All Things Ag & Water Quality:Tmdls

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Malheur Watershed Council

Bit O' Background

- Clean Water Act framework (1972)
- DEQ sets Water Quality Standards/Criteria
- (EPA Approve/disapprove)
- Lawsuits temperature standard
- Assess Rivers/ creeks
 - Don't meet WQ standards 303 (d) list
- TMDL Plans (EPA approve)
- Total Maximum Daily Load
 - Amount of pollution (load) a water body can receive and still meet standards

A Bit O' Background

Clean Water Act TMDL Management Plans

- Each State develops its own program to address Water Quality issues
- Oregon -- a division of responsibility
 - ODF -- private land forestry
 - DEQ -- Urban storm water, municipal waste water, transportation system and non-ag point sources, federally managed land
 - ODA -- private land agricultural activities

► Fondly known as SB 1010

Snake River - Hells Canyon Total Maximum Daily Load (TMDL)



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Malheur River Basin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP)



September 2010



A Bit O' Background

Oregon Dept of Ag
 38 Basin-wide Plans
 Completed 2004

MALHEUR RIVER BASIN AGRICULTURAL WATER QUALITY MANAGEMENT AREA PLAN

First Revision January 24, 2011

Developed by the

Oregon Department of Agriculture

with assistance from

Malheur River Basin Local Advisory Committee

and

Malheur County Soil and Water Conservation District

Local Advisory Committee Members

Gary Smith, Chair Jim Bentz Herb Futter Les Ito Advisor: Bob Kindschy Doug Maag Bob Moore Jim Nakano Marvin Rempel Bill Romans Darrell Standage Marc Suyematsu Loren Weideman

Expectations or what are the WQ goals?

- Snake River TMDL
- Mouths Snake River tribs
 - Boise, Malheur, Owyhee, Powder, Burnt....etc
- Varies from trib to trib but generally
- 0.07 mg/L Total Phosphorus
 - 80% reduction in total phosphorus
 - ▶ 50 years +
- Oregon
 - Grab sample > 406 colonies /100mL of sample

Oregon Ag Plans

What do plans look like? Style, detail and issues vary greatly from basin-to-basin Common theme ► Goal oriented NOT practice driven

Implementation

- Focus Areas/Strategic Implementation Areas
- Monitoring and Assessment
- Outreach
- Technical and Financial Assistance
 - SWCDs/watershed councils
 - OWEB
- Compliance

Monitoring

- Malheur Basin-wide sampling
- Willow Creek
- Ag Drain Sampling
 - Flow gauges being installed
- Large Data base dating back to 1960s
- Compare "old" data to current
 - Significant improvements
 - Still a long way to go





More Analysis

Compare to 1978-1980 data
 Collected from drains

- Total Phosphorus
 - The low in the 70's is higher than the current median!
 - Evidence of significant progress!



Monitoring and Assessment

Malheur County

Irrigation Return Flow from Furrow Irrigation



Constructed Wetlands



Constructed Wetlands

Luther Wetlands



PAM



PAM Pre - application

PAM Pre-application



Piping Lateral Canals



Willow Creek Pipelines

- More than 100 miles piped
- Last few miles to be completed
- Water Resources Department Grant



Piping Leads to: Solutions





Willow Creek Piping Project

- 12,000 acres of farm ground (38.4% of the total acres)
- 124,320 lbs of phosphorus annually prevented from leaving the fields
- 240,000 tons of soil loss annually will cease
- 183.5 billion colonies of E.coli bacteria per acre prevented from leaving the fields

Since 2003

Willow Creek Working Group & VOID

- Grants from
 - ► OWEB, BOR, DEQ, NRCS etc.
 - Total > \$6-8 million



Solutions Continued



Drip

- ▶ 50% + of onion acres under drip
- Zero return flow
- Less water/nutrients



"No-till" Drill



Financial Assistance

- Grants to Soil & Water Conservation Districts/Watershed Councils
- Hire technicians to do
 - Restoration projects
 - Farm planning
 - Outreach
 - Monitoring

Conservation Efforts are WorkingEnvironment * Economics = E squared





- SWCD
- NRCS
- BOR
- OSU
- VOID







