



Oregon
Department
of Agriculture

Clackamas Subbasin Agricultural Water Quality Management Area Plan

February 10, 2010

Local Advisory Committee Recommends Continuing Monitoring Project in Basin

Executive Summary

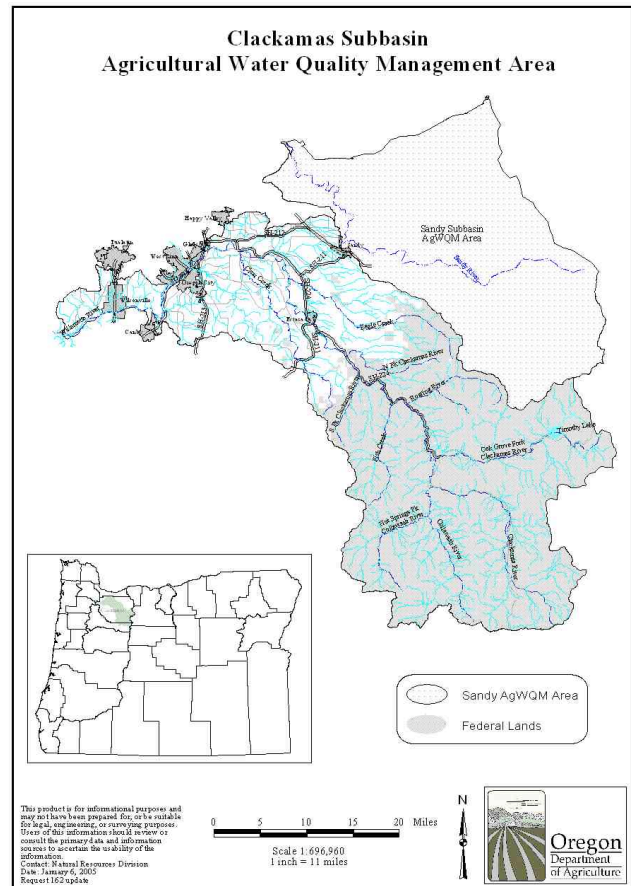
Four members of the Clackamas Subbasin Agricultural Water Quality Management Area Local Advisory Committee (LAC) reconvened on February 10, 2010, to evaluate the progress of implementing the Area Plan and Rules.

The initial concern of the LAC was the lack of attending committee members, in addition to the chairman resigning. Those present at the meeting requested Oregon Department of Agriculture (ODA) staff to contact all members to determine the level of interest in continuing participation on the committee. Recruitment of new members may be an answer if there is a decrease in interest. A new chair will be elected at the next biennial review meeting in 2012.

The rest of the LAC discussion focused on assessing the implementation of the Clackamas Subbasin Area Plan and Rules. The LAC agreed that although landowner outreach and project implementation remain high priorities, assessment is necessary to determine if present goals and objectives are effective in achieving water quality standards.

According to the LAC, continuing to fund monitoring in the basin is still a top priority and they encouraged the Clackamas County Soil and Water Conservation District (District) to carry on with their efforts.

(Continued on page 4)



Clackamas County and a small portion in Marion County. The Clackamas River drains 940 square miles or 600,700 acres that eventually flows into the Willamette River in the Gladstone/Oregon City area. For management purposes, the Area Plan also encompasses several other drainages that flow directly into the Willamette River, totaling an additional 136 square miles.

Clackamas County Soil and Water Conservation District Highlights Two New Programs

1. Equipment Rental Program *for Conservation*

In the process of promoting conservation practices to landowners and managers, the same problem kept arising – the lack of the farm implements necessary to install certain practices. Many of the landowners, especially non-commercial farm owners, do not own equipment that would be used only once or twice per year. There were no opportunities to rent this equipment locally, so a conversation began between the District and Dean Fischer of Fischer Mill Supply. It was during these discussions that a partnership was formed. Dean, who is actively involved with the agricultural community, offered to rent and maintain the equipment the District purchased. Thus began the Equipment Rental Program *for Conservation*.

Below is list of equipment available for rent. Fischer Mill Supply, Inc. is the operator of the rental program. All inquiries and rental agreements should be made through their offices located at 20990 South Fischer Mill Road in Oregon City or by phone at 503-631-3411.

Aerator – 5' width (trailer included)

Tractor - 29 hp (trailer included)

Water Wagon – 200g (on wheels with hose)

Manure Spreader – 25 bushel (on wheels)

3' No-till Drill (trailer included)

6' No-till Drill (trailer included)

Box Seeder

2. Water Quality Monitoring Program

During the last biennial review (2008), the LAC suggested that the District work with ODA to identify the monitoring information needed to help clarify if the Area Plan and Rules are effective in achieving water quality standards. This would include developing a monitoring strategy complete with a quality assurance and quality control plan approved by the Department of Environmental Quality (DEQ).

The Clackamas Water Quality Sampling Plan focuses on stream reaches that are water quality impaired or flow into a larger tributary that is 303(d) listed. Land use in headwaters of selected stream reaches is dominated by commercial agricultural operations (primarily nursery, Christmas trees, and cane berries). Comparison downstream reaches dominated by another land use such as rural residential, urban industrial, or forestry were also selected.

Samples are being taken once a month for conductivity, turbidity, dissolved oxygen, total suspended solids, E. Coli, pH, nitrates, and phosphorous. The District has deployed temperature probes to collect continuous temperature data. In addition, staff will sample two storm events to characterize pesticide concentrations.

LAC Plan Review:



Background

The Clackamas Subbasin Agricultural Water Quality Management Area Plan and Rules were developed with advice from the LAC. After review by the State Board of Agriculture, the director of ODA approved the Area Plan and Rules in 2001. Since then, the LAC has met to review the Area Plan and Rules in 2005 and 2008.

When developing the Area Plan, the LAC developed rules that were designed to prevent pollution as close to the source as possible. The Area Rules are written to assure achievement of water quality standards as identified by DEQ and require land managers in the Management Area to:

- Allow the establishment, growth, control, and/or maintenance of riparian vegetation 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.
- Not violate any provision of Oregon Revised Statute 468B.025 or 468B.050.

The LAC also identified several objectives that, if achieved, would significantly improve water quality in the Clackamas Subbasin Management Area. Table 1 summarizes these goals and objectives and the progress the District has made to achieve each goal.

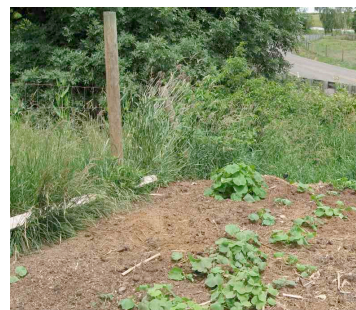
Water-bodies that do not meet one or more water quality standards are included in Oregon’s 303(d) list. Parameters of concern in the Clackamas Subbasin are temperature and E. coli.

Oregon DEQ is the state agency responsible for developing total maximum daily loads (TMDLs) for the parameters on the 303(d) list. TMDLs are water quality management plans that address the standards not being met. Since the adoption of the Area Plan and Rules, DEQ has developed TMDLs for the above constituents.

Compliance Investigations

Since the last biennial review in January 2008, ODA received ten new complaints in the Clackamas Subbasin.

Complaint type:	Action(s):
1. Livestock mgmt.	Letter of Warning On-going
2. Livestock mgmt.	Water Quality Advisory Letter of Compliance
3. Riparian veg removal	Water Quality Advisory
4. Riparian veg removal	Water Quality Advisory
5. Erosion	Water Quality Advisory Letter of Compliance
6. Manure mgmt.	Letter of Warning Letter of Compliance
7. Manure mgmt.	No connection to waters of the state
8. Manure mgmt	No connection to waters of the state
9. Odor	No jurisdiction
10. Septic tank discharge	Forwarded to other agency



Top photo (before): Uncovered manure pile in close proximity to the creek with no fence to exclude livestock from entering the creek.



Bottom photo (after): Manure pile moved 40 ft. away from the creek and is securely covered. A newly constructed fence along the creek excludes livestock from entering.

LAC Discussion (continued from pg. 1):

Initially, the monitoring program was to focus on management strategies and their effectiveness at the field level in reducing the amount of pollutants entering the waterway. The District tried to engage local landowners to sign their property up for such a study, however, there was only a small handful of willing volunteers. The LAC discussed their thoughts as to why landowners were reluctant to sign up and agreed that eliminating the fears of "the system" would be instrumental in increasing volunteerism.

Finally, the LAC was pleased about the number of outreach events, technical assistance and implementation projects that have occurred since the last biennial review. Further, they felt that the complaint investigations in the basin were proving to be successful given the amount of landowners moving into compliance after initial site visits by ODA determined violations or potential violations of the Area Rules.

Clackamas River Basin Council Initiates Pesticide Reduction Campaign
(Excerpt taken from <http://www.clackamasriver.org/pesticide/index.htm>)

Although the current levels of pesticides in the Clackamas River basin waterways are far below dangerous human health thresholds, their presence in our waterways is a warning sign. During the United States Geological Survey (USGS) study, many pesticides exceeded benchmarks that have been set to protect aquatic-life. The majority of the pesticides detected in our waterways come from multiple sources including golf courses, nurseries, agriculture, right-of-ways, forestland, parks, landowners, and other urban applications. Since, there are many sources of pesticides, it is crucial that all pesticide users do their part to keep pesticides out of our waterways. The time to act is now before it develops into a bigger problem. Using pesticides more effectively makes sense for both economic and environmental reasons.



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LAC MEMBERS for 2010

- Chair, VACANT
- Kurt McKnight
- Barry Bushue
- Lydon Scheeff
- Jim Calcagno
- Paul Staehely
- Mike Dillard
- Jacqueline Tommas
- Gary Furr
- Bob Underwood
- Jerry Harding
- Michael Weinberg

Table 1: Summary of Area Plan goals and progress of Area Plan implementation.

Goal	Progress																																																																
<p>1. Reduce, minimize, and control water pollution and soil erosion from agricultural activities to achieve applicable water quality standards. This involves controlling pollution as close to the source as possible.</p> <p>2. Contribute to the improvement of water quality in the Clackamas Subbasin such that all streams in the Subbasin can be removed from the 303(d) list.</p> <p>6. Base actions on sound conservation planning.</p>	<p>Landowners usually have resource constraints that restrict their ability to utilize management strategies to best address conditions on the land to meet the goals of the Area Plan. To address these constraints, the Clackamas County SWCD (CCSWCD) helps landowners by developing conservation plans and providing technical assistance. Not all landowners, especially small acreage landowners, receive certified conservation plans. Much of the technical assistance we provide is implemented by landowners without additional financial or technical assistance from the District. Landowners are encouraged to address the greatest threat to water quality first.</p> <p>List of Implemented On-the-Ground Strategies:</p> <table border="0"> <tr><td>3 Ac</td><td>Access Control</td></tr> <tr><td>8,355 ft</td><td>Fence</td></tr> <tr><td>37.4 Ac</td><td>Forest Stand Improvement</td></tr> <tr><td>1 Ac</td><td>Heavy Use Area Protection</td></tr> <tr><td>8.4 Ac</td><td>Irrigation Micro-drip</td></tr> <tr><td>4 Ac</td><td>Nutrient Management</td></tr> <tr><td>450 ft</td><td>Pipeline</td></tr> <tr><td>107.6 Ac</td><td>Prescribed Grazing</td></tr> <tr><td>18.3 Ac</td><td>Riparian Forest Buffer</td></tr> <tr><td>1</td><td>Roof Runoff</td></tr> <tr><td>18.3 Ac</td><td>Tree & Shrub Site Prep.</td></tr> <tr><td>58.4 Ac</td><td>Tree & Shrub Establishment</td></tr> <tr><td>62 Ac</td><td>Upland Wildlife Habitat Management</td></tr> <tr><td>3</td><td>Watering Facilities</td></tr> </table> <p>Plans Approved</p> <table border="0"> <tr><td>12</td><td>Conservation Farm Plans</td></tr> <tr><td>2</td><td>Conservation Reserve Enhancement Plans</td></tr> </table> <p>Technical Assistance Provided: Number of Landowners / Topics</p> <table border="0"> <tr><td>48</td><td>Brush Management</td></tr> <tr><td>7</td><td>Composting Facility</td></tr> <tr><td>2</td><td>Cover Crop</td></tr> <tr><td>5</td><td>Fence</td></tr> <tr><td>1</td><td>Field Border</td></tr> <tr><td>1</td><td>Forest Site Preparation</td></tr> <tr><td>5</td><td>Forest Stand Improvement</td></tr> <tr><td>14</td><td>Heavy Use Protection</td></tr> <tr><td>7</td><td>Herbaceous Weed Control</td></tr> <tr><td>1</td><td>Irrigation Water Management</td></tr> <tr><td>5</td><td>Nutrient Management</td></tr> <tr><td>6</td><td>Pasture and Hay Planting</td></tr> <tr><td>4</td><td>Pest Management</td></tr> <tr><td>2</td><td>Prescribed Grazing</td></tr> <tr><td>2</td><td>Riparian Forest Buffer</td></tr> <tr><td>9</td><td>Roof Runoff Mgmt</td></tr> </table>	3 Ac	Access Control	8,355 ft	Fence	37.4 Ac	Forest Stand Improvement	1 Ac	Heavy Use Area Protection	8.4 Ac	Irrigation Micro-drip	4 Ac	Nutrient Management	450 ft	Pipeline	107.6 Ac	Prescribed Grazing	18.3 Ac	Riparian Forest Buffer	1	Roof Runoff	18.3 Ac	Tree & Shrub Site Prep.	58.4 Ac	Tree & Shrub Establishment	62 Ac	Upland Wildlife Habitat Management	3	Watering Facilities	12	Conservation Farm Plans	2	Conservation Reserve Enhancement Plans	48	Brush Management	7	Composting Facility	2	Cover Crop	5	Fence	1	Field Border	1	Forest Site Preparation	5	Forest Stand Improvement	14	Heavy Use Protection	7	Herbaceous Weed Control	1	Irrigation Water Management	5	Nutrient Management	6	Pasture and Hay Planting	4	Pest Management	2	Prescribed Grazing	2	Riparian Forest Buffer	9	Roof Runoff Mgmt
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	<p>Technical Assistance Provided: Number of Landowners / Topics cont.</p> <ul style="list-style-type: none"> 1 Streambank Protection 1 Stripcropping 6 Tree & Shrub Establishment 4 Use Exclusion 3 Waste Storage Facility 15 Wildlife Upland Habitat 1 Windbreak/Shelterbelt Renovation
<p>3. Create a high level of awareness and understanding of water quality issues among the producer and agricultural community and the public through education and technical assistance activities from the point of view of the agricultural industry.</p>	<p>Clackamas County SWCD conducts water quality related workshops, tours and events to address urban and rural natural resource concerns. Topics affecting the Clackamas Subbasin area include:</p> <ul style="list-style-type: none"> o Rose Agriseed Trials/ Ag Field day - demonstrated CCSWD 3' No-till Drill o Display of Equipment Rental Program <i>for Conservation</i> at local heifer sale o Display of Equipment Rental Program <i>for Conservation</i> at a Oregon City Farmer's Market o Barrel Sale for Rainwater Harvesting – 80 barrels sold o Feed store outreach tables – various feed stores throughout Clackamas County o Rain Garden Design seminars at Gardens of Natural Delights Tours and Seminars, Clackamas Community College (CCC) o Earth day's "Celebrating Water" CCC festival, focusing on water use, conservation, and education - 500 attendees o Rainwater Harvesting/Rain Garden/Pesticide Reduction Classes - 139 attendees (2009) o Rainwater Harvesting and Water Storage Tour – 6 attendees o Horse Pasture and Manure Management Workshop – 36 attendees o Oregon Lavender Farm Harvest Festival outreach booth for sustainable agriculture in Clackamas County – 3,000 attendees o Clackamas County Fair Booths 2008 & 2009 engaged in weed awareness and stormwater harvesting and infiltration o Two CCSWCD Annual District Meetings & presentations o Clackamas County Fair "Bean Survey" to identify their most pressing conservation concerns; top four concerns with rural landowners included: Urban Development, Water Quality, Stream & Wetland Health, Wildlife Habitat o Two NW Oregon Ag Show annual event booths w/NRCS & East Multnomah SWCD o Two Annual OSU Extension Tree School CCC booths & sponsorship <p>Publications</p> <ul style="list-style-type: none"> o Update to the Oregon Tips for Small Acreage Landowners Brochure to include more pasture and manure management information. o Completion of the Rural Lifestyles Handbook and Pocket Guide – This publication has been posted on the CCSWCD website (www.conservationdistrict.org). Printing is in the works. o Articles were published on CCSWCD workshops including the Horse Pasture and Manure Management workshop in the Clackamas County section of the Oregonian. Fliers were also posted at county feed stores. o Fact sheets and brochures produced include: <ul style="list-style-type: none"> • CCSWCD – Fact sheet for Equipment Rental Program <i>for Conservation</i> • CCSWCD - Rural Conservation Program Brochure

	<ul style="list-style-type: none"> • CCSWCD – WeedWise Program Brochure • CCSWCD/USDA- Conservation Reserve Enhancement Program Brochure for Clackamas County • Clackamas River Basin Council – Series of four pesticide fact sheets for Landowners, Christmas Tree Growers, Pesticide Applicators and Nurseries. These fact sheets and additional pesticide tips are available on the CRBC website (www.clackamasriver.org) <p>Multi-Media</p> <p>Nine new conservation videos have been produced since the January 2008 biennial review. The Clackamas County Government Cable (CCGC) TV Channel videos include:</p> <ul style="list-style-type: none"> ○ Horse Pasture and Manure Management ○ Pastures and Open Land (Weeds Part 1) ○ Home and Garden (Weeds Part 2) ○ Waterlogged (Rural and Urban Drainage and Stormwater Practices) ○ Rural Wildlife Habitat Design ○ Urban Wildlife Habitat Design ○ Healthy Horses ○ Healthy Forest ○ Wild and Wet Rivers (shooting complete – in production)
<p>4. Monitor and evaluate the effectiveness of this Area Plan.</p>	<p>ODA evaluates DEQ and local partner water quality monitoring data to establish long-term trends in water quality. ODA also evaluates landscape conditions, as funding allows, for long-term trends in riparian vegetation.</p> <p>The CCSWCD and ODA developed an in-stream water quality monitoring program, strategically selecting sites that are easily accessible and can be attributed to different land use types in the Clackamas River Basin. This monitoring program will provide data necessary to target agricultural operators and homeowners that could significantly benefit from public outreach and/or implementation of conservation measures. The proposed Clackamas Water Quality Sampling Plan focuses on stream reaches that are water quality impaired or flow into a larger tributary that is 303(d) listed. Land use in headwaters of selected stream reaches is dominated by commercial agricultural operations (primarily nursery, Christmas trees, and cane berries). Comparison downstream reaches dominated by another land use such as rural residential, urban industrial, or forestry were also selected.</p> <p>Samples are being taken once a month for conductivity, turbidity, dissolved oxygen, total suspended solids, E. Coli, pH, Nitrates, and Phosphorous. The District has deployed temperature probes to collect continuous temperature data. In addition, two storm sampling events will be conducted to characterize pesticide concentrations.</p> <p style="text-align: center;"><i>10 formal complaints were received through the ODA Water Quality Program since January 2008.</i></p>

5. Secure adequate funding for administration and implementation of the program to achieve mission, goals, and objectives.

The following list is an example of funding successes for the Subbasin:

- Four OWEB small grants addressed natural resource concerns impacting agricultural water quality in the Clackamas River Basin. These grants funded the following conservation practices: a livestock heavy use area, a barn roof water runoff conveyance system, livestock use exclusion fencing, pasture management/prescribed grazing, invasive weed control, and riparian plantings. \$19,600 was awarded, with \$13,000 paid out during this reporting period of January 2008-December 2009.
- OWEB grants for riparian restoration coupled with large woody debris placement: \$92,100 awarded; \$14,900 spent during this reporting period.
- OWEB grants for projects that combine riparian restoration and fish passage improvements (e.g., culvert replacement) in rural areas: \$353,750 awarded; \$32,750 spent during this reporting period.
- Two OWEB grants to the Clackamas River Basin Council (CRBC) for outreach and education and to promote stewardship: \$127,150; \$57,550 received during the reporting period.
- Two OWEB watershed council support grants were awarded to the Clackamas River Basin Council in the 2 biennial funding periods included in this report, for a total of \$213,750. Of that amount, \$79,900 was received between January 2008 and December 2009.
- DEQ 319 grant to Marion SWCD to fund a Pesticide Round-Up event that took place in the Clackamas River Basin on February 7, 2009. 18,351 pounds of pesticides were collected from 51 participants.
- Clackamas River Water Providers funding to CRBC: \$30,000 during this reporting period from for voluntary pesticide reduction campaigns. Activities included: February 2009 Pesticide Round-Up, production of fact sheets re: pesticides of concern used in Christmas tree and commercial nursery production and used by pesticide applicators and residents.
- Metro/DEQ 319 grant to CRBC to partner on low impact development workshops and activities. Included \$26,000 to plant trees on both sides of Deep Creek (rural) and selected urban streams to provide shade, as well as \$4,000 for restoration fact sheets.
- Clackamas County has provided funding to the CCSWCD for the production of nine additional conservation videos.
- Property tax revenues: Since July 2007, CCSWCD has had authority to levy a property tax to support conservation technical assistance, district operations, strategic planning, capacity building, and program development. Tax revenue was approx. \$1.4 million in FY 2007-08 and approx. \$1.5 million per year in FY 2008-09 and FY 2009-10.
- USDA/EQIP or WHIP contracts (5) totaling \$22,158 in cost share assistance for agriculture and nursery landowners to implement best management practices benefiting upland water quality – mud, manure, nutrients, erosion and beneficial pollinators.
- Water Environmental Services totaling \$15,500 for workshops regarding stormwater infiltration and control, and pesticide reduction.