

Glossary

Abandoned Mine Drainage (AMD): surface or ground water contaminated as a result of passage through a physical environment created by mining activities of the past. This contamination can occur in the underground voids created by deep or underground mining or it can occur by water passing through mining refuse left on the surface.

Activities: sustainable organizational capacity; the actions necessary to achieve the various outputs including who does what, when, where, in what ways.

Aquatic Life Use Attainment: surface water bodies that meet the aquatic life use designations included in **Colorado's** water quality standards; in Colorado there are two categories of aquatic life use: coldwater habitat and warmwater habitat.

Bankfull Stage: level at which water just begins to flow from the stream onto the floodplain and is associated with the discharge most effective at moving sediment. Bankfull stage results in the average form or morphology of the stream.

Beneficial Use Designations: existing or potential uses of waterbodies including public water supplies, protection and propagation of aquatic life, recreation in and on the water, agricultural, industrial and other purposes. There may be more than one beneficial use designation assigned to a waterbody.

Best Management Practices (BMPs): structural, managerial, regulatory, and/or preservation/conservation mechanisms designed to 1) reduce or prevent quantities of pollutants that are generated at and/or delivered from a nonpoint source to a receiving water body; 2) preserve, improve or restore in-stream or riparian habitat, and aquatic life uses; and/or 3) preserve, improve, or restore self-sustaining stream channel and associated floodplain function can be used in lieu of BMPs.

Community: people who live in, work in or have an interest in a watershed.

Dynamic Equilibrium: state of balance between stream inputs and outputs, primarily sediment and water supply and discharge.

Evaluation: a process for examining and documenting whether the core components of successful watershed planning and implementation are in place. Core components are EPA Required Nine Elements.

Floodplain Form: elevation and extent of land adjacent to a stream channel that is periodically saturated or inundated with excess flow from the stream during storm events or after ice/snow melt.

Goal: qualitative statement generally outlining what is to be achieved without defining how it will be measured or when it will occur. For example, an environmental goal would be to reduce

water quality degradation due to urban run-off. For example, a planning goal would be to improve stakeholder participation in watershed planning.

Habitat: dwelling place of an organism or community that provides the requisite conditions for its processes (Society for Ecological Restoration Science and Policy Working Group, 2002. The SER Primer on Ecological Restoration). Some attributes of habitat include: the four basic necessities for wildlife (i.e., food, water, shelter, and space to survive) which are needed in sufficient supply and structural arrangement to meet a species life needs. Habitats vary over space and time and depending on the life cycle of individual species. Also, specific locations where physical, chemical, and biological factors provide life support conditions for a given species (IJC 1989).

Habitat Modification: physical, man-made alterations to the channel, floodplain, and/or riparian zone of a stream (e.g., channelization, culverting headwater streams, destruction of riparian cover)

Hydrologic Unit Code (HUC): The Hydrologic Unit system is a standardized watershed classification system developed by USGS in the mid 1970s. Hydrologic units are watershed boundaries organized in a nested hierarchy by size. They range in size from regions, as shown on the map below, to the smaller cataloging units (HUCs), which are roughly equivalent to your local watershed.

Hydromodification: subset of habitat modification because it is often the RESULT of habitat modification. Hydromodification occurs when man-made structural changes to the landscape alter the amount or physical character of the water in the stream (e.g. - increased overland flow and higher storm flows as a result of development, tile drainage, dams).

Hypoxic Zone: zone on the Gulf of Mexico's Texas-Louisiana Shelf with seasonally low oxygen levels (less than 2 mg/l).

Impaired waters: surface water bodies that do not meet beneficial use designations, narrative "free from" standards, numeric criteria and anti-degradation provisions as outlined in Colorado's ambient water quality standards.

In-kind services: donated labor, land, machinery, equipment, food, etc.

Inputs: sustainable organizational capacity, resources allocated in what amounts at what times.

Invasive Species: any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem; and whose introduction does or is likely to cause economic or environmental harm to human health.

Macroinvertebrate: small, but visible with the naked eye, animals without backbones (insects, worms, larvae, etc.). Water bodies have communities of aquatic macroinvertebrates. The species composition, species diversity and abundance of the macroinvertebrates in a given water body can provide valuable information on the relative health and water quality of a waterway.

Maximum Contaminant Levels (MCLs): federally derived health limits for treated drinking water based on the Safe Drinking Water Act. Specifically, the MCL is the highest level of a contaminant that is allowed in treated drinking water, MCLs are enforceable standards, and many MCLs (e.g. atrazine, simazine) are based on annual running average concentrations.

Nine Key Elements: EPA's Nine Key Elements are major considerations in developing new or updated NPS management programs.

Nine Watershed Elements: EPA's nine minimum elements that are critical for achieving improvements in water quality. EPA requires that these nine elements be addressed in watershed plans funded with incremental Clean Water Act section 319 funds and strongly recommends that they be included in all other watershed plans intended to address water quality impairments.

Nonpoint Source (NPS): pollution from land use activity or disturbance of the stream or aquifer system. Sources can be classified into two categories: *polluted runoff* and *physical alterations*. *Polluted runoff* is rain and snowmelt flowing across the land surface or within ground water that picks up contaminants and carries them to the stream or into the aquifer. *Physical alterations* are changes to the stream channel or its corridor, including straightening, deepening, widening or changes in flow patterns.

Numeric (Water Quality) Criteria: numeric criteria are estimations of concentrations of chemicals and degree of aquatic life toxicity allowable in a waterbody without adversely impacting its beneficial uses. Although numeric criteria are applied to waterbodies, they primarily are used to regulate dischargers through NPDES permits. Numeric criteria consist of chemical criteria, whole effluent toxicity levels and biological criteria.

Objective: a method or vehicle used to obtain a goal or target. Often answers the question of "how" something will be achieved without being quantitative. For example an environmental objective would be to increase water quality by implementing more natural channel restoration projects. For example, a planning objective would be to attain local watershed group sustainability (the target) by diverse and effective stakeholder participation (the objective).

Outcomes: sustainable NPS Implementation; describes the reason for a program, activity, or task in terms of the "desired" state, once the program, activity, or task is completed. Therefore, outcomes drive the activities selected. For performance-based measurement to improve both outcome accountability and effectiveness, outcomes must be concrete and linked to actions (Source: Measuring Community Success and Sustainability: An Interactive Workbook, North Central Regional Center for Rural Development, Iowa State University)

Outputs: sustainable organizational capacity; products that are controlled by the organization and stem directly and measurably from the inputs and activities.

Preservation: to keep from harm, damage; protect; save; to treat an area as the special domain of a particular ecological condition.

Problem Statements: characterize the "as is" surface or ground water quality impairment or surface or ground water quality threat and the reasons for it.

Purpose: reason for the existence of something (e.g., Agency mission statements). Often answers the question of "why" something is being done, without being quantitative or clearly identifying how achievement of the purpose will be measured.

Reclamation: process to recreate the functions and processes of a naturally stable ecosystem with the understanding that it will be quite different from the condition prior to disturbance (e.g., Successive Alkalinity Producing Systems (SAPS) for AMD reduction or elimination; setback ordinances; bank stabilization, fish passage structure on dams).

Rehabilitation: process of working to recover natural functions, ecosystem processes, productivity and services within the context of the existing disturbance (e.g., wetland restoration, greenway preservation, channel rehabilitation).

Research: scholarly or scientific study of a given subject, field, or problem; a close examination of a matter in search for information or truth; close careful study.

Restoration: to fundamentally change the existing condition or land use; process of working to return a habitat or ecosystem to its original state by removing the cause of degradation. Goal is to re-establish the pre-existing biotic integrity in terms of species composition and community structure (e.g. dam removal, natural channel restoration).

Riparian Zone: A transitional area between terrestrial and aquatic ecosystems, and adjacent to perennial, intermittent, and ephemeral streams, lakes, and estuarine-marine shorelines, that is distinguished by gradients in biophysical conditions, ecological processes, and biota, through which surface and subsurface hydrology connect waterbodies with their adjacent uplands. The riparian zone includes those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). (source: National Research Council)

Scientific Method: method of investigation involving observation and theory to test scientific hypotheses; the process by which scientists, collectively and over time, endeavor to construct an accurate (that is, reliable, consistent and non-arbitrary) representation of the world.

Self-sustaining Stream Channel: stream channel form has the ability to maintain its character (dimension, pattern and profile), and repair itself over time without man-made interventions; the stream channel must be vertically stable, maintaining the same bed elevation, but may adjust laterally by eroding outside banks and depositing inside bends.

Shear Stress: the force per unit area that is parallel to a surface. In the case of stream morphology, this is the force of the stream flow on the bed and banks of the channel.

Social Learning: people sharing diverse perspectives and experiences to develop a common framework for understanding and basis for joint action (Schusler, Decker, and Pfeffer 2003).

Stakeholders: individuals or organizations with an interest and/or ability to take action on a watershed issue.

Stream Aggradation: sediments raise the stream bed elevation or fill the stream channel up. **Stream Bed Form:** generally refers to the pattern of stream bed features such as pools, riffles, runs or glides, but may also include features such as point bars or other channel bars composed of deposited material. **Stream Bed Material:** are the surface and subsurface materials that compose the stream bottom, banks, or other channel features, whether bedrock, boulders, cobble, gravel, sand, or finer-grained materials.

Stream Beltwidths: area of the stream corridor occupied or expected to be occupied by stream meanders.

Stream Channel Form: the size and shape of the stream, typically described by longitudinal slope profile, cross sectional dimension and meander pattern.

Stream Cross Sectional Dimension: refers to measurements of channel shape conducted perpendicular to the flow of the stream. The photo at right shows the cross section of a ditch being measured.

Stream Degradation: downcutting of the stream bed.

Stream Entrenchment: streams are characterized by low stream quality and long-term instability due to separation from a functional floodplain.

Stream Evolution: describes the series of morphological adjustments or changes that occur as the stream attempts to self stabilize. The series of changes may be in response to changes in magnitude of major inputs such as water, sediment, discharge, or other driving factors.

Stream Meander Pattern: characterization of stream curvature along its length. See also stream sinuosity.

Stream Morphology: see stream channel form.

Stream Sinuosity: ratio of stream length to valley length.

Urban: The development intensity of a riverfront corridor can be classified according to the degree or percentage of impervious cover-hard surfaces such as buildings, streets, parking lots, and sidewalks-found within the corridor.

A basic classification system is: ultra-urban (80 to 100 percent impervious cover), urban (40 to 79 percent impervious cover), and suburban (10 to 39 percent impervious cover) (Schueler 2003).

Vertical Channel Stability: the stream channel form maintains the bed elevation by neither degrading (down-cutting) nor aggrading (filling up). Note: geologic profile adjustments and long term storage of sediment fines in floodplains do not constitute channel instability.

Watershed Coordinator: a person responsible for: organizing watershed action planning, education, and implementation to restore and protect a local water resource; networking with agencies, organizations, and citizens on a multi-county basis; and establishing a permanent local water resource restoration or protection program.