FACT SHEET No. 7

Rangeland Watershed Program

U.C. Cooperative Extension and USDA Natural Resources Conservation Service

Riparian Terms

Chew, Matthew K. 1991. Bank Balance: Managing Colorado's Riparian Areas. Bulletin 553A. Coop. Ext. Service, Colorado State University, Ft. Collins, CO. Pg. 41-44.

Acre-foot. An amount of water that covers one flat acre to a depth of one foot. Equal to about 326,700 gallons or 43,560 cubic feet.

Aggradation. The process of building up a streambank through sediment deposition.

Alluvial. Refers to a feature that results from sediments deposited by flowing water. The material itself is called alluvium.

Anaerobic. Biological activity in the absence of free oxygen. The oily-looking black mud found in swampy situations forms due to anaerobic decomposition of algae and plants.

Aquifer. A body of groundwater. (This is not a lake in a cave; see "groundwater.")

AUM. Animal Unit Month. The amount of forage consumed monthly by one cow with one calf. Used in discussions of livestock carrying capacity and stocking rates.

Bank-full. The maximum discharge capacity of a channel; further discharge spreads onto the floodplain.

Basin. The area of land that contributes runoff from precipitation to a particular stream or river.

Bed load. The portion of a stream's sediment load that is neither dissolved nor suspended. The streambed materials that move only by sliding, rolling, or bouncing.

Braided stream. A stream or river having multiple, dynamic, diverging, and converging channels, operating within a single, usually sandy streambed. Characteristic of intermittent or highly variable flows.

Capacity (sediment). The total amount of sediments a stream can move, including bed, suspended, and dissolved loads.

CFS. Cubic feet per second; a standard measurement of stream discharge. Harder to measure than it sounds. Always an estimate based on multiple measurements.

Cliff and slope. A terrain type made up of multiple rock terraces that more or less stair-step down to a stream. Formed because some rock layers (strata) are more erosion-resistant than others.

Competency (of a stream). A description of the largest item of bed load a stream can move. This is affected by particle shape, dimensions, and density, as well as discharge and turbulence of flow.

Degradation. The process of lowering the elevation of stream reach through erosion of bed material.

Detritus. Another term for sediments; often used to refer to broken-up organic debris such as particles of wood and leaves, etc.

Discharge. The total flow at a given point on a stream at a given moment in time. It includes water and both dissolved and suspended sediments.

Dissolved load. Sediments carried in solution. The composition of the dissolved load depends on the geology of the basin and the acidity of the local precipitation.

Eddy. A point of flow reversal, generally downstream of a large object partially interrupting the overall flow pattern.

Emergents. Plants rooted in submerged or saturated soils. Cattails are a typical emergent species in ponds or marshes, watercress in streams.

Floodplain. The area submerged by maximum river flow, usually during snowmelt or after major storms. Usually composed of alluvium deposited during such events.

Graded. A condition approximating equilibrium between a stream's capacity and actual sediment load. Subject to continual adjustment and disturbance.

Groundwater. Water that has infiltrated porous or highly fractured rock formations. It moves in response to gravity just as surface water does, but the movements may be constrained by both overlying and underlying impermeable rock layers.

Headward. Toward the headwaters or stream origin.

Hydrograph. A graphic representation of stream discharge over a given period of time.

Hydrologic cycle. The generalized movement of water in response to solar energy and gravity.

Incised meanders. Stream or river meanders that have cut vertically into the terrain.

Knickpoint. A sudden vertical drop in the longitudinal profile of a stream; usually indicative of a headcut or waterfall.

Laterally unstable channel. A channel prone to short-term, side-to-side migration across a floodplain; symptomatic of undeveloped or depleted riparian vegetation.

Longitudinal profile. A graphic representation of the progressive change in elevation along a stream or stream reach.

Meander. A sinuous channel alignment that results from floodplain structure amenable to channel lengthening or enhanced expression of the thalweg. In other words, where the stream tends to loop back and forth a lot.

Mesic. A relatively wet or moist habitat. The riparian zone is more mesic than adjacent uplands.

Order. Stream order is a description of the place of a particular stream or reach in the hierarchy of tributaries. A first order stream has no tributaries; a second order stream is fed by two or more first order streams, etc.

Phreatophyte. A plant adapted to direct use of groundwater. Mostly used to describe perennials; riparian trees and shrubs are considered to be phreatophytes. This term tends to carry the negative connotation of water-wasting.

Point bar. An alluvial feature that results from the deposition of sediments along the inside edge of a stream meander.

Pool. A point at which a stream is relatively deep, where stream energy is dissipated by increased volume of water. The surface of the pool is essential level.

Ridge and swale. A type of floodplain topography that results from accumulated stream meandering.

Riffle. A point at which the stream is relatively energetic due to constriction or steep gradient; the counterpart of pool, above.

Riparian. Literally, “streamside” or referring to stream banks.

Sediment load. The non-water portion of streamflow, consisting of dissolved materials, suspended silt, sand, etc., and larger objects (e.g., cobble and boulders) intermittently move along the streambed.

Sinuosity. A measure of a channel's tendency to meander; given as one of the following ratios: thalweg length/valley length, channel length/meander belt axis length, or stream length/valley length.

Stable channel. Remembering that all channels are dynamic; a channel is stable when its movement is neither vertically nor laterally accelerated due to management influences.

Streambed. The boundary between surface water and groundwater (or impermeable rock), composed of alluvium or surface bedrock.

Substrate. A generic term for a substance that underlies another; soil is the substrate for plants, while bedrock is the substrate for soil.

Surface runoff. Water that travels downhill overland until entering a defined channel.

Suspended load. The non-dissolved, particulate portion of sediment load that is transported without being deposited on or bouncing along the streambed. Particle size may vary from reach to reach due to different gradients and energy levels.

Terraces. Remnants of an abandoned floodplain, composed of alluvium, or in the case of a deeply incised canyon, of solid rock.

Thalweg. A line connecting the deepest points along a stream channel.

Transverse profile. A graphic representation of a channel cross-section. Unlike the longitudinal profile, this describes only a single point along the channel.

Understory. Vegetation that occurs as the bottom layer of a multilevel plant community, such as the herbs and grasses growing beneath trees or shrubs.

Vertically unstable channel. A channel which tends to downcut and abandon its floodplain; a situation where erosion is progressing faster than deposition.

Water cycle. A friendlier term for "hydrologic cycle."

Wetland, jurisdictional. A wetland that meets the criteria for being part "of the United States" under the Clean Water Act. Management activities affecting jurisdiction wetlands require permits from the Army Corps of Engineers.