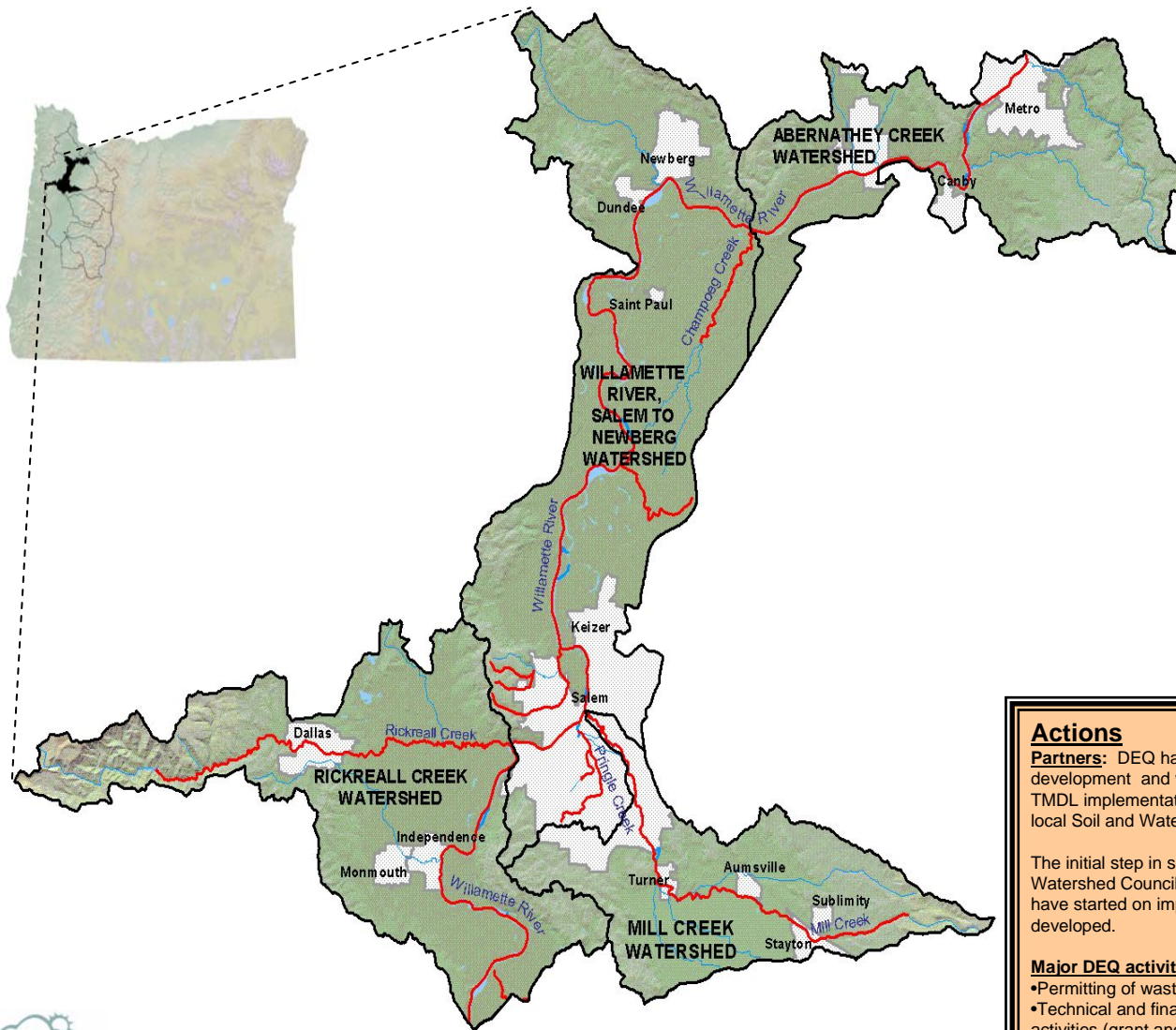



# Middle Willamette Subbasin Water Quality Overview



 303(d)listed waters of the State

## Issues

The Oregon Department of Environmental Quality (DEQ) has established TMDLs to address elevated **temperature, bacteria, and mercury** levels throughout the Middle Willamette Subbasin.

**Temperature:** Waters in the Middle Willamette Subbasin are warmer than is necessary to protect salmonid rearing and spawning. Lack of riparian vegetation and impacts from dams and water withdrawals are the major contributors to high river temperatures.

**Bacteria:** People can become sick if they ingest water that is contaminated with bacteria when they are swimming, recreating or in contact with the water. Both urban and rural/agricultural sources are major contributors to the high bacteria levels found in many of the rivers of the Middle Willamette Subbasin.

**Mercury:** The Willamette has fish consumption advisories due to elevated levels of mercury found in some fish species. The Middle Willamette Subbasin will be addressed as part of a basin-wide strategy for mercury. General sources include permitted sources, air deposition, and erosion of soils which contain mercury from natural and anthropogenic sources.

**Other Pollutants of Concern:** Additional parameters and streams have been added to the 303(d) list in 2002 in the Middle Willamette Subbasin which are not addressed by this TMDL. These pollutants are PCBs, Aldrin, Dieldrin, DDT and its metabolites, iron, copper, lead and zinc. DEQ will address these pollutants in future updates of the TMDL. While dieldrin is not covered in the TMDL, a discussion paper on the current condition and the toxicity of dieldrin in Salem area streams is included in the TMDL. Other concerns in the subbasin include sedimentation and loss of fish habitat.

## Actions

**Partners:** DEQ has been working with a variety of partners during TMDL development and will continue to work with a wide variety of partners for successful TMDL implementation. These partners include cities, counties, Watershed Councils, local Soil and Water Conservation Districts (SWCDs), and state and federal agencies.

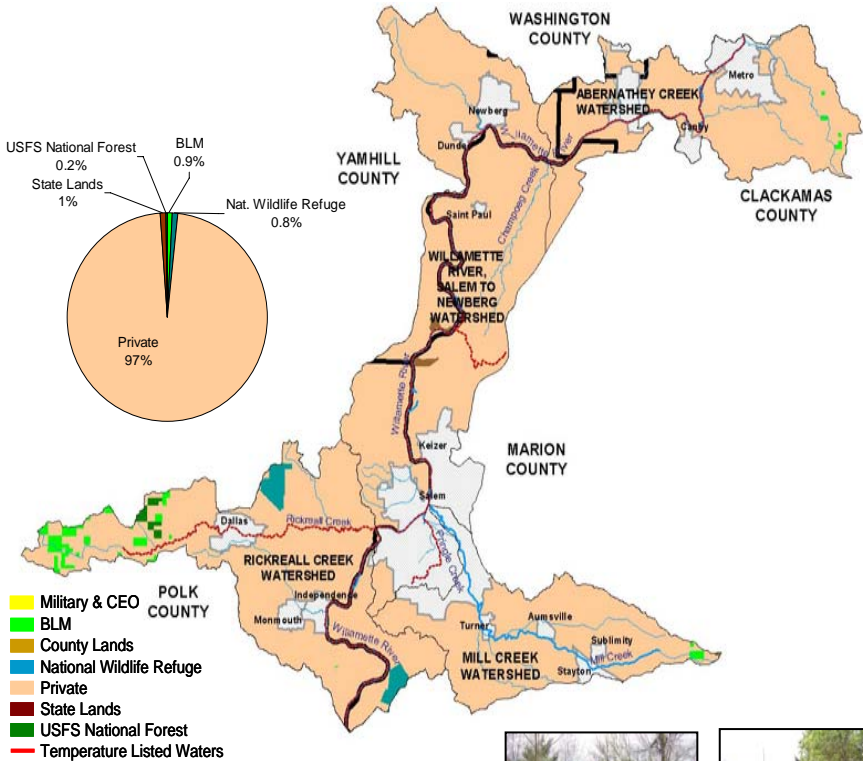
The initial step in successful watershed restoration is implementation planning. Many Watershed Councils have developed or are developing their watershed plans and have started on implementation. Initial SB 1010 plans for agricultural lands have been developed.

### Major DEQ activities include:

- Permitting of waste water discharges, including storm water;
- Technical and financial assistance for source identification and implementation activities (grant and loan funding);
- Cleanup activities;
- Monitoring activities, to include assistance to volunteer monitoring efforts;
- Increased direct technical assistance to communities that choose to move beyond the assessments and develop a Drinking Water Protection Plan. Developing a plan facilitates local decision making as the community determines how to protect their own drinking water sources; and
- 1994 Rickreall Creek TMDL for Biological Oxygen Demand (BOD).



# Total Maximum Daily Loads (TMDLs) - Implementation



**Toxics:** A 27% reduction in the load of total mercury is needed in the Willamette Basin.

Mercury will be addressed Willamette basin-wide, activities include:

- DEQ is conducting a pilot study for mercury;
- Selected municipalities and industrial facilities will do monitoring and mercury minimization planning via permit action letters;
- DEQ will further characterize the load of mercury from major tributaries to the mainstem Willamette River system;
- Erosion control and increased stormwater management activities can decrease the load of mercury entering the Willamette system.

**Bacteria:** Several streams in the Middle Willamette Subbasin are listed for bacteria: Bashaw Creek, Clark Creek, Mill Creek, Pringle Creek, and the Willamette River.

Analysis of bacteria data collected by the City of Salem, Watershed Councils, and DEQ show that a summer percent reduction of 95% in agriculture and 88% in urban bacteria concentration is needed. Fall-Winter-Spring percent reductions are calculated at 61% for agriculture and 75% for urban. These percent reductions apply to all waters of the Middle Willamette Subbasin.

Current actions include:

- Stormwater permits will continue to address bacteria contributions from sources in urban areas.
- ODA and SWCD will manage contributions from agricultural and rural lands under SB 1010 plans and Confined Animal Feeding Operation (CAFO) permits.
- Cities and counties will continue to identify and address failing septic systems, overland flow, and pet waste issues.
- Municipalities will address inflow and infiltration problems that cause sewage bypasses.

**Temperature:**  
Reductions in stream temperature can be achieved by:

- Reducing solar radiation loading by planting riparian vegetation to increase stream-side shading
- Increasing base flow
- Change in Dam operations. Further study of the effects that dams have on river temperature and how to mitigate their effects is needed.

Resources are available for temperature improvement implementation and habitat restoration projects:

- Loan and grants to help municipalities, watershed councils and SWCDs (example: ODEQ 319 grants)
- SB 1010 plan implementation by Oregon Department of Agriculture (ODA), SWCDs, and plan implementation by Watershed Councils.



Rickreall Creek



Clark Creek



Perrin Lateral Ditch



Pringle Creek



McKinney Creek



Mill Creek

