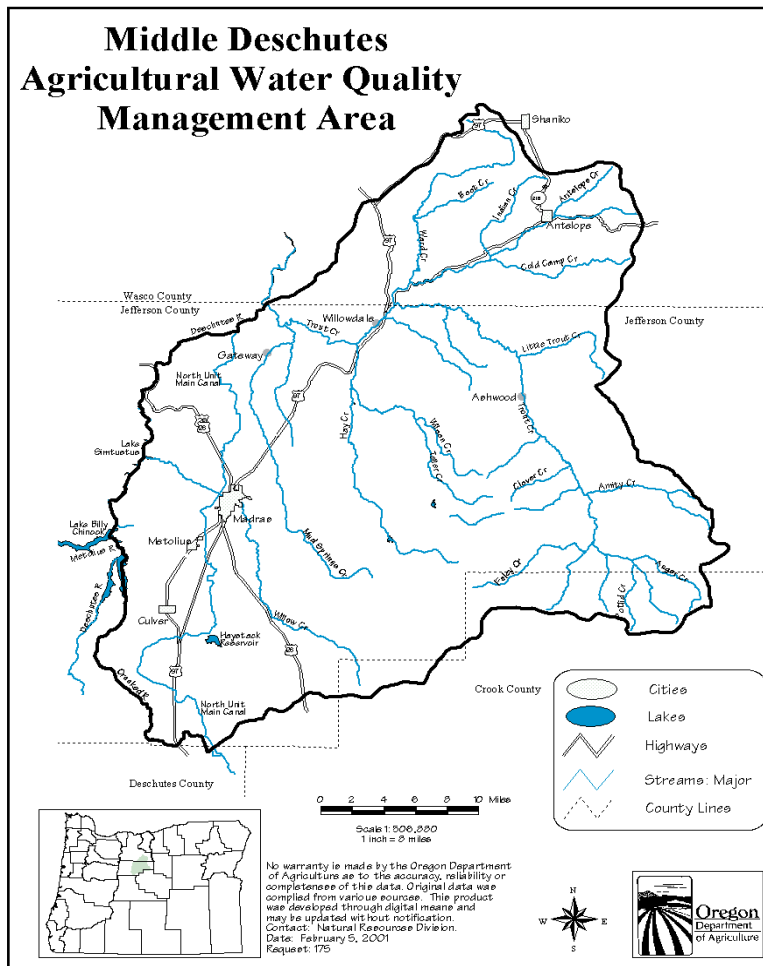


# *MIDDLE DESCHUTES*

## AGRICULTURAL WATER QUALITY MANAGEMENT AREA PLAN AND RULES

### 3<sup>rd</sup> BIENNIAL REVIEW REPORT TO THE OREGON STATE BOARD OF AGRICULTURE

February 19, 2008



**BLANK**

## **I. INTRODUCTION**

The Middle Deschutes Local Advisory Committee (LAC) submits this report to the Board of Agriculture to summarize and evaluate implementation of the Middle Deschutes Agricultural Water Quality Management Area Plan (Area Plan) and Rules.

The Area Plan and Rules were created following passage of the Agricultural Water Quality Management Act in 1993. The Oregon Legislature adopted the Act to address concerns about agricultural effects to water quality.

From 1998 through 2001, the Oregon Department of Agriculture (ODA) and the LAC developed an Area Plan and associated Administrative Rules for the Middle Deschutes. ODA adopted the Area Plan and Rules in August 2001. The Jefferson County Soil and Water Conservation District (SWCD) has served as the Local Management Agency (LMA) for the development and implementation of the Area Plan and Rules.

## **II. BACKGROUND**

When developing the Area Plan and Rules, the LAC identified several objectives and strategies to protect and improve water quality:

1. Minimize agriculture's contribution to the following water quality concerns, while acknowledging that these parameters are present at some natural level:
  - **Sediment**: keep soil on the land and out of streams (minimize soil erosion and amount of soil-laden runoff; maintain adequate riparian and upland vegetation)

- **Nutrients**: keep nutrients on site and out of streams (apply at appropriate rates; minimize amount of nutrient-laden runoff and percolation to groundwater)
  - **Toxics**: keep pesticides and municipal sludge on site and out of streams (apply pesticides and municipal sludge at appropriate rates; prevent runoff)
  - **Temperature**: maintain adequate riparian vegetation based on site capability and enhance channel morphology
  - **Bacteria**: keep livestock waste and municipal sludge on the land and out of streams
  - **Dissolved oxygen**: reduce agriculture's contribution to high temperatures, low flows, high nutrients, organic carbon and sediment
  - **Habitat modification**: maintain adequate riparian and upland vegetation; enhance channel morphology; minimize impacts of irrigation diversions
  - **Flow modification**: encourage efficient irrigation; improve the ability of uplands to capture, store, and beneficially release water
2. The LAC, Jefferson County SWCD, and ODA:
    - Develop strategies to provide landowners with information and technical and financial assistance
    - Work with others to develop and participate in a long-term monitoring plan that:
      - characterizes baseline conditions
      - tracks Area Plan implementation
      - evaluates Area Plan effectiveness (improvements in water quality and land conditions)
      - identifies priority areas
      - identifies annual and long-range strategies for Area Plan implementation

- Continue to include the public in the development and implementation of the Area Plan and Rules

Five Area Rules were adopted:

1. Streamside Area: By January 1, 2005, activities must allow the establishment and development of riparian vegetation, consistent with site capability, for streambank stability and stream shading. By January 1, 2005, activities must allow the establishment and development of vegetation or the presence of an equally effective erosion control device or practice for filtering out sediments before they enter perennial streams.
2. Instream structures: Effective on rule adoption, temporary irrigation diversions must:
  - (A) Be constructed and operated only during periods of irrigation.
  - (B) Not hinder channel carrying capacity between November 1 and March 1 to accommodate anticipated or expected seasonal streamflow.
  - (C) Not increase instream turbidity during operation by more than 10%, compared to a point just upstream of the diversion.
 By January 1, 2007, temporary irrigation diversions must not contribute to channel instability.
3. Waste Management: Effective on rule adoption, no person subject to these rules shall violate any provision of ORS 468B.025 or ORS 468B.050.
4. Irrigation Tailwater: Effective on rule adoption, irrigation tailwater must not increase the turbidity of the perennial stream into which it drains by more than 10%, compared to a point just upstream of the tailwater discharge.
5. Nutrients: Effective on rule adoption, nutrient application rates and timing must not exceed specific crop requirements. Crop nutrients will be

based on recommendations from the best available data applicable to a specific site.

### **III. IMPLEMENTATION, 2005-2007**

#### **A. Technical Assistance and Outreach**

The Jefferson County SWCD and their partners have focused on: maintaining and improving riparian vegetation, improving irrigation water management to minimize sediment in irrigation runoff, and identifying water quality concerns. Attachment 1 details these activities in the last 2 years.

#### **B. Monitoring and Evaluation**

##### **Oregon Department of Environmental Quality database**

ODA evaluated data from one water quality monitoring station operated by the Oregon Department of Environmental Quality (DEQ), on the Deschutes River at Hwy 26. Results showed few changes in water quality since the last biennial review.

For the last two years, the Jefferson SWCD, ODA, and Confederated Tribes of Warm Springs (CTWS) have been intensively monitoring the quality of irrigation water draining into Trout Creek and the Deschutes River to identify water quality issues and prioritize conservation projects. Results suggest that nitrates are not a concern in irrigation *surface* runoff, but there are some issues related to sediment, phosphorus, and E. coli in the Campbell Creek and Mud Springs drainages. The monitoring supports Portland General Electric's (PGE's) data showing higher nitrates in *groundwater*. Additional study will better identify water quality trends in surface and groundwater and document the water quality history of waters in the Management Area.

### **C. Complaints**

ODA received two complaints in the Management Area since the last biennial review. Both complaints concerned a large manure pile. The landowner received a Letter of Compliance in both cases.

### **IV. BIENNIAL REVIEW PROCESS**

On February, 19, 2008, the LAC met for the third biennial review and update of their Area Plan and Rules. Landowners representing agricultural commodities (cattle, hay, and irrigated row crops) serve on the LAC. They are joined by representatives of local and state agricultural commodity groups, North Unit Irrigation District, Jefferson County, Trout Creek and Willow Creek Watershed Councils, fisheries biologists, private forestlands, and Jefferson County SWCD. The following LAC members participated:

- Roy Hyder, Chair
- Lowell Foreman, Vice-Chair
- Terry Rohde
- John Morgan
- Bryce Vibbert
- Gary Dinkel
- Chuck Schonkeker
- Mickey Killingsworth
- Brad Klann
- Lori Campbell

In addition, the meeting was attended by representatives of North Unit Irrigation District, Jefferson County SWCD, and two landowners.

The LAC heard updates from SWCD and ODA staff on implementation activities. ODA has been focusing on providing information to small acreage landowners in the Management Area.

Committee members agreed to update the Area Plan to include the water quality results from the last two years of monitoring at Agency Plains.

### **V. RECOMMENDATIONS**

The LAC was very interested in the monitoring results and requested more information.

It was agreed to hold another LAC meeting in late January 2009 to discuss the following:

- existing water quality information, including results from Cove Palisades, Confederated Tribes of the Warm Springs, and historical data collected by the North Unit Irrigation District, in addition to the final report on 2006-2008 monitoring by the SWCD and ODA
- recommendations for additional monitoring sites
- status of the Governor's Global Warming Commission
- progress on an ODA-produced map that reflects general vegetative site capability

The LAC also asked that monitoring of the irrigation surface runoff over the bluff be continued to create a more complete record of its quality, and they recommended additional sites to monitor on Mud Springs Creek.

**Attachment 1: Jefferson SWCD Activities for the Implementation of the Middle Deschutes Agricultural Water Quality Management Area Plan: 2005-2007**

**2005-2007**

**Technical Assistance**

- ◆ 16 Resource Management System (RMS) plans in Trout Creek associated with North Unit Irrigation District (NUID)/Bureau of Reclamation piping project for a total of 1600 acres.
- ◆ Assisted NUID with grant application to BOR for implementation of Lateral 58-9 gravity fed pipeline. Pipe converting from open delivery ditch to buried pipe.
- ◆ Awarded funds from PGE/Pelton Round Butte funds to design Lateral 58-9
- ◆ Assisted NUID with grant application for fish screen on Crooked River diversion site.
- ◆ Worked with Deschutes Valley Water Users, USFW, ODFW and others to develop design for a fish ladder at Opal Springs. This project will not be completed at this time.
- ◆ 1 RMS plan in Willow Creek for tailwater recovery
- ◆ 1 RMS Plan in McKenzie Canyon = 856 acres
- ◆ 1 Wildlife Habitat Incentive Program (WHIP) project in Gateway for wildlife habitat improvements, fencing, cross fencing and plantings.
- ◆ 2 RMS plans for pivots in Mud Springs
- ◆ 1 tailwater recovery project with buried mainline for pivot
- ◆ 1 buried mainline for irrigation improvement 1865 ft
- ◆ Surveyed and applied for grant to construct 2 tailwater recovery/constructed wetlands project in Campbell Cr.
- ◆ Funds awarded from PGE/Pelton for the stream restoration project in Antelope Creek that will also be enrolled in CREP
- ◆ Funds awarded from PGE/Pelton Round Butte funds for stream stabilization/restoration along the mouth of Trout Creek, trees, shrubs and large woody debris.
- ◆ Solar livestock watering facility in Trout Creek with grazing plan, fencing. Cross fencing and pasture reseeding.
- ◆ Submitted and was awarded a grant from OWEB for design for the Cove Palisades tailwater/wetlands project.
- ◆ Implemented a grazing plan in the Trout Creek Watershed; installed fencing, cross fencing and planted grasses.
- ◆ Implemented a large Constructed Wetland project on Agency Plains that was funded through the Deschutes River Conservancy and OWEB.
- ◆ Implemented a wetlands that will treat tailwater runoff into Mud Springs.
- ◆ 3 RMS Plans in Three Sisters Irrigation District
- ◆ Trout Creek streambank stabilization project utilizing juniper
- ◆ 6 Small Grant Drip systems
- ◆ Completed CREP project in Agency Plains
- ◆ Coordinated landowners and Central Oregon Seeds, Inc. (COSI) for reporting of drip system tracking for EQIP and OWEB Small Grant
- ◆ Set up 3 tailwater/constructed wetlands projects
- ◆ 2 Buried mainline, one in McKenzie Canyon and 1 in Trout Creek (1380 ft)
- ◆ Implemented 1 wetlands recovery system
- ◆ OSU Irrigation water management using data from water sensors
- ◆ Buried Mainline in Agency Plains
- ◆ Seasonal Road closure in Willow Creek to control sediment into the stream from recreational vehicle use.
- ◆ Newbill Creek Natural Stream design
- ◆ Tree sale for CREP plants
- ◆ Worked with NRCS on funding needs and ranking criteria for EQIP funds.
- ◆ Applied to OWEB for conserved water project that will improve irrigation water management.
- ◆ Completed 900' piped mainline and 33 acres of flood to sprinkle irrigation in WhyChus Watershed, McKenzie Canyon project in Jefferson Co
- ◆ Worked with engineers, 5 landowners and Three Sisters Irrigation District on the McKenzie Canyon Piped irrigation delivery design and implementation through the Environmental Quality Incentives Program (EQIP) program cost share.

**Watershed Monitoring**

- ◆ Reported the monitoring activity on Higgins Creek Project.

- ◆ Assisted with the completion of the Willow Creek Proper Function Condition assessment
- ◆ Water Quality monitoring at up to 16 sites that are tailwater and natural drainage sites, Mud Springs, Trout Creek and Campbell Creek
- ◆ Completed 16 status reviews of EQIP projects for Area Conservationist and did the follow up paper work.
- ◆ Implemented a water quality monitoring program that monitors up to 16 sites for a period of two years.
- ◆ Worked with the watershed councils in Crook County, environmental committee for the Confederated Tribes of Warm Springs and Upper Deschutes Watershed Council/DEQ to accumulate water quality data collected in 2006 in this section of the basin.

**Local Management Agency Activities**

- ◆ Coordinated informational outreach through the media.
  - Published 3 articles that included information on how to contact JCSWCD for technical Assistance and Federal, State and Local Funding Sources.
  - Jefferson Co Farm Fair: Distributed over approximately 3000 brochures on Irrigation Water Management; Tailwater Management; Riparian/Streamside Management; and Pasture and Horse Health, and 20 Irrigation Water Management Booklets published by NRCS
- ◆ Published 3 articles in the Madras Pioneer News
- ◆ Initiated landowner contacts at the Farm Fair, NUID Board Meetings, watershed council meetings etc
- ◆ Assisted ODA to resolve one complaint in Trout Creek watershed that resulted in the issue being resolved with no citation.

**Educational Outreach**

- ◆ Distributed information at local meetings attended with Warm Springs Confederated Tribes, Deschutes Resources Conservancy, ODF, ODFW, NOAA, USFWS, and NUID
- ◆ Developed and distributed a flyer on the “Botanical Burrito Farming” process.
- ◆ Hosted workshop with Paul Kaye on the “Botanical Burrito Farming” concept of using floating plant trays to filter nutrients from pond water. Approximately 25 persons attended.
- ◆ Worked with Wolfree, Culver students and Transition students in riparian planting projects.
- ◆ Trout Creek project published in Northwest Fly Fishing magazine
- ◆ Article published about Transition Students working on Red Band Ranch planting project in Trout Creek.
- ◆ Participated in an Irrigation Water Management presentation by NRCS as coordinated by Wy'East RC&D and NRCS. There were approximately 10 landowners present and brochures were distributed.
- ◆ COSI on drip irrigation planning for 2007 growing season
- ◆ Sent 4 brochures to ODA as requested for examples that other districts may use. The 4 brochures were for irrigation water management, streamside, tailwater and horse management.
- ◆ Attended the COSI drip irrigation seminar and did the opening presentation for landowners - approximately 40 landowners were participating

**Summary:**

Landowners contacted	100+	On site evaluations	18
Landowners assisted	73	Applications for funds	41
Workshops	4	New Farm plans	14/ 790 acres
Attendees	89	In Progress farm Plans	41/3202 acres
Presentations	4	Completed farm Plans	17/1365 acres
Attendees	78		
Demos	2		
Attendees	15		
Tours	6		
Attendees	19		
Displays	3		
Reached	4100		

<b>Practice Name</b>	<b>Units (acres, feet, #)</b>	<b><u>Program:</u> i.e., OWEB, CREP, EQIP, etc.</b>
use exclusion	7.3 acres	OWEB
piping open delivery ditch	2765 feet	OWEB, BOR & EQIP
prescribed grazing	416 ac	EQIP
piping open delivery ditch	9110 feet	EQIP
structures for water control	48 ea	EQIP
fence	3168 feet	EQIP
piping open delivery ditch	4400 ft	EQIP
structures for water control	36 ea	EQIP
Center Pivot installation	43	EQIP
riparian planting	1420 feet	Pelton Fund
piping open delivery ditch	900	EQIP
sprinkler irrigation	33 ac	EQIP
microirrigation	142 ac	EQIP
constructed wetland/tailwater recovery	5 ac	OWEB
fence	2100'	OWEB
solar livestock watering facility	1	OWEB
use exclusion	7.3 acres	OWEB
use exclusion	6 ac	OWEB
use exclusion	5.1 ac	CREP
fence	4000 feet	CREP
riparian planting	5.1 Ac	CREP
riparian planting	5 ac	OWEB
juniper tree revetment bank stabilization	5 ac	OWEB
piping open delivery ditch	4500 feet	OWEB & EQIP
prescribed grazing	179 ac	EQIP
piping open delivery ditch HDPE pipe	2150 ft	EQIP
piping open ditch delivery	2960 ft	EQIP
drip system irrigation	80 acres	EQIP & OWEB
drip system irrigation	280 acres	EQIP
drip system irrigation	80 acres	EQIP & OWEB
tailwater recovery system	80 acres	OWEB