

Sandy Subbasin Agricultural Water Quality Management Area Plan

**Developed by
The Sandy Subbasin Local Advisory Committee**

with assistance from

**The Oregon Department of Agriculture
and
The Clackamas County Soil and Water Conservation
District**

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Acronyms and Abbreviations

Area Plan	Sandy Subbasin agricultural water quality management Area Plan
Area Rules	Sandy Subbasin agricultural water quality management Area Rules
CREP	Conservation Reserve Enhancement Program
DEQ	Department of Environmental Quality
ESA	Endangered Species Act
IPM	Integrated Pest Management
LAC	Local Advisory Committee
LMA	Local Management Agency
Mgd	Million gallons a day
Management area	Sandy Subbasin agricultural water quality management area
NRCS	Natural Resources Conservation Service
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
Oregon Plan	Oregon Plan for Salmon and Watersheds
ORS	Oregon Revised Statutes
OWRD	Oregon Water Resources Department
SWCD	Soil and Water Conservation District
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
Voluntary Plan	Voluntary Water Quality Farm Plan

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Foreword

This agricultural water quality management Area Plan (Area Plan) provides guidance for addressing agricultural water quality issues in the Sandy Subbasin agricultural water quality management area (management area). The purpose of this Area Plan is to identify strategies to reduce water pollution from agricultural lands through a combination of educational programs, suggested land treatments, management activities, and monitoring.

The provisions of this Area Plan do not establish legal requirements or prohibitions.

The Oregon Department of Agriculture will exercise its enforcement authority for the prevention and control of water pollution from agricultural activities under OAR 603-095-1300 through 603-095-1380, the administrative rules for the Sandy Subbasin management area, () and OAR 603-090-0000 through 603-090-0120.

Introduction

This document is the Area Plan for the enhancement of water quality and the prevention or control of factors adversely affecting water quality from agricultural activities and rural lands in the Sandy Subbasin management area. The Sandy Subbasin agricultural water quality management Area Plan was created through the joint efforts of a Local Advisory Committee consisting predominantly of affected landowners residing within the watershed, the Oregon Department of Agriculture, Clackamas County Soil and Water Conservation District, and in cooperation with the East Multnomah Soil and Water Conservation District. This plan applies to all land currently in agricultural use, regardless of size, within the management area. For example, the Area Plan applies equally to large commercial production lands and to small rural land grazing a few animals. It also applies to all agricultural lands which lay idle or on which management has been deferred. However, non-agricultural and urban lands, and land subject to the Forest Practices Act, which are not involved in agricultural activities, are not subject to this Area Plan.

The 1993 Oregon Legislature passed Senate Bill 1010, the Agricultural Water Quality Management Act, authorizing the Oregon Department of Agriculture as the lead state agency working with agriculture to address nonpoint source water pollution. The Act is codified at ORS 568.900 – 568.933. Under the law, the Oregon Department of Agriculture is authorized to develop and carry out a water quality management plan for any agricultural or rural lands where a water quality management plan is required by state or federal law. This Area Plan has been developed pursuant to the Agricultural Water Quality Management Act.

In 1995, the Oregon Legislature passed SB 502, now codified at ORS 561.191, authorizing ODA to develop and implement any program or rules that directly regulate farming practices for the purpose of protecting water quality and that are applicable to areas of the state designated as exclusive farm use zones or other agricultural lands. Under these statutes, ODA is the agency responsible for regulating agricultural activities in Oregon as they affect water quality.

In 1997, Oregonians began implementing the Oregon Plan for Salmon and Watersheds (Oregon Plan). Oregon's mission is to restore our native fish populations – and the aquatic systems that support them – to productive and sustainable levels that will provide substantial environmental, cultural, and economic benefits. The Oregon Department of Agriculture's commitment to the Oregon Plan for Salmon and Watersheds was to design and implement agricultural water quality management Area Plans in areas throughout the state of Oregon by the end of 2002. This agricultural water quality management Area Plan fulfills agriculture's role in the joint effort by all state land uses - urban, rural-residential, industry, forestry, and agriculture - for cleaner water as envisioned in the Oregon Plan.

The Oregon Department of Agriculture is the Designated Management Agency for water pollution control activities on agricultural and rural lands in the Sandy Subbasin Management Area. In turn, through a Memorandum of Agreement, the Oregon Department of Agriculture designated the Clackamas County Soil and Water Conservation District (SWCD) as its agricultural Local Management Agency for implementation of the agricultural and rural water quality program and projects in the Management Area.

Soil and Water Conservation Districts have a long standing record of effectively identifying conservation concerns, developing action plans to address problems, and facilitating assistance to agricultural operators who voluntarily participate in conservation programs. SWCDs work cooperatively with the United States Department of Agriculture (USDA), USDA Natural Resource Conservation Service (NRCS), the USDA Farm Service Agency, and the Oregon State University. These agencies provide technical, financial, and educational assistance to individual agricultural operators for the installation of conservation and pollution control measures. Districts also play an important role in the development of partnerships between local agencies, volunteer organizations, and private landowners to address natural resource and conservation issues.

A Local Advisory Committee was formed in January 1999 to assist with the development of the agricultural water quality management Area Plan, and to recommend strategies to achieve the water quality goals and objectives of the Area Plan. The Local Advisory Committee is comprised predominantly of agricultural producers who live within the Management Area. The members are involved in a wide variety of operations including row crops, nursery, livestock, grain, timber and berries. The East Multnomah SWCD, recreational, environmental, and small acreage interests are also represented on this committee.

Strategy for Public Participation

This Sandy Subbasin agricultural water quality management Area Plan was developed by the Sandy Subbasin Local Advisory Committee (LAC) and the Oregon Department of Agriculture (ODA), and was presented to the State Board of Agriculture for their review and consultation.

With the State Board of Agriculture concurrence, the draft plan and the associated rules were presented to the public through two informational meetings and one formal public hearing within the agricultural and rural portions of the Sandy Subbasin management area. ODA reviewed testimony presented at public hearings and during the public comment period. With assistance from the LAC, ODA modified the Area Plan and Area Rules as appropriate to address those issues. Recommended modifications were presented to the Board of Agriculture and the director of the ODA for their review.

Final acceptance and adoption of the Area Plan and Area Rules resulting from this review is the responsibility of the Director of the ODA in consultation with the State Board of Agriculture.

Background

Geographical and Physical Setting

The Sandy Subbasin is in northwest Oregon with about three-fourths of it located in Clackamas County and the rest of the northern portion located in Multnomah County (Figure 1). The Subbasin drains approximately 582 square miles or 373,400 acres which eventually flows into the Columbia River in the Troutdale area. The Sandy River and tributaries drain 508 square miles (325,000 acres). The remaining area represents smaller streams that flow directly into the Columbia River. These creeks include Tanner, Moffett, McCord, Horsetail, Oneonta, Multnomah, Coopey, Bridal Veil, Young, and Latourell creeks.

Elevation in the Sandy Subbasin ranges from 11,235 feet on the upper slopes of Mt. Hood to approximately 20 feet at the mouth of the Sandy River. The Sandy River originates from Reid Glacier at approximately 6,200 feet above sea level. The amount of rainfall ranges anywhere from 40 inches in the Troutdale area, to 170 inches at some of the higher elevations in the Cascades. Annual snowfall is about 278 inches in the higher elevations. The ratio for snowfall is ten inches of snow per one inch of rain (Taylor, 1999). Heaviest precipitation occurs between November and January in the Subbasin.

The predominant land use in the Sandy Subbasin management area is timber, most of it occurring on federal lands in the eastern part of the watershed (Table 1). The remaining land is predominantly agricultural, with the urban areas quickly expanding in the western portion of the basin. By the year 2017, the population of the city of Sandy is expected to reach 12,652. That equals a 146% increase from the 1998 population of 5,135. Troutdale is predicted to grow by 11%, with a 2017 population of 15,625 compared to a 1998 population of 14,040 (Yee, 1998).

The area known as the Mt. Hood Corridor, consisting of communities along Highway 26 from Brightwood up to Government Camp, was estimated in 1988 to have approximately 6,500 residents, with 58 percent being seasonal residents.

The forested areas are generally in the eastern part of the watershed, in the foothills and upper elevations of the Cascade Range. Commercial forest is under public and private ownership. Public lands include those of the Mt. Hood National Forest and Bureau of Land Management. Private ownership is industrial and nonindustrial forest and smaller woodlots.

A small portion of the watershed is intensively farmed. Intensive agriculture includes productive cultivated land such as row crops, nursery stock, caneberries, grasses, irrigated hay and pasture, and specialty crops (ie. herbs). A high percentage of the farms in the management area are small acreage farms with 50 acres or less. Most of the farmland is in the northwestern portions of the watershed. Most of the major crops, such as row crops and nursery stock, are grown on deep, well drained to poorly drained warm, moist soils on uplands in the Corbett and East Gresham area. The slopes of most of the cultivated land range from zero to fifteen percent (Green, 1983). The agricultural activities east of Sandy tend to focus more around livestock, some Christmas tree production and timber. The soil is predominantly Bull Run silt loam with a three to eight percent slope (Gerig, 1985).

The types of crops grown in the management area have shifted during this century. The primary land use until around the 1930's was timber, with dairies also being extremely common. In the 1920's and 1930's some of the more intensive agriculture was focused around row crops, bulb farms and strawberries. It was common to cultivate extremely steep land as it was physically possible with the horse and plow. World War II drastically changed the farming emphasis in the watershed. Many people headed to Portland to work in the factories thus creating more of a "hobby farm" style for many people. Much of the steeper areas are no longer cultivated and have been converted to pasture or have been allowed to revert back to a more "wild" state. Dairies have also disappeared from the area (Mershon, 1999). The land use in the area surrounding the city of Sandy is predominantly lumber and logging. Livestock are also common in the area, with the last ten years seeing more development of nursery stock.

Farming practices in the Sandy Subbasin management area have also undergone changes. With the invention of the tractor and less emphasis on farming, steep areas are no longer cultivated thus reducing soil erosion. Over the past few years, cover cropping, field buffer strips, and changes in tillage practices have been promoted as a method to reduce soil erosion from land that is being cultivated. Improvements infarming equipment has allowed for fewer trips over a field, resulting in decreased soil compaction. Subsoiling has also helped to reduce runoff and compaction.

Water Resources

Appropriated water in the Sandy Subbasin management area is diverted for municipal, fish, industrial and irrigation use. The primary use for which water rights are issued in the Subbasin is

Figure 1: Map Sandy Subbasin.

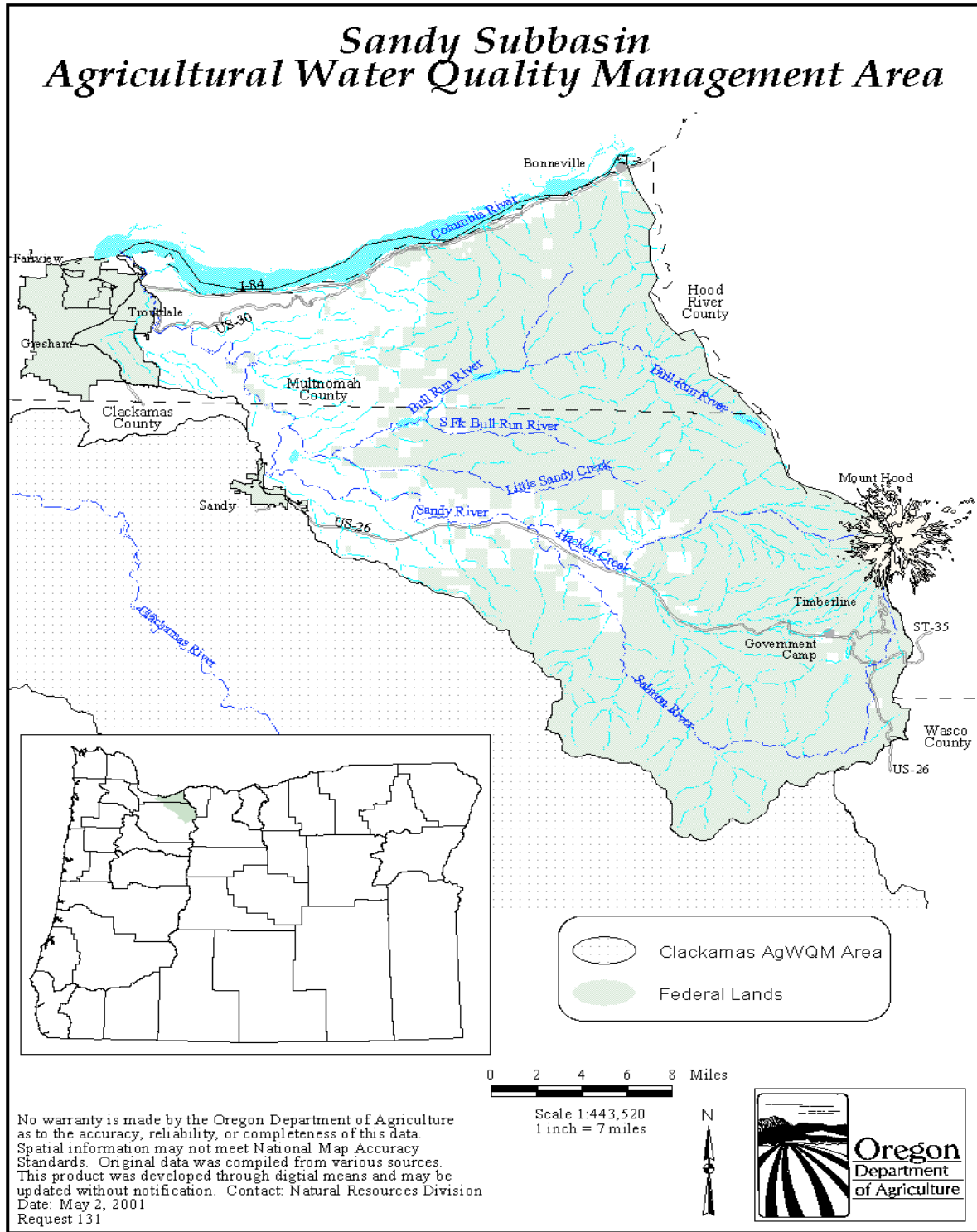


Table 1: Ownership and land use estimates in the Sandy Subbasin.

Ownership^a	Acres	Percent	Land Use^b	Acres	Percent
Federal - National Forest	246,255	68.1	Forest	315,321	86.0
Private - Non-Agriculture	87,002	24.1	Agriculture	34,477	9.0
Private - Agriculture	14,781	4.1	Urban	6,575	2.0
Federal - BLM	10,230	2.8	Open Water	8,064	2.0
State Lands	3,325	0.9	Alpine Fell - Snowfields	2,416	1.0
Federal - Military/COE	24	< 0.1			
Total Acres^c	361,617	100	Total Acres^c	366,853	100
KEY:					
BLM: Bureau of Land Management					
COE: U.S. Army Corps of Engineers					
USFS: United States Forest Service					

^aOregon Geospatial Data Clearinghouse, 1992-1993

^aUSGS & USEPA, 1999

^bUSDA Natural Resource Inventory

^cTotals for Ownership and Land Use are not the same due to variability in data collection and measurement.

municipal. The largest designation is to the City of Portland for the use of the Bull Run and Little Sandy River waters for municipal applications. All other uses in the basin have been appropriated for a combined amount of 173.45 cfs (cubic feet per second). Of that, 26 cfs are allocated for agriculture in the watershed. There is an estimated 3,000 acres of irrigated land in the basin with no expected increase in the amount of irrigated land in the next twenty years (Oregon Water Resources Department (OWRD), 1991).

The City of Portland holds exclusive statutory right to the Bull Run and Little Sandy Rivers water. The current demand from the Bull Run system is 123 million gallons per day (mgd). Future projected demand from the system is contingent on a number of variables, including population growth, service area, long-term climate change, and conservation assumptions. The current projections for average daily demand from the Bull Run system in the year 2050 ranges from 146 to 213 mgd (CH2MHill, 2000). This would be about 40% utilization of its annual discharge (OWRD, 1991). To supply this water, two dams have been built on the Bull Run thus creating two reservoirs. The City of Portland is not currently utilizing its right to the waters of the Little Sandy. Portland General Electric presently generates power from water that is diverted to Roslyn Lake at the Little Sandy Dam, on the Little Sandy River, and at Marmot Dam, on the Sandy River.

Stream flow in the Sandy River watershed varies throughout the year, with high and low flows having different impacts on the landscape and resources. Stream flows vary widely between summer and winter. Upon reaching the Columbia River, the Sandy River discharges a mean peak rate of 3,899 cfs in January. The mean low occurs in August with 539 cfs being discharged (OWRD, 1991).

During the winter high stream flows, a prominent resource concern is soil erosion. During periods of low stream flow, nutrients can more negatively impact water quality because of their greater concentration than in periods of higher stream flow.

Higher stream temperatures associated with low flow in the summertime are a major factor affecting aquatic life. Several glaciers feed the Sandy River, acting as reservoirs. During the summer, the glacial reservoirs release cool flows helping to maintain cool stream temperatures and regulate summer flows.

Due to heavy precipitation in the winter, slope instability or landslides contribute to some of the sediment production in the area (Sandy River Basin Watershed Council, 1999). Glacial till also contributes to sediment production in the watershed during the summer glacial melting season.

The Troutdale Formation is the main groundwater aquifer in the Sandy Subbasin. The Troutdale Formation has permits issued for its use equaling about 17,000 acre feet of groundwater per year. Municipal needs account for 71% and agriculture for 28%. The remaining 1% is for industrial and recreation uses. The Troutdale Formation can supply from 100 to 500 gallons per minute (OWRD, 1991). Groundwater reduction in the Troutdale Formation near Sandy has become a concern. A major problem in the Sandy Subbasin management area is groundwater contamination from human activities. Improper sewage and industrial waste disposal has caused problems with groundwater contamination. The increasing number of individual septic systems threatens to further contaminate aquifers in the Sandy Subbasin, including the Troutdale Formation (OWRD, 1991).

Biological Resources

A number of segments in the Sandy Subbasin management area are recognized for their scenic beauty. The Sandy River, from Dodge Park to Dabney State Park, is considered a State Scenic Waterway and national Wild and Scenic River. Other national wild and scenic rivers in the subbasin include the headwaters of the Sandy to the National Forest Service Boundary (12.4 miles) and the Salmon River from its headwaters to the confluence with the Sandy River. The Lower Columbia portion of the subbasin is part of the Columbia River Gorge National Scenic Area.

The diversity and acreage of natural wildlife habitats in the management area has been reduced as land has been converted from natural forest and grasslands to managed forests, pasture, cropland, homesteads, and urban areas. Between 1982 to 1992 about one hundred acres of wetlands were converted to other land uses. During that same time, approximately 1,800 acres of forest land was converted to some other broad use (Greber, 1999). As a result of the changes in land use, some of the ecological functions of wetland and riparian areas have been impaired. These areas filter contaminants, trap sediment, and provide wildlife habitat. Wetland and riparian vegetation also regulates hydrologic fluctuations by retaining water during high flows, stabilizing streambanks, and providing shade to streams, helping to maintain a low water temperature. This water is a source for replenishing groundwater and regulating instream water during summertime drought.

The Sandy Subbasin watershed hosts a number of vertebrate species that depend on aquatic habitats. Native, nongame fish species include various sculpins (Cottid spp.), northern pikeminnow (*Ptychocheilus oregonensis*), mountain whitefish (*Prosopium williamsoni*), resident cutthroat trout (*Oncorhynchus clarki*), suckers and Pacific lamprey (*Lampetra tridentata*), which is considered a sensitive species. Game species such as steelhead (*Oncorhynchus mykiss*) are presently listed as threatened under the Endangered Species Act (ESA) for the Lower Columbia River. Lower Columbia chinook salmon (*Oncorhynchus tshawytscha*) are listed as threatened under the ESA. Oregon Coast Sea-run cutthroat trout (*Oncorhynchus clarki clarki*) and Lower Columbia River coho salmon (*Oncorhynchus kisutch*) are candidate species for listing, while the Lower Columbia River Sea-run cutthroat trout has been proposed for listing as Threatened (National Marine Fisheries Service, 2000).

Other aquatic vertebrates in the Subbasin include several amphibians such as the Pacific giant salamander (*Dicamptodon ensatus*), tailed frog (*Ascaphus trueii*), and red-legged frog (*Rana aurora*). The Oregon spotted frog (*Rana pretiosa*) is a candidate species for the ESA list. Sensitive amphibian species include the tailed frog (*Ascaphus trueii*), northwestern pond turtle (*Clemmys marmorata marmorata*), northern red-legged frog (*Rana aurora*) and the cascades frog (*Rana cascadae*).

Water Quality Issues

Parameters

Fifteen stream segments within the Sandy Subbasin management area have been declared “water quality limited” for temperature and were included on the federal Clean Water Act Section 2004-2006 303(d) list for state water bodies that violate one or more water quality standards. The beneficial uses affected by temperature are resident fish and aquatic life, core cold water habitat, and salmonid fish, steelhead and trout spawning, rearing and migration. The Prevention and Control Measure associated with the temperature parameter is Streamside Area Condition. Four stream segments – Beaver Creek from the mouth to River Mile (RM) 8.3, Cedar Creek from the mouth to RM 4.3, Kelly Creek from the mouth to RM 4.8 and an unnamed stream from RM 0 to 2.9– are on the 303(d) list for bacteria (*E. coli*). The beneficial use affected by *E. coli* is water contact recreation. The Prevention and Control Measure associated with the *E. coli* parameter is Agricultural Waste Control. See Appendix A for a complete list of streams and 303(d) listing status in the Sandy Subbasin.ⁱ

Information regarding additional water quality concerns can be found on the Oregon Department of Environmental Quality website at:

<http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp>.

Many of the sources cited here and in the Geographical and Physical Setting affect water quality but are beyond the scope and influence of agricultural landowners and occupiers. These

landowners and occupiers are not responsible for mitigating or dealing with those factors beyond their control. These factors include but are not limited to:

- Glacial till
- Septic systems and public sewage disposal
- Public roadways or rights of way or easements next to streams, rivers or other bodies of water
- Public culverts, roadside ditches, drainage and shoulders
- Dams, hydroelectric plants, impoundments
- Housing and other development in agricultural land areas
- Any other factor which occurs on public or private lands outside the direct control of the landowner/operator

Surface water quality in the Sandy Subbasin management area varies from good to fair. In the natural waterways in the system water quality is quite good during the high flow months. The Bull Run water supply is one of the cleanest in the nation, even to the point of not requiring filtration. The low flows in the summer reduce fish holding, spawning and rearing areas, food production, and water quality, especially in regards to temperature. It has been noted that natural discharge patterns have been altered due to the reservoirs on the Bull Run River and the diversion dams on the Sandy and Little Sandy Rivers. Flow diminution, from the holding of water in reservoirs, and some loss of shading by riparian vegetation have both contributed to some increases in water temperature.

There are two main types of water pollution. Point source pollution emanates from clearly identifiable discharge points such as wastewater treatment plants. Nonpoint source pollution originates from the general landscape and is difficult to trace to a single point. Pollutants from nonpoint sources are carried to the surface water or groundwater through the action of rainfall, irrigation runoff, and seepage. Nonpoint sources of pollution in the management area include erosion from development in urban areas, agricultural and forest lands, streambanks, and roadside, contaminated runoff from livestock and other agricultural operations, contaminated runoff from established urban areas, septic systems, and natural sources.

Two wastewater treatment plants discharge directly into the Sandy River. The City of Troutdale discharges 1.6 mgd into the Sandy River and the Hoodland Wastewater Treatment Plant, serving Welches and Rhododendron, discharges about 300,000 gallons a day into the Sandy River. The Government Camp Sanitary District discharges 90,000 gallons a day into Camp Creek, a tributary of the Sandy River. Discharge levels are strongly influenced by weather conditions.

Effects on Beneficial Uses

Good water quality is a benefit to many different uses. Beneficial uses of water in the Sandy River watershed include fishing, swimming, boating, habitat for fish and wildlife, native species enhancement, domestic, municipal, and industrial water supplies, aesthetics, sport and recreation, and production agriculture. Stream temperature and water quality affect the most sensitive

beneficial uses of water which are salmonid production and survival. While there may not be severe impacts on water quality from a single nonpoint source or activity, the combined effects from all sources contribute to the impairment of beneficial uses of the Management Area's water. Most of the beneficial use impairments occur during the summer low flow periods.

Mission

The mission of this Area Plan is to maintain current water quality, and achieve applicable water quality standards in the Sandy Subbasin Management Area. This Area Plan will promote sound conservation practices on agricultural and rural lands within a framework of economic profitability and agricultural viability.

Goals and Objectives

The following are the goals and objectives that are used to achieve water quality standards in the Sandy Subbasin Management Area. The continued success of this Area Plan requires the participation of the Clackamas County and East Multnomah Soil and Water Conservation Districts, the agribusiness community, commodity organizations, partner agencies, and individual landowners.

1. Determine the present status of the watershed condition.

Objectives

- Assess and evaluate surveys already conducted by the local watershed council and other agencies
- Inventory and assess the watershed condition and sources of pollution
- Identify if additional monitoring of streams and surface water is necessary to determine the current water quality condition
- Establish an ongoing water quality monitoring plan, if necessary
- Use present water quality condition of the management area as the base line to measure water quality changes

2. Reduce, minimize, and control water pollution and soil erosion from agricultural activities and rural lands to achieve applicable water quality standards.

Objectives

- Control pollution as close to its source as possible
- Promote the restoration, enhancement, and protection of wetland, riparian and wildlife habitat

3. Base actions on sound conservation planning.

Objectives

- Identify sound agricultural management strategies that will protect and improve water quality in the basin
- Access ongoing research on the effectiveness of conservation measures
- Obtain practical knowledge from agricultural producers and suppliers
- Provide landowner assistance in planning and implementation from SWCDs, USDA, NRCS and other partner organizations

4. Create a high level of awareness and understanding of water quality issues among the agricultural community and the public through education and technical assistance.

Objectives

- Develop and promote demonstration projects that showcase successful conservation practices and systems
- Develop an ongoing media program to inform basin agricultural operators and the public of conservation issues and events. This includes the distribution of educational material and the submission of public service announcements to area newspapers, radio stations and newsletters.
- Involve the agricultural community and agribusiness in conservation education.
- Conduct educational programs to promote public awareness of water quality issues and their solutions from the point of view of the agricultural industry
- Assist any interested person conducting agricultural management of land disturbing activities to develop and implement a Voluntary Water Quality Farm Plan (voluntary plan)

5. Secure adequate funding for administration and implementation of this Area Plan to achieve mission, goals and objectives.

Objectives

- Ensure adequate funding for the administration of the Area Plan by the Local Management Agency
- Obtain ongoing funding for the implementation of the sound agricultural management strategies, conservation planning assistance, conservation education and water quality monitoring

6. Monitor and evaluate the effectiveness of the Area Plan and update as needed.

Objectives

- Document the numbers and acreage of operations with approved voluntary plans
- Review projects, demonstrations, and tours used to showcase successful management practices and systems
- Evaluate outreach and education programs designed to provide public awareness and understanding of water quality issues

- Evaluate the effectiveness of technical and financial resources available to the agricultural community
- Compare ongoing water quality monitoring data to base line data
- Document prohibited conditions and subsequent corrections

Strategies To Achieve Goals and Objectives

Voluntary Approach

To the greatest degree possible, prevention and control of agricultural pollution will be encouraged in a cooperative spirit through the voluntary efforts of landowners, aided by information and technical and financial assistance from local, state, and federal agencies, and others.

Education is the key to the success of this Area Plan. The Clackamas County SWCD, East Multnomah SWCD, USDA Natural Resources Conservation Service, Oregon State University, Sandy River Basin Watershed Council, City of Portland, and other groups and agencies will work together to provide agricultural landowners in the management area with information about the goals, objectives, and requirements of the Area Rules .

The following strategies will be employed at the local level by the Local Management Agencies in cooperation with landowners, other agencies, and other organizations.

1. Work to improve the quality of water in the management area through planning and implementation of technically sound and economically feasible conservation practices that contribute to meeting Area Plan objectives.
2. Create a high level of awareness and an understanding of water quality issues among the agricultural community and rural public, in a manner that minimizes conflict and encourages cooperative efforts, through education and technical assistance.
 - a. Incorporate Area Plan implementation as a priority element in the Clackamas County and East Multnomah SWCD Annual Work Plans and Long Range Plans, with support from partner organizations.
 - b. Promote cooperative on-the-ground projects in cooperation with partner organizations to solve critical problems identified by landowners and land managers.
 - c. Showcase successful practices and systems and conduct annual tours for landowners and media.
 - d. Recognize successful projects and practices through appropriate media and newsletters.

- e. Conduct educational programs to promote public awareness of water quality issues and their solutions.
 - f. Proactively offer and provide site evaluations on any lands within the management area to assess conditions that may affect water quality.
 - g. Prioritize subwatersheds within the management area for targeting implementation strategies.
3. Show progress in reduction of pollution from agricultural and rural lands through periodic surveys of stream reaches and associated lands.
 4. Encourage adequate funding and administration of the program to achieve Area Plan goals and objectives by systematic, long-range planning and focussing-of coordinated efforts on full-scale, watershed-based approaches; identifying needs; developing projects; actively seeking funding; and ensuring successful implementation of funded projects.

Education

General Education Efforts

The Local Management Agencies (LMA) will coordinate the education efforts. The LMAs will work with partner agencies and groups such as Oregon State University Extension Service, USDA Natural Resources Conservation Service, Oregon Department of Agriculture, Sandy River Basin Watershed Council, Bureau of Land Management, Oregon State Department of Water Rights, City of Portland, local school agriculture and science programs, and Mt. Hood Community College natural resource classes to carry out the education strategies outlined in this Area Plan.

The strategies for carrying out the educational component of the Area Plan will include:

1. Conduct education programs to promote public awareness of water quality issues and their solutions.
 - Hold workshops on water quality issues and the conservation practices that will help improve water quality and agricultural operation efficiency
 - Develop demonstrations to showcase successful conservation practices and systems in conjunction with local educational institutions
 - Organize tours of demonstration projects for agricultural managers and producers
 - Produce and distribute brochures about water quality issues
 - Focus educational efforts on small landowner/hobby farmers
2. Develop an ongoing media program to inform agricultural operators and the public of conservation issues and events.
 - Include updates on the status of Sandy Subbasin agricultural water quality management Area Plan and water quality data in the LMA newsletter and in local newspapers/media

- Develop and implement a LMA newsletter to be sent to all agricultural producers in Sandy Subbasin management area and those who file F-schedule tax forms or are in Exclusive Farm Use zoning
 - Submit news articles and public service announcements to area newspapers, radio stations and newsletters
 - Invite media to conservation tours and workshops
 - Create an “advice” column for a local newspaper: for example the “Home and Gardens” or “Environmental” sections of the Oregonian, the Gresham Outlook, Sandy Post, Sandy Profile or Capital Press
3. Involve the agricultural and rural community in conservation education.
 - Create and maintain a list of experienced agricultural operators willing to share their best management practices with other interested people by speaking, leading tours and providing our sites.
 4. Build partnerships with agriculture businesses to promote conservation
 - Co-sponsor workshops and tours with the LMAs
 - Share education materials with agribusiness field representatives, feed stores, and retail agricultural suppliers to target small farm operations
 5. Involve educational institutions in conservation, education and research. For example, places such as Oregon State University, Mount Hood Community College, Chemeketa Community College, and high school science / agricultural programs are high potential partners. The focus of the educational effort will be:
 - Conservation Planning
 - Prevention, restoration and enhancement using sound agricultural management strategies
 - Management of small acreages for water quality protection
 - Riparian areas – issues and considerations
 - Water Quality Conditions

Specific Education Topics

An aim of the education program is to provide landowners with information they can use to address conditions on their day to day activities to minimize water quality problems resulting from their land. A priority for this education program will be to address water temperature and bacteria concerns in the Sandy Subbasin management area as listed on the 2002 303(d) list.

Streamside Conditions and Functions

With appropriate information, time, and hard work, landowners can develop flexible streamside vegetation management strategies while providing the following important functions:

- Shade to reduce solar radiation reaching the water
- A buffer to filter sediment, organic material, nutrients, and pesticides in surface runoff
- Wildlife habitat with native species utilizing primarily native plant species
- Stable streambanks

An important component of any effective streamside vegetation management strategy would be to minimize the impact of livestock on riparian vegetation and streambank stability, while ensuring livestock access to water. This could be done in any number of ways, including culvert or bridge placement or replacement, livestock behavior modification, fencing, or other effective measure. Fencing can be very effective, but is not the only solution.

A healthy streamside area provides adequate vegetation to trap sediment, prevent flood debris from depositing on fields, and protect pasture and cropland from bank erosion. Protecting vegetation along the smaller stream areas will help maintain cooler temperature, benefiting fish and providing cooler water to the main stems.

Landowners can determine the appropriate width of a streamside management area through several methods. Examples of how the area could be estimated include:

- An area two times the height from the summer low flow level to the bankfull level, plus ten feet ($2h + 10'$) on each side of the stream as measured from the top of streambank (Oregon Habitat Restoration Guide, 1999), or
- The width specified in the USDA Natural Resources Conservation Service technical guide for stream and riparian protection

Although native vegetation affords benefits over exotic species, it is not necessarily recommended that exotic, non-invasive species be removed in order to replant an area with native plants. Native species may be more resistant to diseases and pests, and are best suited to the natural ecosystem. Non-native species in the near stream area, however, may also provide valuable shade, stabilize the streambank, and provide cover for wildlife.

Landowners often want to know what they need to do or not do to be in compliance with a rule or law. Some likely potential indicators of non-compliance for the Streamside Vegetation Management rule could include:

- Active streambank sloughing/erosion in conjunction with tillage, grazing, or destruction of vegetation by humans
- Stream not protected by appropriate filter strip/vegetated buffer

Example Conservation Strategies for Streamside Vegetation Management

There are many examples of management strategies that may be taken to protect and/or restore ecological functions in riparian and wetland areas to improve watershed health. Some common examples would be the control of undesirable vegetation and the planting of native trees and shrubs. Habitat can be provided for wildlife by allowing snags (dead trees) to remain standing, unless safety factors indicate otherwise. Another way to possibly improve habitat would be to allow fallen trees to remain on the ground or in the stream, unless removal is essential for traffic, navigation, serious flooding reasons or erosion protection.

Some strategies that can help reduce the impacts of erosion and sedimentation to riparian areas may be to establish buffer zones, establish grassed waterways or protecting streambanks with some type of vegetation. The above can be achieved by allowing

marginally productive lands in floodplains or poorly drained riparian area to revert to riparian or wetland status.

As a way to assist landowners in the implementation of conservation measures like these, the United States Department of Agriculture and the State of Oregon administer the Conservation Reserve Enhancement Program (CREP). CREP is a voluntary program that pays producers an annual rental rate to set aside pasture and cropland areas that are adjacent to streams or wetlands. CREP will also cover up to seventy-five percent of the cost to establish conservation strategies on those areas set aside. The Clackamas County or East Multnomah SWCD or USDA Natural Resources Conservation Service can conduct site visits to further describe this state and federal partnership program. Contact phone numbers are provided in Appendix B.

Agricultural Waste

The aim of agricultural waste control is to minimize the transport of nutrients, pesticides, pathogens, irrigation tailwater and sediment into waters of the state. Because agricultural waste covers a broad range of wastes, there are numerous conservation strategies that may be taken to minimize waste inputs into waters of the state. A discussion of these strategies, broken down by waste component, follows.

Nutrients

Crop nutrients are elements taken in by a plant that are essential to its growth, and which are used by the plant in the production of its food and tissue. These elements include: carbon, hydrogen, oxygen, nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, zinc, iron, manganese, copper, boron, molybdenum, and chlorine. Sources of crop nutrients include, but are not limited to: irrigation water, chemical fertilizers, animal manure, compost, biosolids, and leguminous and nonleguminous crop residues.

Overapplication of crop nutrients may result in nutrient runoff and leaching into waters of the state. This may cause nuisance algal growth, high pH, bacterial contamination, and a decrease in dissolved oxygen. Landowners and operators are encouraged to adopt sound agronomic strategies to guide crop nutrient applications.

Example Conservation Strategies for Nutrients

Sound agronomic strategies include: use of generally accepted fertilizer guidelines; setting realistic yield goals; regular calibration of fertilizer application equipment; appropriate application timing; periodic soil testing and plant tissue analysis; periodic nutrient analysis of manure and/or compost products that are applied; managing irrigation to prevent nutrient loss through leaching and/or surface runoff; carefully managing nutrient applications; and accounting for “nonfertilizer” sources of nutrients such as manure, compost biosolids and leguminous and nonleguminous crop residues.

Pesticides

Always apply chemicals in accordance with the label requirements in order to minimize crop damage, build up of chemicals in the soil, potential runoff, and leaching into groundwater. Read

the label, and as required by ORS 634.372(2) and (4), follow label recommendations for both restricted and nonrestricted use pesticides. Avoid using pesticides in a manner that results in pollution to waters of the state or placed in an area where pesticides are likely to be carried to waters of the state. However, there are some pesticides licensed for application to water.

Example Conservation Strategies for Pesticides

Calibrate, maintain and correctly operate application equipment. Spray rigs need to be calibrated each time application rates or materials change. Verify that a particular revolutions per minute range/gear/tire combination provides the intended ground speed. Nozzles need to be replaced often, particularly if abrasive pesticide formulation (such as wettable powders) is used. Sprayers need to be operated in the correct pressure range (dictated by the material and nozzle combination used), to prevent excess drift to nontarget areas (e.g. waters of the state).

Limit sediment movement off of the property. Once applied, certain pesticide and nutrient materials attach to soil particles. If soil is moving off of the property and into waters of the state, pesticides and nutrients will accompany it. The sediment will also act to fill and widen streams, resulting in temperature increases and filled in gravel spawning grounds for fish. Sediment entering waters of the state could potentially disrupt a fish's respiratory process by way of entering a fish's gills.

Adopt integrated pest management (IPM) strategies. IPM promotes a diverse, multi-faceted approach to pest control. This strategy establishes an economic threshold to guide the manager to the most efficient use of pesticides using variety selection, field/orchard sanitation and cultural practices, field scouting, the establishment of an economic threshold for control actions, beneficial insect release, the use of biological pesticides before the use of chemical pesticides. While IPM does not exclude the use of chemical pesticides, it does seek to reduce their use. A reduction in chemical pesticide use reduces the chance that these materials will make contact with waters of the state.

Establish appropriate vegetative buffer strips. Buffer strips will help to retain soil (which may include pesticides) and surface runoff (which may have dissolved pesticides) from making contact with waters of the state.

Store and handle pesticide materials correctly. Storage and handling facilities should be secure and include a leak-proof pad with curbing for mixing and loading. An alternative to a permanent, concrete pad is to always mix pesticides in the field, frequently moving sites to prevent chemical buildup. Wash/rinse water should be directly applied to the appropriate crop. Empty liquid pesticide containers should be triple rinsed, then punctured and disposed of in an approved manner. Dry chemical bags should be emptied completely. Bundle and store paper bags until they can be disposed of in an approved manner.

Livestock Waste

Manure is an important nutrient source for crop and pasture production. Proper livestock waste management can decrease nutrient and bacteria contamination of water resulting from

agricultural activities. Livestock waste management provides for livestock crossing and water access such that livestock loitering in riparian vegetation and natural waterways does not occur.

Example Conservation Strategies for Livestock Waste

There are many different conservation strategies a landowner or operator can take to help minimize animal waste reaching waters of the state. Vegetative buffer strips can minimize the effects of runoff, by catching pollutants before reaching a stream. Some examples of waste management systems may be clean water diversions; waste collection, storage, and utilization; facilities operation and maintenance. If applying manure to cropland, it is important to apply at rates that do not exceed agronomic needs for nitrogen and phosphorus based on soil and/or tissue tests for the crop to be grown. Pasture management and/or prescribed grazing can help maintain the integrity of pastures, thus decreasing waste runoff. Through the management of livestock access to riparian areas, the effects of animal waste can be reduced. Some examples of techniques to achieve this may be off stream watering, seasonal grazing, and/or exclusion (temporary or permanent).

Irrigation Tailwater

Over application of irrigation water resulting in tailwater entering waters of the state can adversely impact waterbodies by contributing warm water, nutrients, pesticides and sediment to waters of the state.

Landowners and operators are encouraged to have an irrigation water management plan. The type of irrigation system chosen should be appropriate for factors such as field slope, soil infiltration rates, water supply, and the type of crop. Irrigation water management should consider how long and how often the water is applied, plus how often wearable components (such as sprinkler nozzles, filter media, pump impellers, etc.) are replaced or serviced. Costly or complex irrigation systems are not a guarantee of success, particularly if they are managed or maintained incorrectly.

Irrigation scheduling decisions should be based on site specific factors that influence crop growth such as:

- Evapotranspiration (crop type, stage of growth, percentage ground shade, weather conditions)
- Soil conditions (infiltration rate, water holding capacity)
- Irrigation system performance (uniformity, efficiency, application rate)
- Recent applications of crop nutrients and/or farm chemicals and other cultural practices (harvesting, cultivation, etc.)

Irrigation scheduling decisions based on arbitrary considerations, such as calendar flood irrigation, should be avoided.

Example Conservation Strategies for Irrigation Tailwater

Management strategies a landowner or operator can take to help minimize irrigation tailwater reaching waters of the state are: adopting an irrigation water management plan, using irrigation soil moisture monitoring, planting and irrigating crops on a contour, planting

sloping field edges to grasses, installing sediment basins at field edges in swales, using drip irrigation, and minimum till.

Sediment

Erosion that results in sediment entering waters of the state could lead to excessively turbid water, sedimentation of the water body, and an increase in toxins due to the fact that many pesticide materials and pathogens attach to soil particles. Growers are encouraged to: (1) use erosion prevention and sediment control techniques, (2) implement irrigation water management, and (3) construct and maintain roads properly in order to minimize the mobilization of sediment into waters of the state.

Erosion Prevention – Erosion prevention is keeping soil particles from detaching and moving with water, wind, ice, or gravity and limiting sediment movement off the property. Erosion prevention starts at the "top" of the hill. Erosion prevention is NOT simply placing straw bales at the bottom of a swale to catch sediment--the erosion has already occurred.

Sediment Control – Sediment control deals with what happens at the "bottom" of the hill, the techniques used to prevent detached soil from entering waters of the state, such as placing straw bales at the bottom of a swale. While soil erosion is a natural process, poorly managed tillage operations have the potential to accelerate erosion rates to unacceptable levels.

Roads and road-related structures (e.g. stream crossings, bridge abutments, cut slopes, etc.) have been identified in many watersheds as being significant sources of sediment input to streams. Many management methods are available for constructing and maintaining roads to increase their stability and reduce erosion. Though we understand that agricultural developments do not always have extensive road networks, a single poorly maintained road can comprise the vast majority of one farm's sediment output. Consultation on conservation measures for road construction and maintenance is encouraged, especially for roads built on steeper terrain, and ones close to or intersecting streams. Landowners may be held liable for roads constructed on their property and therefore should review the wording of any easement agreements.

There will always be erosion and unstable streambanks. The point is to try to achieve normal/natural disturbance levels, not eliminate them.

Example Conservation Strategies for Sediment

Some suggestions that may help prevent erosion are: switching from conventional tillage to no till, planting a cover crop, deep ripping a field to improve water infiltration, or any practice that reduces the detachment and movement of soil. Conservation strategies such as strip cropping, catch basins, grassed lined waterways, vegetative filter strips, straw bales and other methods can be very effective in retaining sediment if they are properly designed and maintained. Grass lined waterways and vegetative filter strips can be incorporated into many pollution control measures to create an integrated system to protect waters of the state.

Some conservation strategies that can be used to minimize runoff from roads and staging areas may be designing and constructing an appropriate culvert, maintaining a grass cover where appropriate, and constructing water bars and/or grading roads.

Landowners often want ideas about what conditions or situations they should watch for on their own operations which could cause water quality problems or violations. Some things to watch for include:

- Visible erosion scars in natural stream areas that would discharge soil into waterways.
- Visible sloughing from drainage ways in conjunction with livestock grazing, tillage, or other human destruction of riparian vegetation
- Eroding road ditches, drainage ways, and field borders
- Underground drainage tile outlets either improperly installed or maintained allowing bank erosion to occur
- Surface runoff from roads and staging areas that pick up contaminants and flow to waters of the state
- Irrigation application that creates surface runoff entering the waters of the state.
- Nutrients applied to open water
- Visible trail of compost, ash, or biosolids to waters of the state
- Pesticide product applied to open water unless labeled for such use
- Chemigated waters flowing into waters of the state
- Chemigated waters flowing into or ponding around wells, well pits, cisterns, or other direct conduits to ground water
- Runoff flowing through areas of high livestock usage and being deposited in waters of the state
- Livestock waste located in drainage ditches or areas of flooding

Voluntary Water Quality Farm Plans

While the success of this Area Plan depends on the cooperation of agencies, volunteer organizations, the agribusiness community, and landowners, the adoption of conservation measures that will help improve water quality in the Sandy Subbasin management area can only be done by individual landowners. Sound agricultural practices for pollution control are those practices and structural measures which are determined to be the most effective, practicable means of controlling and preventing pollution from agricultural activities. Conservation measures are actions taken by each individual agricultural operation for the achievement of production and water quality goals. In order to determine appropriate management strategies on an operation, landowners are encouraged to develop and implement Voluntary Water Quality Farm Plans.

A Voluntary Water Quality Farm Plan is a comprehensive land management plan formulated by the farm operator and used for making decisions about applying sound agricultural management strategies to conserve soil, water, and related plant and animal resources on all or part of a farm unit. The Voluntary Water Quality Farm Plan addresses site specific problems through the selection of individual conservation systems to be implemented for the protection of natural resources.

Landowners have flexibility in choosing management approaches and practices to address water quality issues on their lands. Landowners may choose to develop management systems to address problems on their own, or they may choose to develop an approved Voluntary Water Quality Farm Plan, which affords them a limited “safe harbor” protection against immediate enforcement actions by the Oregon Department of Agriculture, if prohibited condition violations are found to occur on lands under their management. In addition, an approved voluntary plan, if comprehensive enough in scope, may allow an operator to meet the eligibility guidelines of various funding agencies for cost-share monies. An approved voluntary plan is one approved by the Local Management Agency.

Voluntary plans are indeed voluntary, and may be developed solely by the landowner or with private consultants. Public funding and technical help for developing voluntary plans is available through a LMA or the USDA Natural Resources Conservation Service for assistance. At a minimum, a voluntary plan should outline specific measures necessary to prevent and control the existence of prohibited conditions defined in the rules associated with this Area Plan. A voluntary plan may be submitted for approval by the local LMA to become an approved voluntary plan.

Developing a voluntary plan is a dynamic process, requiring the planner to be flexible in his/her approach. While the process and steps chosen by a planner and landowner/operator may vary with each plan, a general procedure to use as a guideline may include:

1. Identify Problems – Identify resource problems, opportunities, and concerns in the planning area.
2. Determine Objectives – Identify, agree on, and document the landowner or operator’s objectives.
3. Inventory Resources – Inventory the natural resources and their condition, and the economic and social considerations. This includes on-site and related off-site conditions.
4. Analyze Resource Data – Analyze the resource information gathered to clearly define the natural resource conditions, along with economic and social issues. This includes problems and opportunities.
5. Formulate Alternatives – Formulate alternatives that will achieve the client’s objectives, solve natural resource problems, and take advantage of opportunities to improve or protect resource conditions.
6. Evaluate Alternatives – Evaluate the alternatives to determine their effects in addressing the landowner or operator’s objectives and the natural resource problems and opportunities. Evaluate the projected effects on social, economic, and ecological concerns. Special attention must be given to those ecological values protected by law or Executive Order.
7. Make Decisions – The client selects the alternative(s) and works with the planner to schedule conservation system and practice implementation.

8. Implement the Plan – Implement the selected alternative(s). The planner provides encouragement to the client for continued implementation.
9. Evaluate Plan – Evaluate the effectiveness of the plan as it is implemented and make adjustments as needed.

This conservation planning process, developed by the USDA Natural Resources Conservation Service, will assist landowners in making informed decisions about how to best manage their resources.

Management Systems

Appropriate management strategies for individual farms vary with the specific cropping, topographical, environmental, and economic conditions existing at a given site. Separate strategies with the goals of economic profitability and resource development and protection are often combined into management systems. Landowners have the option to choose whatever strategy or management system they deem valuable to economically control and prevent agricultural water pollution. These strategies are discussed here for illustrative purposes only, and are not required. Management systems are the core of any voluntary plan, and landowners are encouraged to adopt and implement management systems regardless of whether voluntary plans are developed.

For erosion control, strategies include switching from conventional tillage to no till, contour plowing, planting a cover crop, deep ripping a field to improve water infiltration, controlling the timing and location of livestock grazing, or using any method that reduces the detachment and movement of soil. To control sediment, practices include the use and combination of stripcropping, catch basins, grassed lined waterways, vegetative filter strips around field perimeters, and straw bales.

To minimize the runoff of nutrients and farm chemicals, thus protecting both producer earnings and water quality, there are potential strategies that could be combined into management systems. Some nutrient and chemical runoff control methods include following accepted application guidelines, incorporating soil tests and setting realistic yield goals, regularly calibrating fertilizer and chemical application equipment, using weather reports and crop growth stage to guide application timing, periodically analyzing nutrient levels of manure and/or compost products that are applied, managing irrigation to prevent nutrient and chemical loss through leaching and/or surface runoff, and accounting for “nonfertilizer” sources of nutrients such as manure, compost, biosolids, and leguminous and nonleguminous crop residues. Implementing a system of Integrated Pest Management can be an economical way to control pests, through utilizing field scouting, economic thresholds of damage, biological controls, trap crops, and more.

To contribute to maintaining cooler water temperatures, some available strategies that could be employed include installing and maintaining vegetative and riparian buffer strips, managing

livestock access to these areas and to streams, and developing off-stream water sources for livestock.

Carefully managing irrigation water is a philosophy already common in the Sandy Subbasin Management Area. Some of the strategies that are important to carefully managing irrigation water include planting and irrigating crops on a contour, planting sloping field edges to grasses, installing sediment basins at field edges in swales, scheduling irrigation using irrigation soil moisture monitoring, using drip irrigation, and recycling return flows.

Regulatory Measures

Prevention and Control Measures

The emphasis of the Sandy Subbasin Area Plan is to promote voluntary action by landowners or operators to control the factors affecting water quality in the Sandy Subbasin Management Area. Prevention and control measures are a set of minimum standards that must be met on all lands in agricultural use, and are defined in the Oregon Administrative rules for the management area (OAR 603-095-1340).

The applicable rules are referenced here for education purposes only.

Producers who fail to address these prevention and control measures either with or without a voluntary plan may be subject to enforcement procedures based upon the administrative rules. Landowners will not be held responsible for conditions resulting from unusual weather events or other exceptional circumstances that could not have been reasonably anticipated. Enforcement procedures are outlined in the Resolution of Complaints and Enforcement Actions section of this Area Plan.

The referenced rules address water temperature concerns in the Sandy Subbasin management area as listed on the 2004-2006 303(d) list. The Agricultural Waste Control rule is existing law that limits waste access to the waters of the state. By adopting this rule, the primary authority over this language as it relates to agricultural practices in the management area will rest with the Oregon Department of Agriculture.

Streamside Area Condition

OAR 603-095-1340

(2) Streamside Area Condition. Effective upon rule adoption.

(a) Streamside vegetation management shall allow the establishment, growth, control, and/or maintenance of riparian vegetation (for example: grasses, sedges, shrubs, and trees) appropriate to the site capability that is sufficient to provide shade and protection to the streamside area such that it maintains its integrity during high stream flow events up to and including those expected to occur during or following a 25-year, 24 hour storm event.

(b) Management strategies in the streamside area shall not reduce the control of erosion, lessen filtering of sediment and nutrients, or decrease the infiltration of water into the soil profile.

Agricultural Waste Control

OAR 603-095-1340

(3) Agricultural Waste Control. Effective upon rule adoption.

(a) No person subject to these rules shall violate any provision of ORS 468B.025 or ORS 468B.050.

(b) Access to natural waterways for livestock watering and stream crossings are allowed such that livestock use is limited to only the amount of time necessary for watering and/or crossing the waterway.

Definitions

Wastes – 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. For the purposes of this Area Plan, “wastes” include but are not limited to commercial fertilizers, soil amendments, composts, animal wastes, vegetative materials, or any other wastes. ORS 468B.005(7).

Waters of the State – Includes lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marches, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state of within its jurisdiction. ORS 468B.005(8).

Resolution of Complaints and Enforcement Actions

When the Oregon Department of Agriculture (ODA) becomes aware of an apparent occurrence of agricultural pollution through a written complaint, its own observations, or through notification by another agency, ODA may use enforcement mechanisms where appropriate and necessary to gain compliance with the OARs for the Sandy Subbasin management area (OAR 603-095-1300 through 603-095-1380). When reasonable attempts at initiating voluntary landowner involvement have failed ODA may take enforcement actions pursuant to OAR 603-090-0060 through 603-090-0120.

ODA may investigate complaints from individuals against operators or landowners who are alleged to be out of compliance with OARs for the Management Area. Individual complaints must relate to a specific property being managed under conditions resulting in a potential violation, and contain a thorough description of the problem. The complaint must be filed with the department in writing and be signed by the complainant.

If and where other governmental policies, programs, or regulations conflict with the Sandy Subbasin management area OARs, ODA will consult with the agency or agencies and attempt to resolve the conflict in a reasonable manner.

A landowner/operator with an approved Voluntary Water Quality Farm Plan (voluntary plan) may receive limited "safe harbor" from enforcement by ODA. This limited exemption may be applied if the approved voluntary plan has been developed and is being implemented in accordance with OARS 603-095-1380.

Some have expressed concern that the existence of a voluntary plan may increase the risk of a third party lawsuit or enforcement action from state or federal agencies. The basis for this concern is the belief that by identifying water quality problems within the context of a voluntary plan, landowners may be establishing the basis for being held responsible for addressing the identified problems. A further concern is that the voluntary plan on file with a state or federal agency could be subject to disclosure through the federal Freedom of Information Act or the Oregon Public Records Law.

ODA acknowledges the concern, but believes the benefits of voluntary plans outweigh the disadvantages. ODA supports the development of "safe harbor" mechanisms that address the perceived liabilities associated with voluntary plans.

ODA recognizes that every farm and situation is different and will take into account each individual situation when conducting investigations and enforcing the OARs. A landowner or operator shall be responsible for only those conditions caused by activities conducted on land managed by the landowner or occupier. Criteria do not apply to conditions resulting from unusual weather events or other exceptional circumstances which could not have been reasonably anticipated. Effective management is expected to consider normal, annual, low-recurrence interval flooding.

Roles and Responsibilities

Total Maximum Daily Loads

The Oregon Department of Environmental Quality, in accordance with the Federal Clean Water Act, is required to establish "Total Maximum Daily Loads" (TMDLs) for pollutants on the "303(d) list." DEQ completed basin-wide temperature and bacteria TMDLs for the Sandy Basin and those TMDLs were accepted by the U.S. Environmental Protection Agency (EPA) in April 2005. Once TMDLs are completed for a basin, the basin's stream segments are removed from the 303(d) list for impaired waterbodies. Those waters will be assigned Category 4A: Water quality limited, TMDL approved. When data show the criteria are met, the waters will be assigned Category 2: Attaining.. They can be viewed in the TMDL document at <http://www.deq.state.or.us/wq/TMDLs/sandy.htm>. More information is available in the 2004-2006 integrated report database at <http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp#db>.ⁱ

The Sandy Subbasin agricultural water quality management Area Plan is the implementation plan for Agriculture.

Area Plan Development

ODA is the Designated Management Agency for controlling pollution from agricultural activities on agricultural, rural, and forestry lands in the Management Area. ODA is authorized to develop and carry out a water quality management plan for any agricultural or rural lands, where a water quality management plan is required by state or federal law.

Area Plan revisions will address Load Allocations assigned to agriculture in future TMDLs for this area.

The Clackamas County SWCD served as the Local Management Agency for development of the Area Plan. They assisted with meeting administration, outreach, and providing technical assistance to landowners.

The Director of ODA appointed the Sandy Subbasin Local Advisory Committee (LAC) representing local agricultural producers, local landowners, local agencies, and the Clackamas County and East Multnomah SWCDs to assist with the development of this Area Plan and rules. The LAC will reconvene biennially to review the Area Plan and rules and amend them as necessary.

The public was encouraged to participate in the Area Plan development process. All LAC meetings were open to the public, announced in the Oregonian, and followed Oregon's Public Meeting Laws. In conjunction with ODA and with partial funding from the Oregon Watershed Enhancement Board, the Clackamas County SWCD held two public information meetings to review the draft Area Plan and Area Rules. In addition, ODA held a public comment period to review the draft Area Plan and Area Rules. The comment period included a public hearing in the city of Sandy. Future amendments to the rules will also have public comment periods.

Area Plan Implementation

The day-to-day implementation of this plan will be accomplished through Memoranda of Agreement between the Local Management Agency and ODA. It is the intent of the ODA to negotiate yearly with the Clackamas County and East Multnomah SWCDs for them to serve as the LMAs.

As resources allow, the SWCDs, USDA Natural Resources Conservation Service, private sector field staff, and Oregon State University staff are available to assist landowners in evaluating effective practices for reducing soil erosion and runoff. Personnel in these offices can also design and assist with implementation of practices, and assist in identifying any sources of cost-sharing funds for the construction and/or use of some of these practices. Implementation

priorities will be established on a periodic basis through annual work plans developed jointly by the Local Management Agencies and ODA with input from partner agencies.

ODA and the LMAs will provide presentations to interested groups on an ongoing basis. They also will meet individually with landowners to explain the Area Plan and rules and to provide site-specific educational reviews of land conditions relative to water quality.

Any actions related to determination of noncompliance with the Area Rules or enforcement will be taken up directly by ODA, as outlined in OARs 603-090-0060 through 603-090-0120.

Monitoring and Evaluation

A monitoring plan will be implemented to:

1. Characterize existing water quality and land conditions.
2. Track Area Plan implementation and compliance with the Area Rules .
3. Evaluate Area Plan progress in improving water quality and land conditions.

The LMAs will participate in water quality monitoring efforts related to the Area Plan in consultation with ODA, Oregon State University, DEQ, City of Portland, Multnomah County, and other watershed partners such as Clackamas County, Sandy River Basin Watershed Council, and the US Forest Service. DEQ and other state and federal agencies have monitored water quality in the past. ODA and the LMAs are responsible for monitoring land conditions that influence water quality in agricultural areas. The LAC, ODA, and the LMAs will evaluate the effectiveness of the Area Plan in improving water quality and land conditions.

Parameters likely to be monitored include stream temperature, bacteria, turbidity, pesticides, and nutrients. Conditions likely to be monitored include stream shade levels, width/depth ratios of stream channels, streambank erosion, and instream flow. The LMAs and the ODA will compile data and provide a report to the LAC for review.

Prior to the next review of this Area Plan, ODA and the LMAs, in conjunction with the DEQ, will identify the monitoring needed to implement the Area Plan.

The Oregon Plan for Salmon and Watersheds' Water Quality Monitoring Technical Guide Book (July 1999) is the preferred reference manual for monitoring; however, other water quality monitoring protocols also are available. Quality Assurance and Quality Control procedures will be determined by the DEQ.

Existing Conditions

Existing data were reviewed by the Sandy River Basin Watershed Council and summarized in their Phase 1 Watershed Assessment (1999). According to the Phase 1 Watershed Assessment for the Sandy River Basin (1999), there currently is no water quality monitoring being

conducted. Water quality monitoring is being planned as part of the Phase 1 Action Plan for the Sandy River Basin (1999).

Implementation

The LMAs, LAC, and ODA are responsible for determining progress towards Area Plan goals. The ODA will sign a Memorandum of Agreement that outlines responsibilities of the LMAs for providing and tracking educational outreach and technical assistance. The Clackamas County and East Multnomah SWCDs may enter into an MOA with ODA to continue serving as the LMAs. If either the Clackamas County and East Multnomah SWCDs choose not to continue serving as the LMAs, another organization will be selected to serve this role.

The Local Management Agencies will coordinate with management area partners on a subbasin scale to:

- Identify potential sources of nutrients, pesticides, temperature increases, and other contributors to non-attainment of all applicable water quality standards
- Develop and evaluate outreach and education programs designed to increase public awareness and understanding of water quality issues
- Conduct projects, demonstrations, and tours to promote successful management practices and systems
- Compile water quality and land condition data and provide a report to the LAC
- Evaluate the adequacy of technical and financial assistance sources available to the agricultural community to implement recommended management practices, monitoring, and education.

Progress

The LMAs and ODA are responsible for determining whether Area Plan goals and objectives are being met. Progress and success of implementation efforts will be assessed through compliance with the Area Rules and State standards and the measurement of water quality improvement 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 will be used to determine long-term changes in land conditions and 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. Land conditions will be monitored over time using both photographic and quantitative techniques. The *Water Quality 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 will be conducted by ODA to determine compliance with Area Rules on a management area scale. Possible methods include on-the-ground surveys and remote sensing. DEQ determines compliance with state water quality standards.

Discussion of Costs and Financing

Costs of implementing this Area Plan are difficult to assess in the absence of detailed, site-specific inventories of resource problems. To implement this Area Plan, the LMAs will need support and resources for staff to coordinate with management area partners to conduct the following:

- Educational programs (production and presentation)
- Identification of high priority areas for implementation
- Ongoing evaluation of Area Plan progress toward achieving water quality goals
- Coordinated planning and implementation activities with other agencies, organizations, and individuals working on similar goals
- Watershed assessments
- Water quality monitoring
- Meeting management and facilitation

Technical and cost-sharing assistance for installation of certain management practices may be available through current USDA conservation programs such as Environmental Quality Incentive Program (EQIP) and Continuous Conservation Reserve Program (CRP), the Environmental Protection Agency's nonpoint source implementation grants, state programs such as Oregon Watershed Enhancement Board (OWEB), or state/federal partnerships such as the Conservation Reserve Enhancement Program (CREP). Other agencies may also be available to provide technical assistance or financial assistance to private landowners.

The level of successful implementation of the Area Plan will be directly tied to the level of available funding for this purpose.

References

CH2MHill, 2000. Supply, Transmission, and Storage Analysis. Prepared for Portland Water Bureau. Portland, Oregon.

Gerig, A.J. 1985. Soil Survey of Clackamas County, Oregon. United States Department of Agriculture-Soil Conservation Service, Washington D.C.

Greber, Lisa. 1999. Sandy Basin Management Area Ownership Map. United States Department of Agriculture-Natural Resources Inventory, Beaverton, OR.

Green, G.L. 1983. Soil Survey of Multnomah County, Oregon. United States Department of Agriculture – Soil Conservation Service, Washington D.C.

Mershon, Clarence. 1999. Personal Communication. June 10, 1999. Local Historian.

National Marine Fisheries Service (NMFS). 2000. NMFS Northwest Region web site: www.nwr.noaa.gov/1salmon/salmesa/specprof.htm.

Oregon Department of Environmental Quality.. 2004/2006 Integrated Report of Section 303(d) List of Water Quality Limited Waterbodies; Sandy River Basin TMDL, March 2005. Oregon Department of Environmental Quality, Portland, OR.

Oregon Water Resources Department (OWRD). 1991. Sandy Basin Report. State of Oregon Water Resources Department, Salem, OR.

Sandy River Basin Watershed Council. 1999. Phase 1 Watershed Action Plan for the Sandy River Basin.

Sandy River Basin Watershed Council. 1999. Phase 1 Watershed Assessment for the Sandy River Basin.

Taylor, George. 1999. Personal Communication. February 1, 1999. State Climatologist.

United States Geological Society and U.S. Environmental Protection Agency, 1999. National Land Cover Data, Oregon. Raytheon STX Corporation, under USGS Contract 1434-CR-97-CN-4074.

Yee, Dennis. 1998. Metro 2017 Regional Forecast & TAZ Allocation. Metro, Portland, Oregon.

APPENDICES

**Appendix A:
2004/2006 303(d) Listed Streams for Temperatureⁱ**

Waterbody Name & Segment	Season	Criteria
Alder Creek RM 0 – 2	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F (13.0° C), 7-day-average maximum
Badger Creek RM 0 – 6	Year Around (non-spawning)	Salmon and trout rearing and migration: 64° F (18.0° C), 7-day-average maximum
Beaver Creek RM 0 – 8.4	Year Around (non-spawning)	Salmon and trout rearing and migration: 64° F, 7-day-average maximum
Blazed Alder Creek RM 0 – 3.9	Year Around (non-spawning)	Core cold water habitat: 61° F (16.0° C), 7-day-average maximum
Boulder Creek RM 0 5.7	Year Around (non-spawning)	Core cold water habitat: 61° F, 7-day-average maximum
Bull Run River Mouth to Bull Run Reservoir #2 RM 0 - 5	Aug. 15 – June 15	Salmon and steelhead spawning, 64° F, 7-day-average maximum
Bull Run River RM 0 – 5	Summer	Rearing: 64° F
Bull Run River RM 0 – 26.9	Year Around (non-spawning)	Core cold water habitat: 61° F, 7-day-average maximum
Cedar Creek RM 0 – 14.2	Year Around (non-spawning)	Salmon and trout rearing and migration: 64° F, 7-day-average maximum
Clear Creek RM 0 – 1.4	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F, 7-day-average maximum
Clear Creek RM 0 – 7	Year Around (non-spawning)	Core cold water habitat: 61° F, 7-day-average maximum
Gordon Creek RM 0 – 10.5	Sept. 15 – June 30	Spawning: 55° F (12.8° C)
Little Sandy Creek	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F, 7-day-average maximum
Little Sandy Creek RM 0 – 15.7	Year Around (non-spawning)	Core cold water habitat: 61° F, 7-day-average maximum
Salmon River RM 0 – 13.3	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F, 7-day-average maximum
Salmon River RM 0 – 33.9	Year Around (non-spawning)	Core cold water habitat: 61° F, 7-day-average maximum
Sandy River RM 0 – 29.5 Mouth to Marmot Dam	Summer	Rearing 64° F
Sandy River RM 26-48	Aug. 15 – June 15	Salmon & steelhead spawning: 55°

		F, 7-day-average maximum
Sandy River RM 0 - 26	Year Around (non-spawning)	Salmon and trout rearing and migration: 64° F, 7-day-average maximum
Sandy River RM 26 – 55.5	Year Around (non-spawning)	Core cold water habitat: 61° F, 7-day-average maximum
S. Fork Salmon River RM 0 – 1.4	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F, 7-day-average maximum
Still Creek RM 0 – 6.2	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F, 7-day-average maximum
Zigzag River	Aug. 15 – June 15	Salmon & steelhead spawning: 55° F, 7-day-average maximum

2004/2006 303(d) Listed Streams for *E. Coli* Parameter

Waterbody Name & Segment	Season	Criteria
Unnamed stream RM 0 –2.9	Summer	30-day log mean of 126 <i>E coli</i> organisms per 100 ml; no single sample >406 organisms per 100 ml
Beaver Creek RM 0 – 8.3	Summer	30-day log mean of 126 <i>E coli</i> organisms per 100 ml; no single sample >406 organisms per 100 ml
Cedar Creek RM 0 – 4.3	Summer	30-day log mean of 126 <i>E coli</i> organisms per 100 ml; no single sample >406 organisms per 100 ml
Kelly Creek RM 0 – 4.8	Summer	30-day log mean of 126 <i>E coli</i> organisms per 100 ml; no single sample >406 organisms per 100 ml

Data Sources for the 2004-2006 listings

PORT = City of Portland, Water Bureau
 DEQ = Oregon Department of Environmental Quality
 STP = Sewage Treatment Plant
 SWCD = Clackamas Soil and Water Conservation District
 Gresham = City of Gresham
 SWRP = Student Watershed Research Project

TEMPERATURE MONITORING SITES

LOCATION	AGENCY
Beaver Cr. near Mouth	DEQ
Sandy R. at Oxbow Pk.	DEQ
Buck Cr. @ mouth	DEQ
Gordon Cr. @ mouth	DEQ
Gordon Cr. @ NF boundary	DEQ
Sandy at Dabney Bridge	DEQ
Bull Run @ County bridge #160	PORT
Bull Run below Little Sandy Bo	PORT
Little Sandy @ mouth	PORT
Little Sandy above Diversion	DEQ
Little Sandy @ Road 14	DEQ
Bull Run above Little Sandy	PORT
Bull Run @ Larson's bridge	PORT
Bull Run @ Lower BR gage	PORT
Bull Run below Plunge Pool	PORT
Bull Run @ Headworks Bridge	PORT
Bull Run at RM17.6 abv. Falls Cr.	PORT
Falls Creek at Mouth	PORT
Bull Run below Blazed Alder RM	PORT
Blazed Alder at Mouth	PORT
Bull Run above Blazed Alder	PORT
Sandy R. above Bull Run	DEQ
Cedar Cr. @ Ten Eyck Rd (mouth	DEQ
Cedar Cr. @ Hwy. 26	DEQ
Badger Cr. @ Coleman Road	DEQ
Sandy R. at Marmot gage	DEQ
Alder Cr. @ mouth	DEQ
Wildcat Cr. @ mouth	DEQ
Hoodland STP Outfall	DEQ
Sandy above Salmon nr Brightwood	DEQ
Salmon R. @ mouth HWY 26	DEQ
Boulder Cr. @ mouth	DEQ
Salmon R. at East Bridge Rd.	DEQ
S. Fork Salmon R. @ mouth	DEQ
Salmon R. above S. Fork	DEQ
Salmon R @ Hwy. 26/35 USGS gage	DEQ
Zigzag R. @ mouth Lolo Pass Rd.	DEQ
Still Cr. @ mouth Still Cr. Rd.	DEQ
Zigzag R. above Still Cr.	DEQ
Camp Cr. @ mouth	DEQ
Zigzag R. above Camp Cr. HWY 26	DEQ
Clear Cr. @ mouth @ Barlow Tr Rd.	DEQ
Sandy abv Clear Cr. @ Lolo Pass Rd	DEQ
Camp Cr. Abv Govt. Camp STP	DEQ
Govt. Camp STP Effluent	STP
Cedar Cr at Hatchery Inflow	DEQ
Cedar Cr. At Hatchery Outfall	DEQ

Troutdale STP Outfall	STP
PGE Bull Run Project Tailrace	DEQ

BACTERIA MONITORING SITES

Kelly Creek at Kane Road	SWCD, Gresham
Kelly Creek at Powell Rd.	SWCD
Alder Creek at Hwy 26	SWCD
Cedar Creek at Hwy 26	SWCD
South Cedar Cr at Hwy 26	SWCD
Cedar Creek at Coleman Rd	SWCD
Bear Creek at Lusted Rd	SWCD
Bear Creek at Bluff Rd	SWCD
Beaver Creek at Mouth	SWCD, SWRP
Beaver Creek at Troutdale Rd	SWCD

Appendix B: Educational and Technical Services for Natural Resource and Farm Management

Soil and Water Conservation Districts (SWCDs)

Prepares management plans and helps implement them by coordinating with other technical experts in natural resources.

Clackamas County:	503-656-3499
East Multnomah	503-222-7645

USDA – Natural Resources Conservation Service (NRCS)

Provides information on soil types, soils mapping, and interpretation. Administers and provides assistance in developing plans for CRP, EQIP, WRP, and other cost share programs. Makes technical determinations on wetlands and highly erodible land.

Clackamas County:	503-656-3499
East Multnomah	503-222-7645

Oregon State University Extension Service (OSUES)

Offers educational programs, seminars, classes, tours, and publications to guide landowners in managing their resources.

Clackamas County:	503-655-8631
Multnomah County	503-725-2000

Oregon Department of Agriculture (ODA)

Oversees the Agricultural Water Quality program, issues permits and helps producers comply with confined animal feeding water management programs, provides support to Soil and Water Conservation Districts.

Natural Resources Division (Salem): 503-986-4700

Department of Environmental Quality (DEQ)

Responsible for protecting and enhancing Oregon's water and air quality, cleaning up spills and releases of hazardous materials, and managing the proper disposal of solid and hazardous wastes. Maintains a list of water quality limited streams, sets total maximum daily load (TMDL) allocations.

Portland: 800-452-4011

USDA – Farm Service Agency (FSA)

Maintains agricultural program records and administers various cost share programs. Their offices also provide up-to-date aerial photography of farm and forest land.

Clackamas/Multnomah County: 503-655-3144

Division of State Lands (DSL)

Administers state removal/fill law and provides technical assistance.

Salem: 503-378-3805

Oregon Water Resources Department (WRD)

Provides technical and educational assistance and water rights permits and information.

Salem: 503-986-0900

Sandy Subbasin Management Area Local Advisory Committee (LAC)

Voluntary committee composed of twelve agricultural producers in the Management Area. Charged with developing the agricultural water quality management Area Plan in accordance with the Agricultural Water Quality Management Act.

Clackamas County SWCD: 503-656-3499

Oregon Department of Agriculture 503-986-4700

Oregon Department of Fish and Wildlife (ODFW)

Works with landowners to balance protection of fish and wildlife with economic, social, and recreational needs. Advises on habitat protection. Offers technical and educational assistance for habitat and restoration projects. Provides plan review for special property tax assessment for wildlife habitat projects.

North Willamette Watershed District: 503-657-2000

Oregon Department of Forestry (ODF)

Technical assistance with State and Federal cost sharing, Oregon property tax programs, Forest Resource Trust, forestry practices, and forest management plans.

Molalla Office: 503-829-2216

Appendix C: ORS 468B.025 and .050 - Oregon Water Pollution Control Law

486B.025 Prevention of Pollution

(1) Except as provided in ORS 468B.740, 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.

(3) Violation of subsection (1) or (2) of this section is a public nuisance.

ORS 468B.050 identifies the conditions when a permit is required. In agriculture under state rules these are referred to as Confined Animal Feeding Operations (CAFO) and are operations that confine animals for more than 4 months per year and have a waste water treatment facility.

468B.050 When permit required.

(1) Except as provided in ORS 468B.053 or 468B.215, without first obtaining a permit from the Director of the Department of Environmental Quality, which permit shall specify applicable effluent limitations, no person shall:

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

(b) Construct, install, modify or operate any disposal system or part thereof or any extension or addition thereto.

(c) Increase in volume or strength any wastes in excess of the permissive discharges specified under an existing permit.

(d) Construct, install, operate or conduct any industrial, commercial, confined animal feeding operation or other establishment or activity or any extension or modification thereof or addition thereto, the operation or conduct of which would cause an increase in the discharge of wastes into the waters of the state or which would otherwise alter the physical, chemical or biological properties of any waters of the state in any manner not already lawfully authorized.

(e) Construct or use any new outlet for the discharge of any wastes into the waters of the state.

(2) As used in this section, "confined animal feeding operation" has the meaning given in ORS 468B.205. [Formerly 449.083 and then 468.740; 1997 c.286 s.6]

ⁱ Added during the 2008 Biennial Review