

# GLOSSARY

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The following list is representative of terms used by various disciplines when working with construction sites and erosion and sediment control measures. The definitions have come from several sources; however, the majority originated in the Resource Conservation Glossary (Soil Conservation Society of America 1970).

**Aesthetics:** The appeal or beauty of objects, animals, plants, scenes, and natural or improved areas to the viewer and the appreciation for such items.

**Aggregate:** Crushed rock or gravel screened to different sizes for various uses in construction projects.

**Alluvium:** A general term for all material deposited or in transit by streams, including gravel, sand, silt, clay, and all variations and mixtures of these materials. Unless noted, alluvium is unconsolidated.

**Amendment:** Any material, such as lime, gypsum, sawdust, or synthetic conditioners that is worked into the soil to make it more productive. The term is used most commonly for added materials other than fertilizer.

**Angle of repose:** Angle between the horizontal and the maximum slope that soil assumes by natural process.

**Annual plant:** A plant that completes its life cycle and dies in one year or less.

**Apron:** A floor or lining to protect a surface from erosion.

**Aquifer:** A geologic formation or structure that transmits water in sufficient quantity to supply the needs for a water development; usually saturated sands, gravel, fractures, and cavernous rock. The term "water-bearing" is sometimes used synonymously with aquifer when a stratum furnished water for a special use.

**Available nutrient:** That portion of any element or compound in the soil that readily can be absorbed and assimilated by growing plants.

**Bedrock:** The solid rock underlying soils and in depths ranging from zero (where exposed by erosion) to several hundred feet.

**Berm:** An area that breaks the continuity of a slope.

**Borrow:** Surface excavated area. Material has been removed to facilitate construction.

**Bunchgrass:** A grass that does not have rhizomes or stolons and forms a bunch or tuft.

**Channel:** A natural stream that conveys water; a ditch or channel excavated for the flow of water.

**Channel stabilization:** Erosion prevention and stabilization of velocity distribution in a channel using jetties, drops, revetments, vegetation, and other measures.

**Clay (soils):** (1) A mineral soil separate consisting of particles less than 0.002 mm in equivalent diameter. (2) A soil textural class. (3) A fine-grained soil that has a high plasticity index in relation to the liquid limits.

**Clean Water Act (CWA):** The Federal Water Pollution Control Act.

**Clod:** A compact, coherent mass of soil ranging in size from 2 to 5 inches and much larger, produced artificially, usually by the activity by digging etc., especially when these operations are performed on soils that are either too wet or too dry for normal soil movement.

**Compaction:** The process by which the soil grains are rearranged to decrease the void space and bring the grains into closer contact with one another, and thereby increase the weight of solid material per cubic foot.

**Contour:** An imaginary line on the surface of the ground connecting points of the same elevation or a line drawn on a map connecting points of the same elevation.

**Cover:** (1) Vegetation or other material providing protection. (2) Ground and soils, any vegetation producing a protecting mat on or just above the soil surface. (3) Stream, generally trees, large shrubs, grasses and forbs that shade and otherwise protect the stream from erosion, temperature elevation or sloughing of banks. (4) Vegetation, all plants of all sizes and species found on an area, regardless of whether they have forage or other value. (5) Wildlife, plants, or objects used by wild animals for nesting, rearing of young, resting, escape from predators, or protection from adverse environmental conditions.

**Cover crop:** A close-growing crop grown primarily for the purpose of protecting and improving soil between periods of regular crop production.

**Critical area:** A severely eroded sediment-producing area that requires special management to establish and maintain vegetation in order to stabilize soil conditions.

**Cut:** Portion of land surface or area from which soil has been removed, or will be removed by excavation. The depth below original ground surface to excavated surface.

**Cut-and-fill:** Process of earth moving by excavating part of an area and using the excavated material for adjacent embankments or fill areas.

**Debris:** The loose material arising from the disintegration of rocks and vegetative material and transportable by streams, ice, or floods.

**Detention pond:** A structure built to divert part or all of the runoff water from a land area and to release the water under a controlled condition.

**Drainage:** The removal of excess surface water or ground water from land.

**Drainage, soil:** As a natural condition of the soil, soil drainage refers to the frequency and duration of periods when the soil is free of saturation. In well-drained soils, the water is removed

readily but not rapidly; in poorly drained soils, the root zone is waterlogged for long periods unless artificially drained, and the roots of ordinary crop plants cannot get oxygen. In excessively drained soils, the water is removed so completely that most crop plants suffer from lack of water. Excessively drained soils are a result of excessive runoff due to steep slopes or low available water holding capacity due to small amounts of silt, clay, and organic matter in the soil material.

**Ecology:** The study of interrelationships of organisms to one another and to their environment.

**Edge:** The transitional zone where one cover type ends and another begins.

**Environment:** The sum total of all external conditions that may act upon an organism or community to influence its development or existence.

**Erosion:** (1) The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep. (2) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. The following terms are used to describe different types of water erosion.

**Accelerated erosion:** Erosion much more rapid than normal, natural, or geologic erosion, primarily as a result of the influence of the activities of man or in some cases, of other animals or natural KD that expose base surfaces, for example: fires or flooding.

**Rill erosion:** An erosion process in which numerous small channels only several inches deep are formed. This occurs mainly on recently tilled soil.

**Sheet erosion:** The removal of a fairly uniform layer of soil from the land surface by runoff water.

**Essential element (plant nutrition):** A chemical element required for the normal growth and reproduction of plants.

**Exposure:** Direction of slope with respect to points of a compass.

**Fertility (soil):** The quality of a soil that enables it to provide nutrients in adequate amounts and in proper balance for the growth of specified plants when other growth factors, such as light, moisture, temperature, and the physical condition of the soil, are favorable.

**Filter strip:** Strip of permanent vegetation above ponds, diversion terraces and other structures to retard flow of runoff water and thereby reduce sediment flow.

**Final Stabilization:** Period when all soil disturbing activities at the site have been completed, and a uniform perennial vegetative cover with a density of 70% for the area has been established or equivalent stabilization measures have been employed.

**Flora:** The sum total of the kinds of plants in an area at one time.

**Forb:** An herbaceous plant which is not a grass, sedge, or rush.

**Forest:** A plant association predominantly of trees and other woody vegetation.

**fps:** Abbreviation for feet per second.

**Gabion:** A rectangular or cylindrical wire mesh cage filled with rock and used as a protecting apron, revetment, retaining wall, etc., against erosion.

**General Permit:** An NPDES permit issued under 40 CFR 122.28 that authorizes a category of discharges under the CWA within a geographical area. A general permit is not specifically tailored for an individual discharge.

**Grade:** (1) The slope of a road, channel or natural ground or any surface prepared for the support of construction like paving. (2) To finish the surface of a roadbed, top of embankment, or bottom of excavation.

**Gradient:** A measure of the earth surface slope relating changes in horizontal distance to changes in vertical elevation.

**Grass:** A member of the botanical family Gramineae, characterized by bladelike leaves arranged on the culm or stem in two ranks.

**Grassed Channel (waterway):** A natural or constructed waterway, usually broad and shallow, covered with erosion resistant grasses, used to conduct surface water from land.

**Ground cover:** Grasses or other plants grown to keep soil from being blown or washed away.

**Ground water:** Subsurface water in the zone of saturation.

**Gully:** A channel or miniature valley cut by concentrated runoff but through which water commonly flows only during and immediately after heavy rains or during the melting of snow. The gullies may be branching or linear, rather long, narrow, and of uniform width. The difference between gully and rill is the depth. A gully is sufficiently deep that it would not be obliterated by tillage operations. A rill of lesser depth can be smoothed by regular tillage equipment.

**Heaving:** The partial lifting of plants out of the ground, frequently breaking their roots as a result of freezing and thawing of the surface soil during winter. Structures built on top of the ground may also heave and become misaligned.

**Heavy metals:** Metals that may be present in industrial wastes that pose long-term environmental hazards. These include cadmium, cobalt, chromium, copper, mercury, nickel, lead and zinc.

**Impervious soil:** A soil through which water, air, or roots cannot penetrate. No soil is impervious to water and air all the time.

**Infiltration:** The gradual downward flow of water from the surface through soil to ground water and water table reservoirs.

**Interceptor drain:** Surface or subsurface drain, or a combination of both, designed and installed to intercept flowing water.

**Interseeding:** Seeding into established vegetation.

**Land capability:** The suitability of land for use without permanent damage. The risks of land damage from erosion and the difficulties in land use because of the physical land characteristics.

**Legume:** A member of the Leguminosae family, one of the most important and widely distributed plant families. Leaves are alternate, have stipules and are usually compound. Most legumes are nitrogen-fixing plants.

**Legume inoculation:** The addition of nitrogen-fixing bacteria to legume seed or to the soil in which the seed is to be planted.

**Loess:** Soil material transported and deposited by wind and consisting of predominantly silt-sized particles.

**Map, topographic:** A representation of the physical features of a portion of the earth's surface as a plane surface, on which terrain relief is shown by a system of lines, each representing a constant elevation above a datum or reference plane.

**Marsh:** A periodically wet or continually flooded area where the surface is not deeply submerged; covered predominantly with sedges, cattails, rushes, or other hydrophytic plants.

**Mineral soil:** A soil consisting predominantly of, and having its properties determined by, mineral matter usually containing less than 20% organic matter, but sometimes containing an organic surface layer up to 30 cm thick.

**Mulch:** A natural or artificial layer of plant residue or other materials, such as sawdust, straw, leaves, bark, sand, or gravel, on the soil surface to protect the soil and plant roots from the effects of raindrops, soil crusting, freezing, evaporation, etc.

**Natural revegetation:** Natural re-establishment of plants; propagation of new plants over an area by natural processes.

**Niche:** A habitat that supplies the factors necessary for the existence of an organism or species.

**Nitrogen-fixing plant:** A plant that can assimilate and fix the free nitrogen of the atmosphere with the aid of bacteria living in the root nodules. Legumes with the associated rhizobium bacteria in the root nodules are the most important nitrogen-fixing plants.

**NPDES:** National Pollutant Discharge Elimination System.

**Nurse Crop:** Seeding of a short-life crop with a permanent species to aid in erosion control until the permanent species are established.

**Nutrients:** Elements or compounds, essential as raw materials for organism growth and development, such as carbon, oxygen, nitrogen, and phosphorus.

**Organic matter:** Decomposition products of plant and animal materials such as litter, leaves, and manure.

**Organic soil:** A soil that contains a high percentage, 20% to 30%, of organic matter throughout the soil mixture.

**Perennial plant:** A plant that normally lives three or more years.

**Permeability, soil:** The quality of a soil horizon that enables water or air to move through it. The permeability of a soil may be limited by the presence of one nearly impermeable horizon even though the others are permeable.

**pH:** The measure of hydrogen. Neutral is pH 7.0. All pH values below 7.0 are acidic, and all above 7.0 are alkaline.

**Planting season:** The period of the year when planting or transplanting is considered advisable from the standpoint of successful establishment.

**Rehabilitation:** Implies that the land will be returned to a form and productivity in conformity with a prior land use including a stable ecological state that does not contribute substantially to environmental deterioration and is consistent with surrounding aesthetic values.

**Revegetation:** Plants or growth that replaces original ground cover following land disturbance.

**Revetment:** Facing of stone or other material, either permanent or temporary, placed along the edge of a stream to stabilize the bank, and to protect it from the erosive action of the stream.

**Riparian land:** Land situated along the bank of a stream or other body of water.

**Ripper:** Any implement such as a subsoiler, chisel plow, or ripper used to break apart compacted soil layers below the normal 6 inch depth.

**Riprap:** Broken rock, cobbles, or boulders placed on earth surfaces, such as the face of a dam or the bank of a stream, for protection against the action of water or waves.

**Root zone:** The part of the soil that is penetrated, or can be penetrated, by plant roots.

**Runoff (hydraulics):** That portion of the precipitation on a drainage area that is discharged from the area. Types include surface runoff and ground water runoff (seepage).

**Sand lens:** Lenticular band of sand in sedimentary banded material.

**Section (401)(a) Certification:** A requirement of Section 401(a) of the Clean Water Act that all federally issued permits be certified by the state in which the discharge occurs. The state certifies that the proposed permit will comply with state water quality standards and other state requirements.

**Sediment:** Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice, and has come to rest on the earth's surface, either above or below sea level.

**Seed:** The fertilized and ripened ovule of a seed plant that is capable, under suitable conditions, of independently developing into a plant similar to the one that produced it. Types of seeds include:

- Certified seed:** The progeny of foundation or registered seed that is so handled as to maintain satisfactory genetic identity and purity and that has been approved and certified by the certifying agency.
- Commercial seed:** A term used to designate other than recognized varieties of seed in commercial trade.
- Dormant seed:** An internal condition of the chemistry or stage of development of a viable seed that prevents its germination, although good growing temperatures and moisture are provided.
- Firm seed:** Dormant seeds, other than hard seeds, that neither germinate nor decay during the prescribed test period under the prescribed conditions. Firm, ungerminated seeds may be alive or dead.
- Hard seed:** A physiological condition of seed in which some seeds do not absorb water or oxygen and germinate when a favorable environment is provided.
- Seedbed:** The soil prepared by natural or artificial means to promote the germination of seed and the growth of seedlings.
- Seeding, direct:** In broadcast seeding, seed is sown over the entire area. Partial seeding may be done in strips, furrow rows, surface roughened area, or for spot seeding.
- Seed purity:** The percentage of the desired species in relation to the total quantity of other species, weed seeds, and foreign matter.
- Seepage:** Water escaping through, or emerging from, the ground along an extensive line or surface, as contrasted with a spring where the water emerges from a localized spot.
- Shale:** Sedimentary or stratified rock structure generally formed by the consolidation of clay or claylike material.
- Shrub:** A woody perennial plant differing from a tree by its low stature and generally producing several basal shoots.
- Sod:** A closely-knit ground cover growth, primarily of grasses.
- Soil conditioning:** Those essential treatment measures of a physical, chemical, and/or biological nature that are applied to critical areas 1 to 6 months in advance of the establishment of vegetation.
- Soil horizon:** A layer of soil, approximately parallel to the soil surface, with distinct characteristics produced by soil-forming processes.
- Soil material:** Any drastically disturbed portion of the earth's surface that could consist of one or more of the soil horizons.
- Soil structure:** The combination or arrangement of primary soil particles into secondary particles or units. The secondary particles are classified on the basis of size, shape, and degree of distinctness into classes, types, and grades.

**Soil survey:** A general term for the examination of soils in the field and laboratories. This includes the mapping of different kinds of soils. The adaptability of the different kinds of soil is also noted.

**Soil texture:** Soil texture class names of soil are based on the relative percentages of sand, silt, and clay.

**Stubble:** The basal portion of plants remaining after the top portion has been harvested.

**Subsoil:** In soils with weak profile development, the subsoil can be defined as the soil below the normal tilled area.

**Subsoiling:** The tillage of subsurface soil for the purpose of breaking up dense layers that restrict water movement and root penetration.

**Surface water:** All water whose surface is exposed to the atmosphere.

**Tacking:** The process of binding mulch fibers together by the addition of a sprayed chemical compound.

**Terrace:** An embankment or combination of an embankment and channel, constructed across a slope to control erosion by diverting surface water.

**Tile drain:** Designed to carry excess water from the soil.

**Topsoil:** The unconsolidated earthy material that exists in its natural state and is or can be made favorable to the growth of desirable vegetation. Usually the A-horizon of soils with developed profiles.

**Vegetation:** Plants in general, or the sum total of plant life in an area.

**Wasted:** Excess soil deposits resulting from construction.

**Watershed area:** All land and water within the confines of a drainage divide, or a water problem area consisting in whole or in part of land needing drainage.

**Weed:** An undesired uncultivated plant.

**Xerophyte:** A plant capable of surviving periods of prolonged moisture deficiency.