PDHonline Course C689 (2 PDH)

Wetland Restoration & Enhancement Planning

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2020

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Appendix 13A Glossary

Aeolian Earth materials deposited and shaped by wind.

Aerobic The condition which exists when molecular oxygen is present.

Aesthetic quality The societal value of a landscape as determined by the impression made on the mind and the meaning imparted from this impression.

Anaerobic The condition which exists in the absence of molecular oxygen.

Anisotrophy A soil condition where the vertical hydraulic conductivity and horizontal hydraulic conductivity vary significantly. In most cases, the horizontal conductivity is greater than the vertical.

Alluvial Earth materials deposited and shaped by streamflows.

Aquatic organism passage The provision of connectivity of habitat for fish, herpetofauna, or mammals.

Aquifer Water bearing stratum.

Available water capacity (AWC) Amount of water held in the soil available for use by plants expressed a percent volume of water per unit volume of soil. The difference between field capacity and permanent wilting point.

Banquette A berm at the toe of the landward side of a dike or levee constructed to provide structural stability.

Baseflow Long-term streamflow rate which exists between storm runoff events. Water is provided by ground water discharge into the stream.

Bedload The portion of the stream's sediment transport which is moved immediately above the streambed, consisting of coarse particles such as sand, gravel, or cobbles. The transport method is due to tractive stress imparted by the water column. Bedload material is too large to be in colloidal suspension in the water column.

Biological diversity A function describing the sum of all species of plants and animals. An ecosystem is considered to be healthy when it when it maximizes the biological diversity potential for its HGM wetland class. In addition, biological diversity also refers to the genetic diversity found within individuals and populations of species and the diversity of ecosystems on a landscape scale.

Biomass The total mass or amount of living organisms in a particular area or volume.

Buoyant force Force acting upward on submerged structures equal to the weight of water displaced by the structure.

Capillary water Water held in the soil voids against the force of gravity. Can be removed by plant root tension.

Channel-forming discharge See geomorphic bankfull discharge.

Channel geometry A stream channel's shape defined by parameters such as width, depth, sinuousity, area, and radius of curvature.

Channel incision A condition resulting from a lowering of a stream's bed. Usually an indication of channel instability caused from erosion, interruption of sediment transport, or change in stream hydrograph.

Connectivity The function that describes how a corridor or matrix is connected or spatially contiguous. Network connectivity is the degree to which all nodes in a system are linked by corridors.

Created wetland See Wetland creation.

Depression The wetland HGM class created by topographic depressions in an upland landscape position which store water for release by ground water outflow and/or evapotranspiration. Also, any topographic depression that stores water in the short or long term.

Detritus Accumulation of decomposed organic debris.

Dike Barrier, usually of earth, constructed to store water or prevent the entry of water from another location.

Dispersed clays Clays that disperse or deflocculate easily and rapidly in water of low salt content. Usually high in absorbed sodium.

Dominant discharge See Geomorphic bankfull discharge

Dominant water source The source of water which has the dominant effect on the wetlands hydroperiod and hydrologic regime.

Drainable porosity The ratio of the volume of water held in soil voids that can be removed by free drainage to a unit volume.

Drainage blocks Structures installed for the purpose of reversing the effects of surface and surface drainage features.

Dry unit weight The weight per unit volume of the air dry soil matrix.

Early successional stage The earliest step in a continuum leading to a mature biological community.

Ecological community An assemblage of species of a particular time and space.

Ecosystem A functioning system that includes the organisms of a natural community together with their environment. Derived from “ecological system.”

Ecotone A relatively narrow overlap zone between two ecological communities.

Emergent Dominated by erect, rooted, herbaceous plants, excluding mosses and lichens.

Endosaturation Soil saturation caused by water entering the soil from beneath the soil surface.

Enhancement See Wetland enhancement.

Episaturation Soil saturation caused by water entering from the soil surface.

Estuarine Of or relating to tidal estuaries.

Estuarine fringe Wetland class in the HGM system existing in positions where tidal flows maintain wetland hydrology from sea water or tidally influenced freshwater.

Eutrophication Process by which a lake or pond becomes rich in plant nutrient minerals and organisms but deficient in oxygen because of the oxygen demand created by decomposition of excess plants and organisms.

Evaporation The conversion of water from liquid to water vapor, occurring at a free water surface or wet soil surface.

Evapotranspiration The sum of evaporation from free water or wet soil surfaces and transpiration from plants.

Discharge wetlands Depressional HGM class wetlands that gain more ground water inflow than they lose as ground water outflow.

Faunal Relating to animals of a specified region or time.

Fetch The distance across a body of open water in the direction of prevailing wind. This distance dictates the magnitude of waves that can impact a shoreline.

Field capacity Amount held in the soil after free drainage has occurred which is available for uptake by plants, expressed as percent of water volume per unit volume of soil.

Fish passage The provision of water flow of suitable depth, velocity, frequency, and duration for fish to move upstream, downstream, and into and out of flood plain habitats.

Fluvial Influenced or formed by stream processes.

Freeboard Height added to a constructed embankment to account for known or unknown factors which might cause overtopping by water during severe storm events.

Function A process performed by a wetland. The process is described by a measurable variable or variables.

Functional assessment Quantitative measurement of variables relating to wetland function and comparison of results to a reference condition.

Geomorphic bankfull discharge The small range of streamflows responsible for forming the stream channel geometry. Flows in excess of this range enter the stream's flood plain, but do not occur frequently enough to do the majority of channel-forming work. Flows less than this range occur with high frequency, but do not provide enough stream power to do the majority of channel-forming work.

Geomorphic setting The relative landscape position of a geologic element in relation to other elements, which was formed by the same physical process.

Geomorphology The subdiscipline of geology that deals with the nature and origin of the Earth's topographic and near surface features.

Geotechnical investigation Examination, testing, and documentation of surface and subsurface soil and rock for the purpose of determining engineering design parameters.

Geotextile Manmade material that has permeability and strength properties suitable for use in conjunction with soil or rock as a part of a geotechnical system.

Gilgai Microtopographic feature formed by the expansion and contraction of soils. Common to vertisols.

Gleyed Descriptive term describing soils with bluish, greenish, or grayish colors resulting from removal of elemental iron from the soil matrix. Indicator of a hydric soil.

Ground water Water existing below the ground surface in the voids of soil or rock.

Habitat fragmentation The breakup of a large contiguous area of habitat into isolated patches that are not linked by corridors.

Herpetofauna Reptiles and amphibians.

Hydraulic conductivity Parameter that quantifies the ability of water to move through soil. Expressed in terms of distance versus time.

Hydric soil Soils that are saturated for a sufficient frequency or duration to develop anaerobic conditions.

Hydrodynamics The direction and flow rate of water movement.

Hydrogeomorphic (HGM) System of classification that uses landscape position, dominant water source, and hydrodynamics to classify wetlands.

Hydrologic regime The area of a wetland defined by a certain range of water depth.

Hydroperiod The period of time, usually recurring seasonally, in which wetland hydrology exists in a wetland.

Interfluve Landscape position that exists in areas between stream corridors.

Lacustrine Of or relating to lakes.

Lacustrine fringe Wetland class in the HGM system existing in locations where wetland hydrology is provided by lake water.

Landscape A heterogeneous land area composed of a cluster of interacting ecosystems that are repeated in similar form throughout.

Landscape ecology The study of the structure, function, and change in a landscape.

Landscape patterns The arrangement of parts, elements, or details of the landscape that suggests a design of natural or human origin.

Landscape structure The distribution of energy, materials, and species in relation to the sizes, shapes, numbers, kinds, and configuration of landscape elements or ecosystems.

Macrophyte A megascopic plant, especially in an aquatic environment.

Macrotopography Land surface features forming depressions deeper than 6 inches in height or depth.

Maintenance Activities conducted to keep installed structural or vegetative practices at their original level of function or at some minimum sustained level of function.

Management Activities conducted on a project, performed based on monitoring results that are needed to maintain or change function performance based on changing site conditions.

Microbes Microscopic organisms.

Microtopography Land surface features forming depressions shallower than 6 inches in depth.

Mineral soil flat Wetland class in the HGM system existing in interfluves (uplands) and formed on nonorganic soils on flat or nearly flat landscapes.

Monitoring Visual observation, measurement, testing, or remote sensing of site conditions on a periodic basis for the purpose of determining the performance and trend of functions and site conditions. Done to determine need for modification or maintenance on a project and to provide information for planning considerations for future projects on other sites.

Monostand A single species plant community.

Mottles See Redoximorphic features.

Muck Soil with a significant fraction of decomposed plant material in which individual plant fibers can no longer be detected.

Organic soil Soil with a significant fraction of decomposed plant material.

Organic soil flat Wetland class in the HGM system existing in interfluves or extensive relic lake bottoms where the wetland hydrology is created by the accumulation of decomposed plant material.

Peat Soil with a significant fraction of decomposed plant material in which individual plant fibers can still be detected.

Permanent wilting point The water content of soil, expressed as percent of volume of water per unit volume of soil at which plants begin to expire due to lack of water.

Photosynthesis The biological syntheses of chemical compounds in the presence of light.

Phreatic line The level at which water appears in an open borehole.

Pore water Water stored in the void spaces of the soil matrix.

Porosity The ratio of the volume of voids in the soil (occupied by air or water) to a unit volume. A dimensionless parameter.

Precipitation Rainfall or snowfall.

Propagule Any piece of plant material that will form a new plant.

Quality assurance System of oversight of a construction contractor provided to determine that quality control processes are adequate and documenting quality of completed work.

Quality control System provided by a construction contractor to ensure that work is performed in accordance with contract plans and specifications.

Recharge wetlands Depressional HGM class wetlands that gain less ground water inflow than they lose as ground water outflow.

Redoxomorphic features Features formed by the processes of reduction, translocation, or oxidation of Fe and Mn oxides. Formerly called mottles and low chroma colors.

Redox potential A measure of the potential electron exchange in the soil.

Restoration See Wetland restoration.

Rhizosphere The aerobic environment surrounding root hairs of hydrophytes.

Riparian Of or relating to the physical and biological conditions existing adjacent to a stream, formed by and dependent upon stream processes.

Riverine Wetland class in the HGM system existing on landscapes formed by stream processes.

Saturated unit weight The weight per unit volume of the water saturated soil matrix.

Seedbank Residual viable seeds, tubers, or propagules in or on the soil.

Slope Wetland class in the HGM system existing on sloped landscape positions.

Soil bioengineering The integrated use of plant materials with earth material to form a functioning system. Used to provide strength, stability, resistance to erosion, or durability to a part of the landscape.

Soil texture The physical proportion of sand, silt, and clay size particles in the soil matrix.

Species diversity A measure combining species richness with the evenness of distribution of species within an area (often confused with species richness).

Species richness The number of different species within an area (often confused with species diversity).

Spillway An open channel of earth, vegetated earth, or earth with armoring constructed for the purpose of safely conveying water past an embankment or structure for water control.

Stratigraphic slope wetland Subclass of slope wetlands in the HGM system where wetland hydrology is caused by subsurface water forced to the surface by low permeability layers of soil or rock.

Stream corridor Landscape position existing adjacent to streams, with hydrology, soils, geology, vegetation, and habitat formed by or dependent upon stream processes.

Structure for water control A component of a water management system constructed to convey water, control the rate or direction of flow, or maintain a desired water surface.

Substrate The soil foundation of a biological system.

Substrate anoxia The condition of total lack of oxygen in the substrate.

Surface runoff Water from precipitation which does not infiltrate into the soil and is not stored in local surface depressions.

Surface storage Water stored above the ground surface in a topographic depression.

Tidal prism The total volume of water entering and leaving a tidally influenced area due to the cyclic action of tides.

Topographic slope wetland Subclass of slope wetlands in the HGM system where wetland hydrology is caused by subsurface forced to the surface by concave topography.

Transpiration The discharge of liquid water from plant stems and leaves into the atmosphere as water vapor.

Tuber A short, thickened, fleshy part of an underground stem.

Variable A measurable parameter which describes a function, either alone or with other variables.

Vertical structure The different height components within a vegetative community. May include herbs, shrubs, saplings, understory, canopy, and supracanopy species.

Water budget The accounting of inflow, outflow, and storage of water.

Water control structure See Structure for water control.

Wetlands Lands that have a predominance or hydric soil are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions and, under normal circumstances, do support a prevalence of hydrophytic vegetation (NFSAM).

Wetland creation The creation of a wetland on a site that was historically nonwetland.

Wetland enhancement The rehabilitation or reestablishment of a degraded wetland and /or the modification of an existing wetland that augments specific site conditions for specific species or purposes, possibly at the expense of other functions and other species.

Wetland restoration The rehabilitation of a degraded wetland or the reestablishment of a wetland so that soils, hydrology, vegetative community, and habitat are a close approximation of the original natural condition that existed prior to modification to the extent practicable.