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# Glossary and Acronyms

100-year Flood Event - The amount of runoff that has a one percent chance of occurring on average at a given location.

100-year Flood Level -The peak elevation of a water body resulting from a 100-year flood event.

303(d) - The section of the Clean Water Act that has the TMDL requirements. The 303(d) list is a list of all impaired or threatened waters within the jurisdiction of a State, Territory, or authorized Tribe.

305(b) - The section of the Clean Water Act requiring states to report to Congress on progress in meeting the "fishable, swimmable" goals of the act.

Algae - Any of various primitive, chiefly aquatic, one-celled or multicellular plants that lack true stems, roots, and leaves but usually contain chlorophyll.

Algae bloom - A proliferation of algae in a body of water often associated with excess nutrients (especially phosphorus and nitrogen) in the water column and/or sediments. Persistent and frequent blooms can result in low oxygen conditions which may harm aquatic life.

Aquatic life - Fish, invertebrates and other organisms that live in the water.

Aquifer - A subsurface formation of rock, glacial material, or other deposits that contains water and is capable of storing and yielding water to a well or spring.

Bank stabilization - Methods of securing the structural integrity of stream channel or lakeshore banks with supports to prevent bank slumping and undercutting of riparian trees, and overall erosion prevention.

Bankfull flow – The channel forming discharge. In undisturbed watersheds, the discharge condition occurs on average every one and a half to two years and controls the shape and form of natural channels.

Baseflow - The portion of stream flow that is not due to storm runoff, and is supported by groundwater seepage into a channel.

Best Management Practice (BMP), nonstructural - Strategies implemented to control stormwater runoff that focus on pollution prevention such as alternative site design, zoning and ordinances, education, and good housekeeping measures.

Best Management Practice (BMP), structural - Engineered devices implemented to control, treat, or prevent stormwater runoff pollution.

**Better site design** - A collection of site planning, design, and development strategies. Intended to reduce adverse impacts to the natural environment by preserving natural areas and reducing impervious coverage, mirroring original hydrology and plant community of the predevelopment site.

**Biochemical Oxygen Demand (BOD)** - The amount of oxygen used by microorganisms in the breakdown or decay of organic matter in a waterbody.

**Bioengineering** - Restoration and stabilization techniques that incorporate plants, often native species, to mimic natural functions and benefits (may be used in conjunction with tradition stabilization techniques).

**Biofiltration** - The use of vegetation (usually grasses or wetland plants) to filter and treat stormwater runoff as it is conveyed through an open channel or swale.

**Bioretention** – A water quality practice that utilizes landscaping and soils to treat stormwater by collecting it in shallow depressions and then filtering it through a planting soil media.

**Biotic impairment** - A divergence from the expected biological condition of a lake, stream, or wetland.

**Buffer** - An area of trees, shrubs and plants next to a waterbody intended to protect the receiving waterbody from sediment and pollutants contained in storm water runoff. Buffers also function as habitat for migratory birds and aquatic and terrestrial wildlife.

**Channel erosion** - The widening, deepening (called channel scour), and upstream cutting of a stream channel.

**Critical duration** - Event duration which typically leads to the largest peak discharge (usually equal to the Time of Concentration)

**Designated Uses** - Specific uses identified for all waterbodies in the state, both surface water and ground water. Waters of the state are protected for multiple uses and water quality standards exist to protect those uses.

**District** - the South Washington Watershed District.

**Drainage System** - features of the watershed such as lakes, ponds, streams and waterways, infrastructure, and pumps which contain and convey water resources of the District.

**Ecoregion criteria** - Data gathered from representative, minimally impacted (reference) lakes within each ecoregion are used as a basis for comparing the water quality and characteristics of other lakes in that ecoregion.

**Ecoregion** - Ecological region that has broad similarities with respect to soil, relief, and dominant vegetation.

**Ecosystem** - All of the interacting organisms in a defined space in association with their interrelated physical and chemical environment.

**Epilimnion** - The upper, wind-mixed layer of a lake. This water is turbulently mixed throughout at least some portion of the day and because of its exposure, can freely exchange dissolved gases (such as O<sub>2</sub> and CO<sub>2</sub>) with the atmosphere.

**Erosion** - The wearing away of land surfaces by wind or water.

**Eutrophic** - high in nutrients, with high organic production. Eutrophic lakes contain more phytoplankton (algae) than other lakes.

**Eutrophication** - The aging process by which lakes are fertilized with nutrients. Natural eutrophication will very gradually change the character of a lake. Cultural eutrophication is the accelerated aging of a lake as a result of human activities.

**Event Mean Concentration (EMC)** - A method for characterizing pollutant concentrations in a receiving water from a runoff event often chosen for its practicality. The value is determined by compositing (in proportion to flow rate) a set of samples, taken at various points in time during a runoff event, into a single sample for analysis.

**Floodplain** - the area along channels and waterways, including the area around lakes, marshes, lowlands, and ponding areas which would become inundated as the result of a 100-year flood event.

**Groundwater** - Water below the earth's surface, often between saturated soil and rock, that can supply drinking wells and springs.

**Habitat** - The specific area or environment where a plant or animal lives. A habitat must provide all of the basic requirements for life (food, water, shelter) and should be free of harmful contaminants and pollution.

**Heavy Metals** - Metallic elements like zinc, mercury, chromium, cadmium, arsenic, and lead, with high molecular weights. They can damage living things at low concentrations and tend to accumulate in the food chain.

**Hydrological Soil Group** - Soil groups which are classified according to their drainage potential.

**Hypolimnion** - The bottom, and most dense layer of a lake. It is typically the coldest layer in the summer and warmest in the winter. It is isolated from wind mixing and typically too dark for much plant photosynthesis to occur.

**IBI** - The index of biotic integrity is a regionally based index used to measure the integrity of rivers and streams, and to determine the level of their biotic impairment.

**Infiltration Basins** - Depressions that when inundated with surface water runoff have the capacity to pass water down into the subsurface at a relatively high rate.

**Impaired waterbody** - A waterbody that does not meet water quality standards and designated uses because of pollutant(s), pollution, or unknown causes of impairment.

**Impervious surface** - A surface that cannot be penetrated by water such as pavement, rock, or a rooftop and thereby prevents infiltration.

**Imperviousness** - The percentage of impervious cover within a defined area.

**Infiltration** - The process or rate at which water moves from the land surface into the ground. Infiltration is also a general category of BMP designed to collect runoff and allow it to flow through the ground for treatment.

**Invasive Plant** - A plant that moves in and takes over an ecosystem to the detriment of other species (often the result of environmental manipulation).

**Landlocked** - Depression where there is no readily available surface overflow for stormwater drainage during a 100-year or larger event.

**LGU** - Local Government Unit.

**Local Water Management Plan** - adopted by a municipality which is the criteria used by each city to address stormwater management.

**Load** - The quantity (i.e., mass) of a pollutant that a waterbody is carrying measured at a point in time.

**Macroinvertebrate** - An animal that lacks a backbone and is large enough to be seen with the naked eye.

**Metalimnion** - The middle or transitional zone between the well-mixed epilimnion and the colder hypolimnion layers in a lake. This layer contains an area in the water column where the temperature drops sharply (one degree celcius per meter, or more).

**MS4** - Municipal Separate Storm Sewer System.

**National Pollutant Discharge Elimination System (NPDES)** - A provision of the Clean Water Act that prohibits discharge of pollutants into waters of the United States unless a special permit is issued by the EPA, a state, or (where delegated) a tribal government or and Indian reservation.

**Native plant** - A plant that naturally occurred in an area before disturbance by humans.

**Nondegradation** - Meeting or maintaining a pollutant load condition whereby predicted loads, or changes in predicted loads, cannot be discerned against the natural variability of hydrology and water quality. (see figure)

**Nonpoint source pollution (NPS)** - Pollution that comes from many different diffuse sources in a watershed and is carried by storm water runoff.

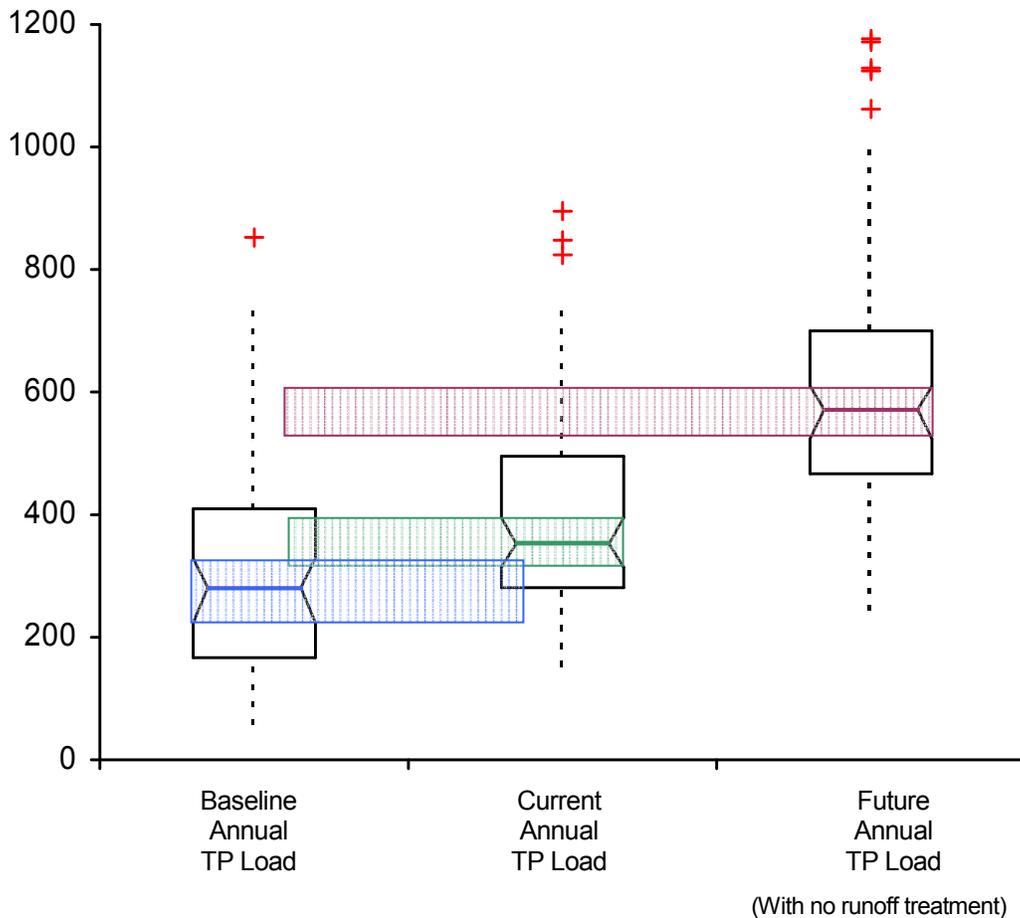
## Nondegradation (illustration)

*Hypothetical Notched Box Plot of Total Phosphorus Load (lbs/yr).*

This is a hypothetical notched box plot of total phosphorus delivered from an urban drainage area as it transitions towards full development. This plot indicates an increase in mean and median annual loads. However, the notches (or indents) in the box plot show the level of confidence about the median. A range exists because of natural variability in hydrology and water quality.

The change in annual loads between baseline and current conditions in this example do not illustrate degradation because considering natural variability and uncertainty, overlap in the notches suggests the medians could actually be equal. The projected future loads (untreated) illustrate a load difference that is discernable against natural variability and uncertainty, therefore nondegradation is not maintained.

If projected future loads are reduced to where the notches overlap, this shows that nondegradation cannot be discerned against natural variability and uncertainty. The absolute median values do not have to be equal to meet nondegradation.



NTU - Nephelometric turbidity units. A unit of measure for turbidity values. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

Nutrient - A primary element necessary for the growth of living organisms. For example, nitrogen and phosphorous, are nutrients required for phytoplankton (algae) growth.

Oligotrophic - Very unproductive lakes low in nutrients and algae, usually very transparent with abundant hypolimnetic oxygen if stratified.

Outfall - The point of discharge from a river, pipe, drain, etc. to a receiving body of water.

Peak discharge - The greatest rate of discharge occurring during a storm event.

Performance standard - An established amount or limit of a specified pollutant that can be discharged from a land-use activity or BMP.

Pervious materials - Pervious materials allow water to soak into the surface by virtue of their porous nature or by "void" spaces in the material.

Phosphorus - Key nutrient influencing plant (algae) growth in lakes. Total phosphorus includes the amount of phosphorus in solution (reactive) and in particulate form.

ppb – Parts per billion. A measure of concentration equivalent to micrograms per liter.

ppm – Parts per million. A measure of concentration equivalent to milligrams per liter.

Phytoplankton - Microscopic floating plants, mainly algae, that live suspended in bodies of water and that drift about.

Point source pollution - A type of pollution that can be traced to a specific source, usually an outfall or discharge pipe.

Pollution - A negative or unwanted change in character of air, water, or soil that can affect the health, survival, or activities of humans and other organisms in nature.

Project - All land alterations which remove cover or disturb a surface area of one acre or more, regardless of impervious coverage. Limits of the project

Public Improvements – Projects performed by municipalities, counties, or other public entity. The SWWD rules apply to linear projects (i.e. roadways) establishing impervious area cumulatively above one acre as a result of the project, even if the overall project is phased over several years. Exempted public improvements are defined as linear projects on existing infrastructure which does not increase impervious area above one cumulative acre. Examples include mill and overlay projects, or sewer or water system reconstructions.

Rating curve - A graphic representation of a table showing the relation between water elevation and discharge of a stream or conduit at a given location.

Ravine - A narrow steep-sided valley that is larger than a gully and smaller than a canyon and that is usually worn by running water.

Receiving waters - Creeks, streams, rivers, lakes, wetlands and other bodies of water into which stormwater flows.

Retrofit - The creation or modification of a stormwater management practice, usually in a developed area, that improves or combines treatment with existing stormwater infrastructure.

Runoff - the amount of excess precipitation or snowmelt that is not permanently stored in depressional areas, evaporated, intercepted, or infiltrated into the soil.

Semi-landlocked - depression where there is no available surface overflow or outlet for stormwater drainage up to a 25-year storm.

Secchi disk - A disk with a 4-6 inch radius used to measure water clarity.

Sediment - Insoluble material suspended in water that consists mainly of particles derived from rocks, soil, and organic materials; a major nonpoint source pollutant that other pollutants may attach to.

Sedimentation - A solid-liquid separation process utilizing gravitational settling to remove soil or rock particles from the water column.

Storm sewer system - A system of pipes and channels that carry stormwater runoff from the surfaces of building, paved surfaces, and the land to discharge areas.

Stormwater - Water derived from a storm event or conveyed through a storm sewer system.

Stormwater utility - A utility established to generate a dedicated source of funding for stormwater pollution prevention activities where users pay a fee based on land-use and contribution of runoff to the stormwater system.

Surface water - The water that rests on top of the earth in streams, lakes, rivers, oceans and reservoirs and is open to the atmosphere (i.e. rivers, lakes, creeks, streams, etc).

Suspended Solids - Suspended solids limit sunlight, inhibit oxygen uptake by fish and alter aquatic habitat.

Swale - A natural or human-made open depression or wide, shallow ditch that intermittently contains or conveys runoff. Can be used as a BMP to detain and filter runoff.

Time of concentration – Time required for runoff to flow from the most distant point on the watershed to the watershed outlet.

TMDL - Total maximum daily load. The maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. TMDL also refers to the regulatory program to study and allocate pollutant loadings among point and nonpoint sources.

**Tributary** - A stream that feeds into a larger stream, river, or lake.

**Traditional agriculture** - agricultural practices that produce food or fiber. This type of agriculture does not include nurseries, feedlots, or tree farms.

**Trophic state** - The level of growth or productivity of a lake as measured by phosphorus content, algae abundance, and depth of light penetration.

**Trophy** - of a lake refers to the rate at which organic matter is supplied by or to the lake per unit of time. Trophy is an expression of the combined effects of organic matter supplied to the lake. The trophic concept refers to the pelagial-zone (open water)-planktonic portion of the lake ecosystem.

**TSI** - Trophic state index as developed by Carlson (1977). A method to quantify the level of lake productivity (algal biomass) based on phosphorus concentration, water clarity, or chlorophyll-a concentration.

**Turbidity** - Measures particles in the water, such as sediment and algae. Related to the depth sunlight can penetrate into the water. Higher turbidities reduce the penetration of sunlight in the water and can affect species of aquatic life that survive in the waterbody.

**Watershed** - an area bounded peripherally by a drainage divide, which collects precipitation and provides runoff to a particular drainage system.

**Waterway** - any natural or artificial channel including associated flood plains which provide a course for water flowing either continuously or intermittently.

**WCA** - Wetland Conservation Act (Minnesota Laws 1991 Chapter 354, as amended).

**Watershed** - The land area that drains water to a particular stream, lake or river.

**Wetland** - A landform (marshes, swamps, bogs, and fens) characterized by the presence of water, hydric soils, and hydrophytic vegetation. Often wetlands form the transition zones between upland and deep-water environments.