



**Oregon**  
Department  
of Agriculture

# Upper John Day Agricultural Water Quality Management Area Plan

January 2009

*Oregon Dept. Of Agriculture / 503-986-4700*

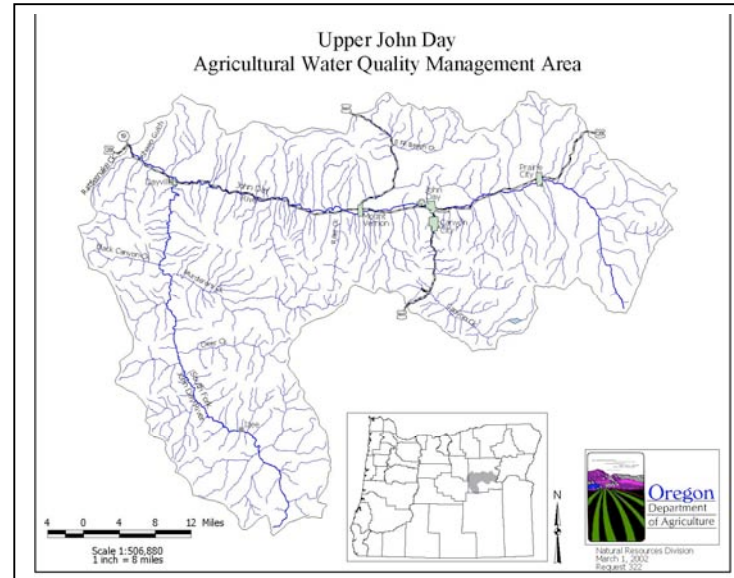
## Upper John Day Local Advisory Committee Meets to Review Area Plan Implementation and Monitoring Data

### Executive Summary

The Upper John Day River Local Advisory Committee (LAC) met on January 22 to review the activities related to implementation of the Upper Mainstem and South Fork John Day River Agricultural Water Quality Management Area Plan (Area Plan) and recent water quality monitoring information gathered by the Department of Environmental Quality (DEQ). Seven members of the LAC attended the review that is required every two years.

Oregon Department of Agriculture (ODA) led a review of the Area Plan goals and objectives, prevention and control measures, implementation strategies, and compliance issues. The Area Plan provides guidance to landowners for the prevention and control of water pollution caused by agricultural activities and guides education and outreach activities for public awareness of water quality issues.

DEQ representatives presented information collected since 2004 which indicates levels of bacteria and dissolved oxygen that exceed water quality standards in several locations on the upper mainstem. LAC members provided local insight as to possible land uses and practices that might be causing the water quality impairments. DEQ is required by the federal



**The Upper John Day Management Area includes the area that drains into the Upper Mainstem upstream of Picture Gorge and the South Fork of the John Day River.**

Clean Water Act to develop a water quality management plan to address water quality impairments.

This plan is called the Total Maximum Daily Load (TMDL) and Water Quality Management Plan and is scheduled for completion in 2010.

The Grant Soil and Water Conservation District (SWCD) presented an overview of the many projects that they have assisted landowners with over the past two years. The projects addressed water quality, fish habitat and passage. The SWCD was appointed by ODA to be the Local Management Agency (LMA) for implementation of the Area Plan and has been a leader in providing landowners with technical and financial assistance for many years.

Summary of Accomplishments

*Background*

In December 2002, the Area Plan and Oregon Administrative Rules (603-095-2000 thru 2060) were approved by the Oregon Board of Agriculture. Biennial reviews were conducted in 2004 and 2007 to review the progress of implementation of the Area plan and Rules. No modifications have been made to the Plan or the Rules.

The Area Plan will be adopted as a component of the TMDL to address agricultural water quality concerns. Upon completion of the John Day Basin TMDL and Water Quality Management Plan, modifications will be considered to bring the Area Plan into alignment with the TMDL recommendations.

- Support a monitoring program that provides scientifically credible data for: identifying current water quality conditions and trends, assessing effects of implementation elements, and assessing compliance with the Plan.
- Seek solutions that protect and enhance economic viability of the agricultural industry and individual landowners.

*Area Rule summary*

The Area Rules, through prevention and control measures, address five broad categories of agricultural land management:

- Waste management
- Livestock management
- Uplands management
- Streamside management
- Irrigation management

The Area Rules also provide for limitations of landowner responsibility for conditions beyond the control of the landowner.

*SWCD accomplishments*

The Grant SWCD continues to provide excellent service to the landowners in the Upper John Day management area. The SWCD provides technical assistance for project identification and development and provides landowner access to multiple funding sources through partnerships with many state and federal agencies. These partners include: USDA - Natural Resources Conservation Service, Bonneville Power Administration, Confederated Tribes of the Warm Springs, Oregon Department of Fish and Wildlife, and Oregon Watershed Enhancement Board.

Implementation

*Goals and objectives*

The **Goals** of the Area Plan are:

- To prevent and control water pollution from agricultural and rural land activities and soil erosion to achieve applicable water quality standards.
- To respect private property rights.

**Objectives** to accomplish those goals are:

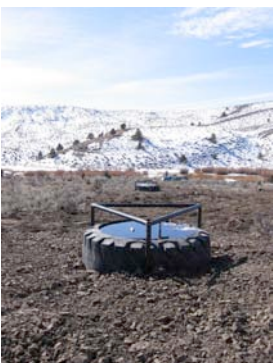
- Promote landowner stewardship by encouraging technically sound and economically feasible management practices that enhance water quality.
- Increase public awareness and understanding of agriculture's contributions to improving water quality through educational outreach activities.
- Promote funding for private landowners cost share for implementing water quality improvement projects through state and federal conservation agencies.



Photo of fish ladder in completed irrigation diversion project



Photos of solar powered well (above) and trough (below) to supply water for upland pasture



SWCD accomplishments: continued

A partial list of projects completed during the past two years:

- 16 irrigation diversions improved,
- 23 off-channel water developments,
- 51.5 miles of riparian fencing,
- 462 acres of riparian restoration,
- 154 acres of irrigation efficiency,
- 3,032 ac. of juniper control,
- 1,881 acres noxious weed control.

Education and outreach activities conducted by the SWCD:

- Tours and presentations for landowners, funding and regulatory agencies
- Maintaining partnerships with natural resource agencies and organizations
- Newspaper articles featuring successful projects

SWCD activities have been featured in regional publications. Most recently there was an excellent article in the January edition of the *Western Farmer Stockman*.

The LAC members were satisfied with the implementation activities and the level of progress toward meeting Area Plan goals and objectives. No serious impediments to implementation were noted and no Area Plan modifications were suggested.

Compliance Summary

There have been no formal complaints of water quality violations to ODA. There is one investigation pending involving alleged overgrazing of a riparian area and damage to sensitive wetlands. This investigation will commence when spring weather allows an accurate evaluation of the site.

Monitoring and Evaluation

The DEQ is carrying out a TMDL assessment for pollutants throughout the John Day Basin.

Although the water quality analysis is not yet complete, available information indicates water quality concerns in the upper basin, for the following indicators:

- temperature
- bacteria
- dissolved oxygen

Summer temperature is a concern in much of the basin. More specific to the Upper John Day mainstem, however, monitoring data shows high concentrations of bacteria (*E. coli* and fecal coliform, a concern particularly for drinking water) and low levels of dissolved oxygen (of particular concern to salmon and trout). Given the land use of the upper basin, animal agriculture is one potential contributor in addition to natural sources. Available water quality data are from a long-term monitoring site on the mainstem four miles above Dayville and several short-term mainstem sites between Kimberly and Trout Farm campground above Prairie City.

The following graphs show the results of monitoring for bacteria and dissolved oxygen in the Upper John Day Subbasin. Dissolved oxygen (DO) levels often fall below the standard of 11 mg/l (milligrams of oxygen per liter of water) during summer and fall months. Fish become stressed and can die when DO levels are low. In some locations, bacteria levels exceed the single sample standard of 406 organisms/100 ml (organisms per 100 milliliters of water) from June to October when flows are generally lower.

LAC Members

- Joanne Keerins, chair
- T. G. Brown
- Ted Clausen
- Roger Ediger
- Frazier Nichol
- Dennis Reynolds
- Byron Rudishauser
- Phil St. Clair



Grant SWCD Contacts

- 721 S. Canyon Blvd.  
John Day, OR 97845
- 541-575-0135
- District. Manager:  
Jason Kehrberg
- Programs Assistant:  
Pat Holliday



**Oregon Dept. Of Agriculture**

Water Quality Program  
635 Capitol St. NE  
Salem, OR 97301

Regional Water Quality Specialist  
Tom Straughan

**Phone:**  
541-278-6721

**Fax:**  
541-278-6721

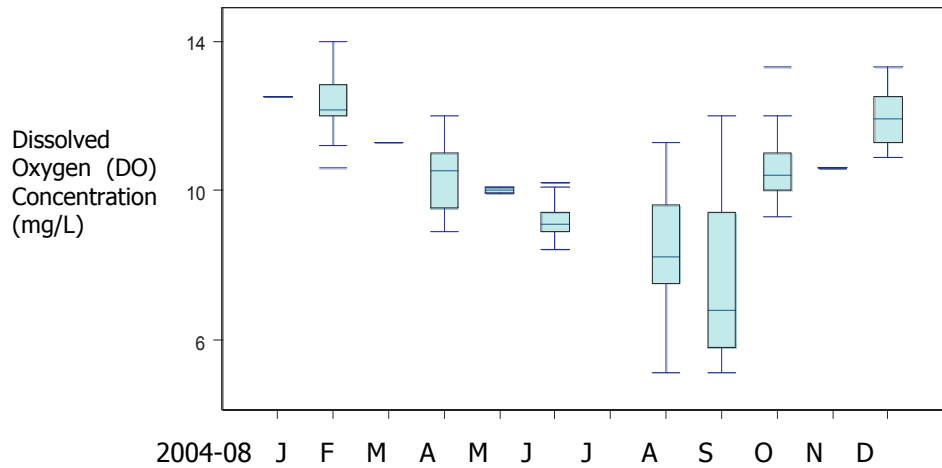
**E-Mail:**  
[tstraugh@oda.state.or.us](mailto:tstraugh@oda.state.or.us)

**Address:**  
200 SE Hailey, Suite 102  
Pendleton, OR 97801

**How To Read The Graphs**

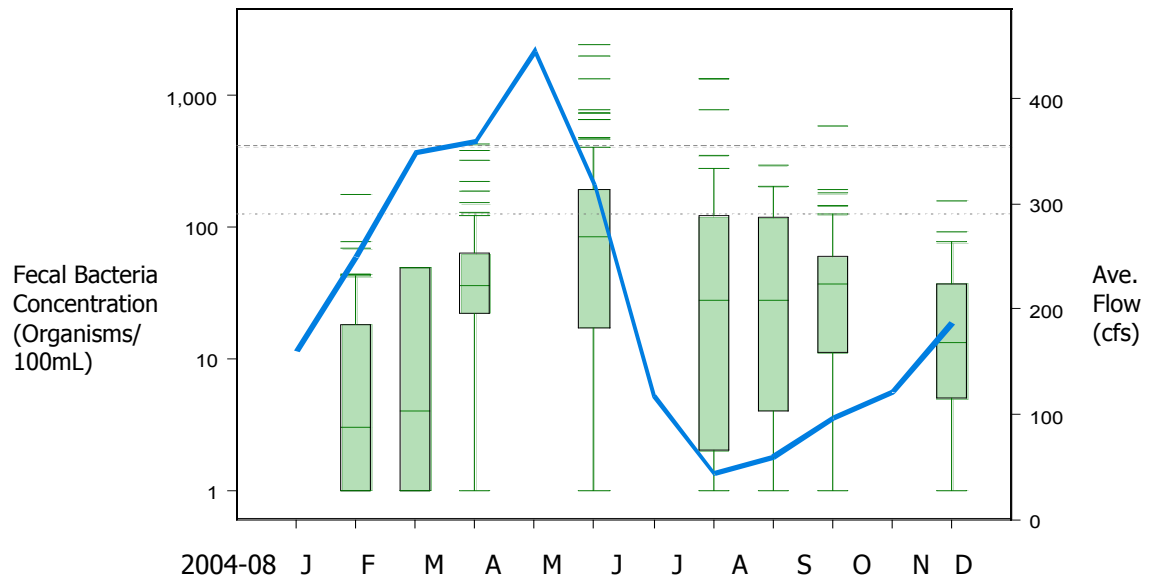
These data are graphed in a "box and whisker" format. The line in the box is the median – half of the samples were above the line and half below. The box shows the range of results for 50% of the samples around the median. The lines (whiskers) leading from the boxes show the range of 99% of the samples.

**Figure 1: Upper Mainstem John Day River dissolved oxygen monthly pattern.** Levels above 11 mg/L are considered adequate for aquatic species.



The graph indicates that most samples fell below the 11 mg/l standard from April through November. In August and September, the low levels of DO appear consistent.

**Figure 2: Upper Mainstem John Day River fecal bacteria concentrations by month, overlaid with the average monthly flow of water in the river.** Single sample values above 406 organisms/100ml are water quality standard violation.



The graph indicates that the median bacteria levels remained below the standard (bottom dotted line) throughout the year. The single points above the 406 org/ml standard (top dotted line) indicate violations at some times during the summer.

*We're on the Web!*

See us at:

[http://egov.oregon.gov/ODA/NRD/water\\_quality\\_front.shtml](http://egov.oregon.gov/ODA/NRD/water_quality_front.shtml)