Willamette Futures Project

Protecting Clean Drinking Water for Future Generations

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Fully Appropriated Summer Flow

AUGUST AVAILABLE STREAMFLOW

Streamflow calculated at 80% exceedance
Warmer winters reduce snowpacks by 63-95%
Willamette Futures Project Goal

• Develop a Willamette Basin Drinking Water Protection Plan that:
  – Assesses opportunities to scale up existing efforts to protect drinking water sources.
  – Identify areas drinking water utilities could invest in for source protection.

• Focus initial efforts on three areas w/utilities, partners and stakeholders tp explore what is possible
Three Focus Areas

• Harmful Algal Blooms & Cyanotoxins

• Hazardous Material Spill Response

• Reducing Chemical Use on Farms
Basic conditions favoring cyanobacterial blooms are well known

- Light Intensity & Total Sunlight Duration
- Nutrient Availability (especially Phosphorus)
- Warmer Water Temps
- Higher pH
- Precipitation Events
- Slow Moving & Stratified Water
- Low Zooplankton Grazing Pressure
Cyanotoxin Challenges

• Toxins can potentially pass through treatment systems.
• Toxin levels don’t often correlate with cell counts.
• Toxin sources may be located a considerable distance upstream of drinking water intakes.
• Oxidation and other treatment processes can lyse cells and potentially release toxins.
How Can You Tell if Toxins are Present?

Which one of these contain 72 ug/L of Microcystin-LR?
Willamette Futures Project Opportunities

- Development of a HAB/Cyanotoxin Resource Center for utilities
- Real-Time Reservoir and River Monitoring
- Data Sharing Tools
- Interagency Coordination & Response
Highway Transportation
Hazrdous Material Facilities
Railway Transportation
Spill Response Planning Areas
Oregon Watershed Emergency Response System (OWERS)

User logs into MWERS and creates an incident. Incidents can be entered by road mile, river mile, latitude/longitude or via map click.

Anyone involved in the spill response can provide real-time updates that will be immediately shared with system users via text or email.

This new web application was designed so that it can be easily transferred and used in other watersheds in Oregon.
Willamette Futures Project Opportunities

• Treat assessment for hazardous material spills and ID strategic areas to effectively respond to spills.

• Scale up existing spill response systems to cover Willamette basin that tie-in w/State & Federal system.

• Stage equipment and train HazMat teams and first responders
Agricultural Focus on Chemical Reduction and Increased Buffers
Remove Old Farm Chemicals
Protects kids, pets, livestock and water quality
• 2006/2007 removed 44 tons old pesticides from 126 farms
• 2010/2012 removed 3,200 lbs old pesticides from 13 farms
Hazelnut Mating Disruption Project

Purpose: to evaluate the use of mating disruption techniques and ‘soft’ pesticides as a way to reduce the detrimental effects of filbert worm on crops and reduce the need for highly toxic pesticide applications.
Hazelnut Mating Disruption Project

- Disrupt moth mating patterns to prevent filbert worm
- 3-year study costs: $58,500 (EWEB) $102,000 (Hazelnut Commission)
- Years 1-2: No pesticides used on 270 acres/$13,000 savings
- Year 3: Pesticides used on perimeter
- Overall: 65-75% reduction in pesticides
- Monitoring for moth flights proven very valuable for reducing spray amounts/timing
Willamette Futures Project Opportunities

• Coordinate ag chemical collection events on reoccurring basis.
• Work w/hazelnut industry to scale up monitoring and mating disruption.
• Hazelnut industry looking to adopt a Stewardship Program that includes water quality focused practices – may provide opportunity for utility partnership.
Project Schedule

- Ag/Hazelnut Focus Workshop
- HAB/Cyanotoxin Focus Workshop
- Spill Response Focus Workshop
- Combined/Draft Plan Concept Workshop
- Draft Plan Out for review

- August 2018
- October 2018
- January 2019
- March 2019
- June 2019