

## **Water Quality Parameters Analyzed in the McKenzie Watershed**

The focus of this series is on some of the water quality parameters analyzed in the McKenzie River Watershed. Anyone interested in learning more or volunteering for water quality efforts is encouraged to contact the MWC at (541)687-9076.

### **Biochemical Oxygen Demand (BOD<sub>5</sub>)**

BOD<sub>5</sub> measures the amount of oxygen consumed by decaying organic matter and microorganisms in the water over a five-day period. Streams that are polluted or have a lot of plant growth and decay will have a high BOD<sub>5</sub> level, while those that are relatively clean will have a low level.

BOD<sub>5</sub> is a measure of how much oxygen it uses. Therefore, streams with high dissolved oxygen (DO) levels, such as fast moving streams, can process a greater quantity of organic material. For water quality indicative of a healthy stream, high DO levels and low BOD<sub>5</sub> levels are desirable. High levels of organic matter and some ions (ammonia in particular) can lead to a rapid exhaustion of dissolved O<sub>2</sub>.

Causes:

- Municipal wastewater that has not been completely treated to allow decomposition of organic materials will use up oxygen supplies.
- Septic tank effluent, which is characterized by green patches of vegetation during the dry season also uses up oxygen supplies.
- Cool periods can kill some algae, and the dead algae decompose rapidly.

Student Watershed Research Project: A Manual of Field and Lab Procedures. 3<sup>rd</sup> Edition, 1996. A Saturday Academy Publication Oregon Graduate Institute of Science and Technology.