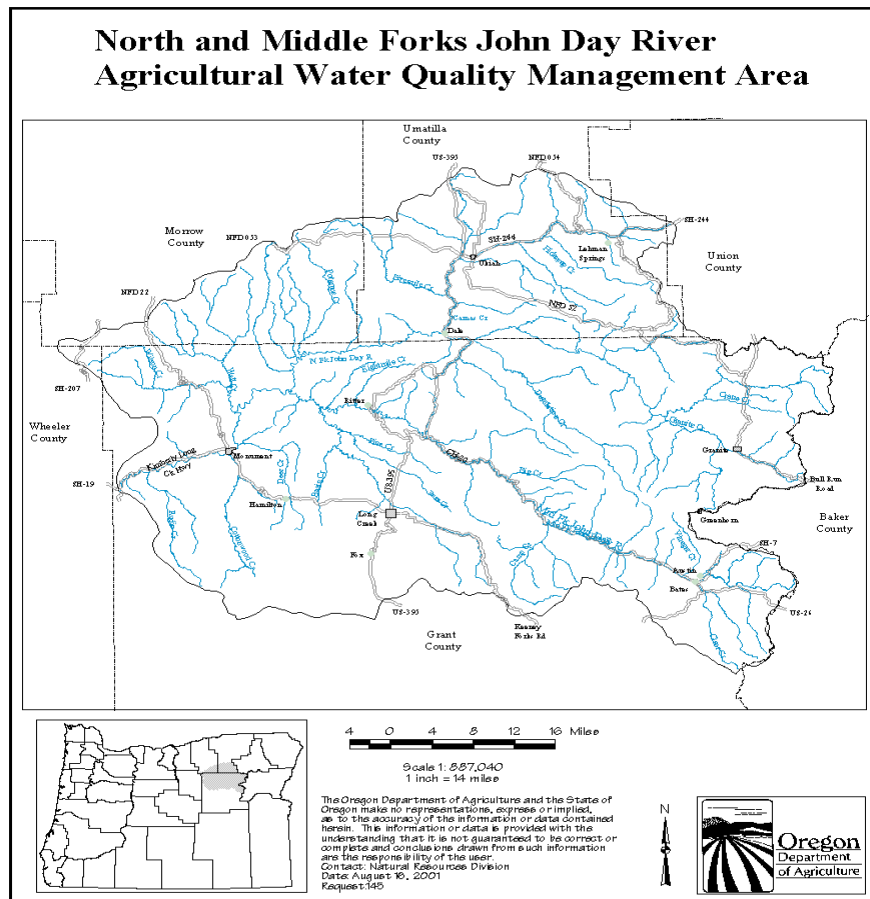


# NORTH AND MIDDLE FORKS JOHN DAY AGRICULTURAL WATER QUALITY MANAGEMENT AREA PLAN AND RULES

## 2<sup>nd</sup> BIENNIAL REVIEW REPORT TO THE OREGON STATE BOARD OF AGRICULTURE

July 3, 2007



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## **I. Purpose**

This report, prepared by the North & Middle Forks John Day Local Advisory Committee (LAC), summarizes implementation of the North and Middle Forks John Day River Agricultural Water Quality Management Area Plan and Rules (Area Plan and Rules) since adoption in 2002.

## **II. Introduction**

The North and Middle Forks John Day River Agricultural Water Quality Management Area (Management Area) includes the area that drains into the North and Middle Forks of the John Day River upstream from the confluence with the mainstem John Day River at Kimberley.

In 2002, the LAC, working with the Oregon Department of Agriculture (ODA) and the Monument Soil and Water Conservation District (SWCD), completed the Area Plan and Rules. The Area Rules were adopted in May 2002. The Monument SWCD has taken the lead in working with ODA, the Grant SWCD, the USDA Natural Resources Conservation Service (NRCS), Confederated Tribes of Warm Springs (CTWS), private landowners, and other partners to implement the Area Plan and Rules. The first biennial review was conducted in December 2004.

## **III. Area Plan and Rules Implementation Activities, 2005-2007**

### **Area Plan Summary**

Following are the goals and objectives employed by the SWCD and their partners during the last two years of Area Plan implementation. As described in the goals and objectives, the SWCD has focused on upland and riparian improvement projects. The SWCD has also completed a variety of outreach projects, such as workshops and an annual resource fair. A complete list of activities is in Attachment 1.

### **Goals**

Establish a framework to minimize agriculture's impact on water quality within the Management Area.

### **Objectives**

- Work to improve the quality of water in the Management Area through technically sound and economically feasible conservation practices that contribute to meeting plan goals.
- 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.
- Encourage active participation by the agricultural community and rural public in the process of solving water quality problems.
- Achieve plan goals and objectives by encouraging adequate funding and administration of the program to achieve systematic, long range planning and focusing of coordinated efforts on full-scale, watershed-based approaches, identifying needs, developing projects, actively seeking funding, and ensuring successful implementation of funded projects.

### **Monitoring and Evaluation**

Evaluation of the Area Plan's success involves several types of monitoring. These are:

- Baseline condition monitoring
- Trend monitoring
- Implementation monitoring
- Effectiveness monitoring

*Baseline Condition and Trend Monitoring –  
What are current conditions and how are they changing?*

Baseline condition monitoring provides a starting point for assessing water quality trends and land conditions. To evaluate the effects of the Area Plan and Rules, implementation partners must establish a picture of conditions prior to implementation.

Trend monitoring evaluates long-term changes

in landscape conditions and water quality. In general, trend monitoring activities are a continuation of baseline monitoring activities. Ideally, areas selected for baseline monitoring will also be used for trend monitoring.

To assess existing water quality conditions, ODA water quality staff review water quality data from the Oregon Department of Environmental Quality's (DEQ) Laboratory Analytical Storage and Retrieval (LASAR) database. In many cases, monitoring sites included in this database are adequate to track water quality in agriculturally influenced watersheds. In other cases, ODA staff may recommend additional monitoring sites that would be useful for tracking agriculture's effects on water quality.

ODA looks at all data for trends, but focuses on the parameters of concern for the specific subbasin.

ODA applies the following criteria to water quality data used for trend monitoring:

- 1) Monitoring stations must have at least partial influence from agricultural lands.
- 2) Data must not be older than 1985.
- 3) Data must be a continuous record of at least two years (the frequency of monitoring was not considered).
- 4) Data set ideally should include at least the following constituents:
  - a) Total Suspended Solids
  - b) Nitrate
  - c) Ammonia
  - d) E. coli or fecal coliform
  - e) Total Phosphorus or orthophosphate
  - f) Dissolved Oxygen, or Chemical Oxygen Demand/Biochemical Oxygen Demand
  - g) pH

The above constituents are considered needed for tracking changes in water quality related to agricultural activities. Temperature is not included on this list because it is continuously monitored, rather than periodically like the parameters above, and because ODA expects changes in temperature to take place more slowly with

changes in land conditions.

The Monument SWCD has continued water quality monitoring of seven long-term sites on the North Fork John Day River and tributaries. They also are planning to increase monitoring to include restoration project sites on Cottonwood Creek and the North Fork. They will monitor temperature, willow height, stream width, stream depth, dissolved oxygen, pH, and turbidity.

#### *LASAR Data Summary*

One monitoring site meeting ODA's criteria is located on the North Fork John Day at Kimberly, and four others are located on Cottonwood Creek and the East Fork Cottonwood Creek. The Kimberly site is continuously monitored by the DEQ, so it is suitable for baseline data and could potentially be used for trend monitoring. The other sites on Cottonwood Creek were monitored for less than three years, and are sufficient to provide baseline but not trend data.

Using the data from the Kimberly monitoring site, the number of samples needed to address the variability of pH, total phosphorus, and turbidity were calculated using confidence intervals of 0.5, 0.05, and 2, respectively. With these values, a new monitoring location on the John Day would need 15 samples a year to reliably measure pH, 160 samples to reliably measure total phosphorus, and 11 samples a year for turbidity. Results of the past monitoring at the Kimberly site do not show significant problems with the water quality variables discussed at the beginning of this document. Therefore, this is a basin where landscape monitoring could be done exclusive of water column monitoring.

#### *Implementation monitoring – What is being accomplished?*

Implementation monitoring tracks the conservation practices that have been implemented to benefit water quality. The local SWCD and NRCS track practices that have been implemented through quarterly reports to the ODA and through an NRCS database. In addition, projects that have received funding from the Oregon Watershed Enhancement

Board (OWEB) are tracked in OWEB's restoration database.

The Confederated Tribes of Warm Springs provides pre and post implementation monitoring on all diversion projects completed by Grant and Monument SWCDs. Projects are monitored for temperature, flow, riparian recovery, channel stabilization, and macroinvertebrate populations.

It is more difficult to track beneficial practices that landowners have implemented on their own without funding or outside technical assistance.

*Effectiveness monitoring – Are efforts protecting and improving water quality?*

Effectiveness monitoring occurs at two scales. At a Management Area scale, land condition data and water quality data are compared over time to determine if changes in land conditions are improving water quality. At a farm scale, ODA and local partners have initiated several projects to evaluate the effects of several management practices on water quality.

### **Compliance Activities**

During the past two years, ODA received one complaint from the public in this Management Area. The complaint investigation determined that the water in the intermittent stream in question was routinely spread across a meadow complex and did not affect downstream water uses.

### **V. North and Middle Forks John Day River Area Plan and Rules Review Process**

The LAC was reconvened on May 9, 2007, to evaluate the original Area Plan and Rules following four years of implementation. Management Area landowners representing agricultural commodities and the Watershed Council served on the LAC. All board members of the Monument SWCD were also present.

SWCD staff reported implementation activities during the two years since the last

biennial review including completed, ongoing and proposed projects addressing water quality.

ODA staff presented a review of the Area Plan goals, objectives, and Area Rules and an overview of the Agricultural Water Quality Management Program policies and issues from a statewide perspective. ODA's compliance and enforcement activities were reviewed.

### **VI. Conclusions**

The activities of the Monument and Grant SWCDs and their partners have been effective in implementing the Agricultural Water Quality Program in the North and Middle Forks John Day River Management Area.

## Attachment 1: Summary of Implementation Activities (2005-2007)

### Goals

Establish a framework to minimize agriculture's impact on water quality within the Management Area.

### Objectives

- ☒ Work to improve the quality of water in the AgWQM Area through technically sound and economically feasible conservation practices that contribute to meeting plan goals.
  - 67 off channel or upland watering facilities
  - 61.75 miles riparian and cross fencing
  - 1,062 acres juniper control
  - 785 acres pasture/range reseeding
  - 11,178 feet of pipeline for irrigation efficiency
  - 1 culvert replacement
  - 2 levees removed (fish habitat improvement)
  
- ☒ 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.
  - Annual Resource Fair – annual event that invites area residents to meet and share information with partner organizations
  - Watershed Field Day – annual events for junior and high school students regarding water quality testing, macroinvertebrate sampling and stream ecology
  - Salmon Watch – annual event, with Oregon Trout, for local students to see Chinook spawning and test water quality
  - World Monitoring Day – new community event to highlight monitoring programs
  
- ☒ Encourage active participation by the agricultural community and rural public in the process of solving water quality problems.
  - Funding program development- SWCDs help landowners access incentive programs from: OWEB, USDA, USFS and BPA
  - Strengthened partnerships with: NRCS, NF JD Watershed Council, Grant and Wheeler SWCDs, USFS, USFWS, NFWF, ODF&W, and Confederated Tribes of Warm Springs and Umatillas
  
- ☒ Achieve Area Plan goals and objectives by encouraging adequate funding and administration of the program to achieve systematic, long range planning and focusing of coordinated efforts on full-scale, watershed-based approaches, identifying needs, developing projects, actively seeking funding, and ensuring successful implementation of funded projects.
  - Activities are selected to follow the priorities established in the John Day Subbasin Plan, the Oregon Conservation Strategy and the Agricultural Water quality Management Area Plan