

Glossary*

A

acidic - A water solution or substrate that has a pH less than 7; one that has more hydrogen ions (H⁺) than hydroxide ions (OH⁻).

animal unit - One mature cow weighing 1000 pounds (454 kg). For instance, a dairy cow is 1.4 AU because it weighs almost 1.5 times a mature beef cow. The animal unit equivalents of animals smaller than beef cows are less than one - pigs = 0.4 AU and chickens = 0.033 AU.

B

before-after design - A term referring to experimental designs that require collection of data before and after implementation of experimental treatments such as livestock fencing, or hydrological manipulation.

Best Management Practices (BMPs) - Management practices (such as nutrient management) or structural practices (such as terraces) designed to reduce the quantities of pollutants — such as sediment, nitrogen, phosphorus, and animal wastes — that are washed by rain and snow melt from farms into nearby receiving waters, such as lakes, creeks, streams, rivers, estuaries, and groundwater. Agricultural or forestry methods that minimize adverse environmental effects.

biological integrity - The capability of supporting and maintaining a balanced, integrated, adaptive community of organisms having a species composition and functional organization comparable to that of the natural habitat in a region.

biota - The animals, plants, and microbes that live in a particular location or region.

bog - see Reference Communities, Appendix A.

buffer - A variable-width strip of vegetated land adjacent to a stream that is preserved from agriculture and development to protect water quality and aquatic and terrestrial habitats.

C

carapace - The upper shell of a turtle.

cloaca - The common chamber where the urinary duct, excretory duct, and reproductive ducts all empty into with the opening located on the underside of a turtle's tail. Cloacal refers to the region around the opening.

conservation easement - A written agreement between a landowner and a qualified conservation organization or public agency, in which the landowner (donor) promises to keep the land in its natural condition, without extensive disturbance. The conservation easement is similar to a declaration of restrictive covenants in a subdivision. That is, it contains a series of restrictions relating to various uses of land.

culvert - A metal or concrete pipe, or a constructed box-type conduit, through which water is carried under roads.

cumulative effects - The combined environmental impacts that accrue over time and space from a series of similar or related individual actions, contaminants, or projects.

D

drainage area - An area of land that drains to one point; watershed.

E

ecological integrity - A measure of the health of the entire area or community based on how much of the original physical, biological, and chemical components of the area remain intact.

ecosystem - All of the interrelated and interdependent components of a biological system, abiotic (air, soil, water) and biotic (plants, animals, microorganisms).

ectothermic - Also known as cold-blooded, relying on external environmental temperatures for regulation of internal body temperature.

emergent wetland - A shallow water or saturated soils wetland dominated by vegetation emerging directly from the water and/or mucky soils.

enhancement - Any improvement of a structural or functional attribute.

ephemeral - Short-lived; temporary.

evapotranspiration - The movement of water out of the system by evaporation and transpiration (evaporation from the leaves of plants).

F

fen - see Reference Communities, Appendix A.

flagship species - A highly recognizable or charismatic species used to gain attention and raise support for the conservation of a threatened habitat or ecosystem.

floodplain - (hydrological) The area flooded at measurable recurrence intervals of 10, 50, 100, 500 years; (ecological) Areas that are periodically inundated (often annually) by the overflow of rivers.

G

girdling - To cut through the bark and into the cambium layer of the stem or trunk, completely encircling it and causing the plant to die.

groundwater - The water that occurs beneath the Earth's surface between saturated soil and rock and that supplies wells and springs.

H

habitat - A specific area in which a particular type of plant or animal lives.

habitat improvement - Alteration of existing habitat to increase specific fish and wildlife functions and values. Improvement actions may provide new capabilities, new management options, new structures, revegetation, or other actions to influence one or several functions and values. Improvement differs from restoration in that it does not necessarily seek to reestablish or establish whole ecological communities, and does not necessarily seek to replace original functions and values.

habitat restoration - Rehabilitation of degraded or lost habitat.

hectare - A land measure equal to 2.47 acres (10,000 square meters).

herbicide - A substance used to destroy or inhibit the growth of vegetation.

hydric soils - Soils that form under saturated or flooded conditions; soils that form under conditions lacking oxygen.

hydrograph - Graph of water levels over time.

hydrologic budget - Applied to many freshwater wetlands and consisting of six parameters arranged mathematically as: $\text{Outflow} = \text{Precipitation} \pm \text{Groundwater} + \text{Surface water} - \text{Evaporation} - \text{Transpiration}$.

hydrologic cycle - The movement of water between the atmosphere and the surface of the Earth.

I

impervious surface - A surface, such as pavement or lawn, that cannot be easily penetrated by water.

inlet point - Point at which water is first apparent in a surface stream.

L

land use - The way land is developed and used in terms of the types of activities allowed (agriculture, residences, industries, etc.) and the size of buildings and structures permitted. Certain types of wetland problems are often associated with particular land uses, such as sedimentation from construction activities or timbering operations, intensive agriculture, or large amounts of pavement, rooftops, and other impervious surfaces.

landscape perspective - A way to view interactive parts of a landscape not necessarily all within one watershed.

M

matrix - An array or grouping.

metamorphic gneiss - Granite that has been altered due to extreme heat and pressure with a slightly acidic pH range.

metapopulation - A “population of populations” connected by migration of breeding individuals from one population to another.

marginal scutes - The plates found on the margin of a turtle’s upper shell.

mitigation - Actions taken with the goal of reducing the negative impacts of a particular land use or activity.

mitigation banking - Protection or improvement actions taken expressly for the purpose of compensating for unavoidable, necessary losses from specific future development actions.

monitor - To systematically and repeatedly measure conditions in order to track changes.

monoculture - Plant growth dominated by one or few species; very low diversity.

N

natural community - A distinct and reoccurring assemblage of populations of plants, animals, bacteria, fungi, and viruses naturally associated with each other and their physical environment.

nutrients - Chemicals that are needed by plants and animals for growth (e.g., nitrogen, phosphorus). In water resources, if other physical and chemical conditions are optimal, excessive amounts of nutrients can lead to degradation of water quality by promoting excessive growth, accumulation, and subsequent decay of plants, especially algae. Some nutrients can be toxic to animals at high concentrations.

O

obligate wetland species - Organisms that can survive only in wetland environments.

outlet point - Point at which water exits the wetland through an open channel.

overconsumption - Consumption of goods beyond what is needed; depletion of non-renewable resources in order to satisfy whimsical wants rather than needs.

P

pesticides - Chemical materials that are used for the control of undesirable insects, mammals, or other types of animals.

pH - The negative log of the hydrogen ion concentration ($-\log_{10} [H^+]$); a measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increased alkalinity and decreasing with increased acidity. The scale is 0-14.

piezometer - A small-diameter well used for monitoring groundwater levels.

plastron - The lower shell of a turtle.

prescribed burning - The practice of using controlled fires to reduce or eliminate the unincorporated organic matter of the forest floor, or low, undesirable vegetation.

R

regeneration - The young tree crop replacing older trees removed by harvest or disaster; the process of replacing old trees with young.

regolith - Fractured bedrock extending from below the soil down to solid rock.

restoration - The renewing or repairing of a natural system so that its ecological functions and qualities are comparable to its original, unaltered state.

riparian - Pertaining to, or living along, the bank of a river or floodplain.

runoff - Water that is not absorbed by soil and drains off the land into bodies of water, either in surface or subsurface flows.

S

scutes - Horny, large scales on the shell of a turtle.

secondary sexual dimorphic characters - Characteristics that distinguish males from females.

sediment - Particles and/or clumps of particles of sand, clay, silt, and plant or animal matter carried in water.

sexual dimorphism - Characteristics that differentiate males from females, i.e. larger size, coloration, or body shapes.

stakeholders - Anyone who lives in the watershed or has land management responsibilities in it. Individuals who represent the major land uses in the watershed. Stakeholders include government agencies, businesses, private individuals, and special interest groups.

stormwater - Rainwater that runs off the land (usually off of paved or compacted surfaces in urban or suburban areas) and is often routed into drain systems in order to prevent flooding.

stream - A watercourse that flows at all times, receiving water from groundwater and/or surface water supplies, such as other streams or rivers. The terms “river” and “stream” are often used interchangeably, depending on the size of the water body and the region in which it is located.

substrate - The surface with which an organism is associated; often refers to lake or stream beds.

V

variable - A water quality constituent (for example, total nitrogen pollutant concentration) or other measured factors (such as storm water flow, rainfall).

W

water table - The depth or level below which the ground is saturated with water.

watershed - The area of land from which rainfall (and/or snow melt) drains into a single point. Watersheds are also sometimes referred to as drainage basins or drainage areas. Ridges of higher ground generally form the boundaries between watersheds. At these boundaries, rain falling on one side flows toward the low point of one watershed, while rain falling on the other side of the boundary flows toward the low point of a different watershed.

weir - A device used to measure water flow.

wetland construction - A subset of wetland creation; creation of wetlands specifically for water quality improvement purposes, typically involving controlled outflow and a design that maximizes chosen treatment functions. Creation of an engineered system to simulate the water purification functional value of natural wetlands for human use and benefits.

wetland creation - The bringing into existence of a wetland, whether by accident or intent, where none existed previously, for purposes including mitigation, habitat provision, and water quality improvement.

wetland enhancement - Modification of a natural or created wetland to increase the level of one or more functions, typically to the detriment of other functions.

wetland restoration - Rehabilitation of previously existing wetland functions, from a more impaired to a less impaired or unimpaired state of overall function.

wetlands - 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.

*Some of the terms used in the glossary were excerpted from the following website: Osmond, D.L., D.E. Line, J.A. Gale, R.W. Gannon, C.B. Knott, K.A. Bartenhagen, M.H. Turner, S.W. Coffey, J. Spooner, J. Wells, J.C. Walker, L.L. Hargrove, M.A. Foster, P.D. Robillard, and D.W. Lehning. 1995. WATERSHEDSS: Water, Soil and Hydro-Environmental Decision Support System, <http://h2osparc.wq.ncsu.edu>