

# Glossary of Lake and Water Terms

## Wisconsin Lakes Partnership

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Source: Libby McCann and "Understanding Lake Data" by Byron Shaw, Christine Mechenich and Lowell Klessig

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### Acid:

corrosive substances with a pH of less than 7.0; acidity is caused by high concentrations of hydrogen ions.

### Acid Rain:

a polluting rain formed from acids and acid forming compounds such as sulfur oxides from fossil fuels which react with water vapor in the environment to form sulfuric acid.

### Adaptation:

any structure, physiological or behavioral, an organism has which makes them more likely to survive and reproduce than their competitors.

### Aerobic:

Processes requiring oxygen.

### Algae:

microscopic organisms/aquatic plants that use sunlight as an energy source (e.g., diatoms, kelp, seaweed). One-celled (phytoplankton) or multicellular plants either suspended in water (Plankton) or attached to rocks and other substrates (periphyton). Their abundance, as measured by the amount of chlorophyll a (green pigment) in an open water sample, is commonly used to classify the trophic status of a lake. Numerous species occur. Algae are an essential part of the lake ecosystem and provides the food base for most lake organisms, including fish. Phytoplankton populations vary widely from day to day, as life cycles are short.

### Algal Bloom:

population explosion of algae in surface waters due to an increase in plant nutrients such as nitrates and phosphates.

### Alkalinity:

The ability of water, or other substances, to absorb high concentrations of hydrogen ions. Substances with a pH greater than 7.0 are considered alkaline. A measure of the amount of carbonates, bicarbonates, and hydroxide present in water. Low alkalinity is the main indicator of susceptibility to acid rain. Increasing alkalinity is often related to increased algae productivity. Expressed as milligrams per liter (mg/l) of calcium carbonate (CaCO<sub>3</sub>), or as microequivalents per liter (ueq/l). 20 ueq/l = 1 mg/l of CaCO<sub>3</sub>.

Ammonia:

A form of nitrogen found in organic materials and many fertilizers. It is the first form of nitrogen released when organic matter decays. It can be used by most aquatic plants and is therefore an important nutrient. It converts rapidly to nitrate ( $\text{NO}_3^-$ ) if oxygen is present. The conversion rate is related to water temperature. Ammonia is toxic to fish at relatively low concentrations in pH-neutral or alkaline water. Under acid conditions, non-toxic ammonium ions ( $\text{NH}_4^+$ ) form, but at high pH values the toxic ammonium hydroxide ( $\text{NH}_4\text{OH}$ ) occurs. The water quality standard for fish and aquatic life is 0.02 mg/l of  $\text{NH}_4\text{OH}$ . At a pH of 7 and a temperature of 68 Deg F (20 Deg. C), the ratio of ammonium ions to ammonium hydroxide is 250:1; at pH 8, the ratio is 26:1.

Anaerobic:

living or occurring in the absence of air or free oxygen.

Anion:

Refers to the chemical ions present that carry a negative charge in contrast to cations, which carry a positive charge. There must be equal amounts of positive and negative charged ions in any water sample. Following are the common anions in their order of decreasing concentration for most lakes: bicarbonate ( $\text{HCO}_3^-$ ), sulfate ( $\text{SO}_4^{--}$ ), chloride ( $\text{Cl}^-$ ), carbonate ( $\text{CO}_3^{--}$ ), nitrate ( $\text{NO}_3^-$ ), nitrite ( $\text{NO}_2^-$ ), and phosphates ( $\text{H}_2\text{PO}_4^-$ ,  $\text{HPO}_4^{--}$ , and  $\text{PO}_4^{--}$ ).

Annual:

a plant that completes its life cycle in one year or one season.

Annual Turnover:

spring/fall turnover (add definition.)

Aquatic:

organisms that live in or frequent water.

Aquatic Invertebrates:

Aquatic animals without an internal skeletal structure such as insects, mollusks, and crayfish.

Asexual:

reproducing without the sexual process by fragmentation, turions, tubers, and/or other vegetative structures.

Basic:

Alkaline

Benthic Zone:

the bottom zone of a lake.

Benthos:

organisms living on, or in, the bottom material of lakes and streams.

Bioaccumulation:

Food chain is the sequence of algae being eaten by small aquatic animals (zooplankton) which in turn are eaten by small fish which are then eaten by larger fish and eventually by people or predators. Certain chemicals, such as PCBs mercury, and some pesticides, can be concentrated from very low levels in the water to toxic levels in animals through this process.

Biological Oxygen Demand (BOD):

amount of dissolved oxygen needed to break down (oxidize) organic materials to carbon dioxide, water, and minerals in a given volume of water at a certain temperature over a specified time period.

Biomass:

The total quantity of plants and animals in a lake. Measured as organisms or dry matter per cubic meter, biomass indicates the degree of a lake system's eutrophication or productivity.

Blue-Green Algae:

Algae that are often associated with problem blooms in lakes. Some produce chemicals toxic to other organisms, including humans. They often form floating scum as they die. Many can fix nitrogen (N<sub>2</sub>) from the air to provide their own nutrient.

Bog:

an area characterized by soft, water-logged soil with mosses and other vegetation as the dominant plants.

Brackish:

slightly saline

Calcium (Ca<sup>++</sup>):

The most abundant cation found in Wisconsin lakes. Its abundance is related to the presence of calcium-bearing minerals in the lake watershed. Reported as milligrams per liter (mg/l) as calcium carbonate (CaCO<sub>3</sub>), or milligrams per liter as calcium ion (Ca<sup>++</sup>).

Capillary Action:

the movement of water through a soil by the adhesion, or sticking, of water molecules to the surfaces of soil particles.

Carnivore:

an organism that feeds primarily on other animals.

Carnivorous:

flesh-eating organisms

Cation:

Refers to chemical ions present that carry a positive charge. The common cations present in lakes in normal order of decreasing concentrations follow: calcium ( $\text{Ca}^{++}$ ), magnesium ( $\text{Mg}^{++}$ ), potassium ( $\text{K}^+$ ), sodium ( $\text{Na}^+$ ), ammonium ( $\text{NH}_4^+$ ), ferric iron ( $\text{Fe}^{+++}$ ) or ferrous iron ( $\text{Fe}^{++}$ ), manganese ( $\text{Mn}^{++}$ ), and hydrogen ( $\text{H}^+$ ).

Chloride ( $\text{Cl}^-$ ):

Chlorine in the chloride ion ( $\text{Cl}^-$ ) form has very different properties from chlorine gas ( $\text{Cl}_2$ ), which is used for disinfecting. The chloride ion ( $\text{Cl}^-$ ) in lake water is commonly considered an indicator of human activity. Agricultural chemicals, human and animal wastes, and road salt are the major sources of chloride in lake water.

Chlorophyll a:

Green pigment present in all plant life and necessary for photosynthesis. The amount present in lake water depends on the amount of algae and is therefore used as a common indicator of water quality.

Chlorophyll:

a green pigment found in plants that is essential for the process of photosynthesis.

Clarity:

Secchi disc is an 8-inch diameter plate with alternating quadrants painted black and white that is used to measure water clarity (light penetration). The disc is lowered into water until it disappears from view. It is then raised until just visible. An average of the two depths, taken from the shaded side of the boat, is recorded as the Secchi disc reading. For best results, the readings should be taken on sunny, calm days.

Color:

Measured in color units that relate to a standard. A yellow-brown natural color is associated with lakes or rivers receiving wetland drainage. The average color value for Wisconsin lakes is 39 units, with the color of state lakes ranging from zero to 320 units. Color also affects light penetration and therefore the depth at which plants can grow.

Concentration units:

express the amount of a chemical dissolved in water. The most common ways chemical data is expressed is in milligrams per liter ( $\text{mg}/\text{l}$ ) and micrograms per liter ( $\text{ug}/\text{l}$ ). One milligram per liter is equal to one part per million (ppm). To convert micrograms per liter ( $\text{ug}/\text{l}$ ) to milligrams per liter ( $\text{mg}/\text{l}$ ), divide by 1000 (e.g.  $30 \text{ ug}/\text{l} = 0.03 \text{ mg}/\text{l}$ ). To convert milligrams per liter ( $\text{mg}/\text{l}$ ) to micrograms per liter ( $\text{ug}/\text{l}$ ), multiply by 1000 (e.g.  $0.5 \text{ mg}/\text{l} = 500 \text{ ug}/\text{l}$ ). Microequivalents per liter ( $\text{ueq}/\text{l}$ ) is also sometimes used, especially for alkalinity; it is

calculated by dividing the weight of the compound by 1000 and then dividing that number into the milligrams per liter.

Conductivity (specific conductance):

Measures water's ability to conduct an electric current. Conductivity is reported in micromhos per centimeter (umhos/cm) and is directly related to the total dissolved inorganic chemicals in the water. Values are commonly two times the water hardness unless the water is receiving high concentrations of contaminants introduced by humans.

Consumers:

organisms that obtain their energy by eating other organisms; generally divided into primary consumers (herbivores), secondary consumers (carnivores), and microconsumers (decomposers).

Cultural Eutrophication:

accelerated eutrophication that occurs as a result of human activities in the watershed that increase nutrient loads in runoff water that drains into lakes.

Decompose:

breakdown of organic materials to inorganic materials.

Decomposers:

organisms that obtain energy by eating dead plant or animal matter.

Detritus:

partially decomposed (dead) organic matter.

Dissolved Oxygen (DO):

the amount of free oxygen absorbed by the water and available to aquatic organisms for respiration; amount of oxygen dissolved in a certain amount of water at a particular temperature and pressure, often expressed as a concentration in parts of oxygen per million parts of water.

Diversity:

number of species in a particular community or habitat.

Drainage basin:

The total land area that drains toward the lake.

Drainage lakes:

Lakes fed primarily by streams and with outlets into streams or rivers. They are more subject to surface runoff problems but generally have shorter residence times than seepage lakes. Watershed protection is usually needed to manage lake water quality.

Dystrophic lake:

A typically brownish-colored lake high in dissolved organic substances associated with bog vegetation. Does not follow eutrophication's normal pattern because of natural acidity or other chemical imbalances.

Ecosystem:

a system formed by the interaction of a community of organisms with each other and with the chemical and physical factors making up their environment.

Epilimnion:

The layering of water due to differences in density is stratification. Water's greatest density occurs at 39 Deg.F (4 Deg.C). As water warms during the summer, it remains near the surface while colder water remains near the bottom. Wind mixing determines the thickness of the warm surface water layer (epilimnion), which usually extends to a depth of about 20 feet.

Erosion:

movement of soil by water and wind.

Eutrophication:

the process by which lakes and streams are enriched by nutrients, and the resulting increase in plant and algae growth. This process includes physical, chemical, and biological changes that take place after a lake receives inputs for plant nutrients--mostly nitrates and phosphates--from natural erosion and runoff from the surrounding land basin. The extent to which this process has occurred is reflected in a lake's trophic classification: oligotrophic (nutrient poor), mesotrophic (moderately productive), and eutrophic (very productive and fertile).

Exotic:

a non-native species of plant or animal that has been introduced.

Filamentous Algae:

Algae that forms filaments or mats attached to sediment, weeds, piers, etc.

Filtering Collectors:

aquatic invertebrates that feed by filtering small organic particles from the water.

Flushing Rate:

Retention time (turnover rate or flushing rate), the average length of time water resides in a lake, ranging from several days in small impoundments to many years in large seepage lakes.

Retention time is important in determining the impact of nutrient inputs. Long retention times result in recycling and greater nutrient retention in most lakes. Calculate retention time by dividing the volume of water passing through the lake per year by the lake volume.

#### Food Chain:

the transfer of food energy from plants through herbivores to carnivores. An example: insect-fish-bear or the sequence of algae being eaten by small aquatic animals (zooplankton) which in turn are eaten by small fish which are then eaten by larger fish and eventually by people or predators.

#### Food Web:

food chains hooked together into a complex interconnected web.

#### Fragmentation:

process in which stems break into smaller segments, each capable of rooting and growing into a new plant.

#### Groundwater drainage lake:

Often referred to a spring-fed

lake, has large amounts of groundwater as its source, and a surface

outlet. Areas of high groundwater inflow may be visible as springs

or sand boils. Groundwater drainage lakes often have intermediate

retention times with water quality dependent on groundwater

quality.

#### Habitat:

the place where an organism lives that provides an organism's needs for water, food, and shelter. It includes all living and non-living components with which the organism interacts.

Hand-seine:

hand-held net used to capture fish and other small organisms

Hardness:

The quantity of multivalent cations (cations with more than one +), primarily calcium ( $\text{Ca}^{++}$ ) and magnesium ( $\text{Mg}^{++}$ ) in the water expressed as milligrams per liter of  $\text{CaCO}_3$ . Amount of hardness relates to the presence of soluble minerals, especially limestone, in the lake watershed.

Herbivorous:

feeding on plants.

Hibernation:

a dormant (inactive) state. In true hibernation, the body temperature, heart rate, and breathing rate decreases drastically and the animal typically lives off stored fat.

Hydrologic (water) Cycle:

the process by which the earth's water is recycled. Atmospheric water vapor condenses into the liquid or solid form and falls as precipitation to the ground surface. This water moves along or into the ground surface and finally returns to the atmosphere through transpiration and evaporation.

Hydrology:

study of the distribution, circulation, and properties of water.

Hypolimnion:

Stratification is the layering of water due to differences in density. Water's greatest density occurs at 39 Deg.F (4 Deg.C). As water warms during the summer, it remains near the surface while colder water remains near the bottom. The cold bottom water is the hypolimnion.

Impoundment:

structure built to store water, usually a reservoir or pond. Manmade lake or reservoir usually characterized by stream inflow and always by a stream outlet. Because of nutrient and soil loss from upstream land use practices, impoundments ordinarily have higher nutrient concentrations and faster sedimentation rates than natural lakes. Their retention times are relatively short.

Insoluble:

incapable of dissolving in water.

Instar:

a stage in life of an arthropod between two successive molts (i.e., to shed the outer layer)

Ion:

an electrically charged atom or molecule; ions combine readily with other atoms or molecules. In water, some chemical molecules separate into cations (positive charge) and anions (negative charge). Thus the number of cations equals the number of anions.

Kjeldahl nitrogen:

The most common analysis run to determine the amount of organic nitrogen in water. The test includes ammonium and organic nitrogen.

Larva:

the immature form of an insect with complete metamorphosis where the individual must completely change before assuming the adult characteristics.

Lethal Limits:

extremes in the range of conditions in which an organism can survive.

Limiting factor:

The nutrient or condition in shortest supply relative to plant growth requirements. Plants will grow until stopped by this limitation; for example, phosphorus in summer, temperature or light in fall or winter.

Limnology:

the study of inland lakes and waters.

Littoral:

the near shore shallow water zone of a lake, where aquatic plants grow.

Macrophytes:

Refers to higher (multi-celled) plants growing in or near water. Macrophytes are beneficial to lakes because they produce oxygen and provide substrate for fish habitat and aquatic insects. Overabundance of such plants, especially problem species, is related to shallow water depth and high nutrient levels.

Marl:

White to gray accumulation on lake bottoms caused by precipitation of calcium carbonate ( $\text{CaCO}_3$ ) in hard water lakes. Marl may contain many snail and clam shells, which are also calcium carbonate. While it gradually fills in lakes, marl also precipitates phosphorus,

resulting in low algae populations and good water clarity. In the past, marl was recovered and used to lime agricultural fields.

**Metalimnion:**

Stratification is the layering of water due to differences in density. Water's greatest density occurs at 39 Deg.F (4 Deg.C). As water warms during the summer, it remains near the surface while colder water remains near the bottom. Wind mixing determines the thickness of the warm surface water layer (epilimnion), which usually extends to a depth of about 20 feet. The narrow transition zone between the epilimnion and cold bottom water (hypolimnion) is called the metalimnion or thermocline.

**Migration:**

moving along a regular pathway from one region to another, triggered by a change in seasons.

**Nitrate (NO<sub>3</sub>-):**

An inorganic form of nitrogen important for plant growth. Nitrogen is in this stable form when oxygen is present. Nitrate often contaminates groundwater when water originates from manure pits, fertilized fields, lawns or septic systems. High levels of nitrate-nitrogen (over 10 mg/l) are dangerous to infants and expectant mothers. A concentration of nitrate-nitrogen (NO<sub>3</sub>-N) plus ammonium-nitrogen (NH<sub>4</sub>-N) of 0.3 mg/l in spring win support summer algae blooms if enough phosphorus is present.

**Nitrite (NO<sub>2</sub>-):**

A form of nitrogen that rapidly converts to nitrate (NO<sub>3</sub>-) and is usually included in the NO<sub>3</sub>- analysis.

**Nitrogen Cycle:**

cyclic movement of nitrogen in different chemical forms from the environment to organisms and then back to the environment.

**Nocturnal:**

animals that are active at night and rest during the day.

**Nodule:**

a small rounded lump or protuberance (i.e., something that sticks out).

**Non-point Source:**

a source of pollution that comes from no single identifiable point of discharge. Example: topsoil erosion into a lake or stream.

**Nutrients:**

elements or substances such as nitrogen and phosphorus that are necessary for plant growth. Large amounts of these substances can become a nuisance by promoting excessive aquatic plant growth.

Omnivorous:

feeding on both plants and animals.

Organic Matter:

elements or material containing carbon, a basic component of all living matter.

Overturn:

Fall cooling and spring warming of surface water increases density, and gradually makes temperature and density uniform from top to bottom. This allows wind and wave action to mix the entire lake. Mixing allows bottom waters to contact the atmosphere, raising the water's oxygen content. However, warming may occur too rapidly in the spring for mixing to be effective, especially in small sheltered kettle lakes.

pH:

the numerical value used to indicate how acid or alkaline a solution is. The number refers to the number of hydrogen ions in the solution. The pH scale ranges from 1 to 14 with 7.0 being neutral. Acid ranges from 0 to 6. Alkaline ranges from 8 to 14.

Phosphorus:

Key nutrient influencing plant growth in more than 80% of Wisconsin lakes. Soluble reactive phosphorus is the amount of phosphorus in solution that is available to plants. Total phosphorus includes the amount of phosphorus in solution (reactive) and in particulate form.

Photosynthesis:

the process by which green plants convert carbon dioxide (CO<sub>2</sub>) dissolved in water to sugar and oxygen using sunlight for energy. Photosynthesis is essential in producing a lake's food base, and is an important source of oxygen for many lakes.

Phytoplankton:

microscopic plants found in the water. Algae or one-celled (phytoplankton) or multicellular plants either suspended in water (Plankton) or attached to rocks and other substrates (periphyton). Their abundance, as measured by the amount of chlorophyll a (green pigment) in an open water sample, is commonly used to classify the trophic status of a lake. Numerous species occur. Algae are an essential part of the lake ecosystem and provides the food base for most lake organisms, including fish. Phytoplankton populations vary widely from day to day, as life cycles are short.

Plankton:

small plant organisms (phytoplankton and nanoplankton) and animal organisms (zooplankton) that float or swim weakly through the water.

Point Source Pollution:

air or water pollutants entering the environment for a specific point.

Pollution:

the contamination of water and other natural resources by the release of harmful substances into the environment.

ppm:

parts per million; units per equivalent million units; equal to milligrams per liter (mg/l)

Precipitate:

A solid material which forms and settles out of water as a result of certain negative ions (anions) combining with positive ions (cations).

Precipitation:

rain, snow, hail, or sleet falling to the ground.

Predator:

an animal that hunts and kills other animals for food.

Prey:

an animal that is hunted or killed by another for food.

Producers:

organisms that capture the energy of the sun to make their own food.

Pupa:

the intermediate form assumed by an insect that undergoes complete metamorphosis; it follows the larva and precedes the adult stages and is enclosed in a hardened cuticle or cocoon.

Respiration:

complex process that occurs in the cells of plants and animals in which nutrient organic molecules such as glucose combine with oxygen and produce carbon dioxide, water, and energy. It is the reverse reaction of photosynthesis. Respiration consumes oxygen (O<sub>2</sub>) and releases carbon dioxide (CO<sub>2</sub>). It also takes place as organic matter decays.

Retention Time:

(turnover rate or flushing rate) The average length of time water resides in a lake, ranging from several days in small impoundments to many years in large seepage lakes. Retention time is important in determining the impact of nutrient inputs. Long retention times result in recycling and greater nutrient retention in most lakes. Calculate retention time by dividing the volume of water passing through the lake per year by the lake volume.

#### Riparian Area:

wet soil areas directly influenced by the water of a stream, lake, or wetland.

#### Rooted Aquatic Plants:

(macrophytes) Refers to higher (multi-celled) plants growing in or near water. Macrophytes are beneficial to lakes because they produce oxygen and provide substrate for fish habitat and aquatic insects. Overabundance of such plants, especially problem species, is related to shallow water depth and high nutrient levels.

#### Runoff:

water that flows over the surface of the land because the ground surface is impermeable or unable to absorb the water.

#### Secchi Disc:

An 8-inch diameter plate with alternating quadrants painted black and white that is used to measure water clarity (light penetration). The disc is lowered into water until it disappears from view. It is then raised until just visible. An average of the two depths, taken from the shaded side of the boat, is recorded as the Secchi disc reading. For best results, the readings should be taken on sunny, calm days.

#### Sedimentation:

the removal, transport, and deposition of detached soil particles by flowing water or wind. Accumulated organic and inorganic matter on the lake bottom. Sediment includes decaying algae and weeds, marl, and soil and organic matter eroded from the lake's watershed.

#### Seepage lakes:

Lakes without a significant inlet or outlet, fed by rainfall and groundwater. Seepage lakes lose water through evaporation and groundwater moving on a down gradient. Lakes with little groundwater inflow tend to be naturally acidic and most susceptible to the effects of acid rain. Seepage lakes often have long residence times, and lake levels fluctuate with local groundwater levels. Water quality is affected by groundwater quality and the use of land on the shoreline.

#### Shredders:

aquatic invertebrates which feed on leaves or wood that fall into a stream, lake, or other waterway.

#### Soluble:

capable of being dissolved.

Spawning:

in fish, the act of laying and fertilizing eggs.

Spawning Habitat:

area a fish needs to spawn; often refers to gravel beds.

Species:

A group of animals or plants that share similar characteristics such as can reproduce.

Specific Conductance:

Measures water's ability to conduct an electric current. Conductivity is reported in micromhos per centimeter (umhos/cm) and is directly related to the total dissolved inorganic chemicals in the water. Values are commonly two times the water hardness unless the water is receiving high concentrations of contaminants introduced by humans.

Specific Heat:

quantity of heat needed to raise the temperature of one gram of a given substance one degree Celsius.

Stratification:

The layering of water due to differences in density. Water's greatest density occurs at 39 Deg.F (4 Deg.C). As water warms during the summer, it remains near the surface while colder water remains near the bottom. Wind mixing determines the thickness of the warm surface water layer (epilimnion), which usually extends to a depth of about 20 feet. The narrow transition zone between the epilimnion and cold bottom water (hypolimnion) is called the metalimnion or thermocline.

Sulfate (SO<sub>4</sub><sup>2-</sup>):

The most common form of sulfur in natural waters. The amounts relate primarily to soil minerals in the watershed. Sulfate (SO<sub>4</sub>) can be reduced to sulfide (S<sup>2-</sup>) and hydrogen sulfide (H<sub>2</sub>S) under low or zero oxygen conditions. Hydrogen sulfide smells like rotten eggs and harms fish. Sulfate (SO<sub>4</sub><sup>2-</sup>) input from acid rain is a major indicator of sulfur dioxide (SO<sub>2</sub>) air pollution. Sulfate concentration is used as a chemical fingerprint to distinguish acid lakes acidified by acid rain from those acidified by organic acids from bogs.

Suspended Solids:

A measure of the particulate matter in a water sample, expressed in milligrams per liter. When measured on inflowing streams, it can be used to estimate the sedimentation rate of lakes or impoundments.

Thermal Pollution:

addition of heat energy to the environment. It may be transferred by heated air or water and causes localized temperature increases.

Thermocline:

Stratification is the layering of water due to differences in density. Water's greatest density occurs at 39 Deg.F (4 Deg.C). As water warms during the summer, it remains near the surface while colder water remains near the bottom. Wind mixing determines the thickness of the warm surface water layer (epilimnion), which usually extends to a depth of about 20 feet. The narrow transition zone between the epilimnion and cold bottom water (hypolimnion) is called the metalimnion or thermocline.

Toxic:

poisonous

Translucent:

pale in color and allowing light to pass through, almost transparent.

Transpiration:

the process by which plants take moisture from the soil and emit it as water vapor through their leaves.

Trophic Levels:

a classification of organisms according to what they eat.

Trophic State:

Eutrophication is the process by which lakes are enriched with nutrients, increasing the production of rooted aquatic plants and algae. The extent to which this process has occurred is reflected in a lake's trophic classification or state: oligotrophic (nutrient poor), mesotrophic (moderately productive), and eutrophic (very productive and fertile).

Turbidity:

degree to which light is blocked because water is muddy or cloudy.

Turnover:

Fall cooling and spring warming of surface water increases density, and gradually makes temperature and density uniform from top to bottom. This allows wind and wave action to mix the entire lake. Mixing allows bottom waters to contact the atmosphere, raising the water's oxygen content. However, warming may occur too rapidly in the spring for mixing to be effective, especially in small sheltered kettle lakes.

Universal Solvent:

a substance in which most other substances can dissolve. While water can not dissolve everything, it can dissolve more substances than any other known material.

Watershed:

the land area draining into a specific stream, river, lake or other body of water. These areas are divided by ridges of high land.

Zooplankton:

Microscopic or barely visible animals that eat algae. These suspended plankton are an important component of the lake food chain and ecosystem. For many fish, they are the primary source of food.