



**Oregon**  
Department  
of Agriculture

# Sandy Subbasin Agricultural Water Quality Management Area Plan

January 27, 2010

## Local Advisory Committee Recommends Area Plan and Rules Effectiveness Assessment

### Executive Summary

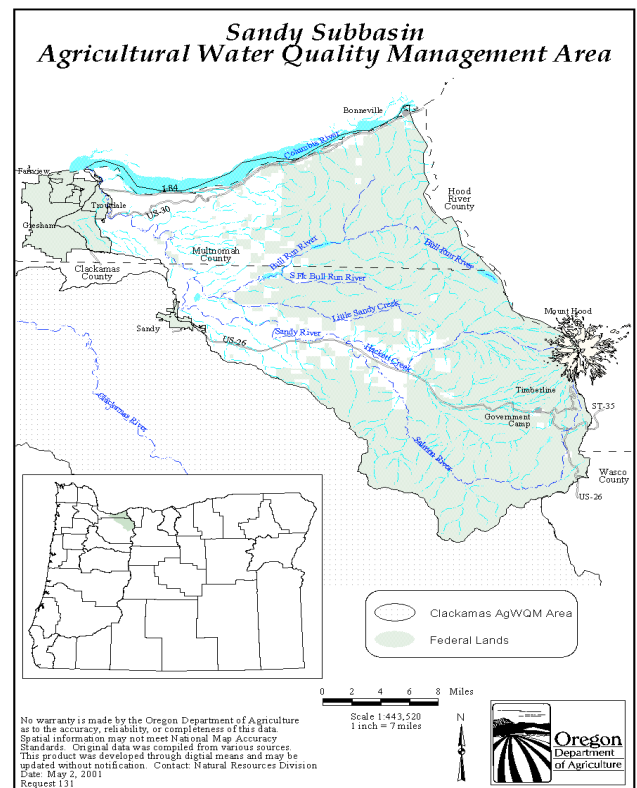
Members of the Sandy Subbasin Agricultural Water Quality Management Area Local Advisory Committee (LAC) reconvened on January 27, 2010, to evaluate the local Area Plan and Rules.

The LAC discussion focused on assessing the effectiveness of the Sandy 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.

The LAC recommended sponsoring a Sandy monitoring workshop that would identify and highlight the various monitoring efforts in the basin, including but not limited to, water quality, riparian enhancement, and data gap analyses. Oregon Department of Agriculture (ODA) staff and local Soil and Water Conservation Districts (SWCDs) will assist in organizing the event for Spring 2010.

There were also extensive discussions around the need of resources available to conduct a thorough, scientifically-sound and comprehensive monitoring study within the basin. Without an Oregon Department of Environmental Quality (DEQ) basin coordinator and an updated Clean Water Act section 303(d) list for Oregon, water quality improvement needs for the Sandy Subbasin is lacking. Further, landowners have been reluctant to participate in monitoring projects on their properties due to being apprehensive about privacy protection.

In addition to monitoring, LAC members recognized the importance of continuing outreach and education efforts throughout the basin. Suggestions included door-to-door canvassing, targeted mailings to landowners, and "Adopt a Stream" campaigns. *(continued on page 2)*



*Map: The Sandy Subbasin Agricultural Water Quality Management Area is in the northwest Oregon with about three-fourths of it located in Clackamas County and the rest of the northern portion located in Multnomah County. The Subbasin drains approximately 582 square miles or 373,400 to the Columbia River. 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.*

### East Multnomah Soil and Water Conservation District's New Riparian Enhancement Program – "StreamCare"

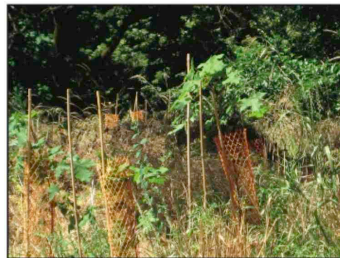
StreamCare is a new program of the East Multnomah Soil and Water Conservation District (EMSWCD) that helps landowners improve areas near creeks and streams. This service will be free during a pilot program for landowners in two tributaries to the Sandy: lower Gordon Creek and upper Beaver Creek.



*Planting trees along the creek will help stabilize the creek bank and reduce erosion. Providing shade along the creek is also a benefit that may help with temperature concerns.*

For landowners that sign up for StreamCare, the EMSWCD commits to controlling weeds, planting native trees and shrubs, and maintaining the area along the creek for five years, free of charge. EMSWCD's staff will evaluate the area along the creek on the property and determine weed control needs and the area they recommend for planting.

If the landowner has livestock and requires fencing to keep the livestock out of the project area, the EMSWCD can help by providing design and financial assistance.



To participate in the StreamCare program landowners will be required to enter into an agreement with the EMSWCD, which includes:

- allowing staff access to the project area on the property at agreed upon times;
- not altering or removing work completed under the agreement;
- not placing or building structures in the project area;
- excluding livestock from the project area;
- not storing manure or other agricultural waste in the project area;and
- notifying the EMSWCD if the property is sold.

For more information about StreamCare, landowners may contact Julie DiLeone with the EMSWCD at 503-935-5360 or at [streamcare@emswcd.org](mailto:streamcare@emswcd.org)

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#### LAC discussions (cont. from page 1)

Another LAC discussion involved the idea of asking certain questions to assess effectiveness of the goals and objectives outlined in the Area Plan. ODA staff introduced a method to help determine which questions are worth asking by using the S.M.A.R.T. model. S.M.A.R.T. stands for:

- S = specific**
- M = measureable**
- A = achievable**
- R = relevent**
- T = time-bound**

LAC members agreed that it would be beneficial if members would commit to developing and participating in a sub-committee that would meet periodically before the next biennial review meeting in 2012 to look at individual goals and apply the S.M.A.R.T. model to determine if their objectives are attainable.

LAC Plan Review:



Background

ODA developed the Sandy Subbasin Agricultural Water Quality Management Area Plan and Rules 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 met to review the Area Plan and Rules in 2005 and 2008.

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 reduce the control of erosion, lessen filtering of sediment and nutrients, or decrease the infiltration of water into the soil profile in streamside areas.
- Allow access to natural waterways for livestock watering and stream crossings such that livestock use is limited to only the amount of time necessary for watering and/or crossing the waterway.
- Not violate any provision of Oregon Revised Statute 468B.025 or 468B.050.

The LAC developed implementation goals for the Sandy Subbasin. Table 1 summarizes these goals and the progress the Clackamas County and East Multnomah SWCDs have 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 Sandy Subbasin are temperature, E. coli, and dissolved oxygen.

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 a TMDL for temperature and E. coli; however, not enough water quality information was available to include dissolved oxygen in the TMDL.

Compliance Investigations

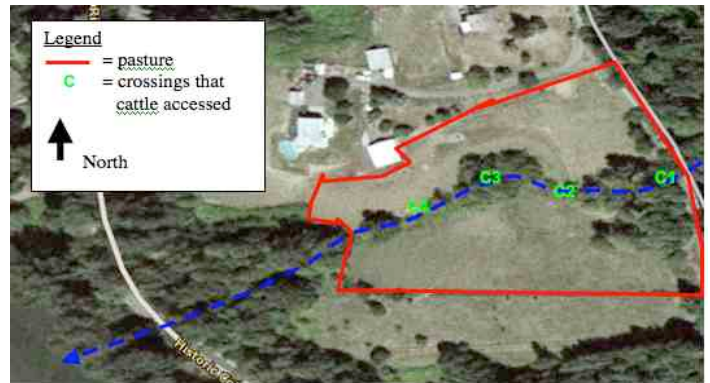
Since the last biennial review in January 2008, ODA received five new complaints in the Sandy Subbasin.

Complaint type:

1. Livestock mgmt. (streamside veg.)
2. Livestock mgmt. (streamside veg.)
3. Sediment runoff
4. Erosion
5. Manure mgmt.

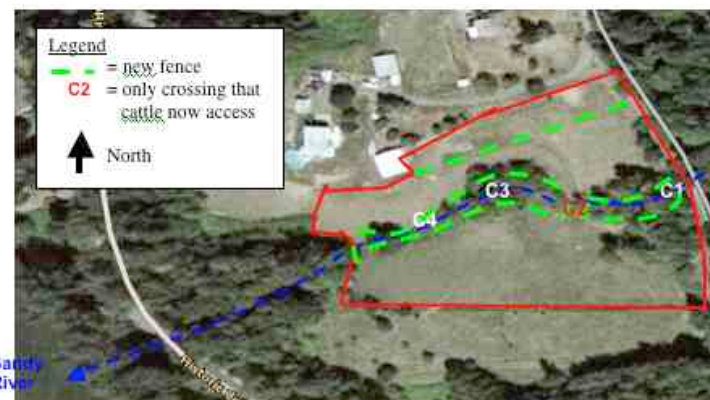
Action(s):

- Letter of Warning
- Water Quality Advisory
- Letter of Compliance
- Letter of Warning
- Letter of Compliance
- Letter of Warning
- Letter of Compliance
- Not enough info to determine threat
- No connection to waters of the state



Above: Livestock management complaint property before investigation. No fence and four crossings allowed livestock to trample riparian vegetation along the Sandy River.

Below: After 1.5 years, new management practices are controlling livestock impacts and allowing riparian vegetation to reestablish. This property has achieved compliance with Area Rules.



Sandy River

Clackamas County SWCD Educational Videos Highlighted on TV

The Clackamas County SWCD has embarked on a new mode of outreach. They have partnered with Clackamas County to produce videos on conservation issues. These videos are broadcast on the Clackamas County Government Channel.

The channel is carried by most cable systems in the county. It has won numerous national and international television production awards. The channel operates 24/7, available to 99% (approximately 41,000) of the cable subscribers in unincorporated Clackamas County. Cable subscribers in 16 incorporated cities receive the county channel. This translates to access by over 200,000 homes in Clackamas County and the surrounding metropolitan area. In addition, these videos are being viewed as far away as Eugene and Astoria!

Below is a list of conservation videos produced in the last two years. The videos are also available for downloading at the Clackamas County SWCD website at [www.conservationdistrict.org](http://www.conservationdistrict.org).

- Pastures and Open Land (Weeds Part 1)
- Waterlogged (Rural and urban Drainage and Stormwater Practices)
- Urban Wildlife Habitat Design
- Wild and Wet Rivers (shooting finished – in production)

- Home and Garden (Weeds Part 2)
- Rural Wildlife Habitat Design
- Healthy Forest
- Healthy Horses

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**LAC MEMBERS for 2010**

- Robert Evatt, Chair
- Dan Ten Eyck, Vice Chair
- Barb Adams
- John Bergan
- James Burns
- Susan Fry
- Patrick Holt
- Dianna Pope
- Len Tobias
- Dave Tobie
- Deniece Tucker
- Chris Winters

Table 1 – Goals and SWCD Accomplishments

| <p><b>Goal</b></p>  | <p>Progress for<br/>Clackamas County and East Multnomah SWCDs since 2008</p>  |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
|---|---|--------------------------------|----|----------------------------------|----|-------------------------|----|------------------|---|-----------------------------|------|------------------------|-----|-----------------|------|
| <p>1. Determine the present status of the watershed condition.</p> <p>2. Reduce, minimize, and control water pollution and soil erosion from agricultural activities to achieve applicable water quality standards and aid in removing the Sandy and Bull Run Rivers from the Clean Water Act 303(d) list.</p> <p>3. Base actions on sound conservation planning.</p> | <p>1. Conducted 291 site visits in the Sandy River watershed. In addition, through our StreamCare program, we were able to survey 24 stream miles in Gordon Creek and three stream miles in Beaver Creek to evaluate existing vegetation and re-vegetation needs.</p> <p>2. Provided 37 practice design recommendations including:</p> <ul style="list-style-type: none"> <li>▪ Native Tree and Shrub Planting designs</li> <li>▪ Manure Storage</li> <li>▪ Heavy Use Areas</li> <li>▪ Weed control plans and methods</li> <li>▪ Roof Water Management</li> <li>▪ Use Exclusion Fencing</li> <li>▪ Erosion Prevention</li> </ul> <p>The following practices were completed in the Sandy Subbasin:</p> <ul style="list-style-type: none"> <li>○ 1390 ft access roads/animal trails</li> <li>○ 35 ac brush management</li> <li>○ 11 ac conservation cover</li> <li>○ 1.5 ac critical area planting</li> <li>○ 0.2 ac filter strip</li> <li>○ 0.1 ac grassed waterway</li> <li>○ 4 ea. (5,300 sqft) heavy use areas</li> <li>○ 38 ac invasive weed control</li> <li>○ 56.7 ac irrigation water management</li> <li>○ 2 ea. (480 sqft) manure storage facilities</li> <li>○ 56.7 ac micro-irrigation - drip</li> <li>○ 550 ft. riparian fencing</li> <li>○ 605 ft. roof runoff management (gutters/outlets)</li> <li>○ 0.25 ac streamside habitat improvement</li> <li>○ 12 ac (over 13,000 trees!) tree and shrub establishment</li> <li>○ 50 ft underground outlet</li> <li>○ 480 sqft water and sediment control basins</li> </ul> <p>Of this implementation the following was done under our StreamCare program:</p> <p><b>StreamCare: Gordon Creek</b></p> <table border="0"> <tr> <td># landowners contacted by mail</td> <td>12</td> </tr> <tr> <td># landowners contacted in person</td> <td>12</td> </tr> <tr> <td># stream miles surveyed</td> <td>24</td> </tr> <tr> <td># new agreements</td> <td>2</td> </tr> <tr> <td># acres of weeds controlled</td> <td>3.14</td> </tr> <tr> <td># trees/shrubs planted</td> <td>281</td> </tr> <tr> <td># acres planted</td> <td>3.14</td> </tr> </table> | # landowners contacted by mail | 12 | # landowners contacted in person | 12 | # stream miles surveyed | 24 | # new agreements | 2 | # acres of weeds controlled | 3.14 | # trees/shrubs planted | 281 | # acres planted | 3.14 |
| # landowners contacted by mail  | 12  |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
| # landowners contacted in person  | 12  |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
| # stream miles surveyed   | 24  |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
| # new agreements  | 2   |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
| # acres of weeds controlled   | 3.14  |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
| # trees/shrubs planted  | 281   |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |
| # acres planted   | 3.14  |                                |    |                                  |    |                         |    |                  |   |                             |      |                        |     |                 |      |

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|---|--|
|   | <p><b>StreamCare: Beaver Creek</b></p> <ul style="list-style-type: none"> <li># landowners contacted by mail 41</li> <li># landowners contacted in person 42</li> <li># stream miles surveyed 3.16</li> <li># new agreements 10</li> <li># acres of weeds controlled 5.64</li> <li># trees/shrubs planted 278</li> <li># acres planted 0.35</li> </ul>   |
| <p>4. 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.</p> | <ul style="list-style-type: none"> <li>○ 12 workshops organized;</li> <li>○ 12 presentations at agricultural and community events;</li> <li>○ Six displays at community events including the NW Ag. Show;</li> <li>○ Three tours;</li> <li>○ 23 demonstrations.</li> </ul> <p>More than 750 people attended our educational events. Workshop topics include pasture management, erosion prevention, streamside area management, rainwater management, water quality conservation practices for horse owners, and septic system maintenance.</p> <p><b>Other Outreach:</b></p> <ul style="list-style-type: none"> <li>○ Two mailings to 53 people to promote StreamCare.</li> <li>○ 630 fact sheets and brochures distributed.</li> <li>○ Seven videos on conservation practices were produced and are broadcast on a regular basis on the county public access channel – topics include pasture management, weed control, stormwater and drainage practices, conservation practices for horse operations and managing forest property for water quality. The videos are also available to download and view on the CCSWCD website <a href="http://www.conservationdistrict.org">www.conservationdistrict.org</a>.</li> </ul> |

|   |  |
|---|--|
| <p>5. Secure adequate funding for administration and implementation of the program to achieve mission, goals, and objectives.</p> | <ul style="list-style-type: none"> <li>○ Completed three OWEB Small Grants in the Sandy (\$1,725, \$2,490 and \$5,759), and have begun a fourth (\$2,102). In addition, EMSWCD provided \$17,000 as 50% cost share for three projects in the Sandy. All eight projects relate to water quality protection, mud reduction, invasive removal and riparian restoration, and manure storage.</li> <li>○ The EMSWCD and CCSWCD use a portion of their tax base and ODA funding to support technical and implementation assistance in the Sandy, as well as StreamCare in Beaver Creek (EMSWCD). Both districts also have cost share programs.</li> <li>○ Two USDA/EQIP or WHIP contracts totaling \$35,511.</li> <li>○ Two Riparian restoration grant projects were funded through OWEB (separate from the Small Grant program).</li> <li>○ One OWEB Council Support Grant for Sandy River Basin Watershed Council totaling \$90,449.</li> <li>○ EMSWCD, CCSWCD and the Sandy River Basin Watershed Council are all available to assist landowners in applying for OWEB Small Grants.</li> </ul>  |
| <p>6. Monitor and evaluate the effectiveness of this Area Plan and update as needed.</p>  | <p>Effectiveness monitoring for Best Management Practices BMP's:</p> <p><b>Heavy Use Areas</b><br/> The Revised Universal Soil Loss Equation (RUSLE) was used to compare bare soil to soil covered with erosion control fabric and mulch, estimating that the practice would reduce soil erosion by ten tons per acre.</p> <p>The four heavy use areas installed in EMSWCD led to an estimated 1.2-ton reduction in sediment load per year.<br/> (Calculated as (5,300 sqft heavy use area/43560 sqft)*10 tons/A/yr=1.20 tons)</p> <p><b>Erosion Prevention</b><br/> The RUSLE estimates an eight ton per acre per year reduction in erosion, on average, from the following practices: Access Road/Animal Trails, Conservation Cover, Critical Area Planting, Filter Strips, and Roof Runoff Management. The implementation of these practices in EMSWCD led to an estimated 105-ton reduction in sediment load per year.</p> <p><b>Manure Storage</b><br/> The U.S. Department of Agriculture Natural Resources Conservation Service suggested using "ORAWM", Oregon Animal Waste Management System Utilization Database to quantify Nutrients available after storage within a Manure Dry Stack Facility, such as the engineered designs provided by the SWCD's to landowners. For Solid Nutrient Source stored within a Roofed Storage Facility, versus those lost through uncovered methods, at least a 5% reduction exists. We assumed that one cu ft of manure weighs 52 pounds to determine retention.</p> <p>The two manure storage sheds installed in EMSWCD led to 62 tons of manure undercover.<br/> (Calculated as (2,400 cu ft*52lbs)/2,000 lbs = 62 tons)</p> |