

ECOLOGY LAB 7

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Turbidity as an Ecological Factor

- Background Information

- **Turbidity** is the **cloudiness** or **haziness** of a fluid caused by large numbers of **individual particles** that are generally **invisible** to the naked eye, similar to smoke in air. The measurement of turbidity is a key test of **water quality**.
- **Fluids** can contain suspended solid matter consisting of particles of many different sizes. While some **suspended material** will be **large** enough and heavy enough to **settle rapidly** to the bottom of the container if a liquid sample is left to stand (the **settable solids**), **very small particles** will settle only very slowly or not at all if the sample is regularly agitated or the particles are **colloidal**. These small solid particles cause the liquid to appear turbid.



Turbidity as an Ecological Factor

- **Turbidity** in open water may be caused by growth of phytoplankton. Human activities that disturb land, such as construction, mining and agriculture, can lead to high sediment levels entering water bodies during rain storms due to storm water runoff. In drinking water, the higher the turbidity level, the higher the risk that people may develop gastrointestinal diseases.

Turbidity Measurement

- Turbidity measured with an instrument called a nephelometer, the units of turbidity from a calibrated nephelometer are called Nephelometric Turbidity Units (NTU).
- Turbidity in lakes, reservoirs, channels, and the ocean can be measured using a Secchi disk.
- The World Health Organization, establishes that the turbidity of drinking water should not be more than 5 NTU, and should ideally be below 1 NTU.

