

**Wisconsin
Water Quality Assessment
Report to Congress
2002**



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**Wisconsin Department of Natural Resources
Water Division**

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Introduction



Wisconsin is a state rich with resources – terrestrial, aquatic, cultural, intellectual, economic and human. It is the mix of how these resources are applied on the landscape that affects and is affected by the quality of our water. This report describes one aspect of this complex web of interaction – the known quality of our surface water and groundwater. While fundamental to the health of our state, this information provides only a narrow view into the type and level of function of our ecosystems. For a complete picture, this information must be interpreted in the context of other pertinent aspects of ecosystem health, such as the type and quality of our fisheries; the presence and quality of various ecological systems; and the type, quantity and location of human land uses, for example. Further, the information in this report is gathered, interpreted and understood through the prism of existing social, economic and political conditions.

Nonetheless, this summary of water quality in our state provides the most comprehensive view of the existing condition of water quality in the state. As WDNR moves forward to develop and implement tools to enhance the ease and accuracy of assessing waters, we anticipate being able to report a more accurate and more complete picture of water resource condition.

January 2003

Subject: 2002 Water Quality Assessment Report to Congress

Citizens of Wisconsin:

Enclosed please find a copy of our biannual report to Congress detailing the status of Wisconsin's waters. This report was prepared to satisfy requirements of the Federal Clean Water Act. We have included recommendations to identify existing problems and programmatic gaps that need to be addressed if we are to attain the state and national goals of waters that fully support fish and aquatic life uses as well as our societal needs.

This report includes a statewide update of water quality assessment data for lakes and a partial update of our river assessment information. From this analysis, it is clear that great progress has been made in restoring the integrity of our waters. Point source problems have been largely controlled and significant progress has been made in developing a framework to improve management of nonpoint sources. Yet other problems continue to limit use of surface and groundwater supplies and consumption of fish and other related aquatic life. These problems also continue to degrade the welfare of our state's aquatic ecosystems. Additionally, the seemingly inexhaustible amounts of water available to us may now be more limited than we previously believed, calling into question our existing water quantity management approach. Issues like contaminated sediment, atmospheric deposition of pollutants, habitat alteration or degradation, and introduction of exotic species all pose additional significant threats to our waters. Some types of land management activities or poorly planned development also exert negative impacts on groundwater quality and quantity. In addition, as demand for clean water continues to grow in the future, the relationship between surface water and groundwater supplies will need to be better understood.

We are moving into a realm of extremely complex water management issues. These issues cannot be addressed by the Department or by any governmental entity alone. Whether we need to reduce phosphorus or mercury, protect critical habitat or prevent introduction of exotics, we need strategies that allow us to work together — government, industry, advocacy interests and individual citizens. To be most successful, these efforts need to be coordinated and integrated using a regional hydrologic orientation: *the Watershed Approach*.

The first step in developing a state watershed program requires a common understanding of the current state of our water resources and the problems affecting them. The enclosed report provides a first step in that direction. Please take this report and use it to help determine the status of waters in your watershed. By familiarizing yourself with the existing problems, you can help identify and implement necessary solutions. Together we can start to resolve our remaining problems and to prevent additional future problems. By shaping and sharing common goals for our watersheds, we can all work together to restore and protect the unique water wealth that largely defines the State of Wisconsin.

For more information about this report, please contact Ms. Lisa Helmuth at 608-266-7768. I encourage you to participate in watershed management effort in your area — for everyone's support and involvement is needed to successfully protect our state's water resources.

Sincerely,

P. Scott Hassett, Secretary

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Recommendations

Many of the specific needs for action could be most effectively addressed through a reauthorization of the Clean Water Act. This would also be the most effective approach for resolving the needs, which are currently identified through the Gap Analysis. The Gap Analysis is defined as the difference between currently available staffing and fiscal resources and the staffing and fiscal resources necessary to manage and implement state water quality programs in a way that would achieve the environmental and public health goals contained in the Clean Water Act. The recommendations are summarized below.

Congress should complete reauthorization of the Clean Water Act, incorporating the following issues:

- U.S. EPA should establish a schedule for the finalization of national nutrient criteria guidance.
- U.S. EPA should establish a schedule for the completion of national guidance for sediment quality criteria.
- U.S. EPA should develop watershed management program guidance, which requires sources regulated by the Toxic Substances Control Act (TSCA); the Resource Conservation and Recovery Act (RCRA); the Clean Air Act or the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) to be integrated in accordance with water program requirements. Include the concept of best environmental management by allowing the state director to waive specific requirements or individual categorical requirements related to specific source controls. The objective is to implement integrated solutions that would cause the improvement of water quality through installation, or use of, best or most feasible technologies.
- U.S. EPA should develop consistent national goals for attainment of water quality standards through Total Maximum Daily Loads (TMDLs) or other watershed implementation strategies, such as development of regulations and guidance to address atmospheric deposition and “air TMDLs.”
- U.S. EPA should establish national water resource monitoring programs to ensure that consistent and timely data are available to assess the condition of the nation’s waters including protocols for sampling and analysis.
- The U.S. Congress should establish base appropriations to fund state obligations created by the federal commitments in the Boundary Waters Treaty with Canada and the associated Water Quality Agreement. This includes both staffing and project implementation funds to address the restoration of use impairments identified in both remedial action plans and lakewide management plans.
- U.S. EPA should increase funding for Clean Water Act Section 106, 104b(3) and 205(j) or local 604(b) related water quality planning efforts.
- U.S. EPA should develop technical guidance and resources to support management decisions related to wetland and riparian zone protection and management.
- U.S. EPA should develop lake protection and management programs supported by technical research, technology transfer activities and resources for implementation funding.
- U.S. EPA should incorporate water resource needs as the basis for national and international efforts to reduce atmospheric transport and deposition of toxic pollutants.
- U.S. EPA should move to quickly modernize the PCS data system for the NPDES program or implement other information technology systems and/or reporting mechanisms that provide the information necessary to implement the national program.

The Coast Guard should establish clear and concise biological standards for the discharge of ballast water that is 99-100% effective (the goal is zero discharge) in preventing the introduction of new invasive aquatic species. In conjunction with development of a standard, a short-term plan should be developed to address the problem of NOBOBs (No Ballast On Board). An implementation schedule should be set to achieve the new technology in a series of steps for both new and existing ships. Subsequently, the standards and the implementation schedule should be incorporated into the reauthorization of the National Invasive Species Act.

Part I: Report Summary

Wisconsin's overall water quality remains good. While the number of diffuse sources of pollution continues to grow with increases in development statewide, strategies and programs to stem problems with reduced infiltration, urban and rural runoff, and degraded groundwater quality are also moving forward. These programs include statewide performance measures for nonpoint sources of pollution, identification of source water protection areas, and a number of public-private waterbody restoration projects.

Additionally, Wisconsin is improving its tracking of water quality condition through new data management applications that take advantage of new communication technology. These data systems include a river and lake monitoring and management database and enhancements to the state's waterbody assessment database. In time, these data will be linked to spatial representations, or maps, of the state's water features for point-and-click information at the waterbody level.

This report describes the how the state's 57,698 stream miles fared during the Year 2002 assessment period. While 24,422 stream miles were "assessed" — 9,199 miles were monitored and 15,222 miles were evaluated — all 57,698 stream miles are listed as impaired for one or more beneficial uses due to a statewide general fish consumption advisory for mercury. In addition, habitat alterations other than flow alterations negatively affect 8,459 stream miles; siltation or sedimentation affect 6,458 stream miles; and nutrients affect 2,717 stream miles. Following these key causes of problems are the presence of turbid waters, low dissolved oxygen readings and the presence of pathogens (bacteria).

Sources of these problems include atmospheric deposition (57,698 miles), agriculture (5,620 miles), hydrologic modifications (4,223 miles), and non-hydrologic-based habitat modifications (3,583 miles), and stream bank pasturing (2,736 miles). These stream figures reflect historic data (gathered prior to 2000-02), as well as assessments made in 2002. Approximately 50 percent of the available 2000-02 assessments were entered into the watershed database to calculate these numbers. Thus, key cause and source categories may change when the remaining updated information is entered into the database.

Wisconsin lakes have been more comprehensively monitored than streams, according to the assessment database. Over 792,000 lake acres have been assessed, with 758,782 monitored and 33,519 miles evaluated. As with rivers, due to the presence of a general fish consumption advisory for mercury, all 792,000 lake acres are listed as impaired for one or more beneficial uses, with mercury via atmospheric deposition the chief cause/stressor to lakes. Other causes of problems include excess nutrients, siltation, organic enrichment, noxious aquatic plants, and the presence of exotic species. Key source categories include agriculture, construction activities, hydrologic modifications (including dam construction and flow modification), and habitat modification other than hydrologic modification related.

Wisconsin plans to achieve comprehensive coverage of its waters through a variety of methods, including the implementation of a baseline monitoring program utilizing random stratified sampling techniques, as well as better tracking and assessment of all waterbodies. These improvements will allow Wisconsin to better understand and communicate general trends or changes in water quality over time.

Issues of special concern to the state include eutrophication, aquatic nuisance species, water quantity issues, riparian development, habitat protection and restoration, the presence of mercury and the need for improved monitoring and data management. Water management techniques being used include (just a sample):

- management of water resources through the basin management (or watershed management) approach,
- development of integrated resource management plans,
- development of biological indicators or biocriteria for wetlands,
- development and implementation of performance standards for nonpoint sources of pollution, and
- development of public/private partnerships in the area of pollution prevention, innovation, and resource monitoring.