

Upper Willamette Water Quality Monitoring & Outreach Project

Monitoring Timeline: September 2008-September 2010

Parameters Monitored Monthly:

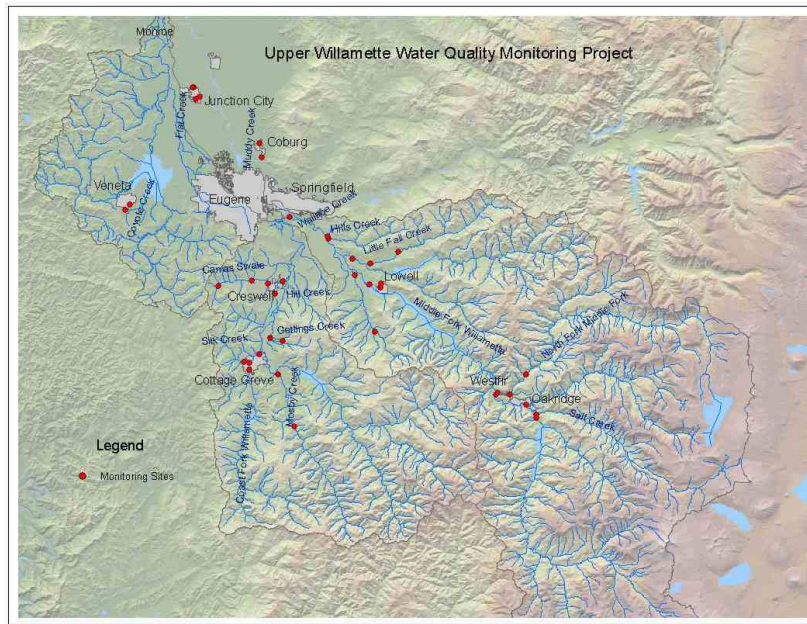
- Temperature
- Conductivity
- Turbidity
- Dissolved oxygen (April-November)
- Monthly samples for (sent to the lab):
 - Total Phosphorus (TP)
 - Total Suspended Solids (TSS)
 - E. coli
 - Nitrates-Nitrites (NO₃-NO₂-N)

Additional Monitoring:

- Macroinvertebrates: a single sampling of 25 sites.
- Continuous temperature monitoring at 15 sites in each watershed (June-October).
- Stormwater grab samples.

Project objectives:

- Implement monthly ambient monitoring upstream and downstream of the 8 DMAs in the Upper Willamette and at approximately 15 sites in the Coast and Middle Fork Willamette Watersheds;
- Monitor two storm events (one/year) at the 8 DMAs;
- Collect and analyze macroinvertebrate samples at approximately 25 sites in the 8 DMAs;
- Monitor continuous temperature at up to 30 sites on Coast Fork Willamette mainstem and tributaries that have no previous data and up and downstream of some of the DMAs;
- Develop and conduct multiple workshops or public meetings within the Middle and Coast Fork Willamette and Long Tom watersheds; and
- Incorporate analysis into TMDL Implementation Plans and watershed council Action Plans.



Partners:

Coast Fork Willamette Watershed Council
Middle Fork Willamette Watershed Council
Long Tom Watershed Council
Department of Environmental Quality
13 'Designated Management Agencies' (DMAs) including:

- Cottage Grove
- Creswell

The 'A' Team—the Cottage Grove student monitoring program.

- South Lane School District
- Walama Restoration Project

Monitoring Questions:

- 1) Is there a statistically significant increase in water temperature, *E. coli*, nitrate, total phosphorus, total suspended solids or turbidity attributable to the DMAs both collectively and individually?
- 2) Is there a statistically significant decrease in dissolved oxygen and biological indices (macroinvertebrate metrics) attributable to the DMAs both collectively and individually?
- 3) Do certain land uses within the DMAs degrade water quality more than others?
- 4) Do *E. coli* and temperature conditions in the monitored urban and rural waterways meet state standards?
- 5) Do nutrient concentrations contribute to low dissolved oxygen levels?
- 6) Do seasonal trends for each parameter point to likely sources of the pollutants?

Project goals:

- Provide water quality data that each DMA can use to evaluate their relative impacts on the water quality of streams flowing through their zone of influence;
- Support the implementation of management practices that target water quality impacts identified during the monitoring phase. This may include adding management practices to the DMAs' TMDL Implementation Plans;
- Establish baseline water quality information that may later be used to evaluate long-term trends and effectiveness of management practices implemented by each DMA and councils;
- Evaluate bacteria and nutrient concentrations in rural residential sub-watersheds of the Coast and Middle Fork Willamette that have no previous data for these constituents;
- Provide relevant, locally generated, and site specific monitoring results that support outreach and education efforts to local residents and decision makers; and
- Prioritize enhancement and restoration actions that address identified water quality problems within the DMAs and the surrounding rural areas within the Middle and Coast Fork Willamette and Long Tom watersheds.

