
18. PUBLIC DRINKING WATER WELL MONITORING

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Status:

Wisconsin was granted primacy for the Safe Drinking Water program in 1978. Amendments to the program have required the state to change its Drinking Water Program in order to keep primacy.

Monitoring Objectives

This program primarily meets the objectives of the Safe Drinking Water Act (SDWA), but data can also be used to support Clean Water Act objectives. Data are collected, analyzed and used to determine if surface and groundwater used to supply public water systems meets federal public health standards for contaminants in drinking water. Regulated contaminants include 15 inorganic compounds, 51 synthetic organic and volatile organic compounds, and 4 radionuclides. If the federal standards are not met, the water must be treated. Treated water is also monitored. Data in the Drinking Water System database is sometimes used to look at groundwater quality within basins. The following objectives may at different times be met by data collected as part of the states Drinking Water Program.

Clean Water Act Objectives

- Determining water quality standards attainment
- Identifying impaired waters
- Identifying causes and sources of water quality impairments
- Supporting the implementation of water management programs
- Supporting the evaluation of program effectiveness

Monitoring Design

SDWA regulations require periodic sample collection and analysis to determine if water supplied by public water systems meets public health standards, called Maximum Contaminant Levels. EPA sampling rules are based on a Standardized Monitoring Framework (SMF) and require an assessment of potential contaminants to produce monitoring rules. Monitoring is done on a nine-year cycle that varies depending on the contaminant type, water source, and system type. The monitoring rules can be refined by the state into sampling requirements for each community system. Sampling requirements dictate how often samples are collected from each system as well as what substances the samples are analyzed for.

The purpose of the SMF is to standardize, simplify and consolidate monitoring requirements across contaminant groups. It increases public health protection by simplifying monitoring plans and coordinating monitoring schedules leading to increased compliance with monitoring requirements. The SMF reduces the variability within monitoring requirements for chemical and radiological contaminants across system sizes and types. The State of Wisconsin has primacy for implementing the SDWA. This allows the state to issue waivers, with EPA approval, which take into account regional concerns related to substances in drinking water systems.

Core and Supplemental Water Quality Indicators

- Bacteria
- Nitrate
- Nitrite
- Radionuclides
- Asbestos
- Inorganic Contaminants
- Synthetic Organic Contaminants
- Volatile Organic Contaminants
- Disinfectant By Products (Total Trihalomethanes and Haloacetic Acid 5s)

Quality Assurance

The Quality Assurance Project Plan is part of the Quality Management Plan approved by EPA as part of the Drinking Water Program.

Data Management

Data are stored in the state's Drinking Water System database and is available on the WDNR website at [http://prodmtext00.dnr.state.wi.us/pls/inter1/watr\\$.startup](http://prodmtext00.dnr.state.wi.us/pls/inter1/watr$.startup).

Data Analysis/Assessment

Central Office and Regional Drinking Water staff use the data to determine if drinking water standards are met. If there is a violation of a drinking water standard, a notice of noncompliance is issued. Further action taken can include a notice of violation followed by WDNR referral to the Department of Justice. Drinking water system data for untreated groundwater is also used in generalized groundwater quality assessments.

Reporting

Reports are sent to EPA quarterly. A summary of this data is also included in the biennial 303(d)/305(b) Report.

Programmatic Evaluation

DNR work planning is changed in response to the changing needs of the program. The EPA audits the program.

General Support and Infrastructure Planning

Staff and Training – Each public water supply system does its own sampling. However, all the WDNR staff working in the public water program are involved to some degree in assuring public wells are properly monitored. Staff is trained continuously to keep up with changes to the Safe Drinking Water Act.

Laboratory Resources – Many public water supplies have their water analyzed for bacteria and nitrates by the State Lab of Hygiene. This service is provided at no charge to the public water systems. The state lab and the WDNR cover the cost of the analysis through the "basic agreement".

Funding - The annual cost of the basic agreement for the services described above is approximately \$875,000. Monitoring for other contaminants is at the drinking water systems' expense. The Public Water program that coordinates and enforces monitoring is supported by both Federal and State resources. Federal support includes the public water system supervision (PWSS) grant (approx. \$3,400,000/year) and the State Revolving Loan Fund (SRF) set-aside grant (approx. \$1,400,000/year). This supplements approximately \$2,000,000/year that is set aside from state funds. These grants include support for all aspects of the Public Water program including plan review, enforcement, operator certification, capacity development, underground injection control, the state revolving fund, and source water protection.

References

The Standardized Monitoring Framework: A quick Reference Guide, March 2004. EPA Publication No.816-F-04-010, Office of Water.