

Appendix I: Glossary

- **319 (Non-point) Project Evaluation** – The 1987 amendments to the Clean Water Act (CWA) established the Section 319 Nonpoint Source Management Program. Section 319 addresses the need for greater federal leadership to help focus state and local nonpoint source efforts. Under Section 319, states, territories and tribes receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects.
- **AIS – Aquatic Invasive Species** – Aquatic invasive species (AIS) (sometimes called exotic, invasive, nonindigenous or non-native) are aquatic organisms that invade ecosystems beyond their natural, historic range. Their presence may harm native ecosystems or commercial, agricultural, or recreational activities dependent on these ecosystems. They may even harm our health.
- **ALUS – Aquatic Life Use Support** – A system of setting up, analyzing, and regulating ambient water quality based on the potential or attainable aquatic life use that is possible or achievable if human-induced pollution was removed.
- **Antidegradation** – A technical term referring to the CWA requirement that no degradation of waterbodies. The Department is expected to review discharges for antidegradation whenever limits increase, whether they're water quality-based or technology-based. Increases aren't prohibited under NR 207, but the Department is required to evaluate whether the increase is needed and whether it's socially and economically justifiable, even when it increases based on new criteria.
- **Attainment Decision** – Estimating the designated use (or compliance with water quality standards) attainment.
- **Baseflow** – Baseflow (also called drought flow, groundwater recession flow, low flow, low-water flow, low-water discharge and sustained or fair-weather runoff) is the portion of [streamflow](#) that comes from "the sum of deep subsurface flow and delayed shallow subsurface flow". It should not be confused with [groundwater flow](#).
- **Beach Action Value (BAV)** – BAV stands for beach action value. The BAV is the marine recreational water quality standard used to determine if bacteria levels are unsafe for water contact. When a single marine water sample has bacteria levels at or above the BAV, a health advisory is issued. Once a health advisory is issued, people are asked to avoid water contact until the health advisory is lifted.
- **Bioassessment** – Biological assessments are evaluations of the condition of waterbodies using surveys and other direct measurements of resident biological organisms (macroinvertebrates, fish, and plants).
- **TALU - Tiered Aquatic Life Use Approach** –The TALU based approach includes tiered aquatic life uses (TALU) based on numeric biological criteria codified in WQS. Implementation is via an adequate ambient monitoring and assessment program that includes biological, chemical, and

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physical measures, parameters, indicators and a process for stressor & source identification.

- **Biological Criteria** - The presence, condition and numbers of types of fish, insects, algae, plants, and other organisms provide important information about the health of aquatic systems.
- **BPJ - Best Professional Judgment** - At the foundation of professional judgment is a form of knowledge--called practical wisdom--which is not formally taught and learnt but is acquired largely through experience and informal conversations with respected peers. Wisdom develops through "the critical reconstruction of practice," including deliberation.
- **CFU- a colony-forming unit (CFU)** is a unit used to estimate the number of viable bacteria or fungal cells in a sample.
- **CLMN – Clean Lakes Monitoring Network** – Wisconsin's volunteer monitoring program for lakes.
- **Consistency Plans (Manual code 1210.1)** Each division produces guidance ("Consistency Plan") that details a process for ensuring consistency in developing and implementing policy and guidance applicable to program procedures, technical information, customer service and other core business functions. <http://intranet.dnr.state.wi.us/int/mb/codes/MC1210-1.pdf>
- **Cross program communication** – purposeful communication engaging the interests and needs of multiple programs across division and bureaus.
- **Directed Lake Assessment (including APM and Critical Habitat)** - Directed Lakes involves collecting chemical, physical and biological data; the prescriptive nature of the study helps with coordination of cross-program field surveys. At minimum, each lake survey will include Plant Point Intercept Survey, Shoreland Habitat Survey, and at least one or more 1 water chemistry samples.
- **Drainage Basin** -- A **drainage basin** or **catchment basin** is an extent or an area of land where [surface water](#) from [rain](#), [melting snow](#), or [ice](#) converges to a single point at a lower elevation, usually the exit of the basin, where the waters join another waterbody, such as a [river](#), [lake](#), [reservoir](#), [estuary](#), [wetland](#), [sea](#), or [ocean](#).
- **Drinking Water System (DWS)** -- A drinking water system is essentially a public water supply system and/or a private water supply system. A conduit through which potable drinking water is conveyed.
- **Effluent Limit** -- An effluent limitation is a United States Clean Water Act standard of performance reflecting a specified level of discharge reduction achievable by the best available technology.
- **Floristic Quality Assessment (FQA) Benchmark Surveys** - Target is to set a benchmark between medium and high quality and between medium and low quality/condition based on distribution of test indicator metrics (Mean C and FQI) in each bin.
- **FMDB** – fisheries Management Database – an IT system holding fisheries taxonomic data, fish stocking, propagation records, historical records, summary metrics, fish health data and more.

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- **Follow-up for Impaired Waters** - Follow up monitoring, linked to probabilistic, targeted or local needs studies, is now a specific type of work identified in strategy and budget under prescriptive monitoring that is purposefully conducted to help meet attainment decisions.
- **FQA benchmark** - Floristic Quality Assessment benchmarks assess the condition of all commonly occurring wetland plant communities in the four major Omernick ecoregions of Wisconsin. FQA Benchmarks will discriminate between different condition categories along the biological condition gradient and can be used to support designation of Tiered Aquatic Life uses. These FQA Benchmarks need to be tailored to the plant community type and ecological setting.
- **FQI (Floristic Quality Index)** - FQI, or Floristic Quality Index: $FQI = \bar{C} \times \sqrt{N}$. This index represents....
- **Future TWA Element** – Targeted Watershed Assessment element that may include but is not limited to, special studies for WPDES compliance, baseflow data collection, springs inventories, or other ecosystem measures that may be appropriate for the TWA process.
- **Groundwater Retrieval Network (GRN)** - The Groundwater Retrieval Network acts as a central hub for accessing well information and groundwater quality data from various WDNR program databases. It contains information on public and private drinking water wells and monitoring wells and their associated water quality results.
- **Voucher specimens** A 'voucher specimen' is any specimen, usually but not always a cadaver, that serves as a basis of study and is retained as a reference. 'Specimen' means the whole animal or a part thereof. (A voucher should be in an accessible collection; however, even if it is not, it remains a voucher.)
- **Hester-Dendy Sampling Device** Some substrate samplers sample over time as well as in a particular space. Where the substrate will not allow grab samplers or similar devices, organisms can be lured into samplers designed to mimic the substrate. The multiple-plate substrate sampler mimics substrates with narrow, openings, such as leaves or woody debris. These kinds of samplers are placed in the substrate for a period of time and recovered. The number and kind of insects which have colonized the surfaces are counted. Since the surface area of the plates or spheres is known, the multiple-plate samplers are quantitative samplers
- **HUC** A hydrological code or hydrologic unit code is a sequence of numbers or letters that identify a hydrological feature like a river, river reach, lake, or area like a drainage basin (also called watershed (in North America) or catchment.
- **Hydro Geomorphic (HGM) classification system.** The Hydrogeomorphic Approach to assessing wetland functions, or HGM Approach, is a method to assess the functional condition (Smith 1995) of a specific wetland referenced to data collected from wetlands across a range of physical conditions. It utilizes a wetland classification system based on geomorphic position and hydrologic characteristics to group wetlands into seven different wetland classes as defined by Brinson (1993).
- **Indicators** -- Indicators are observations or calculations that can be used to track conditions and trends.

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- **Index of Biological Integrity** -- An Index of Biological Integrity (IBI), also called an Index of Biotic Integrity, is a scientific tool used to identify and classify water pollution problems. An IBI associates anthropogenic influences on a water body with biological activity in the water body, and is formulated using data developed from biosurveys.
- **In-Lieu Fee and compensatory mitigation program** -- An in-lieu fee program involves the restoration, establishment, enhancement and/or preservation of aquatic resources through funds paid to a government or non-profit natural resources management entity to satisfy compensatory mitigation requirements for permits. An in-lieu fee program sells credits to permittees whose legal obligation to provide compensatory mitigation is then transferred to the sponsor of the in-lieu fee program upon receipt of an associated credit fee.
- **Legacy Data Center (LDC), and Modernized STORET** -- The STORET Legacy Data Center, or LDC, is an interim relational database that houses data migrated from the Legacy STORET system. The information contained in STORET LDC has been collected from all 50 states, tribal lands, U.S. Territories, and Canada over the past 30 years. The STORET LDC is not responsible for the quality of the data. As part of the STORET modernization project, this data has been migrated from the old mainframe application to the LDC. Some of the data will then be migrated to New STORET.
- **Mean Coefficient of Conservatism, is the average coefficient of conservatism for all species.** The concept of species conservatism is the foundation of floristic quality assessment. Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. For example, a C of 0, is given to plants such as *Acer negundo*, box elder, that have demonstrated little fidelity to any remnant natural community, i.e. may be found almost anywhere. Similarly, a C of 10 is applied to plants like *Potentilla fruticosa* (shrubby cinquefoil) that are almost always restricted to a pre-settlement remnant, i.e. a high quality natural area. Introduced plants were not part of the pre-settlement flora, so no C value is applied to these.
- **Metric** -- Metrics are parameters or measures of quantitative assessment used for measurement, comparison or to track performance or production or health.
- **National Hydrography Dataset** -- The National Hydrography Dataset (NHD) and Watershed Boundary Dataset (WBD) are used to portray surface water on The National Map. The NHD represents the drainage network with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and stream gages. <http://nhd.usgs.gov/>
- **Natural Communities** -- A natural community is an interactive assemblage of organisms, their physical environment, and the natural processes that affect them.
- **National Rivers and Streams Assessment** The National Rivers and Streams Assessment (NRSA) is a collaborative survey that provides information on the ecological condition of the nation's rivers and streams and the key stressors that affect them, both on a national and an ecoregional scale.
- **National Wetlands Inventory (NWI)** - The National Wetlands Inventory (NWI) produces wetland maps and geospatial wetland data for the United States since the mid-1970s. The focus has been

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on two fronts: 1) map or digital database preparation and delivery to the public, and 2) projecting and reporting on national wetland trends using a probability-based sampling design. The status of mapping has been made available through various media throughout NWI's 30-year history (e.g., state atlases, regional status maps, and now through the internet via the Wetlands Mapper online tool).

- **Parameter** – A parameter is a numerical value that states something about an entire population being studied.
- **Probabilistic surveys** -- a probability sampling method is any method of sampling that utilizes some form of *random selection*.
- **QAPP** -- QAPP details the methodology and evaluation procedures for collecting and analyzing samples.
- **qPCR** – Method A: Enterococci in Water by TaqMan Quantitative Polymerase Chain Reaction (qPCR) Assay April 2010
- **Quality Management Plan?** A Quality Management Plan (QMP) is a document that describes an organization's quality system. It identifies the organizational structure, policy and procedures, functional responsibilities of management and staff, lines of authority, and its processes for planning, implementing, documenting, and assessing all activities conducted under the organization's quality system. (In the context of EPA quality requirements, the focus is ensuring the quality of environmental data and decision-making.) <http://www.epa.gov/quality/qs-docs/g1-final.pdf>
- **QA Project Plan?** A QA Project Plan is a written document that describes the quality assurance procedures, quality control specifications, and other technical activities that must be implemented to ensure that the results of the project or task to be performed will meet project specifications. Primary data collection, secondary data usage, and data processing (such as modeling) project activities funded by EPA are described and documented in QA Project Plans. <http://www.epa.gov/quality/faq6.html>
- **Reference conditions** Reference conditions are important in developing biologically meaningful criteria to protect resources. The reference condition reflects the potential of biological communities in a variety of stream settings. These descriptions can be used to describe spatial and temporal trends, and to detect the effects of pollutants on invertebrate communities. These tests are precursors to establishing biological criteria which should take into account the variety of natural stream settings and extent of human impact present. We add new reference streams each year to our list as well as revisit a select group on an annual basis.
- **Register of Waterbodies (ROW)** The Register of Waterbodies is the database that manages inventory information about our state's surface water. Unique numeric identifiers called waterbody ID codes (WBICs) are assigned to each stream/river, lake, pond, reservoir etc. as it is defined by users.
- **WSLH** -- Wisconsin State Laboratory of Hygiene (WSLH) is the state's public and environmental health laboratory. As part of the University of Wisconsin-Madison, the WSLH is committed to exploring new ideas which benefit the state, the nation and the world

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- **Statistical threshold value (STV)** -- The STV approximates the 90th percentile of the water quality distribution and is intended to be a value that should not be exceeded by more than 10 percent of the samples taken.
- **STORET (STORage and RETrieval)** -- STORET refers overall to "STORage and RETrieval", an electronic data system for water quality monitoring data developed by EPA. STORET has taken various forms since the 1960's.
- **Stratified Random Monitoring Program** -- Survey design used on large or difficult to measure populations, Every discrete unit has some probability of selection, Stratifying ensures all types of the population are represented in the sample.
- **Surface Water Data Viewer (SWDV)** -- Surface Water Data Viewer (SWDV) provides interactive web mapping tools for water quality, sediment, biological data, aquatic invasive species data, and more.
- **SWIMS** -- Surface Water Integrated Monitoring System (SWIMS) is a water data system designed to ensure that staff and management have access to high quality surface water, sediment and aquatic invasive data in an accessible format.
- **Streams and Rivers Technical Team (STT)** – Technical team of individuals in DNR who steer the streams biology programs and activities from a staff perspective.
- **System for Wastewater Applications, Monitoring, and Permits (SWAMP)** -- SWAMP is an Oracle-based computer system designed to assist with management of the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit Program.
- **Targeted Watershed Assessment (TWA)** -- Targeted Watershed Assessment Approach is a study design employed by DNR to comprehensively assess the aquatic and The TWA design involves monitoring at the HUC 12 scale (~29-mi²).
- **Total Maximum Daily Load Analyses (TMDL)** - a regulatory term in the U.S. Clean Water Act, describing a value of the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. Alternatively, TMDL is an allocation of that water pollutant deemed acceptable to the subject receiving waters.
- **Environmental Monitoring and Assessment Program (EMAP-GRE)** -- The Great River Ecosystem Environmental Monitoring and Assessment Program (EMAP) was a research program run by EPA's Office of Research and Development to develop the tools necessary to monitor and assess the status and trends of national ecological resources. EMAP collected field data from 1990 to 2006.
- **Water Condition Viewer (WCV)** - An interactive webmapping tool that focuses on water condition, monitoring and assessment data. Highlights include: Clean Water Act reporting datasets, Healthy Watersheds Assessments, Targeted Watershed Assessments and Watershed Planning. Future themes will include detail on monitoring projects.
- **Water Quality Plan** - Watershed Plans document and summarize the condition of health of water resources within the area. Watershed plans incorporate information on current and changing land use,

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population change, water resource potential and assessments of current conditions based on biological, physical and chemical data compared to water quality standards and quality thresholds established in guidance.

- **Water Assessment, Tracking and Electronic Reporting System (WATERS)** holds Clean Water Act Use Designations and Classifications (NR102, NR104), Outstanding and Exceptional Resource Waters Designations (NR102), Clean Water Act assessment data, including decisions regarding a waterbody meeting its attainable use or whether or not the waterbody is considered "impaired", Fisheries Trout Classifications (Administrative Code, NR 1.02(7)).
- **Coefficient of Conservatism** - The concept of species conservatism is the foundation of floristic quality assessment. Each native species is assigned a coefficient of conservatism (C) following the methods described by Swink and Wilhelm (1994) and Wilhelm and Masters (1995). Coefficients of conservatism range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition.
- **WisCALM** (Consolidated Assessment & Listing Methodology (WisCALM) guidance) - Comprehensive guidance on the assessment of water resources under the Clean Water Act.
- **Wisconsin Geological and Natural History Survey (WGNHS)** - The Wisconsin Geological and Natural History Survey (WGNHS) has been working to serve Wisconsin for over 100 years. We provide objective scientific information about the geology, mineral resources, and water resources of Wisconsin.
- **Wisconsin Pollutant Discharge Elimination System (WPDES)** - The Department regulates the discharge of pollutants to waters of the state through the Wisconsin Pollutant Discharge Elimination System (WPDES) program. Wastewater permits contain all the monitoring requirements, special reports, and compliance schedules appropriate to the facility in question. Permits are issued for a five year term.