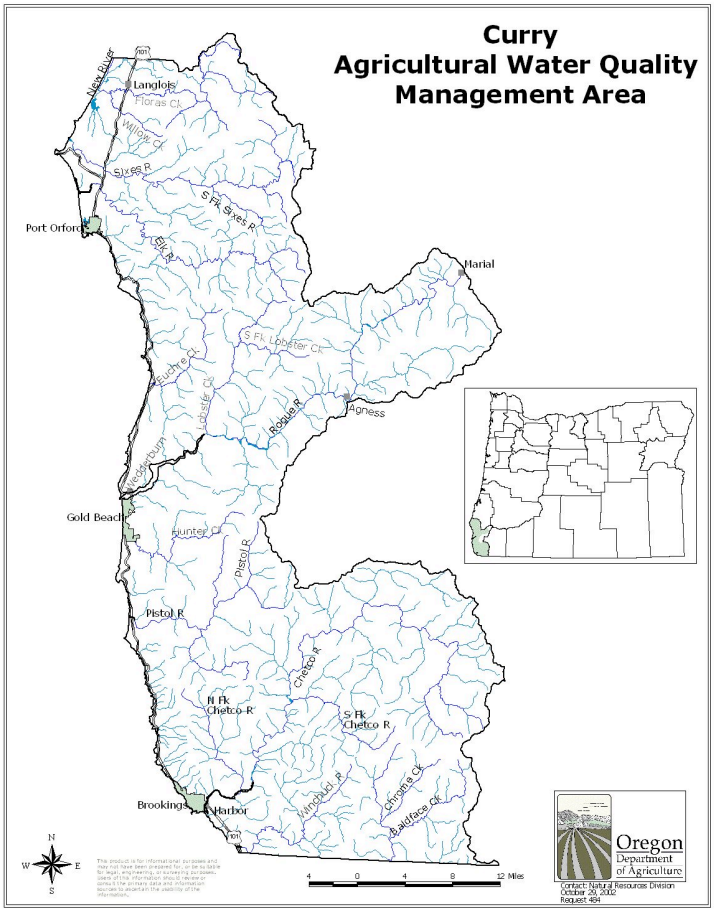
Curry County

AGRICULTURAL WATER QUALITY MANAGEMENT AREA PLAN AND RULES

BIENNIAL REVIEW REPORT TO THE OREGON STATE BOARD OF AGRICULTURE

June 2008



I. INTRODUCTION

The Curry County Local Advisory Committee (LAC) submits this report to the Board of Agriculture to summarize and evaluate implementation of the Curry County Agricultural Water Quality Management 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.

The LAC, with assistance from the Oregon Department of Agriculture (ODA), developed an Area Plan and associated Administrative Rules for the Curry County Area. ODA adopted the Area Plan and Rules in June 2004. In 2006 the LAC met for review of the Area Plan and Rules. The Curry Soil and Water Conservation District (SWCD) has served as the Local Management Agency for the development and implementation of the Area Plan and Rules.

II. BACKGROUND

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

Area Plan Goal

To set forth agricultural management opportunities that result in the continued protection of water quality in the watersheds of Curry County.

Area Plan Objectives

- Protect water quality by limiting, to the extent feasible, undesirable conditions from agricultural practices.
- Raise public awareness of agriculture's contribution in protecting water quality.
- Provide public involvement opportunities to share information about positive agricultural management practices.
- Have a plan that is developed locally, supported by the local people, implemented voluntarily, and which achieves regulatory water quality mandates for agricultural practices.

Two Area Rules describing unacceptable conditions were adopted:

1. Management activities in the riparian area of perennial streams will be conducted in a manner that allows the establishment, growth, and maintenance of riparian vegetation consistent with vegetative site capability so as to provide stream bank stability and shade.

2. No person subject to these rules shall violate any provision of ORS 468B.025 or ORS 468B.050.

III. Technical Assistance and Outreach

The Curry SWCD worked closely with the USDA Natural Resources Conservation Service (NRCS), USDA Farm Service Agency, Oregon State University (OSU) Extension Service and local watershed council's staff to provide competent technicians, coordinators, workshop presenters, and initiate mass media

campaigns. See attachments for project descriptions.

IV. Monitoring and Evaluation

Department of Environmental Quality Database

Five sites in the Curry County Basin were listed in the Oregon Department of Environmental Quality (DEQ) Laboratory Analytical Storage and Retrieval (LASAR) database that met ODA criteria. These are the Elk River upstream of Highway 101, the Elk River at Hwy. 101, Floras Creek at Hwy. 101, the Pistol River at Pistol River Loop Road and the Chetco River at the USGS gauge. Of these, all but the Elk River upstream of Hwy 101 are suitable for trend monitoring.

As of 2005 the Pistol River site shows some problems with elevated turbidity and total phosphorus, and the Floras Creek site shows problems with E. coli and turbidity. The Chetco River site has had recent problems with elevated turbidity, though this was not the case prior to 2003. No water quality problems were noted in the Elk River sites. The four sites discussed above should be sufficient to evaluate long-term trends in the Curry County Basins.

As of August 2008, the Pistol River site did not have elevated turbidity or total phosphorus, but it did have low dissolved oxygen (DO) saturation in each September monitoring event (down to 56%). Floras Creek continued to have some elevated E. coli and turbidity.

Turbidity at the Chetco site was no longer elevated. The Elk River site at Highway 101 had a few elevated turbidity measurements, but E. coli concentrations appear to have dropped after 2006.

Local Monitoring Efforts

The Curry SWCD and the South Coast and Lower Rogue Watershed Councils have an active and extensive monitoring program. A description of their monitoring activities over the last two years is attached. ODA is working with the Curry SWCD and South Coast & Lower Rogue Watershed Councils to use their data to identify other areas that may have agriculturally impacted water quality concerns in Curry County.

V. Complaints

In 2006 and 2007, ODA received no complaints in the Management Area.

VI. BIENNIAL REVIEW PROCESS

The Local Advisory Committee elected to not meet during this review period. The LAC developed the biennial report with the help of ODA staff.

VII. RECOMMENDATIONS

The Local Advisory Committee did not have any recommendations at this time.

Attachment A:

Curry Soil and Water Conservation District (SWCD), South Coast Watershed Council, Lower Rogue Watershed Council, Curry SWCD Noxious Weed Program & Conservation Reserve Enhancement Program (CREP)
Biennial Report Summary of Activities: 2006 & 2007

Completed farm plans: 4
Completed targeted practice plans: 4
Landowners contacted: 1548
Landowners assisted: 19
Innovative projects:

- Nitrogen trials: 3 plots, 5 test sites/plot. 45 forage samples collected and tested to determine nitrogen uptake and, by inference, nitrogen loss to groundwater. Deep soil testing conducted under trial plots once forage testing component was completed.
- Solar powered off-stream watering demonstration project.

Monitoring:
Relative Bed Stability (RBS) measurements conducted to evaluate riparian project effectiveness on 4 small streams.
Newsletters/Publications distributed:

- Winter Curry Currents (06-07, QTR 2). Posted on website and 160+ electronic copies issued.
- Summer, 2007. Posted on website and 160+ electronic copies issued.
- Developed the South Coast Landowner Resource Guide and directly mailed copies to 1,196 landowners in Curry County.

Articles:

- 3 articles written for publication in local papers.
- 1 article written for spring newsletter.

Workshops:

- Weed awareness and volunteer training – 7 attendees
- "Ag Water Quality Dollars and Sense" – 20 field participants, 24 lecture participants
- Nutrient sources and effects workshop for New River landowners – 4 attendees
- Meeting of cranberry growers to discuss innovative techniques and water quality Best Management Practices – 8 attendees
- 6-week Forage & Pasture Management course taught by Dr. Woody Lane – 20 registrants
- Brookings workshop (Dr. Woody Lane: forage growth, grazing management, soil fertility, and pasture renovation; Beth Pietrzak: water quality BMPs and available technical and financial assistance programs; Barbara Grant: CREP program) – 10 attendees

Grant applications submitted:

- Department of Environmental Quality (DEQ) 319 (ranch runoff testing for e. coli & turbidity) – funding declined
- Ludwick Foundation (no-till drill) – funding declined
- Oregon Watershed Enhancement Board (OWEB) Technical Assistance (TA) (Morton/Butte channel reconstruction) – funding approved ($49,938.00)

- Bureau of Land Management (BLM) Resource Advisory Council (RAC) (sediment abatement ranch road projects) – funding approved ($32,245.00)
- BLM RAC (riparian planting & maintenance on agriculture lands in New River, Floras & Sixes watersheds) – funding approved ($16,755.00)
- Forest Service Siskiyou RAC (riparian planting and maintenance along pasture streams in all watersheds south of Floras Creek) – funding approved ($98,000.00)
- OWEB Monitoring (small streams monitoring component involving 8 streams running through agricultural land) – funding decision pending
- DEQ 319 (Winchuck River Ranch Ag WQ Restoration Project) – funding declined
- OWEB Local Innovations Fund (innovative water quality restoration projects & best management practices, marketing of sustainably grown cranberries, education and outreach to community of cranberry growers regarding watershed issues.) – funding approved ($112,751)

Restoration:

South Coast Watershed Council (The South Coast Watershed Council is an umbrella organization for the Floras, Sixes, Elk, Port Orford, Euchre, Hunter, Pistol, Chetco, and Winchuck Watershed Councils)

- Bethel Creek (New River Watershed): one mile of new Coho habitat created; large wood added (30 pieces); put Bethel Creek back into one of its historic channels at landowners request. Improved existing pasture of about 20 acres
- Upper Floras (Floras Creek Watershed); one mile of fence built on upper Floras Creek; 2,000 trees planted -- wide set-back of 35 - 100 feet
- Kermit Creek (Elk River Watershed) five-part comprehensive project funded by Oregon Trout
    - Off-stream watering to remove cattle from creek
    - Remove gorse from Kermit Creek
    - Add large wood (30 pieces) for salmon habitat
    - Fence Kermit Creek and adjacent wetlands
    - Plant 2,100 native trees

Curry Restoration Package (OWEB)

- North Langlois Creek: 1 mile (2.4 acres) fenced and planted; 1 sediment abatement crossing (replaced to meet 50 yr event); 1 fish passage culvert replacement, opened 0.25 miles to adults and juveniles
- Cedar Creek (Elk Watershed): 20 key pieces of large wood placed within 0.25 miles

North Fork Floras Restoration (OWEB Small Grant Program)

- Fenced and planted 0.38 miles (3.21 acres); replaced 1 sediment abatement crossing with bridge to meet 50 yr event
- Sediment abatement culverts – replaced 2 stream crossings, added 2 cross drains

Floras/Sixes Ranchland Sediment Abatement (OWEB Small Grant Program)

- Treated 1 acre of pasture gully development

- Replaced 2 fish passage culverts, opened up 0.23 mile

Crystal Creek Knotweed (OWEB Small Grant Program)
- 10 key pieces of large wood placed in 0.06 miles
- Knotweed treated along 2.5 miles
- 1 livestock crossing (bridge)

Sullivan Off-stream (OWEB Small Grant Program)
- Developed 1 gravity fed watering system, with 1 mile of piping to supply 2/3 of the bottomland

New River Large Wood (OWEB)
- Butte Creek: 45 key pieces (90 pieces total) placed within 2 miles
- Willow Creek: 10 key pieces (20 pieces total) placed within 0.75 miles

South Coast Cranberries (OWEB Local Innovations Fund)
- Hydro seeding - 1.5 acre
- Sanding of 5 acres of cranberry beds
- Reduced Risk Pesticides test - 6 acres
- Organic herbicide tests (2) - 2 acres
- Compost Tea experiments - 5 acres
- Slow release fertilizer tests - 1.6 acres
- Effective Microorganism (EM) trial - 1 acre
- Tailwater Recovery Ponds - 2 ponds
- Bog Drainage Reconfiguration - water management & sediment abatement, 20 acres

Lower Rogue Watershed Council

SG Euchre Creek Package (OWEB Small Grant Program)
- The Euchre Creek Project sought to improve riparian process and function by clearing out Himalayan blackberry affected by the *Phragmidium violaceum* rust and replanting native trees and shrubs along 0.5 miles of Euchre Creek. Approximately 2,100 native plants were planted in the riparian area of the project reach. Plantings included Thimbleberry, Salmon Berry, Evergreen Huckleberry, Twinberry, garrya elliptica, Salal, Oregon Ash, Big Leaf Maple, Oregon White Oak and Oregon Grape. After the initial clearing and planting SWCD staff have removed new blackberry growth and planted additional Port Orford Cedar and Sitka Spruce in the riparian area
- Fence two springs from cattle access and install an off-stream watering system.

SG– SG 05-06-006 (OWEB Small Grant Program)
- An undersized culvert stream crossing was blocking 0.5 miles of Coho, steelhead and cutthroat spawning habitat in Ranch Creek, a tributary to the Lower Rogue River. This crossing was replaced with a 117" x 79" x 32' culvert

Ranch Creek Instream (OWEB Small Grant Program)

- Replaced 2 stream crossings to meet 50 yr discharge; removed 1 fish barrier culvert, opening up 0.18 miles; removed 1 fish barrier culvert and replaced with a bridge, opening up 0.13 miles

South Coast & Lower Rogue Watershed Council

Riparian Planting Program (OWEB Small Grant Program & Oregon DEQ)

Winter 2006

- 8,156 trees planted
- 25 sites
- Approx. 23 riparian acres

Riparian Planting Program (OWEB "Fishers at Work")

Winter 2007

- 14,332 trees planted
- 19 sites
- Approx. 40 riparian acres

SWCD Weed Control Program

Floras Gorse I (Oregon Dept. Of Agriculture (ODA) 1840)

- 1.14 acres of gorse treated with herbicides/mechanical across 16 properties in the watershed

Sixes Knotweed I (ODA 1907-GR)

- 12 miles treated over 2 yrs = 2 acres; 50 sites

Winchuck Knotweed (ODA)

- Treated 8 river miles for knotweed (2007).

Floras Gorse II (Oregon Department of Agriculture)

- Treated approximately 6 acres of gorse on 16 properties (45 sites total)

Glenn 10 (Coos Bay District BLM)

- Treated 1 river-mile for Knotweed on Crystal Creek

CREP

New River Watershed:

Forest Stand Improvement - 14.7 ac release

New River Watershed:

Fencing - 67,253 feet
Use Exclusion - 42.4 acres
Forest Site Prep - 31.3 acres
Tree and Shrub Establishment - 5.0 acres
Moisture Conservation - 14.6 acres
Riparian Forest Buffer - 5.0 acres

New River Watershed:

Site prep - 65 ac
Forest Stand Improvement—Release - 7.8 ac
Tree/shrub planting - 3040 ea
Riparian Forest Buffer - 74.0 ac

Site prep - 6.0 ac
Animal Control tubing - 100 ea
Moisture Conservation - 6.0 ac
Fencing - 8175 ft

Sixes Watershed:
Site Prep - 46.2 ac

Sixes Watershed:
Tree and Shrub Establishment - 28.7 acres
Moisture Conservation - 28.7 acres
Riparian Forest Buffer - 28.7 acres

Hunter Creek Watershed:
Tree/Shrub Establishment - 3000 trees - 10.1 ac

ODFW

- Winchuck River - Placement of large wood structure (1 structure, 3 logs) to provide rearing habitat and add complexity to system
- Elk River Ranch Tributary - Replace failing culvert with fish passage culvert

Assessment:

South Coast & Lower Rogue Watershed Council

Sediment Abatement Plan Development (OWEB)

- Nine sediment abatement plans were completed, covering 48.5 mile of road; six additional plans covering 18.5 miles were advanced from raw data through the office analysis phase. Most of these plans covered ranch roads as well as timber roads

RAC Roads (National Forest Service)

- 36.5 miles of road were surveyed; approximately 50% of these miles were on ranchlands (50%=18.25 miles surveyed on ranchland)

SWCD Weed Control Program

CWAB (Coos Bay District BLM)

- Inventory of New River, Morton Creek, Langlois Creek, Floras Creek, Sixes River, Elk River for Noxious Weeds. Approximately 60 river-miles inventoried

Curry Weed Inventory (Resource Advisory Committee, National Forest)

- Inventoried approximately 140 road-miles for Noxious Weeds

Monitoring:

South Coast & Lower Rogue Watershed Council

OWEB Monitoring III (204-287)

- 40 miles of road surveyed, approx. 50% were ranch roads (20 miles ranch roads); large wood effectiveness report (7 streams); riparian effectiveness report (county wide); conducted 2 storm chaser events; water

quality sampling in the Elk, Euchre, and Rogue estuaries; small streams monitoring report

Spawning Surveys (R&E 05-048)

• Surveyed 33 segments (2 yr)

OWEB Monitoring IV (206-242):

• Monitored all bio-engineering projects, report pending; 29 fish passage sites monitored; Pistol River Package monitoring report; 13 small grant monitoring reports; juvenile snorkel counts 4 miles Euchre (2 yrs)

Chetco Watershed Council

- Annual (since 1999) volunteer effort to measure peak stream temperature (late July/early August) at several sites in the Chetco Watershed

Education:

Riparian plantings

- Winchuck River – Johnson-DeMartin Ranch – 20 students-177 trees/shrubs
- Four Mile Creek – 70 students – 350 trees/shrubs
- Euchre Creek – 8 students – 100 trees/shrubs
- Winchuck River – Johnson-DeMartin Ranch – 107 students – 155 trees/shrubs

SWCD Weed Control Program

CWAB (Coos Bay District BLM)

- Monthly Weed Advisory Committee meetings
- Weeds-on-the-Web (Info. Shared with ODA, Weed Board members)
- Curry Currents – Noxious Weed Spotlight
    - Gorse, Portuguese Broom, English Ivy, Knotweed, Weeds-on-the-Web
- Curry County Fair Booth
    - Approximately 300 people reached

Winchuck Knotweed (Oregon Department of Agriculture)

- 1 watershed council meeting (~ 15 attending) introducing the weed and our proposed solution

Attachment B:

Natural Resource Conservation Service (NRCS) and Oregon State University (OSU) Extension Service Activities on Agricultural Land 2006-2007

NRCS

- Farm plans written for 1,507 acres
- Land with conservation applied to improve water quality: 272 acres
- Land with conservation applied to improve irrigation efficiency: 130 acres
- Grazing and forestland with conservation applied to protect and improve the resource base: 2,781 acres
- Land with conservation applied to improve fish and wildlife habitat: 682 acres

OSU Extension

ASSESSMENT

2006 Collaborated on a study with the South Coast Watersheds Council to determine the sediment concentration of floodwaters through a major storm event on Euchre Creek near Gold Beach, Oregon, December.

2007 Participated in field trip to Morton Creek to develop a restoration plan with Matt Swanson and Harry Hoogesteger of the South Coast Watersheds Council, Steve Mazur, Oregon Department of Fisheries and Wildlife, and Lisa Grudzinski, U. S. Army Corps of Engineers.

EDUCATION

2006 Pasture and Riparian Weeds Workshop, Bandon, Oregon, January 18. I co-organized, moderated, and co-developed the *Aquatic Weeds Identification, Control, and Management* presentation for this workshop. Attended by 58 participants.

2006 **Burris, F.** In Press. *Off-stream Watering in Oregon*. Sea Grant Extension Communications. Oregon State University, Corvallis. Accepted for Publication 8/23/2005.

2007 A Practical Introduction to Off-Stream Watering for Livestock Ranchers. Wilbur Moore's property, Ophir, Oregon. June 21. 7 participants

Attachment C:

Local Monitoring Activities by Curry Soil and Water Conservation District (SWCD and South Coast Watershed Councils

Watershed Council monitoring activities from July 2005 – December 2007, include assessments (to help focus restoration activities) and project-specific monitoring (to determine effectiveness of the restoration).

Shade assessments and long-term temperature monitoring were completed during this period. An assessment of existing and potential riparian shade on private lands in the lower Winchuck River was completed (the final area to be assessed in Curry County). Vegetation heights, shade densities, channel widths, and bank slopes were examined using aerial photos and field visits in order to estimate shade. During summer 2007, 26 long-term temperature sites were measured. All previous temperature data from all organizations and agencies (dating back to 1991) were compiled into a table and map showing average 7-day maximum values across Curry County. Calculating warming rates and mapping of each reach between temperature sites is ongoing.

Storm runoff assessments were conducted with the assistance of over 50 "stormchaser" volunteers. Four storms were sampled, ranging from 96-124 sites per storm (all sampled within the same two-hour period), tested for turbidity (a measure of the amount of soil particles in the water) and specific conductivity (a measure of dissolved minerals). Limited nutrient and E.coli bacteria samples were taken, focusing on areas that had higher levels during past sampling. Seven storms have been sampled since the program was initiated, and each sample site has been ranked relative to all others. In order to interpret the results, forested (relatively undisturbed) reference watersheds were identified for sampling. Contrasting turbidity results from reference watersheds with high and low clay soils, confirm that soil type as well as land use influences storm response and conditions for overwintering fish. Future sampling will use the reference watershed approach to help interpret nutrient and E.coli bacteria levels. Ongoing assessment of E.coli runoff on three ranches that have riparian fencing and planting buffers will help to identify sources of elevated storm levels. Suspected sources include upstream, beaver activity within the stream, road ditch runoff, or unfenced swale runoff.

In 2006-2007, causes and effects of aquatic plants within the mainstem of New River, Laurel Lake, Croft Lake, Floras Lake, and Garrison Lake were investigated. Spring nutrient concentrations were measured, and source areas for nutrients were sampled in high and low flow conditions. Summer daily fluctuations in dissolved oxygen and pH were measured along with temperature and salinity, to determine effects of aquatic plants on fish rearing conditions. Phytoplankton (algae) species, biomass and density were identified, along with chlorophyll a samples, to estimate the productivity (or over-enrichment) of these areas. Aquatic plant abundance, native or non-native species, water depth distribution, and algae cover have been mapped. Areas where nutrient reduction practices can address nuisance growths of aquatic plants and algae will be addressed in a 2008 Watershed Restoration Plan guidance document.

Monitoring the effectiveness of riparian restoration has focused on small streams, where the most rapid response is likely to be detected. Summer stream temperature, shade, stream flow, macroinvertebrate (aquatic bug) community diversity, and sediment are measured on restored and control reaches. In 2007, Turner Creek and Bethel Creek riparian project reaches were sampled for comparisons with 2004 conditions. Baseline sites were established on Fourmile Creek and Edson Creek (Rogue) project sites. Temperatures were shown to have declined on Euchre Creek (since 1999) and Turner Creek (since 2002). During summer 2008, temperature will be monitored to evaluate trends since 2004 in response to riparian restoration. Six "reference" reaches, representing healthy riparian vegetation and upland conditions were sampled in 2007 for comparisons with riparian project conditions.