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.

Turbidity

Turbidity refers to how cloudy or hazy the water is. Turbidity is caused by materials suspended in water scattering and absorbing the light, rather than allowing the light to be transmitted in a straight line. Clay, silt, fine organic and inorganic material, plankton and other microscopic organisms all contribute to the turbidity of the water. The direction and intensity of the scattered light depends on the size, shape and composition of the particles.

Turbidity is important because light affects both the biological growth and chemical reactions in a stream. If a stream is very turbid, light will not reach very far down and many reactions will stop. High turbidity indicates biological contamination, either algal or fecal, as well as suspended solids and sediments. Turbidity can be a possible indication of disturbance in the system. It is a primary influence on aesthetics of lakes and river.

Causes:

- Frequently, high turbidity has the same causes as total suspended solids.
- Solid particles in the water column scatter or reflect the light so it doesn't penetrate very far.
- Most of the particles come from erosion of soils, either from a field, parking lots, or the stream bank itself.
- Construction can have a large effect on the amount of light-scattering materials that enter a stream
- Algae and organic particles also contribute to turbidity.
- In some cases it is difficult to determine, without microscopic examination, whether the main problem is clay or soil particles, or algae (phytoplankton).

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