

Appendix E - Glossary

A

acid mine drainage: waters of low pH (less than 6) from mining areas.

algae: small plants which lack roots, stems, flowers, and leaves; living mainly in water and using the sun as an energy source.

alkalinity: a measurement of water's ability to neutralize acid.

aquatic habitat: all of the areas in a stream, lake or wetland that are occupied by an organism, population or community.

aquifer: any geological formation containing water, especially one that supplies water for wells, springs, etc.

B

banks: the portion of the stream channel which restricts the movement of the water out of the channel during times of normal water depth. This area of the stream is characterized as being the exposed terrestrial areas on either side of the stream.

benthic: an adjective which describes all things associated with the bottom, or sediments of a stream.

bedrock: unbroken solid rock, overlain in most places by soil or rock fragments.

biochemical oxygen demand (BOD): an empirical test in which standardized laboratory procedures measure the oxygen required for the biochemical degradation of organic material, and the oxygen used to oxidize inorganic materials, such as sulfides and ferrous iron. Can be done over various lengths of time.

C

channelization: the straightening of a stream or the dredging of a new stream channel to which the stream is diverted. A channelized stream is straight with little or no meanders.

class: a taxonomic rank which falls under the taxonomic rank of Order.

cobble streambed: a watercourse predominately lined with naturally rounded stones, rounded by the water's action. Size varies from a hen's egg to that used as paving stones.

complete metamorphosis: the type of insect development that includes four stages; egg, larva, pupa, adult.

conservation practice: an engineered structure or management activity that eliminates or reduces an adverse environmental effect of a pollutant and conserves soil, water, plant, or animal resources.

D

Dissolved Oxygen (DO): the amount of oxygen dissolved in water. Generally, proportionately higher amounts of oxygen can be dissolved in colder waters than in warmer waters.

drainage basin: the total land area draining to any point in a stream. A drainage basin is composed of many smaller watersheds.

E

ecology: the relationship between living things and their environments or the study of such relationships.

effluent: a discharge of partially or completely treated pollutants into the environment; generally used to describe discharge into the water.

emergent plants: plants rooted in the bottom of the watercourse, that rise above the water surface.

erosion: the wearing away of the land surface by wind or water.

Escherichia coli (E. coli): a bacterium of the intestines of warm-blooded organisms, including humans, that is used as an indicator of water pollution for disease producing organisms.

eutrophic: a waterbody enriched with nutrients (nitrates and phosphates) and consequently overgrown with plants or algae.

eutrophication: natural eutrophication is the process of lake aging. Cultural eutrophication occurs when nutrients are added from agricultural runoff, sewage, or other sources until a lake is filled in with sediment and plants to become swamp, marsh, and eventually dry land.

F

fecal coliform bacteria: the portion of the coliform group which is present in the gut or feces of warm-blooded animals. The presence of fecal coliform bacteria in water is an indication of pollution and potential human health problems.

floodplain: an area on both sides of a stream where flood waters spread out during high rains. The surface may appear dry for most of the year, but it is generally occupied by plants that are adapted to wet soils.

food chain: a transfer of energy in a sequence of organisms (algae, fish, etc.) in a community in which each member of the chain feeds on the member below it.

H

habitat: the area in which an organism lives.

herbaceous vegetation: plants having a stem that remains soft and succulent during the growing, not woody.

I

incomplete metamorphosis: the type of insect development that consists of three stages; egg stage, a nymph stage and an adult stage.

indicator organism: organisms which respond predictably to various environmental changes, and whose presence or absence, and abundance, are used as indicators of environmental conditions.

inorganic: any compound not containing carbon.

intermittent stream: A watercourse that flows only at certain times of the year, receiving water from springs or surface sources; also, a watercourse that does not flow continuously, when water losses from evaporation or seepage exceed available stream flow.

invertebrate: an organism without a backbone.

J

JTUs - Jackson Turbidity Units: a unit of measurement commonly used in electronic turbidity meters that indicate how far light can penetrate into a water sample before the cloudiness of the sample cuts the light. Similar to NTUs or Nephelometric Turbidity Unit.

L

lake: a body of fresh or salt water of considerable size, whose open-water and deep-bottom zones (no light penetration to the bottom) are large compared to the shallow-water (shoreline zone, which has light penetration to its bottom zones).

M

macroinvertebrates: animals lacking backbones that are large enough to be visible without the aid of a microscope.

meanders: curves. Streams with meanders display sinuosity, or snake-like curving of a natural stream channel.

metamorphose: to change into a different form, such as from an insect pupa to an adult.

methemoglobinemia: the presence of methemoglobin in the blood, making the blood useless as a carrier of oxygen. Methemoglobin, a compound closely related to oxyhemoglobin, is found in the blood following poisoning by certain substances, such as nitrate. Young babies, both human and animal, are particularly susceptible to methemoglobinemia, leading to a condition known as “blue baby” which if untreated can cause death.

mollusk: soft-bodied (usually hard-shelled) animals such as clams or mussels.

N

nitrogen: a limiting nutrient for the aquatic environment. Nitrogen is considered to be limiting because it is needed by the plants and animals in the stream in moderate amounts. When present in higher amounts, such as large amounts of fertilizer runoff from local farm fields, large algal blooms occur which cause a depletion of dissolved oxygen.

nonpoint source pollution: a type of pollution whose source is not readily identifiable as any one particular point, such as pollution caused by runoff from streets and agricultural land.

NTU - Nephelometric Turbidity Units: a unit of measurement commonly used in electronic turbidity meters that indicates how far light can penetrate into a water sample before the cloudiness of the sample cuts into the light. Similar to Jackson Turbidity Units.

nutrient: any substance which is necessary for growth of living things.

nymph: a juvenile, wingless stage of an insect.

O

order: axonomic grouping of related families of organisms.

organic material: any compound containing carbon.

P

pathogenic: capable of causing disease.

pH: the measurement of acidity or alkalinity on a scale of 0 - 14. A pH of 7 is neutral, less than 7 is acidic, and more than 7 is alkaline (basic).

phosphorus: an essential plant nutrient that, in excessive quantities, can contribute to the eutrophication of water bodies.

photosynthesis: process by which green plants use sunlight to produce food.

perennial stream: a watercourse that flows continuously throughout the year and whose upper surface generally stands lower than the water table in the area adjacent to the watercourse.

point source pollution: pollutants originating from a "point" source, such as a pipe, vent, or culvert.

pollution sensitive organisms: those organisms which cannot withstand the stresses applied on the aquatic environment by pollution.

pollution tolerant organisms: those organisms which can withstand many of the stresses applied to an aquatic environment by pollution.

pond: a body of fresh or salt water, smaller than a lake, and where the shallow-water zone (light penetration to its bottom) is relatively large compared to the open water and deep bottom (no light penetration to the bottom).

pools: in a watercourse, an area often following a rapids (riffle), which is relatively deep with slowly moving water compared to the rapids.

pupa: the stage of an insect in which it is enclosed in a protective case while changing from larva to an adult.

R

riffle: in a watercourse, an area often upstream of a pool, which is relatively shallow with swiftly moving water compared to the pool.

riparian zone: an area, adjacent to and along a watercourse, which is often vegetated and constitutes a buffer zone between the nearby lands and the watercourse.

riprap: any hard material (such as concrete blocks, rocks, car tires or log pilings) which are used to protect a stream bank from erosion.

runoff: water from rain, snowmelt, or irrigation that flows over the ground surface and runs into a water body.

S

sediment: soil, sand, and minerals washed from land into waterways.

sedimentation: the process by which soil particles (sediment) enter, accumulate and settle to the bottom of a waterbody.

septic odor: the sulfur (rotten egg) smell produced by the decomposition of organic matter in the absence of oxygen.

sewage: the organic waste and wastewater produced by residential and commercial establishments.

sewage treatment plant: a facility designed to remove organic pollutants from wastewater.

silt: fine particles of soil or rock that can be picked up by air or water and deposited as sediment.

siltation: the process of silt settling out of the water and being deposited as sediment.

species: a unit of classification for a group of closely related individuals. The lowest common taxonomic unit.

stream bed: the bottom of a stream where the substrate and sediments lay.

stream depth: a measurement of the depth of a stream from the water's surface to the stream bed.

stream flow: the amount of water moving in a stream in a given amount of time.

submergent rooted plant: an aquatic plant whose roots are in the watercourse's bottom with the upper part of the plant submerged below the surface of the water.

substrate: the surface upon which an organism lives or is attached.

T

tolerant species: an organism that can exist in the presence of a certain degree of pollution.

topographic map: a map representing the surface features of a particular area.

total coliform bacteria: a group of bacteria that are used as an indicator of drinking water quality. The presence of total coliform bacteria indicates the possible presence of disease-causing bacteria.

total dissolved solids: substances that are dissolved in the water which can color the water brown or yellow. Tannic acids that leach from tree roots or from decomposing leaves can color the water brown to black due to dissolved chemicals. This color does not disappear by filtering the water.

total suspended solids: whole particles carried or suspended in the water, such as silt, sand or small algae or animals, that cause a green or brown color in the water. These substances can be filtered out of the water and weighed.

toxicity: a measurement of how poisonous or harmful a substance is to plants and animals.

trend data: data or measurements of a stream system which will show how particular characteristics changed over time.

turbidity: the presence of sediment in water, making it unclear, murky or opaque.

U

urban runoff: water which has drained from the surface of land which is used for urban uses, such as paved roads, subdivisions and parking lots.

W

wastewater: water carrying unwanted material from homes, farms, businesses and industries.

water quality: the condition of the water with regard to the presence or absence of pollution.

watershed: the entire surface drainage area that contributes water to a stream or river. Many watersheds which drain into a common river make a drainage basin.

woody vegetation: plants having a stem or trunk that is fibrous and rigid.