



# Watershed Planning

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## Glossary of Terms

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TERM	DEFINITION
Agricultural Nonpoint Source Pollution model	An event-based, watershed-scale model developed to simulate runoff, sediment, chemical oxygen demand, nutrient and pesticide transport in surface runoff.
Agricultural Nonpoint Source model	This model was developed by ARS in cooperation with the Minnesota Pollution Control Agency and the SCS. This model was developed to analyze and provide estimates of runoff water quality from agricultural watersheds ranging in size from just a few hectares
BMP	See best management practices.
BMP system	A combination of individual BMPs into a "system" that functions to reduce the same pollutant.
Baseline	An initial set of observations or data used for comparison or as a control; a starting point.
Beneficial uses	See Designated uses.
Best Management Practice	A practice or combination of practices that are determined to be the most effective and practicable (including technological, economic, and institutional considerations) means of controlling point and nonpoint pollutants at levels compatible with environment.
Best management practice (BMP)	A method that has been determined to be the most effective, practical means of preventing or reducing pollution from nonpoint sources.
Best management practice (BMP)	A method that has been determined to be the most effective, practical means of preventing or reducing pollution from nonpoint sources.
Biocriteria	The biological characteristics that quantitatively describe a waterbody with a healthy community of fish and associated aquatic organisms. Components of biocriteria include the presence and seasonality of key indicator species; the abundance, diversity, and structure of the aquatic community; and the habitat conditions required for these organisms.
CWA section 303(d)	Section of the Clean Water Act under which states, territories, and authorized tribes are required to develop lists of impaired waters.
CWA section 305(b)	Section of the Clean Water Act under which states are required to prepare a report describing the status of their water quality every 2 years.
CWA section 319	Section of the Clean Water Act under which EPA has developed guidelines to help states, territories, and tribes implement nonpoint source pollutant management programs and provide grants to fund the programs.

Calibration	Testing and tuning of a model to a set of field data not used in developing the model; also includes minimization of deviations between measured field conditions and output of a model by selecting appropriate model coefficients.
Clinger richness	A metric used to measure the diversity of macroinvertebrates that have the ability to attach to the substrate in flowing water.
Coefficient of skewness (g)	Most commonly used measure of skewness. It is influenced by the presence of outliers because it is calculated using the mean and standard deviation.
Combined sewer overflow (CSO)	Overflow from systems designed to collect runoff, domestic sewage, and industrial wastewater in the same pipe system.
Combined sewer overflow (CSO)	Overflow from systems designed to collect runoff, domestic sewage, and industrial wastewater in the same pipe system.
Criteria	Standards that define minimum conditions, pollutant limits, goals, and other requirements that the waterbody must attain or maintain to support its designated use or uses. Criteria describe physical, chemical, and biological attributes or conditions as measurable (e.g., parts per million of a certain chemical) or narrative (e.g., no objectionable odors) water quality components.
Criteria	Standards that define minimum conditions, pollutant limits, goals, and other requirements that the waterbody must attain or maintain to support its designated use or uses. Criteria describe physical, chemical, and biological attributes or conditions as me
Delineation	The process of identifying a watershed boundary on the basis of topographic information.
Designated use	Simple narrative description of water quality expectations or water quality goals. A designated use is a legally recognized description of a desired use of the waterbody, such as (1) support of communities of aquatic life, (2) body contact recreation, (3) fish consumption, and (4) public drinking water supply. These are uses that the state or authorized tribe wants the waterbody to be healthy enough to fully support. The Clean Water Act requires that waterbodies attain or maintain the water quality needed to support designated uses.
Discounting	The process of calculating the present value of a project on the basis of the current value of the projected stream of costs throughout the project's lifetime.
Eutrophication	Enrichment of an aquatic ecosystem with nutrients (nitrogen, phosphorus) that accelerate biological productivity (growth of algae and weeds) and an undesirable accumulation of algal biomass.
First-order decay	A reaction in which the concentration decreases exponentially over time.
Geographic information system (GIS)	A tool that links spatial features commonly seen on maps with information from various sources ranging from demographics to pollutant sources.
Hydrologic unit code (HUC)	A unique code, consisting of two to eight digits (based on the four levels of classification in the hydrologic unit system), that identifies each hydrologic unit.
Impaired waterbody	A waterbody that does not meet the criteria that support its designated use.
Indicator	Direct or indirect measurements of some valued component or quality in a system. Can be used to measure the current health of the watershed and to provide a way to measure progress toward meeting the watershed goals.

Information/education (I/E) activities	Public outreach.
Interquartile range (IQR)	The difference between the 25th and 75th percentile of the data. Because the IQR measures the range of the central 50 percent of the data and is not influenced by the 25 percent on either end, it is less sensitive to extremes or outliers than the sample variance and standard deviation.
Management measure	A group of cost-effective practices implemented cooperatively to achieve more comprehensive goals, such as reducing the loads of sediment from a field to receiving waters.
Management practice	A method that is effective and practical for preventing or reducing pollution from nonpoint sources. Management practices, which are the building blocks of management measures, are similar to best management practices.
Maximum (statistics)	The highest data value recorded during the period of record.
McNeil core	A streambed sample collected with a McNeil core sampler and used to characterize the composition of the substrate.
Mean	The sum of all data values divided by the number of samples. The mean is strongly influenced by "outlier" samples (extremely high or low samples), with one outlier sample possibly shifting the mean significantly higher or lower.
Measure of central tendency	Measure that identifies the general center of a dataset.
Measure of range	Measure that identifies the span of the data from low to high.
Measure of skewness	Measure that shows whether a dataset is asymmetrical around the mean or median and suggests how much the distribution of the data differs from a normal distribution.
Measure of spread	Measure of the variability of the dataset.
Median (P0.50)	The 50th percentile data point; the central value of the dataset when ranked in order of magnitude. The median is more resistant to outliers than the mean and is only minimally affected by single observations.
Mesotrophic	Describes reservoirs and lakes that contain moderate quantities of nutrients and are moderately productive in terms of aquatic animal and plant life.
Minimum (statistics)	The lowest data value recorded during the period of record.
Model	A representation of an environmental system obtained through the use of mathematical equations or relationships.
Model application	The use of a model or models to address defined questions at a specific location.
Modeling system	A computer program or software package that incorporates a model and input and output systems to facilitate application.
NPS	Nonpoint Source: Nonpoint sources are defined as those sources generally originating from agricultural operations such as field spreading of manure, chemicals, and commercial fertilizers. Erosion of farmland is also nonpoint source pollution in the form of sediment load.
Narrative criteria	Nonnumeric descriptions of desirable or undesirable water quality conditions.
National Pollutant Discharge Elimination System (NPDES)	A provision of the Clean Water Act that prohibits the discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.

Nine minimum elements	Components that EPA has identified as critical for achieving improvements in water quality. EPA requires that these nine elements be addressed for section 319-funded watershed plans and strongly recommends they be included in all watershed plans that are intended to remediate water quality impairments.
Nonpoint source	Diffuse pollution source; a source without a single point of origin or not introduced into a receiving stream from a specific outlet. The pollutants are generally carried off the land by stormwater. Common nonpoint sources are agriculture, forestry, urban areas, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.
Nonstructural practice	A practice that prevents or reduces runoff problems in receiving waters by reducing the generation of pollutants and managing runoff at the source. This type of practice may be included in a regulation or may involve voluntary pollution prevention practices.
Numeric criteria	Criteria or limits for many common pollutants that are based on laboratory and other studies that test or otherwise examine the effects of pollutants on live organisms of different species.
Point source	A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution, such as a pipe, ditch, ship, ore pit, or factory smokestack.
Pollutant	A contaminant in a concentration or amount that adversely alters the physical, chemical, or biological properties of the natural environment.
Pollutant load	The amount of pollutants entering a waterbody. Loads are usually expressed in terms of a weight and a time frame, such as pounds per day (lb/d).
Probabilistic sampling	Sampling in which sites are randomly chosen to represent a larger sampling population for the purpose of trying to answer broad-scale (e.g., watershed-wide) questions.
Quality assurance project plan	A project-specific document that specifies the data quality and quantity requirements of a study, as well as the procedures that will be used to collect, analyze, and report the data.
Quartile skew coefficient (qs)	Measure of the difference in the distances of the upper and lower quartiles (upper and lower 25 percent of data) from the median. The qs is more resistant to outliers because, like the IQR, it uses the central 50 percent of the data.
Reach File	A series of national hydrologic databases that uniquely identify and interconnect the stream segments or reaches that compose the country's surface water drainage system.
Remote sensing	The collection of data and information about the physical world by detecting and measuring radiation, particles, and fields associated with objects located beyond the immediate vicinity of the sensor device's).
SCS	Soil Conservation Service of USDA. This organization is now called the Natural Resources Conservation Service - NRCS
SCS Soils-5 Information	SCS Soil Interpretation Records data base, which contains a wide variety of soil characteristics and interpretations. Available through the Statistical Laboratory, Iowa State University, Ames, Iowa.
SCS curve number	Number used to determine runoff, as a result of rainfall, for a specific land area based on the area's hydrologic condition, land use, soil, and treatment.
SCS curve number	Number used to determine runoff, as a result of rainfall, for a specific land area based on the area's hydrologic condition, land use, soil, and treatment.

Sample variance ( $s^2$ ) and its square root standard deviation ( $s$ )	The most common measures of the spread (dispersion) of a set of data. These statistics are computed using the squares of the difference between each data value and the mean, so that outliers influence their magnitudes dramatically. In datasets with major outliers, the variance and standard deviation might suggest much greater spread than exists for the majority of the data.
Sanitary sewer overflow (SSO)	An occasional unintentional discharge of raw sewage from a municipal sanitary sewer.
Stakeholder	Individual or organization that has a stake in the outcome of the watershed plan.
Structural practice	A practice, such as a stormwater basin or streambank fence, that requires construction, installation, and maintenance.
Targeted sampling	Sampling in which sites are allocated to specific locations of concern (e.g., below discharges, in areas of particular land use, at stream junctions to isolate subwatersheds) for the purpose of trying to answer site-specific questions.
Threatened waterbody	A waterbody that is meeting standards but exhibits a declining trend in water quality such that it will likely exceed standards.
Total Maximum Daily Load (TMDL)	The amount, or load, of a specific pollutant that a waterbody can assimilate and still meet the water quality standard for its designated use. For impaired waters the TMDL reduces the overall load by allocating the load among current pollutant loads (from point and nonpoint sources), background or natural loads, a margin of safety, and sometimes an allocation for future growth.
Universal Soil Loss Equation	This equation is used to calculate the amount of soil erosion as a function of soil type, slope, tillage practice, rainfall, erodibility, and crop type. The result is usually expressed in tons of eroded soil per year.
Universal Soil Loss Equation (USLE)	An equation used to predict the average rate of erosion of an area on the basis of the rainfall, soil type, topography, and management measures of the area.
Validation	Subsequent testing of a precalibrated model to additional field data, usually under different external conditions, to further examine the model's ability to predict future conditions. Same as verification.
Water quality standards	Standards that set the goals, pollution limits, and protection requirements for each waterbody. These standards are composed of designated (beneficial) uses, numeric and narrative criteria, and antidegradation policies and procedures.
Watershed	Land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.
Watershed approach	A flexible framework for managing water resource quality and quantity within specified drainage area, or watershed. This approach includes stakeholder involvement and management actions supported by sound science and appropriate technology.
Watershed plan	A document that provides assessment and management information for a geographically defined watershed, including the analyses, actions, participants, and resources related to development and implementation of the plan.
best management practices	Management practices (such as nutrient management) or structural practices (such as terraces) designed to reduce the quantities of pollutants-- such as sediment, nitrogen, phosphorus, and animal wastes -- that are washed by rain and snow melt from farms I
combined sewer overflow	A pipe that discharges water during storms from a sewer system that carries both sanitary wastewater and stormwater. The overflow occurs because the system does not have the capacity to transport, store, or

	treat the increased flow caused by stormwater runoff.
combined sewer system	A wastewater collection and treatment system where domestic and industrial wastewater is combined with storm runoff. Although such a system does provide treatment of stormwater, in practice, the systems may not be able to handle major storm flows. As a re
community water system	A public water system that has at least 15 service connections for year-round residents or that serves at least 25 year-round residents.
critical area	Area or source of nonpoint source pollutants identified in the project area as having the most significant impact on the impaired use of the receiving waters.
critical habitat	Areas which are essential to the conservation of an officially-listed endangered or threatened species and which may require special management considerations or protection.
secondary standards	Standards, sometimes called Secondary Maximum Contaminant Levels, address taste, odor, color, and other aesthetic aspects of drinking water that do not present health risks.
secondary treatment	The level of wastewater treatment that typically involves biological reduction in concentrations of particulate and dissolved oxygen-demanding pollutants, beyond the level of primary treatment.

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