



Glossary of Water Resources Terms 2021

These are terms often used at Coon Creek Watershed District:

Algae have no true roots, stems, or leaves and range in size from tiny, one-celled organisms to large, multi-celled plant-like organisms such as chara or muckgrass. Planktonic algae, which consist of free-floating microscopic plants, grow throughout the well-lit surface waters of an entire lake.

(ACD) Anoka Conservation District Anoka County Soil & Water Conservation District (SWCD) that is a partner and subcontractor of Coon Creek Watershed District (CCWD). ACD is contracted to our lake, stream, and water quality monitoring. They produce an annual Water Almanac, including work for Coon Creek Watershed District.

Aquatic Biota collective term describing the organisms living in or depending on the aquatic environment. (source: MPCA)

Aquatic Invasive Species (AIS) Invasive species are species that are not native to Minnesota and cause economic or environmental harm or harm to human health.

Aquifer an underground layer of sand, gravel or rock that stores or conveys water below the surface of the soil. (source: MPCA)

Bank Stabilization streambank protection; the Coon Creek Watershed District may fund creek and ditch bank stabilization at three levels.

(BMP) Best Management Practice Any of the recognized practices and techniques to prevent soil erosion or maintain or increase water quality.

Biomonitoring sampling the biota of a place (such as a stream, a woodlot, or a wetland); use of a plant or animal (usually insect) as a detector and its response as a measure to determine environmental conditions. Toxicity tests and ambient biological surveys are common biological monitoring methods. (MPCA)

(BWSR) Board of Water and Soil Resources State administrative agency for 90 soil and water conservation districts, 46 watershed districts, 23 metropolitan watershed management organizations, and 80 county water managers. Core functions include implementing state soil and water conservation policy, comprehensive local water management, and the Wetland Conservation Act (WCA) as it relates to the 41.7 million acres of private land.

Buffer usually refers to vegetative buffer, a width of vegetation that provides a transition between different land uses.

(DNR) MN Department of Natural Resources State agency that oversees conservation and management of state's natural resources for multiple uses; including public waters protection and water supply management.

Ditch Repair restoring a constructed ditch to its elevation; often involves excavation of the ditch channel.

E. Coli Escherichia coli, a subgroup of fecal coliform bacteria that is present in the intestinal tracts and feces of warm-blooded animals. It is used as an indicator of the potential presence of pathogens. There are many different strains of E. coli and although most strains of E. coli are harmless and live in the intestines of healthy humans and animals, the E. coli O157:H7 strain produces a powerful toxin and can cause severe illness. (MPCA)

Erosion the removal of soil particles from soil surface due to water or wind action.

(ESC) Erosion & Sediment Control devices used to protect waters, storm sewers, and adjacent properties from land disturbance activities. Examples: silt fencing, rock construction entrance.

Eutrophic lakes that receive excess nutrients which stimulate excessive plant growth, often associated with wide swings in dissolved oxygen concentrations and frequent algal blooms; secchi disc reading is less than 6.5 feet.

Evapotranspiration the sum of the evaporation (from water bodies) plus the transpiration of water vapor to air from plants and animals.

Failure is the collapse or slippage of a large mass of bank material into the creek or ditch.

Floodplain lowland areas adjoining lakes, wetlands, and rivers that are susceptible to inundation of water during a flood. For regulatory purposes, the floodplain is the area covered by the 100-year flood or the area that has a 1 percent chance of flooding every year. It is usually divided into districts called the floodway and flood fringe. Local units of government administer ordinances that guide development in floodplains.(source: DNR)

Groundwater the water beneath the land surface that fills the spaces in rock and sediment. It is replenished by precipitation. Under natural conditions much of that recharge returns to the atmosphere by evapotranspiration from plants and trees or discharges to surface waters. Ground water discharge to surface waters allows streams to flow beyond rain and snowmelt periods and sustains lake levels during dry spells. (MDNR)

Hydrology the study of water. Hydrology generally focuses on the distribution of water and interaction with the land surface and underlying soils and rocks. (DNR)

Hydrologic Balance an accounting of the inflow, outflow and storage of water in a defined hydrologic site; the relationship between evaporation, precipitation, runoff, and the change in water storage (Hydrologic equation).

Impaired waters the Clean Water Act requires states to publish, every two years, an updated list of streams and lakes that are not meeting their designated uses because of excess pollutants. The list, known as the 303(d) list, is based on violations of water quality standards. For a list and maps of impaired waters in MN go to the TMDL Web page of MPCA. (MPCA)

Impervious Surface A hard surface that doesn't allow water to pass through or infiltrate and so the water runs off; examples are roads, roofs, sidewalks, driveways.

Lake management A process that involves study, assessment of problems, and decisions on how to maintain a lake as a thriving ecosystem. (MPCA)

Landscape Position Generally refers to the place on the landscape where waterbody or soil is located. We define landscape position generally by distance to Mississippi River and elevation above sea level; a lower landscape position being closer to the Mississippi River. Landscape position affects the surface and groundwater flow into and out of a waterbody.

(MPCA) MN Pollution Control Agency State agency that carries out the US EPA charge to implement Clean Water Act. For CCWD, primarily means our regulator of water quality for surface waters.

(MUSA) Metropolitan Urban Service Area is regional boundary of the orderly extension of sewer and water infrastructure for the regional planning authority, the Metropolitan Council of the Twin Cities.

Monitoring regular sampling of water at designated stream or lake sites to collect primarily water quality information such as temperature, dissolved oxygen (DO), phosphorus (P,TP), TSS, chlorophyll-a, and biota such as fish or insects (macroinvertebrates). The data are usually used to determine the health of the waterbody as compared to state standards.

(MS4) Municipal Separate Storm Sewer System A conveyance of or system of conveyances of stormwater including roads with drainage systems, streets, catchbasins, curbs, gutters, ditches, man-made channels, or stormdrains that are owned or operated by a governmental body. (MPCA)

(NPDES) National Pollutant Discharge Elimination System, Phase II the permitting system under the Clean Water Act & implemented in MN by the MPCA that regulates the discharge of stormwater for small MS4s such as Coon Creek Watershed District. It is a 5-year permit, currently under renewal, with the goal of controlling and reducing the discharge of pollutants from MS4s.

Nonpoint Source Pollution Polluted runoff -- nutrients and pollution sources not discharged from a single point, such as runoff from agricultural fields or feedlots. (MPCA)

Normal (weather events) usually refers to latest 30-year average

Nutrients Major elements (e.g., nitrogen and phosphorus) and trace elements that are essential for the growth of organisms; excess levels of these nutrients in aquatic habitats can degrade water quality by causing eutrophication.

(P, TP) Phosphorus, Total Phosphorus A nutrient essential to the growth of organisms, and is commonly the limiting factor in the primary productivity of surface water bodies. Total phosphorus includes the amount of phosphorus in solution (reactive) and in particle form. Agricultural drainage, wastewater, and certain industrial discharges are typical sources of phosphorus, and can contribute to the eutrophication of surface water bodies. Measured in milligrams per liter (mg/L). (MPCA)

Runoff That portion of precipitation or irrigation water that flows off a field or paved area and enters surface water (MPCA). Precipitation that flows overland to surface streams, rivers, and lakes.(MDNR)

(SAMP) Special Area Management Plan A management plan for a small defined area that needs coordinated management but may not be required to develop a Local Water Plan or SWPPP.

Sediment Solid material that is in suspension, is being transported, or has been moved from its original location by air, water, gravity or ice. (MPCA)

Stormwater the overland runoff of water from precipitation (primarily rain storms, snowmelt) and drainage.

(SWMP) StormWater Management Plan {formerly (SWPPP) Stormwater Pollution Prevention Plan} A plan for stormwater discharge that includes erosion prevention measures and sediment controls that, when implemented, will decrease soil erosion on a parcel of land [or] decrease off-site nonpoint pollution. (MPCA)

Stormwater treatment Methods, usually BMPs, used to reduce or capture pollutants from stormwater

Surface waters aboveground water, such as streams, rivers and lakes. (MPCA)

Suspended Solids small particles that hang in the water column and create turbid, or cloudy conditions.

(TMDL) Total Maximum Daily Load Calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards and an allocation of that amount to the pollutants source. (MPCA)

(TSS) Total Suspended Solids A measure of particles remaining dispersed in a liquid due to turbulent mixing that can create turbid or cloudy conditions. Measured in milligrams per liter (mg/L). Total suspended solids (TSS) cause: a) interference with light penetration, b) buildup of sediment and c) potential reduction in aquatic habitat. Solids also carry nutrients that cause algal blooms and other toxic pollutants that are harmful to fish. (MPCA)

Turbidity Indicates the degree to which light is scattered in water by suspended particulate material and soluble colored compounds. It provides an estimate of the muddiness or cloudiness of the water due to clay, silt, finely divided organic and inorganic matter, soluble colored organic compounds, plankton, and microscopic organisms. In streams, a major cause of elevated turbidity are disturbed and eroding soils carried by storm run-off to streams. Once in the stream system, elevated turbidity reduces the depth of photosynthesis and the feeding ability of aquatic organisms. When soils settle out in downstream reaches with slower flow, bed substrate becomes embedded, removing essential habitat for aquatic insects and other organisms. (MPCA)

Volume The amount of water flow or discharge, usually given in cubic feet per second (CFS) ft^3/s . ($1 \text{ ft}^3/\text{s} \sim 449$ gallons/minute)

Water Cycle The continuous movement of water from atmosphere to land and back through precipitation, infiltration and runoff, and evapotranspiration.

Water Quality A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose. (USGS)

Water Resources Water that is suitable for human use for drinking, recreation, irrigation, livestock production, industry, etc.

Watershed the total land area that drains water to a river, stream or lake. Also called catchment area, drainage area, or basin. (MDNR)

Watershed district Special unit of government for managing water resources whose boundaries follow a watershed. CCWD now has jurisdiction over 106 square miles of central Anoka County.

Wetlands those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (MPCA) An area of land that has mostly wet soil at least part of the year, is saturated with water either above or just below the surface and is covered with plants that have adapted to wet conditions. (MDNR)

(WCA) Wetland Conservation Act (1991) MN law that requires a regulatory program to achieve a no-net-loss of wetlands. CCWD is the wetland regulator throughout its boundary.