# SECTION 10 - GLOSSARY

There are many terms used today in erosion and sediment control, work in environmental quality, resource planning, and air and water quality programs that many people do not fully understand. This glossary contains some terms not used in this publication. An attempt has been made to assemble a list of terms used in the field of Natural Resource Conservation in addition to those found in this guide book to aid the users to have a better understanding of the subject.

**Acid Soil** - Soil with pH value of less than 7.0. The term generally is applied to the surface layers or root zone unless otherwise specified.

**Acre-Foot** - The volume of water that will cover one acre to a depth of one foot. One acre-foot contains 325,851 gallons.

**Aerial Photograph** - A photograph of the earth's surface taken from airborne equipment, sometimes called aerial photo or air photograph.

**Aggradation** - The process of building up a surface or channel by deposition; the opposite of degradation. The process is sometimes referred to as siltation.

**Agricultural Land** - Land in farms regularly used for agricultural production. The term includes all land devoted to crop or livestock enterprises, for example, the farmstead lands, drainage and irrigation ditches, water supply, cropland, and grazing land of every kind in farms.

**Agronomic Practices** - The soil and crop activities employed in the production of farm crops, such as selecting seed, seedbed preparation, fertilizing, liming, manuring, seeding, cultivation, harvesting, curing, crop sequence, crop rotations, cover crops, strip cropping, pasture development, etc.

**Alluvial** - Pertaining to material that is transported and deposited by running water.

**Angle of Repose** - The angle between the horizontal and the maximum slope that a soil assumes through natural processes.

**Annual Flood** - The highest peak discharge in a water year.

**Anti-seep Collar** - A device constructed around a pipe or other conduit placed through a dam, dike, or levee for the purpose of reducing seepage losses and piping failures.

**Anti-vortex Device** - A facility placed at the entrance to a pipe conduit structure such as a drop inlet spillway or hood inlet spillway to prevent air from entering the structure when the pipe is flowing full.

**Apron** - A floor or lining to protect a surface from erosion. For example, the pavement below chutes, spillways, or at the toes of dams.

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

**Area, Natural** - 1. An area set aside indefinitely to preserve a representative unit of a major forest, range, or wetland type primarily for the purposes of science, research, or education. 2. A site or area in its natural state undisturbed by man's activities.

**Auxiliary Spillway** - A dam spillway built to carry runoff in excess of that carried by the principal spillway.

**Available Water-holding Capacity (soils)** - The capacity to store water available for use by plants, usually expressed in linear depths of water per unit depth of soil. Commonly defined as the difference between the percentage of soil water at field capacity and the percentage at wilting point. This difference multiplied by the bulk density and divided by 100 gives a value in surface inches of water per inch depth of soil. See field capacity; wilting point.

**Base Flow** - The stream discharge from ground water runoff.

**Bedding** - The process of laying a drain or other conduit in its trench and tamping earth around the conduit to form its bed. The manner of bedding may be specified to conform to the earth load and conduit strength.

**Bedload** - The sediment that moves by sliding, rolling, or bounding on or very near the streambed; sediment moved mainly by tractive or gravitational forces or both but at velocities less than the surrounding flow.

**Bedrock** - The more or less solid rock in place either on or beneath the surface of the earth. It may be soft or hard and have a smooth or irregular surface.

**Berm** - A ledge or shelf that breaks the continuity of a slope, as a ledge across the face of a dam or the shoulder along a paved road.

**Blind Drain** - A type of drain consisting of an excavated trench refilled with previous materials, such as coarse sand, gravel or crushed stones, through whose voids water percolates and flows toward an outlet. Often referred to as a French drain because of its initial development and widespread use in France.

**Borrow Area** - A source of earth fill materials used in the construction of embankments or other earth fill structures.

**Bottomlands** - A term often used to define lowlands adjacent to streams (flood plains in rural areas).

**Broadcast Seeding** - Any method of planting seed which scatters the seed in a random pattern on the surface of the soil.

**Cantilever Outlet** - A discharge pipe extending beyond its support.

**Cascades** - Section of stream without pools consisting primarily of bedrock, rubble, gravel, or other such material. Current usually more swift than in riffles.

**Channel** - A natural or artificial stream that conveys water. Channels are often further classified by their size and purpose. For example, there are primary and secondary channels based on size, but diversions, waterways, and chutes are also channels.

**Channel Improvement** - The improvement of the flow characteristics of a channel by clearing, excavating, realigning, lining, or other means in order to increase its capacity. The term is sometimes used to connote channel stabilization.

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

**Check Dam** - Small dam constructed in a gully or other small water- course to decrease the streamflow velocity, minimize channel scour, and promote deposition of sediment.

**Chiseling** - 1. Performing tillage which breaks or loosens the soil without inverting it. 2. Tilling the soil with a chisel implement. The depth of chiseling is arbitrarily limited to 16 inches or less; beyond 16 inches, the tillage becomes subsoiling.

**Chute** - A high velocity, open channel for conveying water to a lower level without erosion.

**Clay** - 1. A soil textural class including particles less than 0.002 millimeters in diameter. 2. A fine-grained soil with a high plasticity index in relation to the liquid limits. 3. Soils with a high clay content which are difficult to excavate or till; sometimes called heavy soils.

**Clearcutting (forestry)** - A method of cutting that removes the entire timber stand on the area cut. Contrast with selective cutting.

**Climate** - The sum total of all atmospheric or meteorological influences, principally temperature, moisture, wind, pressure, and evaporation, which combine to characterize a region and give it individuality by influencing the nature of its land forms, soils, vegetation, and land use. Contrast with weather.

**Climax Vegetation** - Relatively stable vegetation in equilibrium with its environment and with good reproduction of the dominant plants.

**Closed Drain** - An underground pipe for intercepting and conveying water.

**Compost** - Organic residues or a mixture of organic residues and soil that have been piled and allowed to undergo biological decomposition.

**Conduit** - Any structure intended for the conveyance of water, whether open or closed.

**Conservation** - The protection, improvement, and wise use of natural resources according to nature's principles that will assure their highest environmental, economic and social benefits.

**Conservation District** - A public organization created under state enabling law or a special-purpose district to develop and carry out a program of soil, water, and related resource conservation, use, and development within its boundaries; usually a subdivision of state government with a local governing body and always with limited authorities. Often it is called a soil conservation district or a soil and water conservation district.

**Contour** - An imaginary line on the surface of the earth connecting points of the same elevation or a line drawn on a map connecting points of the same elevation. This term may include allowable deviations from the true contour.

**Core Wall** - A wall of masonry, sheet piling, or compacted earth placed near the center of a dam or embankment to reduce seepage.

**Cover, Ground** - Any vegetation producing mat on or just above the soil surface. In forestry, low-growing shrubs, vines, and herbaceous plants under the trees.

**Cover, Vegetative** - All plants of all sizes and species found on an area, irrespective of whether they have forage or other value. Syn. plant cover.

**Cradle** - A device, usually concrete, used to support a pipe conduit.

**Crest** - 1. The top of a dam, dike, spillway or weir, frequently restricted to overflow portion. 2. The summit of a wave or peak of a flood.

**Cubic Foot Per Second** - The rate of fluid flow at which 1 cubic foot of fluid passes a measuring point in one second. Abbreviated as cfs. Syn. with second-foot and CUSEC.

**Cut** - 1. A portion of land surface or area from which earth has been removed or will be removed by excavation. 2. The depth below original ground surface to excavated surface.

**Cut-and-Fill** - The process of earth moving by excavating part of an area and using the excavated material for adjacent embankments of fill areas.

**Cutoff** - 1. A wall, collar, narrow excavation, or other structure, such as a trench, constructed along the centerline of a dam, dike, levee, or embankment, and filled with relatively impervious material intended to reduce seepage of water through porous strata. 2. In river hydraulics, the new and shorter channel formed either naturally or artificially when a stream cuts through the neck of a bend.

**Dam** - A barrier to confine, divert, or raise water for storage; to create a hydraulic head; to prevent gully erosion; or to retain sediment, rock, and other debris.

**Debris** - 1. A term applied to the loose material arising from the disintegration of rocks and vegetative material; transportable by streams, ice, or floods. 2. Stones, scrap material; stumps, limbs, and other undesirable vegetative material; waste and trash on a site.

**Debris Basin** - A basin constructed in a waterway or at other suitable locations to trap sediment and debris.

**Degradation** - To wear down through erosion, especially through stream action.

**Demography** - The statistical study of human vital statistics and population dynamics.

**Design Highwater** - The elevation of the water surface as determined by the flow conditions of the design floods.

**Design Life** - The period of time for which a facility is expected to perform its intended function.

**Dike** - An embankment constructed of earth or other suitable materials to protect land against overflow from streams, lakes, or tidal influences or to protect flat land areas from diffused surface water.

**Discharge (hydraulics)** - 1. Rate of flow, specifically fluid flow. 2. A volume of fluid passing a point per unit time, commonly expressed as cubic feet per second, million gallons per day, gallons per minute, or cubic meters per second.

**Diversion** - A channel with a supporting ridge on the lower side constructed across a slope for the purpose of intercepting and diverting water.

**Drain** - 1. A buried pipe or other conduit (closed drain). 2. A ditch (open drain) for carrying off surplus surface water or ground water.

**Drainage** - 1. The removal of excess surface or ground water from land by means of surface or subsurface drains. 2. Soil characteristics that affect natural drainage.

**Drainage Area** - The land area from which water drains to a given point.

**Drawdown** - Lowering of the water surface (in open channel flow), water table, or piezometric surface (in groundwater flow) resulting from a withdrawal of water.

**Drill (seeding)** - A method of planting seed with an implement which places the seed in closely spaced rows on or slightly below the surface of the soil

**Drop Spillway** - An overfall structure in which the water drops over a vertical wall onto an apron at a lower elevation.

**Drop Inlet Spillway** - An overfall structure in which the water drops through a vertical riser connected to a discharge conduit.

**Drop Structure** - A structure for dropping water to a lower level and dissipating its surplus energy.

**Dry Well** - A pit or hole in the ground walled up with unmortared stone, concrete blocks, etc. so as to permit drainage into the ground. Normally dry.

**Ecosystem** - Energy-driven complex of a community of organisms and its controlling environment.

**Effluent** - 1. The discharge or outflow of water from ground or subsurface storage. 2. The fluids discharged from domestic, industrial, and municipal waste collection systems or treatment facilities.

**Embankment** - A man-made deposit of soil, rock, or other materials used to form an impoundment.

**Emergency Spillway** - A spillway used to carry runoff exceeding a given design flood.

**Energy Dissipator** - A device used to reduce the energy of flowing water.

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

**Ephemeral Stream** - A stream or portion of a stream that flows only in direct response to precipitation. It receives little or no water form springs and no long continued supply from snow or other sources. Its channel is at all times above the water table.

**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 catastrophes that expose base surfaces, for example, fires.

**Geological Erosion** - The normal or natural erosion caused by geological processes acting over long geologic periods and resulting in the wearing away of mountains, the building up of floodplains, coastal plains, etc. Syn. natural erosion.

**Gully Erosion** - The erosion process whereby water accumulates in narrow channels and, over short periods, removes the soil from this narrow area to considerable depths, ranging from 1 to 2 feet to as much as 75 to 100 feet.

**Natural Erosion** - Wearing away of the earth's surface by water, ice, or other natural agents under natural environmental conditions of climate, vegetation, etc., undisturbed by man. Syn. geological erosion.

**Normal Erosion** - The gradual erosion of land used by man which does not greatly exceed natural erosion. See natural erosion.

**Rill Erosion** - An erosion process in which numerous small channels only several inches deep are formed; occurs mainly on recently cultivated soils. See rill.

**Sheet Erosion** - the removal of a fairly uniform layer of soil from the land surface by runoff water.

**Splash Erosion** - The spattering of small soil particles caused by the impact of raindrops on wet soils. The loosened and spattered particles may or may not be subsequently removed by surface runoff.

**Fauna** - The animal life of a region.

**Fertilizer** - Any organic or inorganic material of natural or synthetic origin that is added to a soil to supply elements essential to plant growth.

**Fertilizer Analysis** - The percentage composition of a fertilizer expressed in terms of elemental nitrogen, phosphoric acid (P205) and potash (K20) or as elemental phosphorous (P) and potassium (K). Examples are 5-10-10, 10-10-10, 0-14-14, and 16-20-0. Minor elements are sometimes included also.

**Filter Blanket** - A layer of sand and /or gravel designed to prevent the movement of fine-grained soils.

**Filter Strip** - A long, narrow vegetative planting used to retard or collect sediment for the protection of diversions, drainage basins, or other structures.

**Flat** - Section of stream with current too slow to be classed as a riffle and too shallow to be classed as a pool. Stream bottom usually composed of sand or finer materials, with coarse rubber, boulders, or bedrock occasionally evident.

**Flood** - An overflow or inundation that comes from a river or other body of water and causes or threatens damage.

**Flood Control** - Methods or facilities for reducing flood flows.

**Flood Plain** - The relatively flat area adjoining the channel of a natural stream which has been or may be hereafter, covered by floodwater.

**Flood Routing** - Determining the changes in the rise and fall of floodwater as it proceeds downstream through a valley or a reservoir.

**Freeboard** - The vertical distance between the maximum design water surface elevation and the top of a retaining bank or structure.

**Frequency Curve** - A graphical representation of the frequency of occurrence of specific events, such as flood peaks, precipitation amounts, annual or seasonal runoff, etc.

**Friable Soil** - Soil which is easily crumbled or tilled; a desirable characteristic of a soil often associated with good tilth but not necessarily with fertility.

**Firm Soil** - 1. A characteristic of soil between friable and hard 2. Soil which has been somewhat compressed by tillage operations when preparing a seedbed.

**Gabion** - A galvanized wire basket filled with stone used for structural purposes. When fastened together used as retaining walls, revetments, slope protection and similar structures.

**Gradation (geology)** - The bringing of a surface or a streambed to grade, by running water. As used in connection with sedimentation and fragmental products for engineering evaluation, the term gradation refers to the frequency distribution of the various sized grains that constitute a sediment, soil, or other material.

**Grade** - 1. The slope of a road, channel, or natural ground. 2. Any surface prepared for the support of construction such as that for paving or laying a conduit.

**Grade Stabilization Structure** - A structure to stabilize the grade or to control head cutting in natural or artificial channels.

**Gradient** - 1. Change of elevation, velocity, pressure, or other characteristics per unit length. 2. Slope or grade.

**Grading** - Any stripping, cutting, filling, stockpiling, or combination thereof which modifies the land surface.

**Grass** - Any member of the botanical family Gramineae; herbaceous plants with blade like leaves arranged in two ranks on a round to flattened stem. Common examples are fescue, bermudagrass, and bahiagrass. A term sometimes used to indicate a combination of grass and legumes grown for forage or turf purposes.

**Grass Lined Channel** - A natural or constructed waterway, usually broad and shallow, covered with erosion-resistant grasses, used to conduct surface water from cropland.

**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. A gully is a form of water erosion and is distinguished from a rill by the fact that it cannot be obliterated by normal farm tillage operations, whereas a rill can be eliminated by such tillage.

**Gully Control Plantings** - The planting of forage, legume, or woody plant seeds, seedlings, cuttings, or transplants in gullies to establish or re-establish a vegetative cover adequate to control runoff and erosion and incidentally produce useful products.

**Habitat** - The environment in which the life needs of a plant or animal are supplied.

**Hard Seed** - Live seed which is capable of growth but which is slow to germinate or start growth when growing conditions are optimum. This is due to the fact that the seeds do not readily absorb water or oxygen. Hard seed is especially common in the legume family.

**Heavy Soil** - A term often applied to soils which have a high silt or clay content and which are difficult to pulverize when tilled or excavated.

**Heel-in** - To store young trees and other plants in a temporary trench, covering the roots with soil, to keep them from drying out before they are permanently planted.

**Helminths** - A parasitic intestinal nematode.

**Highway Erosion Control** - The prevention and control of erosion in ditches, at cross drains, and on fills and road banks within a highway right-of-way. Includes vegetative practices and structural practices

**Hood Inlet** - A pipe entrance wherein the top edge of the pipe is extended 3/4 of the diameter beyond the bottom invert cut on an angle.

**Hulled Seed** - Seed from which the hull or other outer covering has been removed. Example: Hulled common bermuda grass seed. Hulling usually reduces the amount of seed required to plant an area and encourages quick germination.

**Hydraulic Radius** - The cross-sectional area of a stream divided by its wetted perimeter. The "r" in Manning's formula.

**Hydrograph** - A graph showing for a given point on a stream or drainage system, the discharge, stage, velocity, or other property of water with respect to time.

**Hydroseeding** - A method of broadcasting seed and sometimes lime, fertilizer, and mulch together in a mixture of water.

**Impact Basin** - A device used to dissipate the energy of flowing water. Generally constructed of concrete in the form of a depressed and partially submerged vessel and may utilize baffles to dissipate velocities.

**Inlet (hydraulics)** - 1. A surface connection to a closed drain. 2. A structure at the diversion end of a conduit. 3. The upstream end of any structure through which water may flow.

**Inoculant** - A special culture of nitrogen-fixing bacteria used to treat legume seeds and thus ensure their nitrogen-fixing ability.

**Intermittent Stream** - A stream or portion of a stream that flows only in direct response to precipitation. It receives little or no water from springs and no long-continued supply

from melting snow or other sources. It is dry for a large part of the year, ordinarily more than 3 months.

**Interseeding** - Seeding into an established vegetation.

**Invader Plant Species** - Plant species that were absent in undisturbed portions of the original vegetation and will invade under disturbance or continued overuse. Commonly termed invaders.

**Land** - Any ground, soil, or earth including marshes, swamps, drainageways, and areas not permanently covered by water.

**Land Capability** - The suitability of land for use without permanent damage. Land capability, as ordinarily used in the United States, is an expression of the effect of physical land conditions, including climate, on the total suitability for use without damage for crops that require regular tillage, for grazing, for woodland, and for wildlife. Land capability involves consideration of (1) the risks of land damage from erosion and other causes and (2) the difficulties in land use owing to physical land characteristics, including climate.

**Land Capability Class** - One of the eight classes of land in the land capability classification of the Soil Conservation Service. These eight land capability classes, distinguished according to the risk of land damage or the difficulty of land use, are:

Land suitable for cultivation and other uses.

I. Soils in class I have few limitations that restrict their use.

II. Soils in class II have some limitations that reduce the choice of plants or require moderate conservation practices.

III. Soils in class III have severe limitations that reduce the choice of plants or require special conservation practices, or both.

IV. Soils in class IV have very severe limitations that restrict the choice of plants, require very careful management, or both.

Land generally not suitable for cultivation (without major treatment).

V. Soils in class V have little or no erosion hazard but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.

VI. Soils in class VI have severe limitations that make them generally unsuited for cultivation and limit their use largely to pasture or range, woodland, or wildlife food and cover.

VII. Soils in class VII have very severe limitations that make them unsuited to cultivation and that restricts their use largely to grazing, woodland, or wildlife.

VIII. Soils and landforms in class VIII have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, water supply, or aesthetic purposes.

**Land Resource Area** - An area of land reasonably alike in its relationship to agriculture with emphasis on combinations and/or intensities of problems in soil and water conservation, ordinarily larger than a land resource unit and smaller than a land resource region.

**Landscape** - All the natural features, such as fields, hills, forests, water, etc., that distinguish one part of the earth's surface from another part, usually that portion of land or territory which the eye can comprehend in a single view, including all of its natural characteristics.

**Land Use Plan** - A community plan outlining proposed future land uses and their distribution.

**Land Use Planning** - The process by which decisions are made on future land uses over extended time periods that are deemed to best serve the general welfare. These decisions are best made by considering the resource capability of the land to support the type of use planned. Decision-making authorities on land uses are usually vested in state and local governmental units, but citizen participation in the planning process is essential for proper understanding and implementation.

**Legume** - A member of the botanical family Leguminosae. Some well known legumes are peas, beans, clovers, and sericea. Most legumes have the ability to take nitrogen from the air for use by plants, and many are important food, forage, and low-maintenance ground cover plants.

**Level Spreaders** - A shallow channel excavation at the outlet end of a diversion with a level section for the purpose of diffusing the diversion outflow.

**Liquid Limit** - The moisture content at which the soil passes from a plastic to a liquid state. In engineering, a high liquid limit indicated that the soil has a high content of clay and a low capacity for supporting loads.

**Lime (agricultural)** - Usually ground limestone applied as a soil amendment to correct the acidity of soil and provide calcium for plant growth. Dolomitic lime also provides magnesium. Other materials used for lime include basic slag, marl, and ground shells.

**Liming** - The application of lime to land, primarily to reduce soil acidity and supply calcium for plant growth. Dolomitic limestone supplies both calcium and magnesium. May also improve soil structure, organic matter content, and nitrogen content of the soil by encouraging the growth of legumes and soil microorganisms. Liming an acid soil to a pH value of about 6.5 is desirable for maintaining a high degree of availability of most of the nutrient elements required by plants. Succession - The progressive development of vegetation toward its highest ecological expression, the climax; replacement of one plant community by another.

**Loam** - Technically, a soil textural class; but also a term used to designate topsoil, fertile and friable soils, and soils which are easily tilled.

**Manning's Formula (hydraulics)** - A formula used to predict the velocity of water flow in an open channel or pipeline:

$$V = \frac{1.486\, r^{2/3}\, s^{1/2}}{n}$$

Where **V** is the main velocity of flow in feet per second, **r** is the hydraulic radius; **s** is the slope of the channel in feet per foot, and **n** is the roughness coefficient or retardance factor of the channel lining.

**Marking Trees** - Selection and indication, usually by blaze or paint spot, of trees to be cut or retained in a cutting operation.

**Marsh** - Periodically wet or continually flooded area with the surface not deeply submerged. Covered dominantly with sedges, cattails, rushes, or other hydrophytic plants. Subclasses include freshwater and saltwater marshes. See swamp; miscellaneous land type.

**Marsh, Tidal** - A low, flat area traversed by interlacing channels and tidal sloughs and periodically inundated by high tides. Vegetation usually consists of salt-tolerant plants.

**Meadow** - An area of natural or planted vegetation dominated by grasses and grasslike plants used primarily for hay production.

**Mine Dumps** - Areas covered with overburden and other waste materials from ore and coal mines, quarries, and smelters, usually with little or no vegetative cover. A miscellaneous land type.

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

**Mulch or Mulching** - Plant residues, natural, artificial, or other materials spread on the soil to reduce erosion, promote plant growth, conserve moisture, and to minimize temperature fluctuation.

**Native Species** - A species that is a part of an area's original fauna or flora.

**Natural Grassland** - An area in which the natural potential plant community is dominated by grasses and grasslike plants. Associated species include forbs and woody plants.

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

**Neutral Soil** - A soil that is neither acid nor alkaline; specifically, a soil with a pH of 7.0, but often those with a pH ranging between 6.6 and 7.3.

**Nurse Crop** - A fast-growing crop grown with a slow-growing crop to provide quick or temporary cover. An example is fast-growing rye planted with a slow-growing bahiagrass. Nurse crops are competitive and must be used with discretion.

**Outfall** - The point where water flows from a conduit, stream, or drain.

**Outlet** - The point of water disposal from a stream, river, lake, tidewater, or artificial drain.

**Overfall** - 1. An abrupt change in stream channel elevation. 2. The part of a dam or weir over which water flows.

**Peak Discharge** - The maximum instantaneous flow from a given storm condition at a specific location.

**Periphyton** - Plants growing on other plants, twigs, and stones in water.

**Permissible Velocity (hydraulics)** - The highest velocity at which water may be carried safely in a channel or other conduit.

**pH** - A numerical measure of the hydrogen ion concentration in the soil; a term used to indicate the acidity (pH below 7.0) or alkalinity (pH above 7.0) of soil. See acid soil.

**Pipe Drop** - A circular conduit used to convey water down steep grades.

**Plant Material Center** - A place where plants are assembled and their value and use in a conservation program is determined. This includes both domestic collections and plant introductions. Plants are assembled; their performance is evaluated; selections are made and increased for field testing; varieties are named and released; and foundation-quality seed and/or stock is produced and distributed to cooperative seed growers and nurseries for commercial production and use.

**Plant Succession** - The process of vegetation development whereby an area becomes successively occupied by different plant communities of higher ecological order.

**Plasticity Index** - The moisture content at which a soil changes from a semi-solid to a plastic state.

**Playa** - A shallow central basin of a plain where water gathers after a rain and is evaporated.

**Plunge Pool** - A device used to dissipate the energy of flowing water that may be constructed or made by the action of flowing. These facilities may be protected by various lining materials.

**Pool** - Section of stream deeper and usually wider than normal with appreciably slower current than immediate upstream or downstream areas, and possessing adequate cover (sheer depth or physical condition) for protection of fish. Stream bottom usually a mixture of silt and coarse sand.

**Principal Spillway** - Generally constructed of permanent material and designed to regulate the normal water level, provide flood protection and reduce the frequency of operation of the emergency spillway.

**Pure Live Seed** - The product of the percentage of germination plus the hard seed and the percentage of pure seed, divided by 100.

**Rainfall Intensity** - The rate at which rain is falling at any given instant, usually expressed in inches per hour.

**Recreation Area Planting** - Establishing grasses, legumes, vines, shrubs, trees, or other plants on recreation areas.

**Recreation Area Stabilization** - Stabilizing recreation areas subject to heavy use by surfacing with suitable materials or by installing needed structures.

**Recreation Land** - Land and water used or usable primarily as sites for outdoor recreation facilities and activities.

**Recreation Land Grading and Shaping** - Altering the surface of land to meet the requirements of recreation facilities.

**Recreation Trail and Walkway** - A pathway prepared especially for pedestrian, equestrian, and cycle travel.

**Renewable Natural Resources** - Can be restored and improved to produce the things man needs.

**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.

**Ridge** - The bank or dike constructed on the downslope side of a diversion.

**Riffle** - Section of stream containing gravel or rubble, in which surface water is at least slightly turbulent and current, is swift enough that the surface of the gravel and rubble is kept fairly free from sand and silt.

**Rill** - small, intermittent water course with steep sides, usually only a few inches deep and, hence, no obstacle to tillage operations.

**Riparian Rights** - The rights of an owner whose land abuts water. They differ from state to state and often depend on whether the water is a river, lake, or ocean. See water rights.

**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.

**Riser** - The inlet portion of a drop inlet spillway that extends vertically from the pipe conduit and controls the water surface elevation.

**River Basin Plan** - A plan for development of water and related land resources to make the best use of such resources to meet the basin needs and make the greatest long-term contribution to the economic growth and social well being of the people of the basin and the Nation.

**Root Zone** - The part of the soil that is penetrated or can be penetrated by plant roots.

**Roughness Coefficient (hydraulics)** - A factor in velocity and discharge formulas representing the effect of channel roughness on energy losses in flowing water. Manning's "n" is a commonly used roughness coefficient.

**Runoff** - That portion of the precipitation that makes its way toward stream channels, lakes, or oceans as surface or subsurface flow. When the term "runoff" is used alone, surface runoff usually is implied.

**Rural Beautification** - Creating, enhancing, and preserving natural beauty in the countryside.

**Sand** - 1. A soil textural class including soil particles between 0.05 and 2.0 millimeters in diameter. 2. A term sometimes used to indicate sediment.

**Scalping** - Removal of sod or other vegetation in spots or strips.

**Scarified Seed** - Seed which has had the hard outer coat scuffed or otherwise treated to improve absorption of moisture and thus facilitate germination. Example: scarified

sericea lespedeza seed. Scarified seed require lower seeding rates than unscarified seed, but must be planted closer to optimum seeding dates.

**Scarify** - To abrade, scratch, or modify the surface. For example, to scratch the impervious seed coat of hard seed or to break the surface of the soil with a narrow-bladed implement.

**Scour** - To abrade and wear away. Used to describe the wearing away of terrace or diversion channels or streambeds.

**Sediment** - Solid soil material, both mineral and organic, that is being moved or has been moved from its original site by wind, gravity, flowing water or ice. Also, sometimes referred to as silt or sand.

**Sediment Basin** - A depression formed by the construction of a barrier or dam built at suitable locations to retain rock, sand, gravel, silt or other material.

**Sediment Discharge** - The quantity of sediment, measured in dry weight or by volume, transported through a stream cross-section in a given time. It consists of both suspended load and bed-load.

**Seedbed** - Soil prepared to receive seed and promote the growth of seedlings. The term may apply also to prepared soil in which plants are to be planted by sprigging, sodding, or other means.

**Seed Purity** - The percentage of the desired species in relation to the total quantity, including other species, weed seed, and foreign matter.

**Sheet Flow** - Water, usually storm runoff, flowing in a thin layer over the ground surface. Syn. overland flow.

**Shrub** - A woody perennial plant differing from a perennial herb by its more woody stems and from a tree by its low stature and habit of branching from the base. There is no definite line between herbs and shrubs or between shrubs and trees; all possible intergradations occur.

**Side Slopes** - The slopes of the sides of a canal, dam, or embankment.

**Silt** - 1. A soil textural class including soil particles between 0.05 and 0.002 millimeters in diameter. 2. A term often used to indicate sediment.

**Sink** - Depression in the land surface; a negative potential area, as in a source and a sink.

**Site (ecology)** - 1. An area considered for its ecological factors with reference to capacity to produce vegetation; the combination of biotic, climatic, and soil conditions of an area. 2. An area sufficiently uniform in soil, climate, and natural biotic conditions to produce a particular climax vegetation.

**Sod** - 1. Established grass, turf, or sward. 2. Thin rectangles, strips or pieces of earth and matted grass roots and stems that are transplanted to establish grass cover.

**Sod Grasses** - Stoloniferous or rhizomatous grasses that form a sod or turf.

**Soil** - The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

**Soil Horizon** - A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes.

**Soil Profile** - A vertical cross-section of soil layers constitutes the soil profile, which is composed of three major layers designated, A, B, and C horizons. The A and B horizons are layers that have been modified by weathering, while the C horizon is unaltered by soil-forming processes.

> **A horizon**: The original top layer of soil having the same color and texture throughout its depth. It is usually 10 to 12 inches thick but may range from 2 inches to 2 feet. The A horizon is also referred to as the topsoil or surface soil when erosion has not taken place.
>
> **B horizon**: The soil layer just below the A horizon that has about the same color and texture throughout its depth. It is usually 10 to 12 inches thick but may range from 4 inches to 8 feet. The B horizon is also referred to as the subsoil.
>
> **C horizon**: The soil layer just below the B horizon having about the same color and texture throughout its depth. It is quite different from the B horizon. It may be of indefinite thickness. At the beginning of the soil profile development, the C horizon constituted the entire depth, but time, weather, and soil-forming processes have changed the top layers into the A and B horizons described above.

**Spillway** - An open or closed conduit used to convey water from a reservoir.

**Spillway (emergency)** - A spillway used to carry runoff exceeding a given design flood; commonly, a channel around the end of a dam built to carry off excess floodwaters.

**Spillway (primary)** - A spillway used to convey the runoff of a given designed flood; commonly, a metal pipe or concrete riser connected to a closed conduit under a dam which discharges runoff from a given flood.

**Sprig** - Portions of stems and roots of grasses that are planted to provide rapid ground cover or assure trueness to type.

**Sprigging** - The planting of a portion of the stem and root of grass.

**Sprinkler Systems** - All sprinkler lines, main lines, submains, pumping plant, operation control equipment, and other accessories required for applying water to a field by the sprinkler method.

**Stabilized Center Section** - An area in the bottom of a grassed waterway protected by stone, asphalt, concrete, or other materials to prevent erosion.

**Stilling Basin** - An open structure or excavation at the foot of an overfall, chute, drop, or spillway to reduce the energy of the descending stream.

**Stone Center** - A stabilized center section made of stone.

**Storm Frequency** - An expression or measure of how often a hydrologic event of given size or magnitude should on an average be equaled or exceeded. The average should be based on a reasonable example.

**Streambanks** - The usual boundaries (not the flood boundaries) of a stream channel. Right and left banks are indicated when facing downstream.

**Subsoil** - The layers of soil beneath the topsoil. A term sometimes used to indicate soil of low quality for vegetative purposes.

**Succession** - The progressive development of vegetation toward its highest ecological expression, the climax; replacement of one plant community by another.

**Suitable Outlet** - An outlet, either natural or artificial, which will dispose of water at non-erosive velocities and without flooding.

**Temporary Protection** - Stabilization of erosive or sediment- producing areas.

**Toe Drain** - A drainage system constructed in the downstream portion of an earth dam or levee to prevent excessive hydrostatic pressures.

**Topsoil** - 1. A vague term applied to the upper layer of soil. 2. The "plow layer" or upper 6 to 8 inches of soil. 3. The "A" horizons of a soil. 4. A term used to indicate friable, fertile soil applied over other soil to improve conditions for plant growth.

**Toxic Salt Reduction** - Decreasing harmful concentrations of toxic salts in soils, usually by leaching and with or without the addition of soil amendments.

**Trash Rack** - A structural device used to prevent debris from entering a spillway or other hydraulic structure.

**Tributary** - Secondary or branch of a stream, drain, or other channel that contributes flow to the primary or main channel.

**Unhulled Seed** - Seed from which the hull or outer covering has not been removed. Example: Unhulled bermudagrass seed. Unhulled seed can sometimes be used to an

advantage but is slower to germinate and requires a higher seeding rate than hulled seed.

**Unified Soil Classification System** - A classification system based on the identification of soils according to their particle size, gradation, plasticity index, and liquid limit.

**Universal Soil Loss Equation** - An equation used for the design of water erosion control systems: **A = RKLSPC** wherein **A** = average annual soil loss in tons per acre per year; **R** = rainfall factor; **K** = soil erodibility factor; **L** = length of slope; **S** = percent of slope; **P** = conservation practice factor; and **C** = cropping and management factor. (**T** = soil loss tolerance value that has been assigned each soil, expressed T/A/Year.)

**Unscarified Seed** - Seed that has not had the hard outer coat scuffed or otherwise treated to improve germination. Example: unscarified sericea lespedeza. Unscarified seed will germinate but exposure to winter temperatures or special treatment is necessary to break its dormancy. This is an advantage when an area must be seeded "off season."

**Uplift Forces** - Vertical pressures acting upward on a structure, usually caused by a buoyant condition.

**Vegetative Protection** - Stabilization of erosive or sediment producing areas by covering the soil with:

a. Permanent seeding, producing long-term vegetative cover.
b. Short-term seeding, producing temporary vegetative cover.
c. Sodding, producing areas covered with a turf of perennial sod-forming grass.

**Velocity** - The rate of flow measured in feet per second.

**Watercourse** - A natural or constructed channel for the flow of water.

**Water Disposal System** - A complete system for safely removing excess water from land. On sloping lands, a system may include diversions, grassed waterways, grade stabilization structures, and other practices. Systems on flat lands may consist of surface or subsurface drains, land leveling, and other measures.

**Watershed** - see Drainage Area.

**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 or irrigation.

**Watershed Management** - The use, regulation, and treatment of water and land resources of a watershed to accomplish stated objectives.

**Water Rights** - The legal rights to the use of water. They consist of riparian rights and those acquired by appropriation and prescription. Riparian rights are those rights to use and control water by virtue of ownership of the bank or banks. Appropriated rights are those acquired by an individual to the exclusive use of water, based strictly on priority of appropriation and application of the water to beneficial use and without limitation of the place of use to riparian land. Prescribed rights are those to which legal title is acquired by long possession and use without protest of other parties.

**Water Table** - The upper surface of ground water or the level below which the soil is saturated with water.

**Waterway** - A natural or constructed channel for the safe disposal of excess water from a field or diversion. Waterways are usually located on sloping ground and must be established in grass to prevent erosion.

**Weep-holes (engineering)** - Openings left in retaining walls, aprons, linings, or foundations to permit drainage and reduce pressure.

**Wetted Perimeter** - The length of the wetted contact between a liquid and its containing conduit, measured along a plane at right angles to the direction of flow.

**Windbreak** - 1. A living barrier of trees or combination of trees and shrubs located adjacent to farm or ranch headquarters and designed to protect the area from cold or hot winds and drifting snow. Also headquarters and livestock windbreaks. 2. A narrow barrier of living trees or combination of trees and shrubs, usually from one to five rows, established within or around a field for the protection of land and crops. May also consist of narrow strips of annual crops, such as corn or sorghum.

**Wind Erosion** - The detachment and transportation of soil by wind.

**Wind Erosion Equation** - An equation used for the design of wind erosion control systems. **E = f (IKCLV)** wherein **E** = average annual soil loss, expressed in tons per acre per year; **f** = a function of; **I** = soil erodibility; **K** = soil ridge roughness; **C** = climatic factor; **L** = unsheltered distance across the field along the wind erosion direction; and **V** = vegetative cover.

**Woodland** - Any land used primarily for growing trees and shrubs. Woodland includes, in addition to what is ordinarily termed "forest" or "forest plantations," shelterbelts, windbreaks, wide hedgerows containing woodland species for wildlife food or cover, stream and other banks with woodland cover, etc. It also includes farmland and other lands on which woody vegetation is to be established and maintained.

**Zoning (rural)** - A means by which governmental authority is used to promote the proper use of land under certain circumstances. This power traditionally resides in the state, and the power to regulate land used by zoning is usually delegated to minor units of government, such as town, municipalities, and counties, through an enabling act that specifies powers granted and the conditions under which these are to be exercised.

**Zoning Ordinance** - The exercise of police power for the purpose of carrying out the land use plan of an area. It may also include regulations to effect control of the size and height of buildings, population density, and use of buildings. For example, residential, commercial, industrial, etc.