to landowners and financial assistance, if needed.
- Conduct a post-assessment after project implementation.
- Report progress to ODA and the LAC.

Results of the assessments and targeted assistance are reported to the LAC at the Biennial Review and are summarized in Chapter 4.

3.3 Implementation Strategy

The Burnt River SWCD and ODA are responsible for implementing the Area Plan. The Burnt River SWCD, as the Local Management Agency (LMA), will maintain an Intergovernmental Agreement (IGA) with ODA that outlines their responsibilities for providing educational outreach and technical assistance. The Burnt River SWCD will:

- Participate in developing and evaluating outreach and education programs designed to provide public awareness and understanding of water quality issues.
- Review reports, projects, demonstrations, and tours used to showcase successful management practices and systems.
- Evaluate the adequacy of technical and financial assistance sources available to the agricultural community to implement recommended best management practices, monitoring, and education.

3.3.1 Education and Outreach

Education and cooperation are the keys to the success of this Plan. The local offices of the NRCS, ODA, and the SWCD will work together to provide farmers and ranchers in the Plan area with information about the goals, objectives, and requirements of this Plan.

Individual farmers and ranchers in the Plan area may request assistance to determine what can be done to meet the goals and objectives of the Plan by contacting the local office of the Burnt River SWCD or the NRCS.

3.3.2 Landowner Participation

The following guidelines apply for landowner participation in implementation and review of the Plan:

- Landowners will receive copies of the Plan and monitoring summaries upon request.
 - Comments from the public and landowners will be received and response given.
 - Adaptive management specific to the landowners' needs should be used to strive to avoid conditions of Section 9.
 - Landowners and producers will be offered the opportunity for adaptive management.
- Property rights will be observed as guaranteed by the US and Oregon Constitution.
- Burnt River landowners will maintain ownership of data collected by them or their agents on their property.
- Assistance for problem resolution will be provided by the Burnt River SWCD to

landowners upon request.

- Background information and research publications relevant to the water quality issues should be made available by the Burnt River SWCD.
- Specialized assistance from professional scientists, researchers, extension agents, or others will be sought by ODA and the SWCD when questions and concerns require such assistance.
- ODA will assist the landowner in data interpretation, or other information.
- Secondary characteristics of soil type, hydraulic function, plant community, geological attributes or other factors can be used to compliment any data and data analysis that meets the goals and objectives of the Plan in these areas.
- Landowners may provide information and/or cooperation and maintain options to adapt management actions that meet the Plan objectives.

3.3.3 Biennial Review/Reporting and Amendment

The LAC, ODA, and the SWCD will conduct biennial reviews of the progress of implementation of the water quality management Area Plan, including enforcement actions taken, and requests for alternate measures that have been granted and/or denied. The SWCD and ODA will submit biennial written reports to the Board of Agriculture and the director, summarizing any meetings held, advisory committee members present, actions taken, and progress and impediments toward achievement of water quality management Area Plan goals. If necessary, they will provide recommendations to the board and the director regarding modifications to the Area Plan that may be necessary to achieve water quality goals and objectives.

During the biennial review process, ODA, the SWCD, and the LAC assess activities that have occurred to help achieve plan goals and objectives, including the following.

- Outreach and education activities conducted to promote awareness of water quality issues and encourage agricultural land conditions that protect water quality, and the level of participation in these activities.
- Voluntary conservation projects installed by agricultural landowners and managers in cooperation with the SWCD and other agencies and organizations.
- Number of complaint investigations, the result of each complaint investigation, and corrections of violations.
- Evaluation of changes in water quality in the area, if appropriate and if data are available.

3.3.4 Monitoring and Evaluation

The water quality monitoring in the Burnt River Drainage began in 1992. Monitoring intensified in 1998 and will continue for the foreseeable future. The monitoring program will:

- Continue and expand, as necessary, existing monitoring to establish baseline conditions (Responsible parties: Burnt River Irrigation District, Burnt River SWCD).
- Track Area Plan implementation and compliance with the Area Rules (Responsible parties: ODA, Burnt River SWCD, Burnt River LAC).
- Evaluate Area Plan effectiveness (improvements in water quality and land conditions) (Responsible parties: ODA, Burnt River SWCD, Burnt River LAC).
- Identify priority areas and annual and long-range strategies for Area Plan implementation

(Responsible parties: ODA, Burnt River SWCD, Burnt River LAC).

Water quality monitoring will be coordinated by representatives of the LAC, ODA, Burnt River SWCD, Burnt River Irrigation District, and other agencies and groups conducting monitoring in the basin. Area Plan success will be evaluated by the LAC, ODA, the Burnt River Irrigation District, and the Burnt River SWCD.

The Oregon Plan for Salmon and Watersheds' Water Quality Monitoring Technical Guide Book (July 1999) is the state's preferred reference manual. Specific monitoring protocols will depend on the condition being assessed.

Baseline Conditions The LAC believes that the existing monitoring system needs to be continued. The data already collected provides documentation of current conditions. Continued monitoring will help determine trends in water quality. If problems are noted in the monitoring data, the Burnt River SWCD will be notified and they will provide assistance.

Funding is a critical issue. The Burnt River Irrigation District pays for its own monitoring program, and the SWCD depends on grant money to continue its monitoring program.

3.3.5 Area Plan Progress and Success

The Burnt River SWCD, ODA, and the LAC are responsible for determining whether the goals will be met within the time frames identified in the Area Plan. Progress and success of implementation efforts will be assessed through compliance with Area Rules and state standards and the measurement of water quality changes over time. Monitoring methods will be determined before the next review of this Area Plan, when the specific targets are better understood and quantified. Two types of monitoring are described below. The appropriate monitoring design depends on the purpose for monitoring.

- **Trend monitoring:** This type of monitoring will be used to determine long-term changes in water quality. It requires the establishment of "stable" sites and collection of a data record over time for comparison to baseline or initial information. Ideally, areas picked for baseline monitoring will also be used for trend monitoring. In the Burnt River, most of these sites have already been established. The *Monitoring Technical Guide Book* provides detailed information on how to set up and perform water quality monitoring, including considerations for site selection, quality assurance, quality control, and data storage. When combined with compliance monitoring, trend monitoring can indicate improvement in water quality conditions related to changes in land use practices.
- **Compliance monitoring:** ODA will review the water quality data collected in the Burnt River on a regular basis. As part of its determination of basin-wide compliance, ODA will consider such things as expected annual averages for the area, "normal" daily fluctuations in temperature, trends over time and other factors. DEQ also conducts monitoring to determine compliance with State water quality standards.

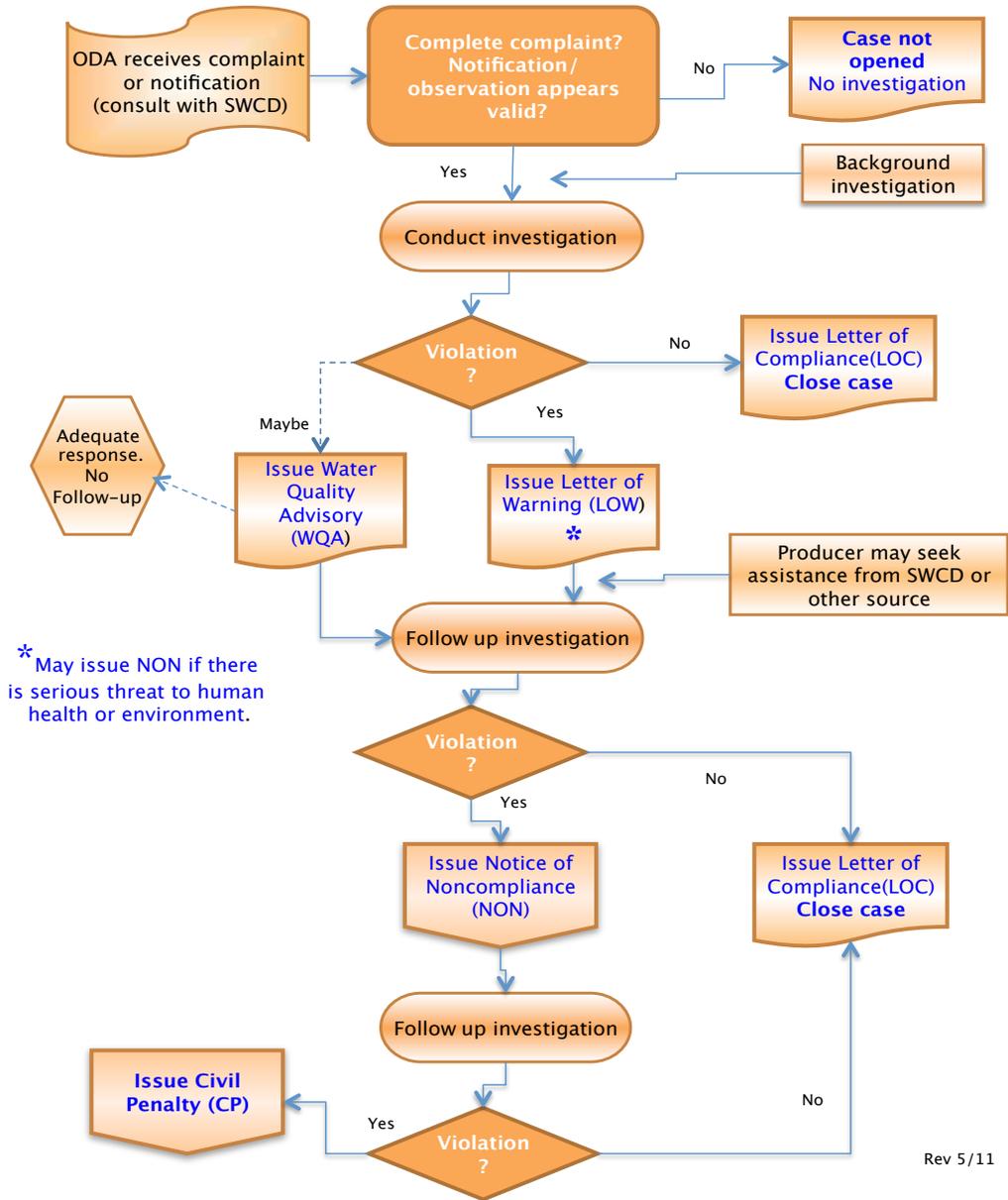
3.3.6 Enforcement Process and Resolution of Complaints

ODA will have the responsibility for enforcing rules derived from the Area Plan. Fines and civil penalties are used as a last resort in the effort to address management impacts on water quality. That is consistent with the direction given to ODA, through OARs, for the Agricultural Water Quality Management Program (OAR 603-090-0000 through 603-090-0120). This Plan includes an enforcement policy because it is a required element of a Water Quality Plan and to provide a mechanism when reasonable attempts at voluntary solutions have failed. The primary focus of the Area Plan is education toward voluntary compliance with the Plan, and even the enforcement procedure is designed to educate first and penalize only as a last resort. In the event that a situation comes to the attention of the ODA that may be in violation of the Water Quality Management Area Administrative Rules, certain procedures will be followed as indicated in OARs 603-095-0010 through 0040 and OARs 603-090-0000 through 0120.

603-095-3260 Complaints and Investigations

- (1) When the department receives notice of an apparent occurrence of agricultural pollution through a written complaint, its own observation, through notification by another agency, or by other means, the department may conduct an investigation. The department may, at its discretion, coordinate inspection activities with the appropriate Local Management Agency.
- (2) Each notice of an alleged occurrence of agricultural pollution will be evaluated in accordance with the criteria in ORS 568.900 to 568.933 or any rules adopted there under to determine whether an investigation is warranted.
- (3) Any person allegedly being damaged or otherwise adversely affected by agricultural pollution or alleging any violation of ORS 568.900 to 568.933 or any rules adopted there under may file a complaint with the department.
- (4) The department will evaluate or investigate a complaint filed by a person under section OAR 603-095-3260(3) if the complaint is in writing, signed and dated by the complainant and indicates the location and description of: (a) The waters of the state allegedly being damaged or impacted; and (b) The property allegedly being managed under conditions violating criteria described in ORS 568.900 to 568.933 or any rules adopted there under.
- (5) As used in section OAR 603-095-3260(4), “person” does not include any local, state or federal agency.
- (6) Notwithstanding OAR 603-095-3260, the department may investigate at any time any complaint if the department determines that the violation alleged in the complaint may present an immediate threat to the public health or safety.
- (7) If the department determines that a violation of ORS 568.900 to 568.933 or any rules adopted thereunder has occurred, the landowner may be subject to the enforcement procedures of the department outlined in OARs 603-090-0060 through 603-090-0120.

Oregon Department of Agriculture WQ Program Compliance Protocol



Definitions of terms used in the compliance flow chart are in appendix B.

The 2001 session of the Oregon State legislature amended the original 1993 SB 1010 law in key areas. The following is an important amendment that describes how ODA may impose a civil penalty for a first violation:

(ORS 568.933) (2) The department may not impose a civil penalty on a landowner for a first violation under this section unless the department: (a) Has notified the landowner of the violation in a writing that describes, with reasonable specificity, the factual basis for the department's determination that a violation has occurred: and (b) Has prescribed a reasonable time for the landowner to correct the violation that may not exceed 30 days after the first notice of a violation, unless the violation requires more than 30 days to correct, in which case the department shall specify a reasonable period of time to correct the violation in a plan of correction issued to the landowner.

The following is a general summary of the procedures: Except for flagrant* discharge of pollutants or flagrant removal of riparian vegetation necessary for streambank stability and shading, at any point in the process, the landowner may choose to address a problem and not incur civil penalties under the basin rules. (*As defined in OAR 340-012-0030 - any documented violation where the respondent had actual knowledge of the law and had consciously set out to commit the violation).

#1. Any person alleging a violation of the AgWQM Area Administrative Rules may file a complaint with ODA. ODA will evaluate a complaint filed by a person if the complaint is in writing, signed and dated by the complainant. It must indicate the location and description of the alleged violation of the basin's AgWQM Area Rules.

#2. If after evaluating the complaint ODA determines there might be a possible violation, ODA will contact the landowner, manager or lessee to schedule a meeting. Prior to the meeting ODA will: a) Provide a summary of the complaint to the landowner; b) Inform the landowner of their right under the Public Records Law (ORS 192.410 through 505) and Public Information Administrative Rule (OAR 603-001-0125 through 0155) to file for a complete copy of the complaint, including name of complainant; c) Provide adequate time (30 days) for the landowner, if they desire, to: 1) contact other experts and 2) request the SWCD to obtain site specific water quality monitoring data (except in cases where it appears to be a flagrant violation in need of immediate attention); d) Inform the landowner that ODA will not enter the property to gather information without permission or a search warrant.

#3. The alleged violation will be reviewed on-site by the ODA representative and the landowner. The landowner may invite members of the LAC or the SWCD or any other person to be present at this visit. The on-site review will include an investigation by ODA, which will include collection of samples as appropriate, for testing and consultation with experts at ODA expense. In the case of an alleged violation in the Burnt River Plan Area where extensive monitoring data has been collected, ODA will review this data. ODA will consider such things as expected annual averages for the area, "normal" daily fluctuations in temperature, trends over time and other factors. If no violation of the basin AgWQM Area Rules exists, the complaint will be dropped.

#4. If ODA determines through the investigation, based on scientific data, that a violation of the basin AgWQM Area Rule exists, ODA will advise the landowner of the violation (WQA or

LOW) and work with the landowner and other experts the landowner may want to involve to develop a Plan of Correction to resolve the problem. The Plan of Correction includes a timetable of specific actions and an agreement to revisit the site as necessary to confirm that progress is being made to correct the violation within the timetable agreed upon. If progress is being made on schedule, this will complete the process.

#5. If the landowner does not agree to the specific actions required by the ODA, the landowner may request a review under the procedures outlined in OAR 603-090-0040 through 603-090-0050. The ODA shall determine whether alternate measures proposed by the landowner are sufficient to protect water quality.

#6. If there is a confirmed violation that a landowner refuses to address after ODA's on-site visit and ODA's attempts to work with the landowner to develop a mutually agreeable solution, civil penalties can be levied. Civil penalties are issued by the ODA director or the director's designee under the provisions of OAR 603-090-0060 through 603-090-0120 and will be based on the seriousness of the violation and the magnitude of the effect. OAR 603-090-0120(3) describes the civil penalty matrix for first violations which begins at \$50 and ranges to \$1,200 and the civil penalty matrix for repeat violations which begins at \$100 and ranges to \$5,000.

#7. A landowner issued a civil penalty due to a violation of the basin AgWQM Area Rules may request an informal conference with the director of ODA. The conference provides an opportunity for the landowner to present their perspective and may result in a settlement.

#8. A landowner issued a civil penalty due to a violation of the basin AgWQM Area Rules may request a formal hearing by an independent hearings officer assigned from the Hearings Officer's Panel in accordance with applicable contested case procedures as described in ORS 183.413 to 183.550.

#9. A landowner may appeal the outcome of a formal hearing concerning a civil penalty by filing a petition with the Court of Appeals. The court will consider whether the ODA has properly interpreted the applicable law and has acted within the discretion delegated by law that is consistent with agency rule, official agency position or prior practice. The court may also assess whether the ODA action is based on substantial evidence and is consistent with the constitution.

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Chapter 4: Implementation, Monitoring, and Adaptive Management

4.1 Implementation and Accomplishments

Many conservation activities and implementation monitoring tracks have been implemented to benefit water quality. The SWCD and NRCS track activities that have been implemented through quarterly reports to ODA and through a NRCS database, respectively. Projects that have received funding from OWEB are tracked in OWEB's restoration database. In addition, partner agencies can submit reports of projects and activities in the Management Area that improve water quality.

Outreach and Education

- Keating Spring Conservation Tour - 45 guests, five projects viewed, one guest speaker. Project types viewed: Irrigation Efficiency, Off Stream Watering, Grazing Management, Weed Control-CCPI.
- Baker County Fair Booth - 500+ guests, interactive conservation/education and visuals. Pictures and display boards showcasing projects completed through the county-drawing for soil probe.
- 6th Annual Field to Fork - Partner with Baker County Farm Bureau, OSU Extension, NRCS. Two-day event for 5th grade students from five different elementary schools. Approximately 400 students in attendance, learning the logistics of where food comes from. Topics covered include: soils, water, growing, harvesting, commodities, and processing. – Soils Class
- Outdoor School Classes – 330 students – Soils Class - Hands on interactive learning focusing on four environmental functions of soil, filtration, storage, and transformation.
- 2013 Weed Tour – 20 Participants. Toured different invasive species sites around Baker Valley that have been treated either conventionally or with new methods.
- Society for Range Management Tour – SRM toured several projects in Baker Valley, picnic style lunch, and guest speakers.
- High Desert Youth Range Camp- Burnt River SWCD sponsored a high school student from their District to attend the Range Camp in Burns, OR for three days – to learn range management practices, and opportunity for college credits.

Projects/practices implemented

- 1,491.5 acres of juniper removal;
- 7,886 feet of riparian fencing;
- 3,000 feet streambank stabilization;
- 13 off-stream watering facilities;
- 15,627 feet pipeline for off-stream watering facilities;
- 4 diversions;
- 3,942 feet of pasture cross-fencing for grazing management;
- 7.3 acres livestock and wildlife exclusion;

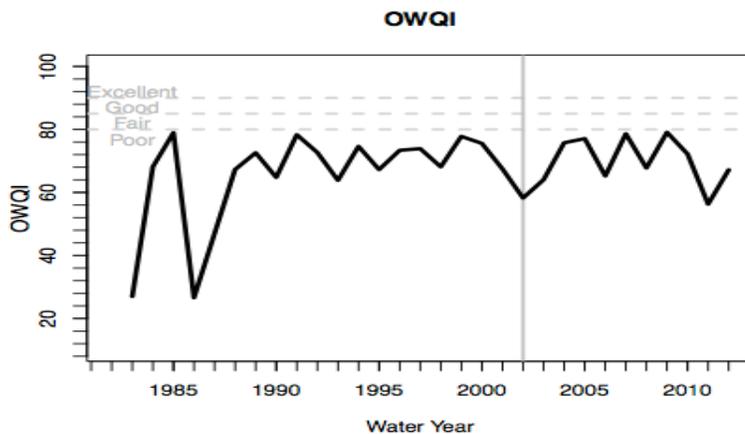
- # Of Landowners Contacted by SWCD = 47
- # Of Landowners Provided w/TA = 67
- # Of Workshops/Training Sessions = 1/2
- # Presentations = 7/25
- # Tours = 3/47
- # Displays = 2/700
- # Student Events/Classes = 2/260
- Total # of Fact Sheets/Brochures Distributed = 15
- Total # of Newsletters Distributed = 1,000
- # Newspaper Articles = 10
- Target Audience for News Articles = 50,000
- # On-Site Evaluations/On-Site visits = 25
- # Sites Monitored for WQ = 7
- # Applications Submitted for Funds = 1

Funding and Grants

- OWEB: \$82,466.00
- NRCS: \$4,105,206.00

4.2 Water Quality Monitoring—Status and Trends

2012 Oregon Water Quality Index score and ten-year trend:



The ambient site 11494 located on the Burnt River near its mouth in Huntington is rated as Poor (63) using the OWQI. A positive trend was observed for the 2001-2010 time period. The major drivers of decreased water quality are total phosphorus, BOD, and temperature. Temperature, pH, dissolved oxygen, total solids, and bacteria sub-index scores had significant improving trends during the period.

4.3 Progress Toward Measurable Objectives

Focus Area objectives:

- To work with landowners in the Focus Area, that are willing to participate in SWCD programs, to allow streamside vegetation to establish and grow, and improve upland forage.
- To help landowners in the Focus Area that are willing to participate in SWCD programs to convert their land from current class to Class II or better.
- Convert Class III designations to Class II or better.
- Convert Class II designations to Class I.
- Recruit willing landowners.
- Create landowner awareness of programs and availability of assistance, both technical and educational.

Focus area projects implemented:

The selected Focus Area includes 2-5th field HUICS – Camp Creek and South Fork Burnt River. The pre-assessment was completed in 2013, landowners have been contacted and offered technical assistance. SWCD staff conducted seven site visits, four landowners enrolled in projects, one OWEB project was completed, and one potential small grant was developed. Practices implemented include:

- Juniper removal on 1,272 acres;
- Aspen protection - underburn and 800 feet of buck and pole fencing;
- 14,587 feet of cross fencing;
- 5 spring developments;
- 150 acres of seeding;
- Grazing management plan.

Assessment Methods:

Class I	Class II	Class III
Little to no resource concerns – LOW priority	Class II – Few resource concerns – MEDIUM priority	Numerous resource concerns – HIGH priority

There are 93.2 total riparian stream miles in the Burnt Fork Priority Area. The pre-assessment was completed by SWCD staff. The table below represents the estimated percentage of stream miles in each respective class of resource concerns.

Class	2013	2015
Class I	27.5%	
Class II	72.5%	
Class III	0%	

Streamside Vegetation Assessment Results:

The Streamside Vegetation Assessment was completed by ODA staff. The percent area in each map category in areas where ODA Water Quality Program applies:

Map Category	Acres	Percent
Tree	15.62	4
Shrub	102.11	26
Grass	48.78	12
Bare	4.79	1
Water	44.05	11
Ag Infrastructure	1.11	0
Tree-Ag	0	0
Shrub-Ag	0	0
Grass-Ag	175.68	45
Bare-Ag	0.04	0
Total	392.18	100

4.4 Aerial Photo Monitoring of Streamside Vegetation

Nine streams were photographed and assessed for this project in 2007. These streams were Ayers Creek, Camp Creek, Dogtown Creek, Durkee Creek, Job Creek, Lawrence Creek, Powell Creek, the South Fork Burnt River, and Swayze Creek. Overall, this basin had the lowest riparian index scores of all basins assessed in the state. The highest score was 38 for Powell Creek, while the lowest was 26.26 for Job Creek. No stream had more than 23 percent trees in any band, but none had over 7 percent bare agricultural land. Job, Durkee, Dogtown, Camp, and Ayers Creeks did not have any bands with more than 8 percent trees.

Qualitative properties of the streams include the following observations:

- Camp Creek: Has a very sinuous channel. Actively eroding cut banks, but otherwise stable and in good condition.
- Ayers: Narrow channel. Dry stream.
- Dogtown: Like Ayers, dry channel.
- Durkee: Lower 50% deeply incised and eroding channel. Incision is greater than eight feet in most places. Lower reach is canyon-like in the amount of incision it has had.
- Job: Generally stable channel, high flow. Multiple diversions. Some large wood visible in lower channel.
- Lawrence: Lower 20 percent channelized, used for flood irrigation. Few diversions on upper reach.
- Powell: Lower reach is severely eroded. Some middle sections are dry. Upper 50 percent mostly wooded with rangeland along margins.
- SF Burnt: Very sinuous channel with many diversions and some areas of eroding banks.
- Swayze: Sections of this stream very incised but mostly sinuous. Upper reach has a very narrow channel.

4.5 Biennial Reviews and Adaptive Management

Area Plan Changes

The Area Plan was revised to meet recommended formatting and Chapter 4 was added to report and update current monitoring data and trends.

Area Plan Implementation Progress and Effectiveness:

Excellent progress is being made in assessment and providing targeted outreach and assistance to landowners in the focus area. The current focus area encompasses two 5th field HUCs - over 127,000 acres and 93.2 miles of streams. Work will continue to focus implementation efforts in this area for several more years.

Regulations

One complaint was received for this management area. The SWCD as made contact with the landowners and is working with them to remedy the situation.

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APPENDICES

APPENDIX A - 2010 Water Quality Limited List- 303(d)

Waterbodies	Boundaries (River Mile)	Parameter
Auburn Creek	0 – 6.6	Temperature
Burnt River*	0 – 77.9	Arsenic
Burnt River	45.1 – 77.3	Chlorophyll a
Burnt River**	0 – 77.9	Dissolved Oxygen
Burnt River*	0 – 45.1	<i>E coli</i>
Burnt River	0 – 77.9	Temperature
Camp Creek	0 – 6.9	Sedimentation
China Creek	0 – 7.7	Temperature
Clarks Creek	0–8	Temperature
Cottonwood Creek	0–5	Temperature
Dark Canyon	0 – 5.9	Temperature
Dixie Creek	0 – 6.9	Temperature
East Camp Creek	0–8	Temperature
Geiser Creek	0 - 4.9	Sedimentation
Lawrence Creek	0 – 17.7	Temperature
MF Burnt River*	0 – 11	Biological Criteria
MF Burnt River*	0 – 11	Dissolved Oxygen
MF Burnt River*	0 – 11	<i>E coli</i>
NF Burnt River*	1.9 – 28.7	pH
NF Burnt River	1.9 – 28.7	Temperature
NF Dixie Creek	0 – 11.2	Temperature
Patrick Creek	0 – 1.3	Temperature
Patrick Creek	0 – 1.3	Sedimentation
SF Burnt River*	0 – 11.5	Dissolved Oxygen
SF Burnt River*	0 – 11.5	<i>E coli</i>
SF Dixie Creek*	0 – 9.6	Sedimentation
SF Dixie Creek	0 – 9.6	Temperature
Trout Creek	0 – 8.8	Temperature
Trout Creek	0 – 8.8	Sedimentation
WF Burnt River*	2 – 5.4	Dissolved Oxygen

* Added to list in 2010

** Proposed for delisting in 2012

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APPENDIX B – Definitions for Compliance

“**Pollution**” has the meaning given in ORS 468B.005(3) which states: such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.

“**Wastes**” has the meaning given in ORS 468B.005(7) which states: sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive or other substances which will or may cause pollution or tend to cause pollution of any waters of the state. Other substances, which will or may cause pollution, include commercial fertilizers, soil amendments, composts, animal wastes, and vegetative materials.

“**Adaptive management**” means making adjustments in management based on feedback from monitoring.

A **Letter of Compliance** (LOC) tells the owner/operator that at the time of the inspector’s site visit, the property was in compliance with all Area Rules and there were no conditions observed during the investigation, such as manure piles near drainages or heavily grazed areas, that are likely to cause a water quality problem in the near future.

A **Water Quality Advisory** (WQA) means the owner/operator is in compliance because there were no violations of Area Rules documented at the time of the inspector’s visit, but the conditions on the property have the potential to violate the Area Rules in the future. Examples: a riparian area is in poor condition, and if management changes are not made, conditions will not improve; there is manure in a corral that could be transported to surface water in a rain event; there is build up of sediment in a sediment basin.

A Water Quality Advisory letter includes a description of the conditions that have the potential to violate the Area Rules, the statute or rule that may be violated, consequences of future documented violations, and a schedule of recommended corrective actions. The letter may also refer the landowner to other sources of technical assistance, and summarize other issues discussed during the investigation. The inspector will usually follow up to see if the changes effectively reduced the potential for a water quality problem.

A **Letter of Warning** (LOW) means the inspector found a violation of Area Rules during the investigation, but the pollution-causing activity was not egregious and was not done intentionally to cause water pollution. The Letter of Warning is an unofficial compliance action (not defined in Administrative Rule) that gives the landowner or operator at least one opportunity to correct the problem before he/she receives a Notice of Noncompliance. A Letter of Warning is not considered an enforcement action by the State.

A Letter of Warning includes a description of the conditions that violate the Area Rules, the statute or rule that is violated, consequences of future documented violations, and a schedule of recommended corrective actions. The letter may also refer the landowner to other sources of technical assistance, and summarize other issues discussed during the investigation. Although the landowner has the flexibility to choose the recommended actions or other practices best suited to correct the problem on the operation, the inspector will follow up to see if the violation has been addressed.

A **Notice of Noncompliance (NON)** means the inspector found a violation of Area Rules during the investigation, and the violation was either (1) egregious or done to intentionally cause water pollution, or (2) a second violation after being issued a Letter of Warning. A Notice of Noncompliance includes a description of the conditions that violate the Area Rules, the statute or rule that is violated, consequences of current documented violations, and a schedule of required corrective actions. The letter may also refer the landowner to other sources of technical assistance, and summarize other issues discussed during the investigation. A **Plan of Correction** usually accompanies a NON if the corrective actions require more than 30 days and directs the landowner to take specific steps to correct the problem. An inspector will follow up to confirm the landowner completed the required corrective actions and effectively addressed the violation.

A **Civil Penalty (CP)** is a fee that is assessed to a landowner whose agricultural activities caused either a willful and intentional violation of Area Rules, or who repeatedly failed to take steps to correct a violation. Oregon Department of Agriculture's Division 90 rules include a matrix for calculating the value of civil penalties for the Water Quality Program.