
MONITORING PROGRAM LOGISTICS

20. QUALITY ASSURANCE

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Quality Management Plan (QMP)

The WDNR has a Quality Management Plan (QMP) and an Evaluation System Manual Code (MC 9314.1) in place that establishes processes and protocols that the state's monitoring program must meet. Required under EPA Order 5360.1 A2 as part of the WDNR's Agency-Wide Quality System, the QMP documents the WDNR's quality policy, describes its quality system, and identifies the environmental programs to which it applies. It can be accessed on the WDNR's intranet site at <http://intranet.dnr.state.wi.us/int/es/science/quality/qmp/qmphelp.htm>. The WDNR QMP was adopted in 2000 and was re-approved by Region 5 EPA in 2007. Further modifications will be made as needed but at least on an every five year basis, allowing for additions or modifications to quality assurance processes currently in place. The revision will be handled as modifications to the document that is on the WDNR's intranet site.

Quality Assurance Project Plans (QAPP)

The WDNR is also required by EPA Order 5360.1 A2 to submit a QAPP for those programs and projects receiving EPA funds. QAPPs are project-specific planning tools documenting how planning, implementation, and assessment will achieve the desired results through consistent, accurate data collection. Except in emergency cases, QAPPs must be approved by EPA prior to any data gathering work or use. The process can be lengthy, so programs should allow plenty of time for review and approval. The EPA publication *EPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5, March 2001) describes the specifications, recommends the format and delineates the approval process. The guidance emphasizes that precision and accuracy of data shall be assessed on all monitoring and measurement projects, without exception.

DNR Field Sampling & Quality Assurance Protocols, & Staff Training

Standard monitoring protocols are delineated in WDNR's *Environmental Sampling & Laboratory Services Guide: WI WDNR Field Procedures Manual*, online at <http://intranet.dnr.state.wi.us/int/es/science/ls/fpm/>. Standard quality assurance procedures include documenting the location of each monitoring site by providing either an approved monitoring station or the following: latitude and longitude (dms or decimal degrees), method of data collection (GPS unit, differentially corrected coordinates (y/n), survey grade equipment used, or on-screen digitizing), datum, collector name, brief narrative description of site (i.e., river x at hwy h), and WBIC if available.

If a monitoring station is used or requested, the individual should ensure that they are obtaining a station from the appropriate data system (FMDB, SWIMS, FishSed, USGS, Beaches DB (USGS), or other relevant database), and store the datasystem name from which the station was assigned with the data so that in future, people using the data will know where to look for more information.

All staff and partners using WDNR monitoring funds must document this information, and external groups working with WDNR should also follow these guidelines. Tools are available to help archive locations and the host database will determine which method to use. Users of the Fisheries Management Database and SWIMS should refer to the program website or contact the data system file managers for information.

Training of field staff for consistency in data collection and recording is critical to the success of the monitoring program. Training in taxonomy, deployment of field gear, datasytem usage, and general program implementation is periodically made available to all staff. All monitoring and data entry/data management protocols employed, at a minimum, meet the Department's data standards as developed by the Aquatic and Terrestrial Resources Inventory (ATRI) Team. Further, the Monitoring Team Data Management Team is compiling a best practices guide for future reference.

USGS Standards and Methods

USGS collaborates with several WDNR monitoring programs and provides shared databases. USGS standard protocols can be found at the websites below.

- USGS Water Quality field Manual - <http://water.usgs.gov/owq/FieldManual/>
- NAWQA biology protocols - <http://water.usgs.gov/nawqa/protocols/bioprotocols.html>
- NAWQA sampling and analyses protocols - <http://water.usgs.gov/nawqa/protocols/methodprotocols.html>
- USGS Techniques of Water Resources Investigations - <http://water.usgs.gov/pubs/twri/>
- NAWQA Quality Control Guidelines - <http://water.usgs.gov/nawqa/protocols/OFR97-223/index.html>
- USGS Quality Assurance - <http://water.usgs.gov/owq/quality.html>

State Lab of Hygiene (SLOH) Quality Controls

Most WDNR water quality analyses are completed by the State Laboratory of Hygiene (SLOH). The SLOH is certified by both the State of Wisconsin and the National Environmental Laboratory Accreditation Conference, with approved quality assurance procedures. Field and lab staff conduct various types of quality assurance tests, including split samples, proficiency testing, and reference toxicant testing.