

# Wisconsin's Nonpoint Source Program Management Plan FFY 2011-2015

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## Acronyms & Abbreviations

### Agencies, Departments and Organizations

EPA	United States Environmental Protection Agency
FSA	Farm Service Agency (part of USDA)
FWS	United States Fish and Wildlife Service
LCD	County Land Conservation Department
LWCD	County Land and Water Conservation Department
NRCS	Natural Resources Conservation Service (part of USDA)
USDA	United States Department of Agriculture
UWEX	University of Wisconsin—Extension
WALCE	Wisconsin Association of Land Conservation Employees
WDATCP	Wisconsin Department of Agriculture, Trade and Consumer Protection
WDNR	Wisconsin Department of Natural Resources
WLWCA	Wisconsin Land and Water Conservation Association

### State and Federal Programs and Terms

BMP	Best Management Practice
CAC	Community Assistant Contact
CAFO	Concentrated Animal Feeding Operation (Facilities permitted by WDNR under NR 243)
CAV	Community Assistance Visits
CREP	Conservation Reserve Enhancement Program (Federal and state grant program)
CRP	Conservation Reserve Program
EQIP	Environmental Quality Incentive Program (NRCS grant program)
FPP	Farmland Preservation Program (WDATCP program)
LA	Load Allocation
LWRM	Land and Water Resource Management (WDATCP planning program)
PWP	Priority Watersheds and Lake Projects (WDNR grant program)
SWIMS	Surface Water Integrated Monitoring System (WDNR database)
SWRM	Soil and Water Resource Management (WDATCP grant program)
TRM	Targeted Runoff Management grant (WDNR grant program)
UNPS	Urban Nonpoint Source and Stormwater Management grant (WDNR grant program)
TMDL	Total Maximum Daily Load
WATERS	Waterbody Assessment, Tracking, Evaluation, and Reporting System (WDNR database)
WAV	Water Action Volunteers (Citizen monitoring program)
WBIC	Waterbody Identification Code
WLA	Wasteload Allocation
WPDES	Wisconsin Pollutant Discharge Elimination System (WDNR permitting program)

### Wisconsin Administrative Codes

ATCP 50	Ch. ATCP 50, Wisconsin Administrative Code (SWRM, LWRM)
ATCP 51	Ch. ATCP 51, Wisconsin Administrative Code (Livestock Facility Siting)
NR 151	Ch. NR 151, Wisconsin Administrative Code (Runoff Management)
NR 216	Ch. NR 216, Wisconsin Administrative Code (Stormwater Discharge Permits)
NR 243	Ch. NR 243, Wisconsin Administrative Code (Animal Feeding Operations)
NR 153	Ch. NR 153, Wisconsin Administrative Code (TRM Grants)
NR 155	Ch. NR 155, Wisconsin Administrative Code (UNPS Grants)

## CHAPTER 1: The State of Nonpoint Source Pollution Control in Wisconsin

### 1.1 Purpose of this Report

This document outlines the state of Wisconsin's approach to addressing water quality impacts from nonpoint sources (NPS) of pollution. This version of the *Wisconsin NPS Program's Management Plan* covers the projected management activities and efforts from federal fiscal years (FFY) 2011 through 2015 and will be automatically amended based upon enacted administrative rules, modifications to existing state statutes listed in this document and annually to incorporate as a milestone, NPS loading reduction goals documented in an EPA-approved Total Maximum Daily Load (TMDL) report. The effective timeframe for the NPS Program is FFY 2011 to the latest amended milestone date. This statewide management plan meets U.S. Environmental Protection Agency (EPA) Clean Water Act requirements and ensures Wisconsin's eligibility for Section 319 (federal NPS Program) funding. The required "Nine Key Elements" are listed in Section 1.7. This chapter introduces the vision and objectives for NPS management in Wisconsin and frames the current challenges and opportunities for NPS management. Chapter 2 gives an overview of water quality monitoring and assessment in Wisconsin. Chapter 3 provides a description of the statewide watershed planning process, including TMDL implementation planning. Chapter 4 focuses on implementation strategies for water resource protection and includes a list of water quality programs and partners. Chapter 5 details the statewide NPS tracking, evaluation and reporting processes. Finally, Chapter 6 concludes by outlining the future direction for Wisconsin's NPS Program.

### 1.2 Wisconsin's Water Landscape

Wisconsin enjoys a historic abundance of clean and accessible water resources. Over 84,000 miles of streams flow through the state, and more than 15,000 lakes total 1.2 million acres. Add to those water resources 5.3 million acres of wetlands and enough groundwater to cover Wisconsin to a depth of 100 feet (WDNR, 2008). These resources provide a source of clean, safe water for drinking, recreation, farming and manufacturing. Wisconsin's economy, quality of life, and identity are interdependent with our water resources.

Here's a partial list of functions performed by surface waters and groundwater that are important to Wisconsinites:

- flow of water
- storage of floodwaters
- enrichment of the soil through sedimentation
- removal of pollutants through movement through riparian zones
- dilution and/or removal of wastes
- regulation of temperature
- cycling of oxygen, carbon, nitrogen and phosphorus
- export of organic and inorganic materials
- habitat for fish and game
- recreational use
- economic use through the capture and release of flow
- economic uses through the storage and release of waters
- source of drinking water

The state is keenly aware of the challenges of maintaining the quality and accessibility of these water resources. Polluted runoff is the greatest threat to Wisconsin water quality. The Wisconsin Department of Natural Resources (WDNR) estimates that nearly one-half of the lakes and streams within assessed

watersheds are degraded by NPS pollution (Ferguson, 2009). The Clean Water Act goals of fishable and swimmable waters will not be met without continuous attention to the challenge of reducing polluted runoff.

### **What is Nonpoint Source Pollution?**

*NPS pollution, unlike pollution from industrial and municipal sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into rivers, lakes, wetlands, and groundwater. These pollutants include:*

- *excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas;*
- *oil, grease, and toxic chemicals from urban run-off and energy production;*
- *sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks;*
- *salt from irrigation practices and acid drainage from abandoned mines; and,*
- *bacteria and nutrients from livestock, pet wastes, and faulty septic systems.*

*Atmospheric deposition and hydromodification are also sources of NPS pollution.*

*The origins of NPS pollutants are diffuse and often difficult to trace. Human-related origins of NPS pollution that have been identified as most prevalent in Wisconsin include:*

- *animal production operations and feedlots*
- *other agricultural activities*
- *streambank and shoreline erosion*
- *timber harvesting*
- *urban land development*
- *transportation-related facilities*
- *atmospheric deposition*

## **1.3 WDNR Vision for NPS Management**

Although managing NPS pollution in Wisconsin involves a partnership of many programs, agencies, and stakeholders, the WDNR is the central unit of state government assigned to protect, maintain and improve the quality and management of the waters of the state. This work is a key component of the WDNR's mission.

### **WDNR Mission Statement**

#### **To protect and enhance our natural resources:**

*our air, land and water;  
our wildlife, fish and forests  
and the ecosystems that sustain all life.*

*To provide a healthy, sustainable environment  
and a full range of outdoor opportunities.*

*To ensure the right of all people  
to use and enjoy these resources  
in their work and leisure.*

*To work with people  
to understand each other's views  
and to carry out the public will.*

*And in this partnership*

*consider the future  
and generations to follow.*

The WDNR Water Division provides comprehensive and integrated management of water resources—from small wetlands to Great Lakes, groundwater to drinking water, local fisheries and beaches to entire watersheds. (Refer to Figure 1.0) The WDNR Runoff Management Section, located within the Water Division's Watershed Management Bureau, provides the information and resources needed to effectively manage polluted runoff from agricultural and urban nonpoint sources in Wisconsin. The state's NPS Program shares the objectives and goals of the WDNR Water Division.

The NPS Program shares and supports the Water Division objective:

*“to fully implement the Clean Water Act in order to achieve the goal of fishable and swimmable waters throughout the state of Wisconsin.”*

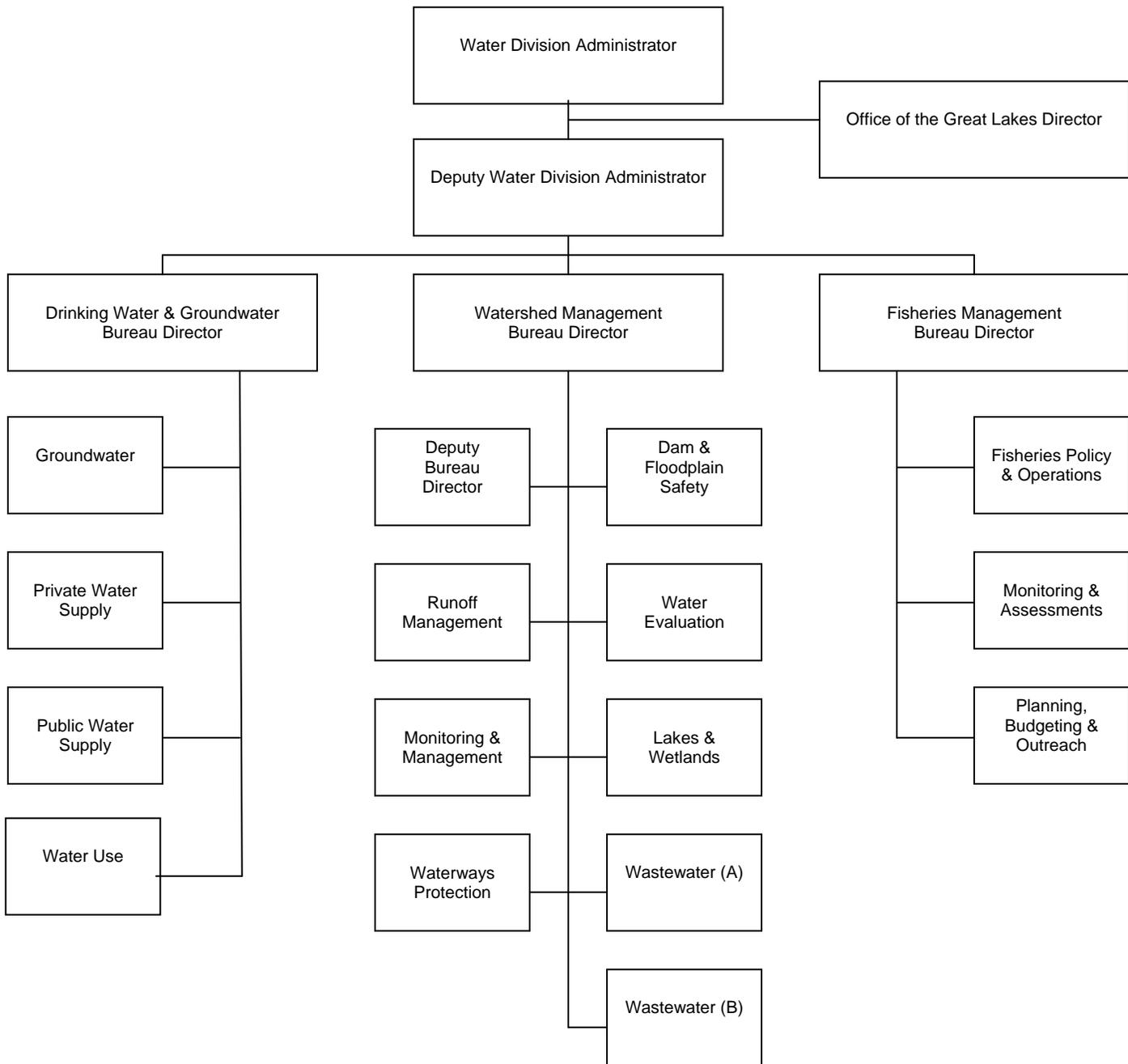
The Runoff Management Section shares the responsibility for implementing and tracking goals and measures to achieve the Water Division objective of fully implementing the Clean Water Act. The goals and measures the Water Division has identified to achieve this objective are discussed in more detail in Chapter 5.

Further, the WDNR Runoff Management Section's effort to reduce NPS pollution in Wisconsin is guided by the following mission statement:

*“To strive for clean and healthy waters by preventing polluted runoff, encouraging watershed stewardship and public involvement, fostering partnerships, furthering understanding, providing guidance and financial assistance, and effectively administering regulatory authority to control agricultural and urban runoff.”*



**Figure 1.0 WDNR Water Division Organization**  
(as of June 28, 2011)



## 1.4 NPS Management Key Stakeholders

Moving NPS management rules from concept to reality requires cooperation between numerous stakeholders including local governments, state and federal agencies, educational institutions, advocacy organizations and private citizens. Three main stakeholders manage NPS pollution in Wisconsin: the WDNR, the Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP), and Wisconsin counties. The WDNR and WDATCP play three key roles in an effort to achieve the NPS management objectives and goals: 1) creating and revising administrative rules; 2) developing implementation tools and strategies; 3) awarding funding through competitive grant processes. The WDNR and WDATCP work jointly to control NPS water pollution and soil erosion in the state. Wisconsin's 72 counties, specifically the County Land and Water Conservation Departments, are the main vehicles for implementing state land and water conservation programs and funds.

Additional state NPS Program stakeholders include:

- Wisconsin Department of Commerce - Construction site erosion control
- Wisconsin Department of Transportation - Culvert replacement and erosion control and stormwater management on transportation projects
- Wisconsin Department of Administration Coastal Management Program
- Regional Planning Commissions - Regional stormwater and floodplain management planning
- University of Wisconsin Extension (UWEX) - Statewide implementation, outreach and education
- University of Wisconsin System - Madison, Stevens Point, others - Research and technical assistance
- Wisconsin Land and Water Conservation Association (WLWCA) - Nonprofit organization representing Wisconsin's County Board Land Conservation Committees and Departments
- Wisconsin Association of Land Conservation Employees (WALCE) - Nonprofit organization representing county Land Conservation Department employees
- Wisconsin Counties Association (WCA) - Governmental association representing the interests of counties at both the state and federal level
- Wisconsin Land and Water Conservation Board (LWCB) - Advises WDATCP and WDNR on NPS grant allocations; reviews management plans and administrative rules

Federal NPS program stakeholders:

- Environmental Protection Agency (EPA)
- USDA Natural Resources Conservation Service (NRCS)
- USDA Farm Service Agency (FSA)
- USDA Forest Service
- National Oceanic and Atmospheric Administration (NOAA)
- U.S. Army Corps of Engineers
- Tribal governments

Advocacy organizations play an important role in influencing NPS policy and in providing public education regarding NPS programs. Active advocacy groups in Wisconsin include:<sup>1</sup>

- River Alliance of Wisconsin
- Wisconsin Association of Lakes
- Wisconsin Wetlands Association
- Gathering Waters Conservancy
- Wisconsin Farm Bureau Federation
- Wisconsin Dairy Business Association

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<sup>1</sup> Additional information on advocacy groups is available through most internet search engines.

- Professional Dairy Producers of Wisconsin
- Wisconsin Farmers Union
- Clean Wisconsin
- Wisconsin League of Conservation Voters
- Midwest Environmental Advocates

## 1.5 Past and Current Programs

### Past Programs

In 1978 the WDNR launched the Priority Watershed and Lakes Program, the first Wisconsin program designed specifically to address NPS pollution. This comprehensive program, which ended in 2009, identified farm fields, livestock areas, streambanks and shorelines, and urban areas that were sources of polluted runoff, set pollutant load reduction goals, and targeted best management practices, technical assistance and education to sites in 86 watersheds. The steps involved in developing priority watershed and lake plans were similar to those used to develop TMDLs and TMDL implementation plans today. These steps also mirror the 9-key element process that EPA's NPS Program (Section 319) requires for watershed-based plans.

Participation in the Priority Watershed and Lakes Program was mostly voluntary, but projects selected after 1993 included a regulatory component. Persons responsible for critical sites could resolve them voluntarily within three years and receive cost sharing, or be forced to resolve them with reduced or no cost share after that time. By the end of 2008, 93 percent of the 1,657 designated critical sites had been resolved with a minimum of enforcement actions.

While the Priority Watershed and Lakes Program achieved many of its goals, a number of lessons were learned:

1. A solely voluntary program is not sufficient to control polluted runoff.
2. General water quality improvement goals of most Priority Watershed Projects did not provide sufficient focus to effectively target program resources; and
3. Monitoring before and after water quality conditions within Priority Watersheds has been inconclusive, owing to the difficulty of accounting for the multiple and changing variables affecting runoff and receiving water response.

### Current Programs

The current regulatory approach to NPS pollution reduction, in place since 2002, centers on statewide enforceable agricultural and non-agricultural performance standards and manure management prohibitions, required by Chapter NR 151, Wis. Adm. Code (<http://www.legis.state.wi.us/rsb/code/nr/nr151.pdf>). Performance standards are minimum expectations that apply to phosphorus delivery, cropland erosion, livestock and manure storage management, nutrient management, livestock process wastewater, construction erosion, post-construction storm water management, developed urban areas and transportation facilities.

The non-agricultural performance standards are primarily implemented through Chapter NR 216, Wis. Adm. Code, (<http://www.legis.state.wi.us/rsb/code/nr/nr216.pdf>) the state's Storm Water Discharge Permit rule. The agricultural performance standards and manure management prohibitions are enacted through a statewide implementation strategy (available at <http://dnr.wi.gov/runoff/ag/standards/>) that relies on cooperation between the county land conservation staff and WDNR. Agricultural performance standards cannot be enforced for existing cropland and livestock operations unless cost sharing is provided. (This stipulation does not apply to the non-agricultural performance standards.) Once performance standards are achieved, they must be maintained in perpetuity by all current and future landowners, regardless of cost sharing.

Wisconsin is continuously improving NPS performance standards, technical specifications, and financial assistance programs. Chapters NR 151, 153 and 155, Wis. Adm. Code, were revised and new versions went into effect on January 1, 2011. The ch. NR 151, Wis. Adm. Code, revisions add new performance standards and modify existing performance standards and prohibitions for agricultural, non-agricultural and transportation runoff management. Some of the revisions provide a mechanism for increased control in areas with TMDLs. The ch. NR 153, Wis. Adm. Code, revisions modify Targeted Runoff Management grant criteria and procedures regarding eligibility, awards, project size and allocations for TMDL areas, increasing the state's ability to support performance standards implementation and TMDL implementation. The ch. NR 155, Wis. Adm. Code, revisions increase department oversight and accountability of the Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program. The performance standards and prohibitions as well as the WDNR grant programs are discussed in more detail in Chapter 4.

Non-regulatory approaches to NPS pollution reduction are equally important to maintaining fishable and swimmable waters throughout the state of Wisconsin. Since 1978, managing NPS pollution in Wisconsin involved a partnership among many actors, including non-governmental organizations and citizen groups. Non-regulatory approaches such as stewardship purchasing programs, voluntary implementation of best management practices, and citizen monitoring programs will be discussed in more detail in Chapter 4.

## 1.6 Current Challenges & Opportunities

Adequate funding and staffing at all levels of government are crucial to successfully managing NPS pollution and to ensuring high water quality in Wisconsin. In addition, the state biennial legislative process creates variability regarding authority and budget control between WDATCP and WDNR, increasing the complexity of Wisconsin's NPS pollution abatement effort. Three additional issues present challenges for NPS management in Wisconsin: performance standards implementation, implementing TMDLs, and numeric phosphorus water quality standards.

### **Performance Standards Implementation**

Chapter NR 151, Wis. Adm. Code, contains runoff pollution performance standards for Wisconsin. Steady progress has been made towards carrying out the implementation strategy put in place shortly after ch. NR 151, Wis. Adm. Code, went into effect October 1, 2002. However, the greatest barrier to implementation of performance standards continues to be insufficient staff levels and time at both the state and county levels. Lack of cost-share dollars for both hard (e.g. structural) and soft (e.g., management) practices are also significant barriers to bringing older facilities into compliance with the standards.

### **Implementing TMDLs**

Implementing plans to achieve TMDL targets for polluted runoff from cities, construction sites, farms and roads is a challenging process that requires the collaboration of diverse stakeholders and a substantial commitment of public and private dollars. The state's NPS Program currently has insufficient financial and staff resources to effectively implement TMDLs.

### **Numeric Phosphorus Water Quality Standards**

Changes to chs. NR 102 and NR 217, Wis. Adm. Code, went into effect Dec. 1, 2010. Central to the rule package are numerical levels set for the amount of phosphorus that can be allowed in different categories of waterbodies and still support fish and other aquatic life. Different numerical levels are set for five categories of lakes and reservoirs, for rivers and streams, and for the Great Lakes. For wastewater dischargers, these numerical levels will be reflected in permits issued starting in 2011. Ch. NR 217, Wis. Adm. Code, includes flexible options to give dischargers longer than usual compliance schedules and

modified limits for dischargers who work with upstream nonpoint sources to reduce larger sources of phosphorus pollution. Wisconsin will become the first state to put in place an adaptive management approach that promotes cooperation among point and nonpoint pollution sources to find the most cost-effective means to reduce phosphorus and other pollutants on individual watersheds.

## 1.7 The Nine Key Elements

In 1997, the EPA issued *NPS Program and Grants Guidance*. The guidance presents a list of “Nine Key Elements”, agreed to by the EPA and state-led NPS agencies, that characterize an effective and dynamic state NPS program designed to achieve and maintain beneficial uses of waters. The EPA’s Nine Key Elements are addressed in the Wisconsin NPS Management Plan as outlined in the tables below.

### Key Element No. 1

The state program contains long-term goals, short-term objectives, and strategies to protect surface and ground water.

a. The state program includes a vision statement.	<i>Chapter 1</i>
b. The state has specific long-term goals that are linked to its vision and are directed towards the expeditious achievement and maintenance of beneficial uses of water.	<i>Chapters 1,5,6</i>
c. The state has specific short-term, medium-term, and long-term (e.g., 1-10 year) objectives, expressed as activities, that are linked to its goals.	<i>Chapters 5,6</i>
d. The state has identified measures and indicators that will be used to assess the state’s success in achieving its goals and objectives.	<i>Chapters 5</i>
e. The state has identified specific, expeditious milestones for its activities.	<i>Chapters 5,6</i>
f. The state has identified implementation steps and the expected effects of those steps on its water resources.	<i>Chapters 4,5</i>

### Key Element No. 2

The state strengthens its working partnerships and linkages with appropriate state, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.

a. The state proposes to use a state-wide collaborative team NPS task force advisory group, or other appropriate process, to provide for input and recommendations from representatives of federal, state, tribal, and local agencies, private sector groups, and citizens’ groups regarding NPS program direction, project selection, and other similar aspects of program administration.	<i>Chapters 1,4</i>
b. The team, task force, or advisory group meets regularly and promotes collaborative and inclusive decision-making.	<i>Chapters 1,4</i>
c. The state program specifies procedures to provide for periodic public input into the program.	<i>Chapters 3,4</i>

d. The state effectively incorporates a variety of organizations and interests into its implementation of NPS activities and projects.	<i>Chapter 4</i>
e. The state uses its partnerships effectively to avoid the transfer of problems among environmental media.	<i>Chapters 1,4</i>

**Key Element No. 3**

The state uses a balanced approach that emphasizes both statewide NPS programs, and on-the-ground management of individual watersheds where waters are impaired and threatened.

a. Annual or multi-year work plans contain NPS implementation actions directed at both specific priority watersheds, and activities of a statewide nature.	<i>Chapters 4,5</i>
b. The state tracks both statewide activities and watershed projects.	<i>Chapters 4, 5</i>
c. The state has institutionalized its program beyond the annual implementation of 319-funded activities and projects.	<i>Chapters 2,3,4,5</i>
d. The state uses an integrated watershed approach for assessment, protection, and remediation that is well integrated with other water or natural resource programs.	<i>Chapters 2,3,4</i>

**Key Element No. 4**

The state program: (a.) abates known water quality impairments from NPS pollution; and, (b.) prevents significant threats to water quality from present and future activities.

a. The state has characterized water quality impairments and threats throughout the state, which are caused or significantly contributed to by nonpoint sources.	<i>Chapter 2</i>
b. The state has comprehensively characterized reasonably foreseeable water quality impairments and threats that are likely to be caused by NPS pollution in the future.	<i>Chapter 2</i>
c. The state program addresses all significant NPS categories and subcategories.	<i>Chapters 2,3,4</i>
d. The state program has identified specific programs to abate pollution from categories of nonpoint sources, which cause or substantially contribute to the impairments identified in its assessments.	<i>Chapter 4</i>
e. The state has identified specific programs to prevent future water quality impairments and threats that are likely to be caused by NPS pollution.	<i>Chapter 4</i>

**Key Element No. 5**

The state program identifies waters and their watersheds impaired by NPS pollution, and also identifies important unimpaired waters that are threatened or otherwise at risk. Further, the state establishes a process to progressively address these identified waters by conducting more detailed watershed assessments and developing watershed implementation plans, and then by implementing the plans.

a. The state water quality assessments (including those performed under Section 305(b), 319(d), 314, and others), along with analysis of changing land uses within the state, form the basis for the identification of the state's planned NPS activities and projects.	<i>Chapters 2,3</i>
b. The state activities focus on remediating the identified impairments and threats, and on protecting the identified at-risk waters.	<i>Chapters 3,4</i>
c. The state has provided for public participation in the overall identification of problems to be addressed in the state program, and in the establishment of a process to progressively address these problems.	<i>Chapter 2,3</i>
d. The state revises its identification of waters and revisits its process for progressively addressing these problems periodically (e.g., updated as part of the state's Integrated Report).	<i>Chapter 2,5</i>

**Key Element No. 6**

The state reviews, upgrades, and implements all program components required by Section 319(b) of the Clean Water Act, and establishes flexible, targeted, and iterative approaches to achieve and maintain beneficial uses of water as expeditiously as practicable. The state programs include:

a. A mix of water quality-based and/or technology-based programs designed to achieve and maintain beneficial uses of water; and,	<i>Chapter 4</i>
b. A mix of regulatory, non-regulatory, financial, and technical assistance, as needed, to achieve and maintain beneficial uses of water as expeditiously as practicable.	<i>Chapter 4</i>

The state includes in its program and implements the following eight items:

a. Identification of the measurements to be used to control nonpoint sources of pollution, focusing on those measures that will be most effective to address the specific types of NPS pollution prevalent within the state. These measures may be individually identified or presented in manuals or compendiums, provided they are specific and are related to the category or subcategory of nonpoint sources. They may also be identified as part of a watershed approach towards achieving water quality standards, whether locally, within a watershed, or statewide.	<i>Chapter 3,4</i>
b. Identification of programs to achieve implementation of the measures.	<i>Chapter 4</i>
c. Processes used to coordinate and, where appropriate, integrate various programs used to implement NPS controls in the state.	<i>Chapters 3,4</i>

d. A schedule with goals, objectives, and annual milestones for program implementation; legal authorities to implement the program; available resources; and institutional relationships.	<i>Chapters 4,5,6</i>
e. Sources of funding from federal (other than Section 319), state, local, and private sources.	<i>Chapter 4</i>
f. Identification of federal programs and projects that the state will review for their effects on water quality and their consistency with the state program.	<i>Chapter 4</i>
g. Monitoring and other evaluation programs to help determine short-term and long-term program effectiveness.	<i>Chapters 2,5</i>
h. The state program also incorporates or cross-references existing baseline requirements established by other applicable federal or state laws to the extent that they are relevant.	<i>Chapters 2,4</i>

**Key Element No. 7**

The state identifies federal lands and activities, which are not managed consistently with state NPS program objectives. Where appropriate, the state seeks U.S. EPA assistance to help resolve issues.

a. The state reviews federal financial assistance programs, development projects, and other activities that may result in NPS pollution for consistency with the state program.	<i>Chapter 4</i>
b. The state works with federal agencies to resolve potential inconsistencies between federal programs and activities and the state programs.	<i>Chapter 4</i>
c. Where the state cannot resolve federal consistency issues to its satisfaction, it requests U.S. EPA assistance to help resolve the issues.	<i>Chapter 4</i>
d. The state coordinates with federal agencies to promote consistent activities and programs, and to develop and implement joint or complementary activities and programs.	<i>Chapter 4</i>

**Key Element No. 8**

The state manages and implements the NPS program efficiently and effectively, including necessary financial management.

a. The state's plan for watershed projects and statewide activities are well designed, with sufficient detail to assure effective implementation.	<i>Chapters 3,4</i>
b. The state's watershed projects focus on the critical areas and critical sources within those areas that are contributing to NPS problems.	<i>Chapter 3</i>
c. The state implements its activities and projects, including all tasks and outputs, in a timely manner.	<i>Chapter 5</i>
d. The state has established systems to assure that the state meets its reporting obligations.	<i>Chapter 5</i>

e. The state utilizes the Grants Tracking and Reporting System effectively.	<i>Chapter 5</i>
f. The state has developed and uses a fiscal accounting system capable of tracking expenditures of both 319 funds and nonfederal match.	<i>Chapter 5</i>
g. The NPS projects include appropriate monitoring and/or environmental indicators to gauge effectiveness.	<i>Chapter 5</i>

**Key Element No. 9**

The state periodically reviews and evaluates its NPS program using environmental and functional measures of success, and revises its NPS assessment and its management program at least every 5 years.

a. The state has and uses a process to periodically assess both improvements in water quality and new impairments or threats.	<i>Chapter 5</i>
b. The state uses a feedback loop, based on monitoring and other evaluative information, to assess the effectiveness of the program in meeting its goals and objectives, and revises its activities and tailors its annual work plans, as appropriate, in light of its review.	<i>Chapter 5</i>
c. Using its feedback loop, the state periodically reviews and assesses the goals and objectives of the NPS Management Program, and revises the program, as appropriate, in light of its review.	<i>Chapter 5</i>
d. The state's annual report successfully portrays the state's progress in meeting milestones, implementing Best Management Practices (BMPs), and achieving water quality goals.	<i>Chapter 5</i>

## CHAPTER 2: Monitoring and Assessment

Section NR 102.04, Wis. Adm. Code, establishes water quality standards for surface waters of the state and describes the designated use categories and the water quality criteria necessary to support these uses. The state is responsible for assigning designated uses and conducting periodic assessments of these uses on individual waterbodies. Assessments result in an overview of the status of Wisconsin's waterbodies for reporting under Section 305(b) of the Clean Water Act; provide data for determining whether waterbodies should be listed as impaired; and provide background information for conducting Total Maximum Daily Load (TMDL) analyses on impaired waters.

### 2.1 Water Quality Standards

Water quality standards define the goals for a waterbody by designating its uses, (e.g., fish and aquatic life, recreation, or fish consumption), setting criteria to protect those uses (numeric pollutant concentrations and narrative requirements) and establishing provisions to protect water quality from pollutants. A water quality standard consists of three basic elements:

1. **Designated uses** of the water (e.g., fish and aquatic life, recreation, fish consumption),
2. **Water quality criteria** to protect designated uses (numeric pollutant concentrations and narrative requirements), and
3. An **antidegradation policy** to maintain and protect existing uses and high quality waters.

Standards support efforts to achieve and maintain protective water quality conditions, including:

- Total maximum daily loads (TMDLs), waste load allocations (WLAs) for point sources of pollution, and load allocations (LAs) for nonpoint sources of pollution
- Water quality management plans which prescribe the regulatory, construction, and management activities necessary to meet the waterbody goals
- Wisconsin Pollutant Discharge Elimination System (WPDES) water quality-based effluent limitations for point source discharges
- Water quality certifications under CWA Section 401 for activities that may affect water quality and that require a federal license or permit
- Reports, such as the reports required under CWA Section 305(b), that document current water quality conditions
- CWA Section 319 management plans for the control of nonpoint sources of pollution

Water quality standards for surface waters are described in Chapters NR 102, 104, and 105, Wis. Adm. Code. These rules include general policies and detailed provisions describing implementation issues such as mixing zone provisions, variances, etc.

Under the Clean Water Act, each waterbody is classified according to its designated uses. Assigning a use designation, such as "Fish and Aquatic Life", is one of the first steps in managing water quality. Designation is a scientific process that involves evaluation of the resource and its natural characteristics. Each use designation category carries with it a set of goals with expectations for a waterbody's performance. For some designations, such as Fish and Aquatic Life, detailed sub-categorization occurs to classify the water according to its specific potential.

Wisconsin's designated uses are:

**Recreational Use:** All surface waters are considered appropriate for recreational use unless a sanitary survey has been completed to show that humans are unlikely to participate in activities requiring full body immersion.

**Public Health and Welfare:** All surface waters are considered appropriate to protect for incidental contact and ingestion by humans. All waters of the Great Lakes as well as a small number of inland water bodies are also identified as public water supplies and have associated water quality criteria to account for human consumption. *Fish Consumption Use* also falls under this category.

**Wildlife:** All surface waters are considered appropriate for the protection of wildlife that relies directly on the water to exist or rely on it to provide food for existence.

**Fish and Aquatic Life:** All surface waters are considered appropriate for the protection of fish and other aquatic life. Surface waters vary naturally with respect to factors like temperature, flow, habitat, and water chemistry. This variation allows different types of fish and aquatic life communities to be supported. Currently, Wisconsin recognizes the following Fish and Aquatic Life use designation sub-categories:

- *Coldwater Community:* Streams capable of supporting a cold water sport fishery or serving as a spawning area for salmonids and other cold water fish species.
- *Warmwater Sport Fish Community:* Streams capable of supporting a warm water-dependent sport fishery.
- *Warmwater Forage Fish Community:* Streams capable of supporting a warm water-dependent forage fishery.
- *Limited Forage Fish Community:* Streams capable of supporting small populations of forage fish or tolerant macro-invertebrates that are tolerant of organic pollution. Typically limited due to naturally poor water quality or habitat deficiencies.
- *Limited Aquatic Life Community:* Streams capable of supporting macro-invertebrates or occasionally fish that are tolerant of organic pollution. Typically small streams with very low-flow and very limited habitat. Certain marshy ditches, concrete lined-drainage channels and other intermittent streams.

## 2.2 Wisconsin's Monitoring Programs

This section provides a general description of the types of monitoring done under the WDNR's three-tiered approach, as well as a description of Wisconsin's citizen-based monitoring program.

### 2.2.a Wisconsin's Three-Tiered Monitoring Approach

Wisconsin's water quality monitoring program (<http://dnr.wi.gov/org/water/monitoring/>) is shared among WDNR's three Water Division Bureaus: Drinking Water and Groundwater, Fisheries Management, and Watershed Management. The WDNR's *Water Division Monitoring Strategy* is available online at: <http://dnr.wi.gov/org/water/monitoring/strategy.htm>. Sampling protocols within the strategy are developed by monitoring technical teams, comprised of staff with a high level of technical knowledge and applied field sampling experience.

The WDNR's *Water Division Monitoring Strategy* is organized into a three-tiered approach:

**Tier 1:** Statewide Baseline Monitoring

**Tier 2:** Targeted Evaluation Monitoring

**Tier 3:** Management Effectiveness & Compliance Monitoring

The three tiers differ primarily in sampling intensity, parameters analyzed, and location. Sampling under Tier 1 is usually less rigorous at each site, but is done on a broad geographic scale, statewide, to determine trends and to assess statewide health of waters. Sampling in Tiers 2 and 3 is usually done on a smaller number of specifically targeted sites, but employs a more rigorous sampling design to pinpoint problems and management actions needed (Tier 2) or the effectiveness of management or compliance actions that have been taken (Tier 3). Fish and Aquatic Life Monitoring primarily occurs during the Tier 1 and Tier 2 monitoring.

**Tier 1: Statewide Baseline Monitoring:** Trend establishment and problem identification.

Tier 1 monitoring collects baseline physical, chemical, and biological information necessary to satisfy Water Division information needs at a broad spatial scale. This level of monitoring determines water quality and fisheries status and trends in each waterbody type based on ecologically based indicators, and identifies potential problem areas. Waterbody types evaluated under this Tier include lakes, rivers, streams, wetlands, Great Lakes, the Mississippi River and groundwater. For resources that are too numerous to individually evaluate, such as streams, a dispersed sampling effort allows information from sampled waters to be used, through inference, to provide technically rigorous and credible information on all of the state's waters. Where environmental problems are discovered through Tier 1 monitoring or other credible sources of information, these problem areas are identified and prioritized for further study under Tier 2.

**Tier 2: Targeted Evaluation Monitoring:** Site-specific monitoring of targeted areas.

Waterbodies identified under Tier 1 as potentially impaired or needing more information are prioritized and monitored more intensively under Tier 2. Under this tier, confirmation of the problem is made, along with documentation of the cause(s).

**Tier 3: Management Effectiveness & Compliance Monitoring:** Determining effectiveness of management measures & permit conditions.

Tier 3 monitoring provides follow-up analysis of management plans that have been implemented for problem waterbodies, and evaluates permit compliance and the effectiveness of permit conditions. Monitoring under this tier evaluates the responses of waterbodies to management actions. Effectiveness of waterbody-specific management actions is determined using core indicators from the more intensive sampling designs under Tier 2 that are specific to the problem being addressed. The chosen indicators are compared before and after management actions are implemented.

Regulatory monitoring of permitted entities is included in this category. Effluent monitoring helps WDNR determine whether permitted entities are meeting their permit conditions and state regulations. Monitoring of receiving waters assesses what the effect of an effluent is on the water quality in the receiving waterbody. This monitoring helps determine whether current effluent limits are appropriate or should be altered. Monitoring of public drinking water wells is carried out to ensure that surface and groundwater meet federal public health standards for contaminants in drinking water.

## 2.2.b Citizen-Based Water Monitoring Program

The three-level *Citizen-Based Water Monitoring Network of Wisconsin*, which includes both lake and stream monitoring, was developed to accommodate the varied interests and time availability of citizens.

### Level 1 – Introductory (Educational):

The introductory level of monitoring is designed to introduce citizens to the basics of monitoring and educate them about the waterbody type, and the connection between land use and the resulting effects on water quality. Data generated at this level may be used for generalized screening purposes but will not

necessarily be used for making management decisions. The three existing programs that provide introductory monitoring opportunities are:

1. The Water Action Volunteers (<http://watermonitoring.uwex.edu/wav/>), which is a basic chemical and physical parameter program for streams,
2. The Citizen Lake Monitoring Network (<http://dnr.wi.gov/lakes/CLMN/>), which includes water clarity, chemical, aquatic plant monitoring and aquatic invasive monitoring for lakes, and
3. The Clean Boats, Clean Waters (<http://www.uwsp.edu/cnr/uwexplakes/cbcw/>) Program for addressing invasive species transport and introduction concerns.

#### **Level 2 – Status (one year) and Trends (three or more years):**

Status and trends level monitoring offers citizens a more intensive monitoring experience. Citizens are asked to follow a specific monitoring schedule, including specific times and locations for monitoring. If citizens follow defined methodology and quality assurance procedures their data are stored in a Department database and used in the same manner as any Department-collected data for status and trends monitoring defined in the Strategy. Both lake and stream monitoring opportunities are available at this level.

#### **Level 3 – Special Projects/Sport Fisheries Assessments:**

Special projects are those that do not fit into generalized status and trends monitoring. They offer a unique opportunity to address a specific water quality issue or concern. These projects are defined annually and involve a wide range of complexity, expense, and time commitment. Citizens participating at this level often work with WDNR biologists with whom a trusted relationship has been built through their participation in Levels 1 and 2. Examples of projects can be found at: <http://watermonitoring.uwex.edu/level3>.

## **2.3 Assessment Methodology**

The WDNR is responsible for conducting periodic assessments of the designated uses on individual waterbodies. Assessments result in a picture of the status of waterbodies for reporting required by Section 305(b) of the Clean Water Act, as well as background information to evaluate listing impaired waterbodies for possible Total Maximum Daily Load (TMDL) work based on evidence of impairment and written documentation.

In 2008 the Department worked with U.S. EPA to integrate its mainframe database, known as the “Water Assessment, Tracking, and Evaluation Reporting System” (WATERS) for general and impaired water assessment submittals. This complex data integration process was the first step for Wisconsin to provide a truly integrated assessment and listing report.

WDNR’s priority is to create and use clearly defined, publicly accessible methods for collection and analysis of data to ensure defensible decisions regarding water quality. To this end, the WDNR built upon its 2008 work by creating a new *Wisconsin Consolidated Assessment and Listing Methodology* (WisCALM) (<http://dnr.wi.gov/org/water/condition/wiscalm.htm>) to conduct general and specific assessments for determining the attainment of designated uses.

### **2.3.a Data Used for Assessment**

Data used for assessment include three main categories: data submitted by the public, data from WDNR’s tiered monitoring program and, data reviewed through WDNR’s Watershed Planning efforts. All data used for assessment meet WDNR’s quality assurance requirements.

Staff make a conscious decision to determine if available data are representative of the conditions. Additionally, they may consider whether a “Use Attainability Analysis” should be considered to justify an

alternative use. If WDNR staff choose to exclude data, these decisions are documented within WDNR's database, along with recommendations for management actions.

### 2.3.b Assessment Process

After waterbodies are classified according to their natural communities, two phases of assessment are conducted: (1) a "General Condition Assessment" to determine the overall quality of the waterbody and (2) for those waters which may be degraded, an "Impairment Assessment". Each of these is described in much more detail in the WisCALM guidance.

**General Condition Assessment Process:** Available data that meet WDNR requirements are used to identify where a specific river, stream, or lake falls on a continuum of water condition, which is the core *assessment* to determine if a waterbody is attaining its applicable designated uses.

WDNR uses four levels of water condition to represent a waterbody's placement in the overall water quality continuum. Waters described as *Excellent* and *Good* clearly attain each assessed designated use; waters described as *Fair* are also meeting their designated uses, but may be in a state that warrants additional monitoring in the future to assure water conditions are not declining. Waters that are described as *Poor* may be considered *impaired*, and may warrant placement on Wisconsin's Impaired Waters List in accordance with Section 303(d) of the federal Clean Water Act.

### 2.3.c Applying Assessment Processes to Specific Waterbody Types and Designated Uses

The WisCALM guidance contains assessment protocols to determine whether waterbodies are meeting their designated uses, specifically:

#### **Fish and Aquatic Life Uses**

**Lake Classification and Assessment Methods:** Lakes are assessed using three processes. First, the lake is classified by assigning it to one of ten natural community categories. Second, a General Condition Assessment is conducted to determine the overall status of the lake based on four categories: Excellent, Good, Fair, and Poor using the Trophic Status Index (TSI), indicating the level of lake eutrophication. Third, if a lake's status is Poor, it is further assessed to determine if it warrants addition on the Impaired Waters List.

**Stream/River Classification and Assessment Methods:** Streams or rivers are assessed using three processes. First, the stream or river is classified by assigning it to one of five stream communities or subcategories. Second, a General Condition Assessment based on a Fish Index of Biotic Integrity (IBI) and a Macroinvertebrate IBI is conducted to determine the overall status of the waterway. Fish IBIs are organized in cold, warm and small warm/cool wadeable streams and non-wadeable stream categories. Third, if its status is Poor, it is further assessed to determine if it warrants addition on the Impaired Waters List.

#### **Recreational Uses**

**Beach Assessment Methods:** Many, but not all, beaches are evaluated for Recreational Uses in Wisconsin using *E. coli* bacteria as an indicator of the presence of fecal matter in the water – suggesting that there may be harmful bacteria, viruses or protozoans present that elevate risk to humans.

**Stream/River Assessment Methods:** For flowing rivers and streams in Wisconsin the Department utilizes the long-standing water quality criterion for fecal coliform that is reflected in s. NR 102.04(5), Wis. Adm. Code.

**Lake Assessment Methods (for blue-green algae):** If a waterbody experiences frequent and severe blue green algae blooms that inhibit recreation, it may be listed as impaired for “Recreational Restrictions-blue green algae”.

### Public Health Uses

**Fish Consumption Assessment Method:** Waterbodies are listed for fish consumption advisories due to atmospheric deposition of mercury, PCBs, dioxin and furan congeners, and Perfluorooctane sulfonate (PFOs). In 1998, 241 waters were added to the 303(d) list in category 5B “Waters Impaired by Atmospheric Deposition of Mercury,” using the criterion that mercury-based fish consumption advisories had been issued for these specific waterbodies. Since that time, all waters in the state have been placed under a general fish consumption advisory which recognizes that most fish from most waters in the state contain mercury in at least low levels of concentration. Since 2002, waters have been added to the 303(d) impaired waters list as they are added to the fish consumption advisory publication for specific advisories, and de-listed where the specific fish consumption advisory no longer applies.

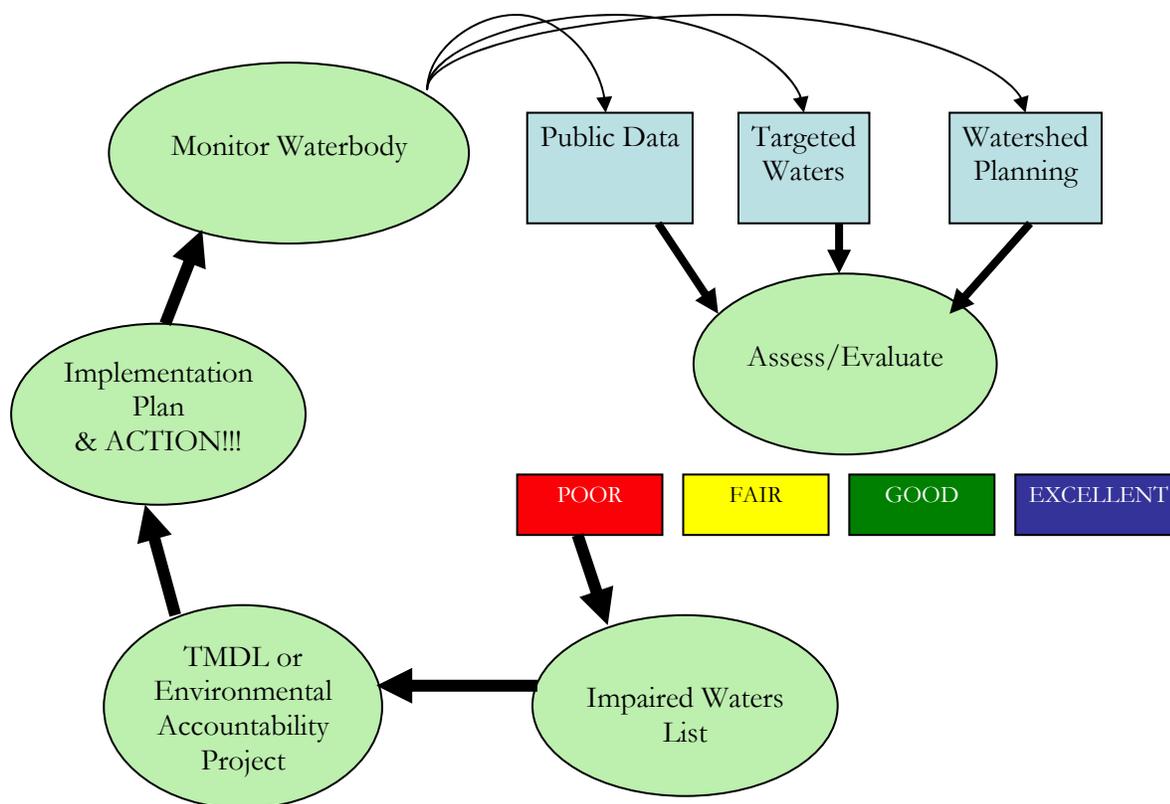


Figure 2.0 WDNR cycle for monitoring and assessing waterbody condition and implementing management actions.

## 2.4 2009-2010 Surface Water Assessment Results

All waters in the state are assigned one of five EPA categories that indicate the status of the waterbody. This relates to issues such as whether the waterbody is meeting its designated uses (i.e., whether or not it is impaired), and whether a TMDL or Alternative Project is needed or is in progress. The full *Water Quality Report to Congress* was submitted to the U.S. EPA on March 30, 2010 and can be found at: [http://dnr.wi.gov/org/water/condition/2010\\_IR/Attachment\\_A\\_2010\\_WQ\\_RptToCongress\\_FINAL\\_3-30-2010.pdf](http://dnr.wi.gov/org/water/condition/2010_IR/Attachment_A_2010_WQ_RptToCongress_FINAL_3-30-2010.pdf).

## 2.4.a Overview of Statewide Waterbody Conditions

Only a portion of the state's waters can be monitored or assessed at any given time; below are summaries for different waterbody types.

**Lakes:** Wisconsin has over 15,000 lakes (~1 million acres). Fish and Aquatic Life uses for lakes have been more thoroughly assessed than other designated uses. This is due to the 2010 Assessment Methodology work which enabled the WDNR to assess over 4,200 lakes for Fish and Aquatic Life uses using a combination of in-lake samples and data gathered from satellite photos. Of those assessed, 21% of lake acres are impaired. Of impoundments in the database, about 50% of impoundment acres are impaired.

Lake assessments were done to determine the General Condition of each lake for which there was enough chlorophyll *a*, satellite, or Secchi data to run a Trophic Status Index (TSI) calculation. The analysis of satellite data using consistent methodology represents a major breakthrough in WDNR's assessment processes. Because satellite data are available for the majority of lakes in the state, this allows a much more comprehensive assessment of Wisconsin's lakes. 87% of the assessed lakes were assessed using satellite data. Chlorophyll *a* data, the most accurate, but also most time-consuming assessment tool, were available for only 5% of the assessed lakes. Secchi data, collected primarily by citizen lake monitoring volunteers, were available for 7%. Using a combination of these tools, 70% of Wisconsin's total number of lake acres had a General Condition Assessment conducted.

Results of the General Condition Assessment show that 14% of assessed lakes are considered to be in Excellent condition, 41% Good, 16% Fair, and only 3% Poor. (26% of assessed lakes had no condition rating due to no natural community assigned or being small lakes.) Of those that were considered Poor, some, but not all, are designated as impaired; if there were enough data to warrant listing under the WisCALM criteria.

Trophic Status is correlated with the General Assessment Results. Slightly over half of the state's assessed lakes are Eutrophic, with 2% being Hypereutrophic. Of the state's 79 Hypereutrophic lakes, all are considered to be Poor quality. Eutrophic lakes, however, are often naturally occurring and span the range from Excellent to Poor water quality, with the majority in the Good to Fair categories. All of the state's Mesotrophic (1224) and Oligotrophic (157) lakes are considered to be Excellent or Good quality.

**Impoundments:** Impoundments in Wisconsin are disproportionately impaired, with 50 percent of documented impoundment acres impaired for Fish and Aquatic Life uses. This is frequently due to the buildup of contaminants behind riverine structures such as dams. Eighty percent of the assessed impoundment acres are not supporting fish consumption uses.

**Bays/Harbors:** Only 61 acres, out of 20,827 acres assessed, are considered fully supporting their designated uses. This number primarily represents Great Lakes bays and harbors, as most of the state's inland bays are not assessed.

**Rivers/Streams:** 35,000 river and stream miles are documented in the WATERS database, but in actuality the state has over 54,000 rivers and streams covering 88,000 river/stream miles. Most of the remaining miles are very small streams. The percentage of rivers/streams that are indicated as assessed represents about 5% of the individual rivers or about 18% of the river miles. Of those miles assessed, about 22% of river miles are not supporting their Fish and Aquatic Life use. Only a very small fraction of river miles have been assessed for Fish Consumption (2%) or Recreation (0.3%) uses. 390 rivers and streams are known to be impaired (9% of the river/stream miles in the database).

**Great Lakes Shoreline:** Wisconsin has over 1,000 miles of Great Lakes shoreline, with only a fraction of those shoreline miles considered assessed for Fish and Aquatic Life uses. Many of these waters are considered impaired due to sediment contamination from historic discharges or "legacy" pollutants.

**Great Lakes and Inland Beaches:** Along the shores of Lakes Michigan and Superior, Wisconsin has a total of 192 coastal beaches, which total approximately 55 miles. Of these, 26 miles are considered impaired for Recreational Uses. As with Great Lakes beaches, many inland beaches have not been inventoried or entered into the state's assessment database. WDNR enters beaches based on specific information or monitoring data as resources allow.

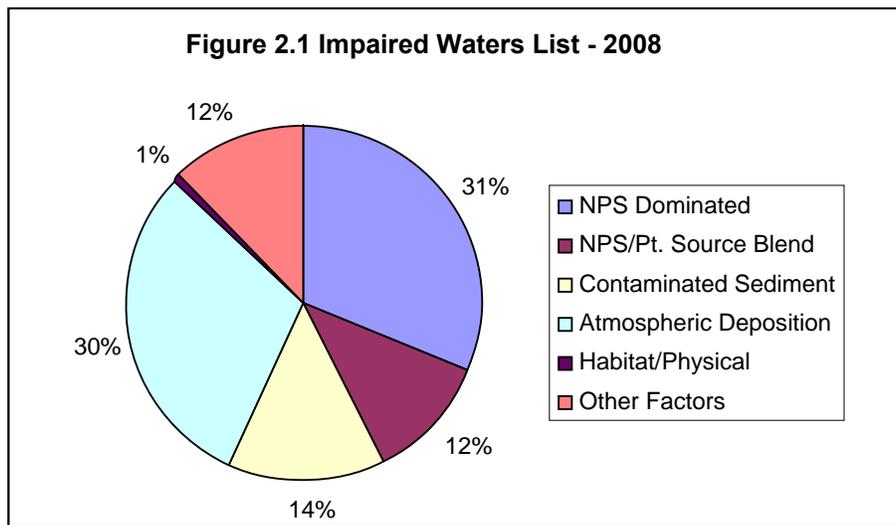
**Springs:** The state's documented springs, again, do not come close to representing the actual resource in the state. While millions of springs once dotted the Wisconsin landscape, and while some inventories of springs do exist, these springs have not been entered into the WATERS database. Of the 784 acres of springs assessed, 38 are not supporting designated uses.

**Wetlands:** It is difficult to determine exactly how many acres of wetlands were in Wisconsin prior to European settlement. Soil scientists estimate that Wisconsin once contained 10 million acres of wetlands. The state's work in assessing wetlands is largely based on interpretation of satellite imagery of over five million wetland acres depicting the presence and dominance of reed canary grass infestations. Currently, 1,000 wetland acres are not considered to meet designated uses. However, a considerable portion of those considered supporting are dominated with reed canary grass.

#### 2.4.b Impaired Waters

Impaired waters, as defined by Section 303(d) of the federal Clean Water Act, are those waters that are not meeting the state's water quality standards (quantitative, numeric criteria or qualitative criteria including use designations). Every two years, states are required to submit a list of impaired waters to the U.S. EPA for approval. The 2010 Impaired Waters List was submitted as part of the *Water Quality Report to Congress* referenced above under "Assessments"; it reflects the 2008 list updates as well as new updates for 2010.

These lists can also be found online, in a format that allows queries and sorting, at <http://dnr.wi.gov/org/water/wm/wqs/303d/303d.html>. GIS shape files showing maps of proposed impaired waters are also available at this site. Each impaired waterbody has documented impairments and one or more "sources" of impairment, which represent the actual landscape source contributing to the impairment. For each impairment, there can be a wide variety of sources. The complete list of impairments and sources can be found in the *Water Quality Report to Congress*, at [http://dnr.wi.gov/org/water/condition/2010\\_IR/Attachment\\_A\\_2010\\_WQ\\_RptToCongress\\_FINAL\\_3-30-2010.pdf](http://dnr.wi.gov/org/water/condition/2010_IR/Attachment_A_2010_WQ_RptToCongress_FINAL_3-30-2010.pdf).



**Freshwater Lakes and Impoundments/Reservoirs:** For Fish and Aquatic Life Uses in Freshwater Lakes the predominant impairments are eutrophication, low dissolved oxygen (DO), and turbidity, each of which impairs approximately 30% of the impaired lake acres in the state. Impoundments and reservoirs impaired for Fish and Aquatic Life are primarily impacted by low DO, eutrophication, and elevated pH.

Recreational uses are currently assessed only on a very limited basis for a small number of waterbodies. Of lake and impoundment acres listed as impaired for recreation, over 90% are due to severe and frequent blue green algae blooms (for impoundments, this high percentage primarily reflects the large acreage of Lake Wisconsin).

The main source of impairments for both lakes and impoundments is polluted runoff from nonpoint sources (45%). Lakes are also significantly affected by Municipal Separate Storm Sewer Systems (MS4s) and non-irrigated crop production. Impoundments, not surprisingly, are significantly impaired by upstream sources, which contribute pollutants that are carried into the impoundment through incoming river flow (39%).

**Bays and Harbors:** Bays and Harbors that are impaired are impacted equally by contaminated fish tissue, degraded habitat, and low DO. The sources for these impacts are primarily contaminated sediments and discharges from MS4s. Those bays and harbors that are impaired for public health and welfare are due to contaminated sediment from historic point sources.

**Rivers and Streams:** Rivers and streams that are impaired for Fish and Aquatic Life Uses are primarily impacted by Degraded Habitat (45%), which refers to siltation of the streambed that reduces feeding and reproduction habitat for aquatic organisms. Rivers and streams are also affected by low DO (27%). The primary source of these impairments is polluted runoff from nonpoint sources (34%), but a wide variety of other sources also impact Wisconsin's river and stream systems.

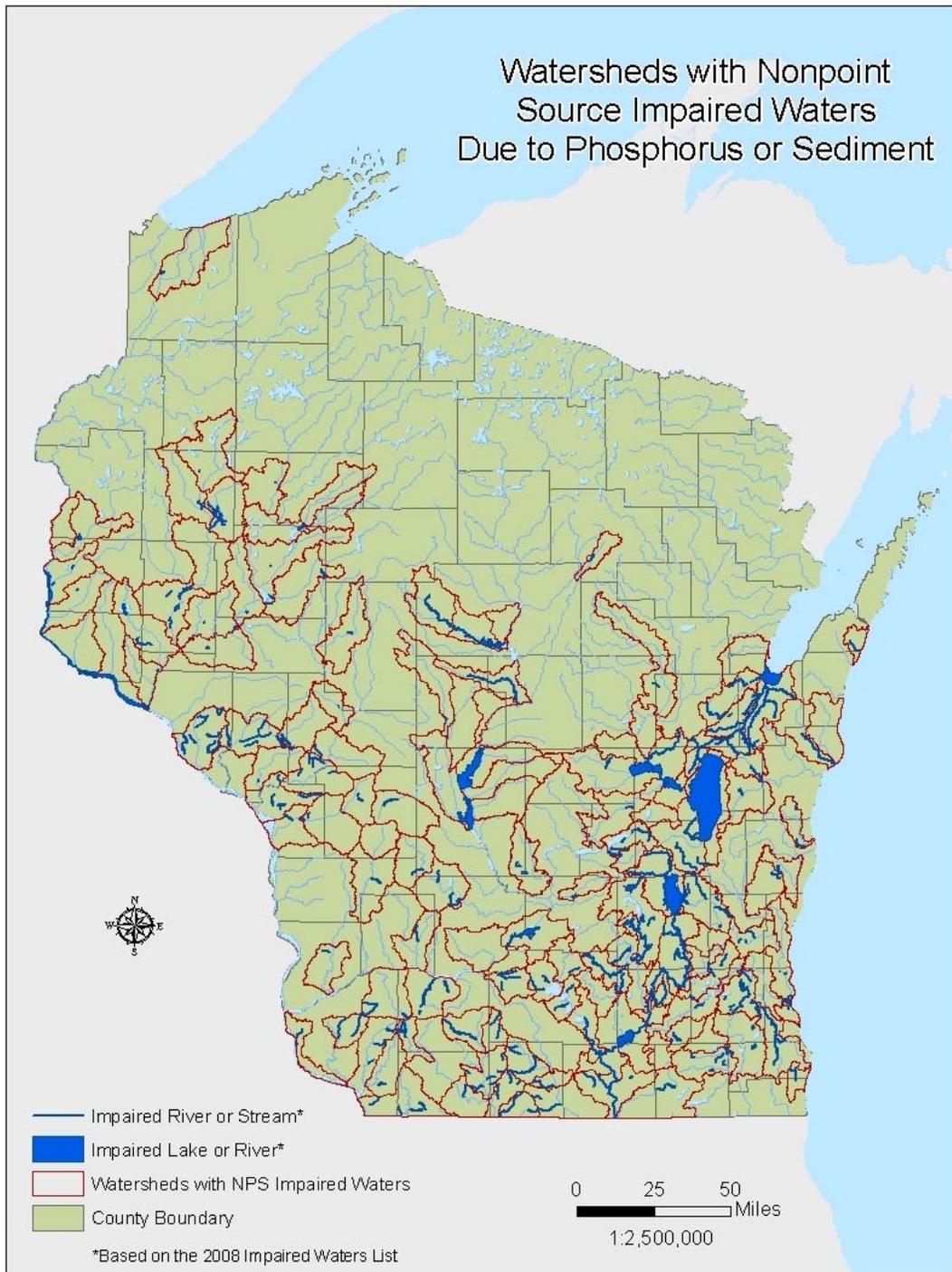
Although Recreational Uses for Rivers and Streams are not as thoroughly assessed as Fish and Aquatic Life Uses, 120 river/stream miles were assessed as impaired for Recreational Uses due to pathogens. Fish Consumption Uses were impaired due to contaminated sediments or atmospheric deposition of mercury.

**Wetlands:** Of the wetland acres impaired for Fish and Aquatic Life Uses, they are equally impaired by degraded habitat and low DO. Sources of these impairments are crop production, impacting 40%, and internal nutrient recycling, and nonpoint sources (20% each). Of the state's assessed 5 million wetland acres, many are impacted by reed canary grass. However, because these wetlands provide habitat for many species and maintain their filtering functions on the landscape, they are not considered impaired. Wetlands are not currently assessed for Recreation, Fish Consumption or Public Health and Welfare.

**Great Lakes Shoreline:** The 268 miles of Great Lakes shoreline that have been listed as impaired for contaminated fish tissue are due in equal amounts to atmospheric deposition and contaminated sediments.

**Great Lakes and Inland Beaches:** Thirty-one miles of Great Lakes beaches have been listed as impaired due to pathogens (*E. coli*), though the source of these pathogens is currently unknown. Sanitary surveys are being conducted by County Health Departments to determine the sources of these pollutants. Only a very small portion of inland beaches are currently monitored for pathogens.

**Figure 2.2 Watersheds with NPS Impaired Waters Due to Phosphorus & Sediment**



### 2.4.c Future Direction for Surface Water Assessment

The WisCALM guidance will be updated and modified for use in the 2012 assessment cycle. Revisions to the guidance are automatically amended into the current state *NPS Program Management Plan*. Although both monetary and staff resources are currently tight, some possible long-term directions for monitoring and assessment are shown below. These enhancements would occur only as resources allow, and some might require new funding sources or partnerships.

**Rivers, Streams and Lakes:** Enter and update additional waters in the assessment database to make the documentation of the state's waters as comprehensive as possible.

**Great Lakes Shorelines:** Conduct a more comprehensive assessment of Great Lakes shorelines.

**Inland Beaches:** Conduct a comprehensive inventory of inland beaches and enter that inventory and assessment data into the assessment database.

**Springs:** Incorporate updated springs data into the assessment database for management purposes.

**Wetlands:** Apply more complex assessment tools including the evolving floristic quality index and the presence of aggressive invasive aquatic plants that simplify and degrade wetland resources.

## 2.5 Condition of the Groundwater Resource

### 2.5.a Overview of Statewide Groundwater Conditions

Wisconsin's groundwater resource has significant quality and quantity issues throughout Wisconsin. The specific nature of the concern varies greatly depending on land uses, soil depth, geological formations and water demand.

While research has not been done to demonstrate all of the connections between groundwater issues and surface water, some correlations are likely. The major surface water nonpoint source issues which may have a groundwater contribution are primarily in the areas of pesticide, nitrate, and microbial contamination.

The condition of the groundwater in relation to these three nonpoint source contaminants are:

**Pesticides:** Pesticide contamination in groundwater results from field applications, pesticide spills, misuse, or improper storage and disposal. Related chemical compounds that form when the parent pesticide compounds break down in the soil and groundwater are called pesticide metabolites. The most commonly detected pesticide compounds in Wisconsin groundwater are: metabolites of alachlor (Lasso) and metolachlor (Dual) and atrazine and its metabolites. A 2007 WDATCP private well survey estimated that the proportion of wells in Wisconsin that contained a pesticide or pesticide metabolite was 33.5%. Areas of the state with a higher intensity of agriculture generally had higher frequencies of detections of pesticides. The two most commonly-detected pesticide compounds were the herbicide metabolites metolachlor ESA and alachlor ESA which each had a proportion estimate of 21.6%.

**Nitrate:** Nitrate-nitrogen is the most common contaminant found in Wisconsin's groundwater. Nitrate can enter groundwater and surface water from a variety of sources including farm fields, animal feedlots, septic tanks, and decaying vegetation. Concentrations of nitrate in private water supplies frequently exceed the state drinking water standard of 10 mg/L. In 2005 and 2007, DNR aggregated and analyzed data from three extensive statewide groundwater databases. This combined dataset from DNR's Groundwater Retrieval Network (GRN) database, the Center for Watershed Science and Education

database, and WDATCP's groundwater database, included only the most recent nitrate result for each sampled private well. Out of the 48,818 samples, 5686 (11.6 %) equaled or exceeded the 10 mg/L standard. A 2007 WDATCP survey estimated the proportion of private wells that exceeded the 10 mg/l enforcement standard for nitrate-nitrogen at 9.0%.

**Microbial agents:** Microbiological contamination often occurs in areas where the depth to groundwater is shallow, in areas where soils are thin, or in areas of fractured bedrock. Microbial agents include bacteria, viruses, and parasites. These agents can cause acute illness and result in life-threatening conditions for young children, the elderly and those with chronic illnesses. In one assessment (Warzecha et.al., 1994), approximately 23% of private well water samples statewide tested positive for total coliform bacteria, an indicator species of other biological agents. Approximately 3% tested positive for *E. coli*, an indicator of water borne disease that originates in the mammalian intestinal tract.

**Viruses** in groundwater are increasingly becoming a concern as new analytical techniques have detected viral material in private wells and public water supplies. Research conducted at the Marshfield Clinic indicates that 4-12% of private wells contain detectible viruses. (Borchardt 1997, 1999). Another study, conducted in conjunction with the USGS, found that 50% of water samples collected from four La Crosse municipal wells were positive for enteric viruses (Hunt and Borchardt, 2002, Borchardt et al., 2004). More recent and on-going studies have shown a link between viruses found in the municipal wells and wastewater system in Madison (Bradbury, 2007).

Groundwater use also impacts surface water. Despite a general abundance of groundwater in Wisconsin, there is a concern about the overall availability of good quality groundwater for municipal, industrial, agricultural, and domestic use and for adequate baseflow to our lakes, streams, and wetlands. Groundwater use grew from 570 to 804 million gallons per day (Mgal/d) from 1985 to 2000. Groundwater use was estimated to be 983 Mgal/d in 2005, but much of the increase between 2000 and 2005 was due to a shift in how irrigation water use was estimated. Groundwater quantity problems have occurred both naturally and from human activities, and often affect groundwater quality. Regional effects of groundwater withdrawals are well documented in the Lower Fox River Valley, southeastern Wisconsin, and Dane County. Localized effects of groundwater pumping on trout streams, springs, and wetlands have been noted throughout the state. Groundwater quantity legislation enacted in 2004 was the first step towards managing groundwater quantity on a comprehensive basis. The WDNR began to implement the provisions of the new law in FY 06 and FY 07 and began implementing a new rule, ch. NR 820, Wis. Adm. Code, regulating high-capacity wells in state fiscal year 2008. The Great Lakes Compact, signed by Governor Doyle in 2008, requires Wisconsin to have water conservation goals within the Great Lakes Basin. Implementing legislation – 2007 Wisconsin Act 227 – is currently being implemented.

Other areas of groundwater concern are primarily a concern for drinking water safety and do not impact surface water management decisions. These include volatile organic compounds, radionuclides and arsenic.

### 2.5.b Future Direction for Groundwater Protection

The Wisconsin Groundwater Coordinating Council (<http://dnr.wi.gov/org/water/dwg/gcc/>), an interagency group that is directed by law to assist State agencies in the coordination and exchange of information related to groundwater programs, recommends the following priorities for future groundwater protection and management:

- Evaluate acute and chronic impacts to groundwater from manure management practices
- Understand and better predict impacts from groundwater withdrawals
- Continue to evaluate and catalog Wisconsin's groundwater resources
- Investigate extent and origins of naturally occurring substances in groundwater
- Evaluate occurrence of recently discovered groundwater contaminants
- Understand the links between land use and groundwater quantity and quality

- Evaluate potential impacts of climate change on Wisconsin's groundwater
- Address groundwater quantity management issues at both statewide and regional levels
- Find solutions to groundwater nonpoint pollution problems
- Meet funding needs for nutrient management practice research to evaluate resource protection effectiveness
- Develop methods to assess and protect against health hazards posed by exposure to 'orphan' contaminants as well as multiple contaminants in a water supply
- Continue to fund groundwater monitoring and research
- Support implementation of a Statewide Groundwater Monitoring Strategy
- Support implementation of the Great Lakes Compact
- Coordinate and facilitate consistent messages on groundwater related issues
- Promote consistency between the agencies on data management issues
- Ensure access to findings of groundwater research and monitoring projects

## CHAPTER 3: Watershed Planning for Nonpoint Source Pollution Control

### Introduction

Watershed planning is an important aspect of NPS pollution control. Wisconsin's statutes and administrative codes provide for areawide water quality management planning as well as watershed planning for nonpoint source pollution control. The purpose of this chapter is to identify the current, overall water quality planning framework in Wisconsin, future enhancements to that framework for continued NPS pollution control, and how the different levels of planning interact and influence each other.

### 3.1 Nonpoint Source Planning in Wisconsin

When monitoring and assessment are complete and priorities have been set, watershed planning sets the stage for implementation. Watershed planning is an iterative process of goal-setting, data collection and analysis, problem identification, strategy development and implementation, and evaluation. This process, with meaningful stakeholder participation, is often the overarching management tool for achieving watershed goals.

#### 3.1.a Section 319 Requirements for Watershed-Based Plans

EPA developed guidelines for states' implementation of nonpoint source management programs under Section 319 of the Clean Water Act. The October 23, 2003 guidance (Federal Register Vol. 68, No. 205 – FRL-7577-6 available at: <http://www.epa.gov/fedrgstr/EPA-WATER/2003/October/Day-23/w26755.htm>) specifies that watershed-based plans to restore impaired waters are required for all projects implemented with incremental dollars. Watershed plans are also recommended whenever feasible for other projects – to protect unimpaired waters, restore impaired waters; or both.

The 2003 guidance outlines “Nine Key Elements” that are the components of watershed-based plans. Beginning in FFY 2004, the following information must be included in watershed-based plans to restore waters impaired by nonpoint source pollution using incremental Section 319 funds.

1. An identification of the causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in the watershed-based plan (and to achieve any other watershed goals identified in the watershed-based plan), as discussed in item (2) immediately below. Sources that need to be controlled should be identified at the significant subcategory level with estimates of the extent to which they are present in the watershed (e.g., X number of dairy cattle feedlots needing upgrading, including a rough estimate of the number of cattle per facility; Y acres of row crops needing improved nutrient management or sediment control; or Z linear miles of eroded streambank needing remediation).
2. An estimate of the load reductions expected for the management measures described under paragraph (3) below (recognizing the natural variability and the difficulty in precisely predicting the performance of management measures over time). Estimates should be provided at the same level as in item (1) above (e.g., the total load reduction expected for dairy cattle feedlots; row crops; or eroded streambanks).
3. A description of the NPS management measures that will need to be implemented to achieve the load reductions estimated under paragraph (2) above (as well as to achieve other watershed goals identified in the watershed-based plan), and an identification (using a map or a description) of the critical areas in which those measures will be needed to implement the plan.

4. An estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon, to implement the plan.
5. An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the NPS management measures that will be implemented.
6. A schedule for implementing the NPS management measures identified in the plan that is reasonably expeditious.
7. A description of interim, measurable milestones for determining whether NPS management measures or other control actions are being implemented.
8. A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made towards attaining water quality standards and, if not, the criteria for determining whether the plan needs to be revised or, if a NPS TMDL has been established, whether the NPS TMDL needs to be revised.
9. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item (8) immediately above.

### 3.1.b Current State of Nonpoint Source Control Planning in Wisconsin

#### Priority Watersheds and Lakes

Between 1979 and 2009, the WDNR developed watershed-based nonpoint source control plans under the Priority Watershed & Priority Lake Program. This program provided financial assistance to local units of government in selected watersheds to address land management activities which contributed to urban and rural runoff. The WDNR issued grants for the implementation of watershed and lake projects through a cost-share approach. The grantees used the funds to reimburse costs to landowners for installing voluntary BMPs.

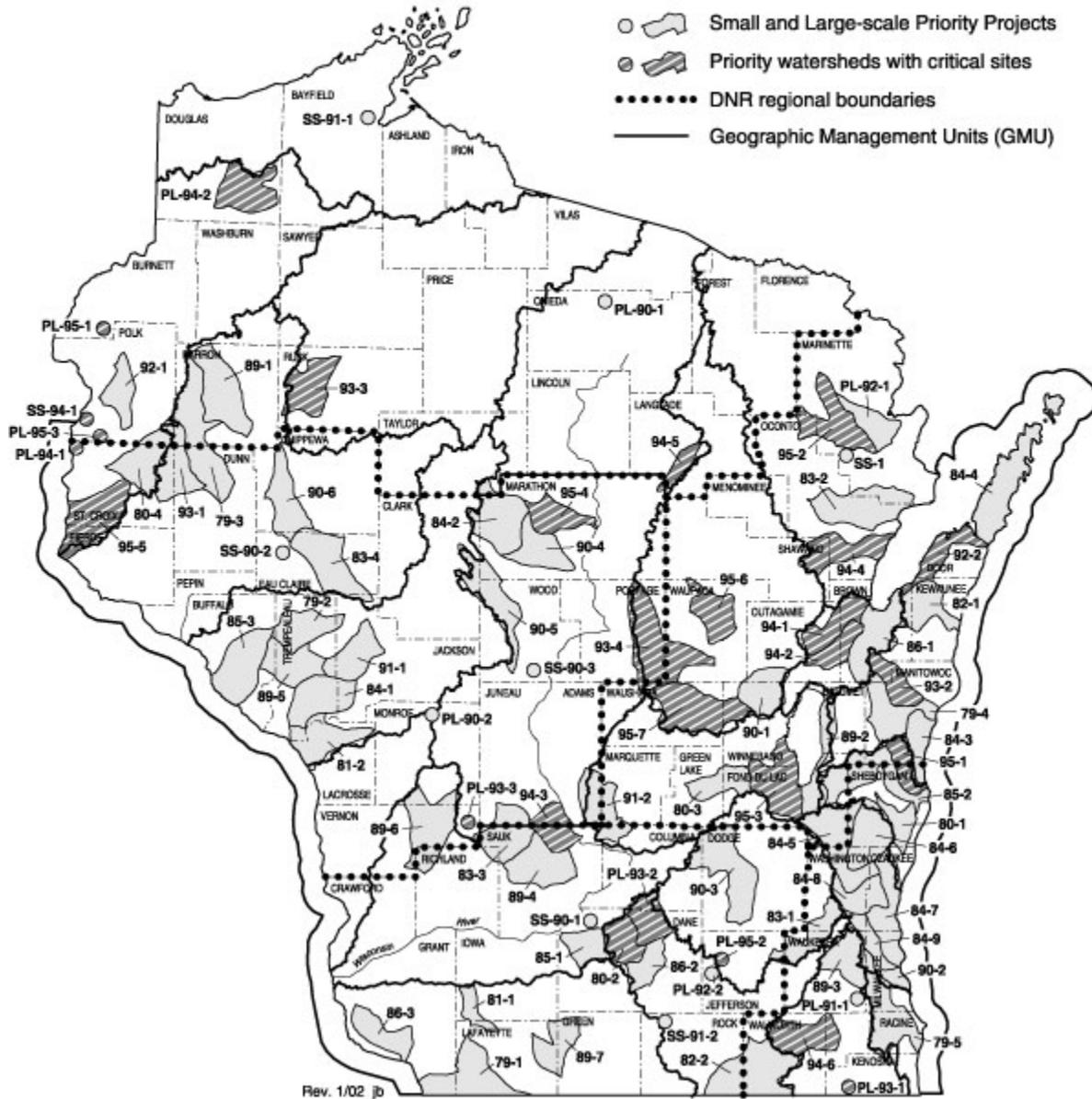
In 1997, the Wisconsin legislature significantly changed the direction of the state's NPS Program. The 1997 Wisconsin Act 27 placed the Priority Watershed and Priority Lake Program into a multi-year phase-out period. Funding for ongoing watershed and lake projects continued through 2009.

Chapter NR 120, Wis. Adm. Code, contains the language that governed the program. Ch. NR 120, Wis. Adm. Code, stated that each priority watershed project must have a watershed plan, an assessment of the watershed, a detailed plan for implementation, and a project evaluation plan. After approval of the PWS plan for implementation, the plan was approved as a revision to the areawide water quality management plan for the appropriate basin. As of 2010, thirty-six of the eighty-six projects are currently completing the required 10-year operation and maintenance period following project closure. The last projects will complete the 10-year operation and maintenance period at the end of calendar year 2019. Table 3.1 lists the projects that are in the operation and maintenance period and the associated impaired waters in the project areas.

Figure 3.0 Priority Watershed Projects in Wisconsin

(Refer to Table 3.0 for map number codes and project titles.)

### Priority Watershed Projects in Wisconsin



**Table 3.0 Priority Watershed Projects in Wisconsin**

<b>Year Selected- Map Number</b>	<b>Large-scale Priority Watershed Project</b>	<b>County(ies)</b>
79-1	Galena River	Grant, Lafayette
79-2	Elk Creek	Trempealeau
79-3	Hay River	Barron, Dunn
79-4	Lower Manitowoc River	Manitowoc, Brown
79-5	Root River	Racine, Milwaukee, Waukesha
80-1	Onion River	Sheboygan, Ozaukee
80-2	Sixmile-Pheasant Branch Creek □	Dane
80-3	Big Green Lake	Green Lake, Fond du Lac
80-4	Upper Willow River	Polk, St. Croix
81-1	Upper West Branch Pecatonica River	Iowa, Lafayette
81-2	Lower Black River	La Crosse, Trempealeau
82-1	Kewaunee River	Kewaunee, Brown
82-2	Turtle Creek	Walworth, Rock
83-1	Oconomowoc River	Waukesha, Washington, Jefferson
83-2	Little River	Oconto, Marinette
83-3	Crossman Creek/Little Baraboo River	Sauk, Juneau, Richland
83-4	Lower Eau Claire River	Eau Claire
84-1	Beaver Creek	Trempealeau, Jackson
84-2	Upper Big Eau Pleine River	Marathon, Taylor, Clark
84-3	Sevenmile-Silver Creeks	Manitowoc, Sheboygan
84-4	Upper Door Peninsula	Door
84-5	East & West Branch Milwaukee River	Fond du Lac, Washington, Sheboygan, Dodge, Ozaukee
84-6	North Branch Milwaukee River	Sheboygan, Washington, Ozaukee, Fond du Lac
84-7	Milwaukee River South	Ozaukee, Milwaukee
84-8	Cedar Creek	Washington, Ozaukee
84-9	Menomonee River	Milwaukee, Waukesha, Ozaukee, Washington
85-1	Black Earth Creek	Dane
85-2	Sheboygan River	Sheboygan, Fond du Lac, Manitowoc, Calumet
85-3	Waumandee Creek	Buffalo
86-1	East River	Brown, Calumet
86-2	Yahara River - Lake Monona	Dane
86-3	Lower Grant River	Grant
89-1	Yellow River	Barron
89-2	Lake Winnebago East	Calumet, Fond du Lac
89-3	Upper Fox River (Ill.)	Waukesha
89-4	Narrows Creek - Baraboo River	Sauk
89-5	Middle Trempealeau River	Trempealeau, Buffalo
89-6	Middle Kickapoo River	Vernon, Monroe, Richland
89-7	Lower East Branch Pecatonica River	Green, Lafayette
90-1	Arrowhead River & Daggets Creek	Winnebago, Outagamie
90-2	Kinnickinnic River (Milwaukee Basin)*	Milwaukee
90-3	Beaverdam River	Dodge, Columbia, Green Lake
90-4	Lower Big Eau Pleine River	Marathon
90-5	Upper Yellow River	Wood, Marathon, Clark
90-6	Duncan Creek	Chippewa, Eau Claire
91-1	Upper Trempealeau River	Jackson, Trempealeau
91-2	Neenah Creek	Adams, Marquette, Columbia
92-1	Balsam Branch	Polk
92-2	Red River - Little Sturgeon Bay	Door, Brown, Kewaunee
93-1	South Fork Hay River	Dunn, Polk, Barron, St. Croix
93-2	Branch River	Manitowoc, Brown
93-3	Soft Maple/Hay Creek	Rusk
93-4	Tomorrow/Waupaca River	Portage, Waupaca, Waushara
94-1	Duck Creek	Outagamie, Brown

94-2	Apple/Ashwaubenon Creeks	Outagamie, Brown
94-3	Dell Creek	Sauk, Juneau
94-4	Pensaukee River	Shawano, Oconto
94-5	Spring Brook	Langlade, Marathon
94-6	Sugar/Honey Creeks	Walworth, Racine
95-1	Pigeon River	Manitowoc, Sheboygan
95-2	Middle Peshtigo/Thunder Rivers	Marinette, Oconto
95-3	Fond du Lac River	Fond du Lac, Winnebago
95-4	Lower Rib River	Marathon
95-5	Kinnickinnic River (St. Croix Basin)	St. Croix, Pierce
95-6	Lower Little Wolf	Waupaca
95-7	Pine & Willow Rivers	Waushara, Winnebago

**Year Selected-**

<b><u>Map Number</u></b>	<b><u>Small-scale Priority Watershed Project</u></b>	<b><u>County(ies)</u></b>
SS-1	Bass Lake	Marinette
SS-90-1	Dunlap Creek	Dane
SS-90-2	Loves Creek	Eau Claire
SS-90-3	Port Edwards - Groundwater Prototype	Wood
SS-91-1	Whittlesey Creek	Bayfield
SS-91-2	Spring Creek	Rock
SS-94-1	Osceola Creek	Polk

**Year Selected-**

<b><u>Map Number</u></b>	<b><u>Priority Lake Project</u></b>	<b><u>County(ies)</u></b>
PL-90-1	Minocqua Lake	Oneida
PL-90-2	Lake Tomah	Monroe
PL-91-1	Little Muskego, Big Muskego, Wind Lakes	Waukesha, Racine, Milwaukee
PL-92-1	Lake Noquebay	Marinette
PL-92-2	Lake Ripley	Jefferson
PL-93-1	Camp/Center Lakes	Kenosha
PL-93-2	Lake Mendota	Dane, Columbia
PL-93-3	Hillsboro	Vernon
PL-94-1	St. Croix County Lakes Cluster	St. Croix
PL-94-2	Upper St. Croix/Eau Claire River	Douglas
PL-95-1	Big Wood Lake	Burnett, Polk
PL-95-2	Rock Lake	Jefferson
PL-95-3	Horse Creek	Polk, St. Croix

□ Sixmile-Pheasant Branch is part of the Lake Mendota project (PL-93-2).

\*Project converted to an Urban Nonpoint Source & Storm Water Management Grant Project

**Table 3.1 Priority Watershed Projects with NPS-Impaired Waters**

*\*Waterbodies w/ State/EPA-Approved TMDLs*

<b>Nonpoint Source Dominated Impaired Water Category</b>		
<b>Priority Watershed Project</b>	<b>Impaired Water Name</b>	<b># Impaired Segments</b>
Arrowhead & Rat Rivers & Daggets Creek	Poygan Lake	Lake
Arrowhead & Rat Rivers & Daggets Creek	Rat River	2
Arrowhead & Rat Rivers & Daggets Creek	Winneconne Lake	Lake
Arrowhead & Rat Rivers & Daggets Creek	Wolf River-Main Stem	6
Beaver Dam River	Casper Creek	1
Beaver Dam River	Fox Lake	Lake
Beaver Dam River	Lau Creek	1
Beaver Dam River	Park Creek	1
Beaver Dam River	Schultz Creek	1
Cedar Creek	Evergreen Creek	1
Cedar Creek	Lehner Creek	1
Duck/Apple/Ashwaubenon Creeks	Apple Creek	2
Duck/Apple/Ashwaubenon Creeks	Dutchman Creek	2
Duncan Creek	Hallie Lake	Lake
Dunlap Creek	Lake Wisconsin	Lake
East & West Branch Milwaukee River	Long Lake Kettle Moraine St. Park North Beach	Lake
East River	Baird Creek	2
East River	Bower Creek	2
East River	East River	2
East River	Green Bay (Inner Bay, AOC)	Lake
Fond du Lac River	Anderson Creek	1
Fond du Lac River	East Tributary to Parsons Creek*	1
Fond du Lac River	Mosher Creek	1
Fond du Lac River	Sevenmile Creek	1
Fond du Lac River	Van Dyne Creek	1
Hillsboro	West Branch Baraboo River	1
Horse Creek	Cedar Lake*	Lake
Lake Mendota	Token Creek*	2
Lake Ripley	Clear Lake	Lake
Lake Tomah	Tomah Lake	Lake
Lake Winnebago East	Deneveu Creek	1
Little Muskego, Big Muskego, Wind Lakes	Little Muskego Lake	Lake
Little Muskego, Big Muskego, Wind Lakes	Wind Lake	Lake
Lower Big Eau Pleine River	Big Eau Plaine Flowage	Lake
Lower Big Eau Pleine River	Big Eau Pleine River	3
Lower East Branch Pecatonica River	Apple Branch*	1
Lower East Branch Pecatonica River	Braezels Branch*	1
Lower East Branch Pecatonica River	Cherry Branch*	2

<b>Nonpoint Source Dominated Impaired Water Category</b>		
<b>Priority Watershed Project</b>	<b>Impaired Water Name</b>	<b># Impaired Segments</b>
Lower East Branch Pecatonica River	Dougherty Creek*	1
Lower East Branch Pecatonica River	Jockey Hollow Creek*	1
Lower East Branch Pecatonica River	Prairie Brook*	1
Middle Kickapoo River	Jug Creek*	1
Middle Trempealeau River	Irvin Creek*	1
Middle Trempealeau River	Newcomb Valley Creek*	1
Middle Trempealeau River	North Creek*	1
Middle Trempealeau River	Swinns Valley Creek*	1
Middle Trempealeau River	Tappen Coulee Creek*	1
Middle Trempealeau River	Welch Coulee Creek*	1
Milwaukee River South	Beaver Creek	1
Milwaukee River South	Indian Creek	1
Milwaukee River South	Natural Channel Reaches	2
Neenah Creek	Mason Lake	Lake
Neenah Creek	Unnamed Tributary to Mason Lake	1
North Branch Milwaukee River	Adell Tributary	1
Osceola Creek	Squaw Lake*	Lake
Pigeon River	Grandma Creek	1
Pigeon River	Osman Tributary to Meeme River	1
Pine & Willow Rivers	Carpenter Creek*	1
Pine & Willow Rivers	Poygan Lake	Lake
Pine & Willow Rivers	Winneconne Lake	Lake
Pine & Willow Rivers	Wolf River-Main Stem	1
Rock Lake	Mud Creek	3
Sheboygan River	Otter Creek*	1
Soft Maple/Hay Creek	Becky Creek*	1
Spring Brook	Spring Brook Creek	2
St. Croix County Lakes Cluster	Mallalieu Lake	Lake
St. Croix County Lakes Cluster	Squaw Lake*	Lake
Sugar/Honey Creeks	Perennial Stream A (Spp1)*	1
Sugar/Honey Creeks	Perennial Stream B (Tm2)*	1
Sugar/Honey Creeks	Perennial Stream D (B4)*	1
Sugar/Honey Creeks	Perennial Stream E (B5)*	1
Sugar/Honey Creeks	Spring Brook, North Branch*	1
Sugar/Honey Creeks	Spring Creek*	1
Upper Fox River (IL)	Deer Creek	1
Upper Fox River (IL)	Frame Park Creek	1
Upper Fox River (IL)	Lannon Creek	1
Upper Fox River (IL)	Perennial Stream C (Pb018)	1

<b>Nonpoint Source Dominated Impaired Water Category</b>		
<b>Priority Watershed Project</b>	<b>Impaired Water Name</b>	<b># Impaired Segments</b>
Upper Fox River (IL)	Perennial Stream C (Sc011)	1
Upper Fox River (IL)	Perennial Stream D (Pb016)	1
Upper Fox River (IL)	Poplar River (Creek)	3
Upper Fox River (IL)	Spring Creek	1
Upper Trempealeau River	Trump Coulee Creek*	1
Upper Yellow River	Dexter Lake	Lake
Waumandee Creek	Buell Valley Creek*	1
Waumandee Creek	Cochrane Ditch (Rose Valley Cr)*	1
Waumandee Creek	Eagle Creek*	1
Waumandee Creek	Irish Valley Creek*	1
Waumandee Creek	Jahns Valley Creek*	1
Waumandee Creek	Joos Valley Creek*	1
Waumandee Creek	Weiland Valley Creek*	1
Waumandee Creek	Wolf Valley Creek	1
Waumandee Creek	Yeager Valley Creek	1

<b>Nonpoint Source/Point Source Blend Impaired Water Category</b>		
<b>Priority Watershed Project</b>	<b>Impaired Water Name</b>	<b>Impaired Segments (#)</b>
Arrowhead & Rat Rivers & Daggets Creek	Winneconne Lake	Lake
Beaver Dam River	Alto Creek	1
Beaver Dam River	Beaver Dam River	3
Duck/Apple/Ashwaubenon Creeks	Ashwaubenon Creek	1
Duck/Apple/Ashwaubenon Creeks	Lower Fox River (De Pere Dam To Middle Appleton Dam)	1
East River	Baird Creek	2
East River	Green Bay (Inner Bay, AOC)	Lake
East River	Lower Fox River (De Pere Dam To Middle Appleton Dam)	1
East River	Lower Fox River (Mouth To De Pere Dam)	1
Fond du Lac River	Parsons Creek*	1
Kinnickinnic River (St. Croix Basin)	East Twin Lake	Lake
Kinnickinnic River (St. Croix Basin)	St. Croix Lake	Lake
Kinnickinnic River (St. Croix Basin)	West Twin Lake	Lake
Lake Ripley	Lake Koshkonong	Lake
Lake Ripley	Rock River	Lake
Lake Tomah	South Fork Lemonweir River	1
Little Muskego, Big Muskego, Wind Lakes	Fox River (Below	1

	Barstow Impoundment)	
Milwaukee River South	Kinnickinnic River	1
Milwaukee River South	Milwaukee Harbor Outer	1
Milwaukee River South	Milwaukee River	2
Pine & Willow Rivers	Winneconne Lake	Lake
Rock Lake	Beaver Dam River	3
St. Croix County Lakes Cluster	East Twin Lake	Lake
St. Croix County Lakes Cluster	St. Croix Lake	Lake
St. Croix County Lakes Cluster	West Twin Lake	Lake
St. Croix County Lakes Cluster	Willow River (140 St to 100th)	1
Upper Fox River (IL)	Fox River	1
Upper Fox River (IL)	Fox River (Below Barstow Impoundment)	1
Upper Fox River (IL)	Fox River, Upper Barstow Impoundment	1
Upper Fox River (IL)	Lower Barstow Impoundment	1
Upper Fox River (IL)	Zion Creek	1

### TMDLs & TMDL Implementation Planning

When a waterbody in Wisconsin no longer meets water quality standards, it is listed as an impaired water, as required by Section 303(d) of the Clean Water Act. The pollutants and impairment affecting these waters are addressed through the process of the developing a Total Maximum Daily Load (TMDL) calculation, which identifies the amount of the offending pollutant that the waterbody can assimilate and still meet water quality standards.

$$\text{TMDL} = \text{Wasteload Allocation (WLA)} + \text{Load Allocation (LA)} + \text{Margin of Safety (MOS)}$$

The WLA is the total allowable pollutant load from point sources (municipal and industrial wastewater facilities, CAFOs, and MS4s). The LA is the load assigned to nonpoint sources (agricultural runoff, non-regulated urban areas). The MOS is the margin of safety which accounts for uncertainty in the modeling. Future growth is accounted for between the WLA and the LA as TMDLs are updated.

To establish the TMDL, goals are defined using numeric water quality standards or applicable water quality targets based on narrative water quality standards. Water quality monitoring determines current pollutant loads to the water body. Sources of the pollutants are determined through monitoring and modeling. Modeling determines the existing load and the target load to calculate the load reduction from each pollutant source.

A TMDL is both the calculation and a descriptive term for the report that presents the analyzed information to the public and affected parties. TMDL reports describe the analysis methodology, how load reductions were derived, and specific recommendations regarding from which sources (point, nonpoint, in-lake, etc.) the desired load reductions will come. TMDLs involve a public process, including a minimum 30-day public comment period. Once comments are addressed, the TMDL report is approved by the State of Wisconsin and the U.S. EPA. Once approved by the U.S. EPA, the load allocation goals are automatically amended into the current state NPS Program Management Plan WDNR Objective WQ4 in Chapter 5.

State and EPA-approved TMDLs are available on the WDNR web site at:

[http://dnr.wi.gov/org/water/wm/wqs/303d/Approved\\_TMDLs.html](http://dnr.wi.gov/org/water/wm/wqs/303d/Approved_TMDLs.html).

**Table 3.2 NPS-Impaired Waters with Approved TMDLs**

<b>Waters with Approved TMDLs as of 5/1/2011</b>			
<b>Waterbody</b>	<b>County</b>	<b>WBIC</b>	<b>TMDL Approval Date</b>
Squaw Lake	St. Croix	2499000	08/24/2000
Token Creek	Dane	806600	07/01/2002
Eagle Creek	Buffalo	1808400	03/13/2003
Irvin Creek	Trempealeau	1792200	03/13/2003
Joos Valley Creek	Buffalo	1808900	03/13/2003
Jug Creek	Vernon	1195500	03/13/2003
Newcomb Valley Creek	Trempealeau	1777400	03/13/2003
North Creek	Trempealeau	1778600	03/13/2003
Perennial Stream A (SPP1)	Walworth	753100	03/13/2003
Perennial Stream B (TM2)	Walworth	755100	03/13/2003
Perennial Stream D (B4)	Walworth	753500	03/13/2003
Perennial Stream E (B5)	Walworth	753600	03/13/2003
Spring Brook, North Branch	Walworth	752500	03/13/2003
Spring Creek	Walworth	753900	03/13/2003
Swinns Valley Creek	Buffalo	1776000	03/13/2003
Tappen Coulee Creek	Trempealeau	1800300	03/13/2003
Welch Coulee Creek	Trempealeau	1799300	03/13/2003
Cedar Lake	Polk, St. Croix	2615100	08/19/2003
Silver Lake	Manitowoc	67400	03/30/2004
Trump Coulee Creek	Jackson	1800600	05/06/2004
Castle Rock (Fennimore) Creek	Grant	1211300	08/20/2004
Gunderson Valley Creek	Grant	1212600	08/20/2004
Half Moon Lake	Eau Claire	2125400	09/08/2004
Carpenter Creek	Waushara	248800	12/01/2004
Apple Branch	Iowa	899800	08/24/2005
Argus School Branch	Green	896800	08/24/2005
Braezels Branch	Green	900700	08/24/2005
Buckskin School Creek	Green	897300	08/24/2005
Burgy Creek	Green	880500	08/24/2005
Cherry Branch	Iowa	898500	08/24/2005
Dodge Branch	Iowa	910800	08/24/2005
Dodge Branch	Iowa	910800	08/24/2005
Dodge Branch	Iowa	910800	08/24/2005
Dougherty Creek	Green	901000	08/24/2005
German Valley Branch	Dane	909200	08/24/2005
Henry Creek	Dane	887800	08/24/2005
Jockey Hollow Creek	Green	899500	08/24/2005
Legler School Branch	Green	882900	08/24/2005
Pioneer Valley Creek	Green	883100	08/24/2005
Pleasant Valley Branch	Dane	908500	08/24/2005
Prairie Creek	Green	901500	08/24/2005
Searles Creek	Green	879500	08/24/2005

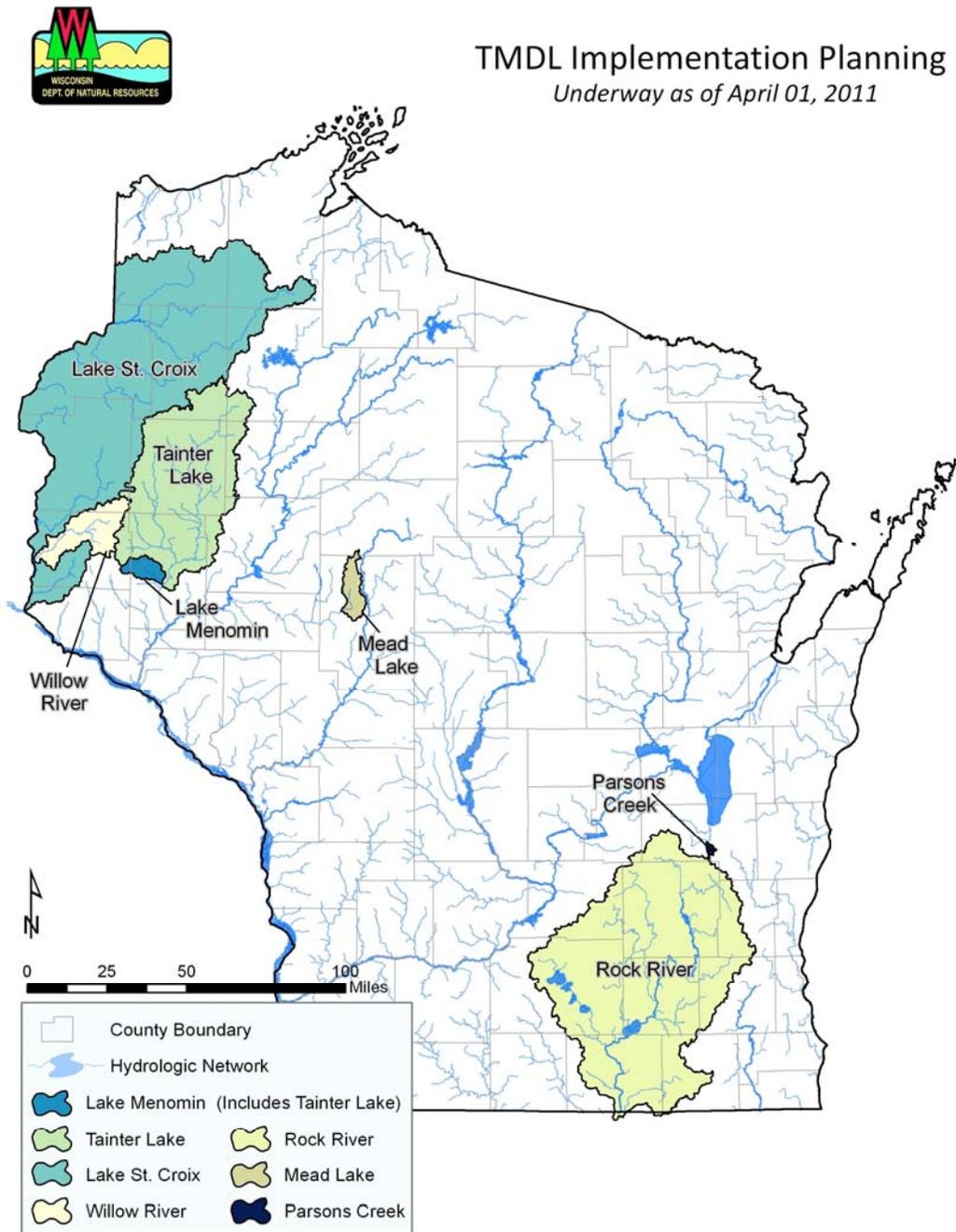
<b>Waters with Approved TMDLs as of 5/1/2011</b>			
<b>Waterbody</b>	<b>County</b>	<b>WBIC</b>	<b>TMDL Approval Date</b>
Silver School Branch	Green	880400	08/24/2005
Silver Spring Creek	LaFayette	917700	08/24/2005
Spring Creek	Green	877000	08/24/2005
Syftestad Creek	Dane	908200	08/24/2005
Twin Grove Branch	Green	891300	08/24/2005
Becky Creek	Rusk	2369600	09/27/2005
Buell Valley Creek	Buffalo	1813100	11/01/2005
Cochrane Ditch (Rose Valley)	Buffalo	1813600	11/01/2005
Irish Valley Creek	Buffalo	1811400	11/01/2005
Jahns Valley Creek	Buffalo	1810800	11/01/2005
Weiland Valley Creek	Buffalo	1813000	11/01/2005
Snowden Branch	Grant	944600	09/26/2006
Gills Coulee Creek	LaCrosse	1652300	09/26/2006
Martin Branch	Grant	963400	09/28/2007
Martinville Creek	Grant	955100	09/28/2007
Rogers Branch	Grant	964300	09/28/2007
Parsons Creek	Fond du Lac	136000	09/28/2007
Hardies Creek	Trempealeau	1686900	02/01/2008
Dougherty Creek	Green	901000	08/22/2008
Little Willow Creek	Richland	1221300	09/09/2008
Mead Lake	Clark	2143900	10/02/2008
Otter Creek	Iowa	1237100	10/02/2008
Little Lake Wissota	Chippewa	2152800	04/13/2010

A TMDL implementation plan is a document, guided by the TMDL analysis that provides details of the actions needed to achieve load reductions, outlines a schedule of those actions, and specifies monitoring needed to document actions and progress toward meeting water quality standards. An implementation plan provides a framework for stakeholders to use to reach the goals established in the TMDL. Wisconsin's TMDL implementation planning process is still in its infancy, but at a minimum, TMDL implementation plans are expected to meet the Section 319 Program's "nine key elements" for watershed-based plans.

Many Priority Watershed Projects were also the state's first TMDL implementation projects, since some of Wisconsin's earliest TMDLs were developed for NPS-impaired waterbodies in Priority Watershed Project areas. Refer to Table 3.1. The Priority Watershed NPS Control Plans, which meet the nine key elements, serve as TMDL implementation plans for these NPS-impaired areas.

Refer to Figure 3.1 for the basins and watersheds where TMDL implementation planning efforts are underway as of April 1, 2011.

Figure 3.1 Wisconsin's TMDL Implementation Planning Areas



## 3.2 Wisconsin's Areawide Water Quality Management Planning Program

### 3.2.a Continuous Planning Process

Wisconsin's Continuing Planning Process (CPP), authorized under section 283.83, Wisconsin Statutes, directs that WDNR shall establish a continuing water pollution control planning process which is consistent with applicable state requirements.

It is designed to describe:

- the state's process for the development of effluent limitations and schedules of compliance at least as stringent as those required by Section 301(b)(1), Section 301(b)(2), Section 306, and Section 307 of the Clean Water Act (CWA), and at least as stringent as any requirements contained in any applicable water quality standard in effect under authority of Section 303 of the CWA;
- the process for the incorporation of all elements of any applicable areawide water quality management plans under Section 208 of the CWA, and applicable basins plans under Section 209 of the CWA;
- the process for developing total maximum daily loads for pollutants in accordance with section 303(d) of the CWA;
- procedures for revision; the process for adequate authority of intergovernmental cooperation; adequate implementation, including schedules of compliance, for revised or new water quality standards under Section 303(c) of the CWA;
- the process for the controls over the disposition of all residual waste from any water treatment processing;
- the process for developing an inventory and ranking, in order of priority, of needs for construction of waste treatment works required to meet the applicable requirements of Sections 301 and 302 of the CWA; and
- any related, relevant water quality or water resource management program affecting the condition of water resources.

### 3.2.b Areawide Water Quality Management Plan

Wisconsin's *Areawide Water Quality Management Plan* is a virtual document comprised of: basin (watershed) plans which identify the status/condition of water quality and management recommendations; sewer service area plans which are detailed plans for developed areas with sewer service and which specify specific update and amendment procedures designated to protect the water condition outlined in basin / watershed plans; and all related plans, programs and documents considered updates or amendments, linked by conformance review and reference. Formal updates and amendments to the state's Areawide Water Quality Management Plan require Governor and U.S. EPA certification.

### 3.2.c Federal and State Legal Basis

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), Section 208, establishes Areawide Water Quality Management Planning. The state program, codified through ch. NR 121, Wis. Adm. Code (1979, 1981, and 1995), specifies process, program and plan elements, designated agencies and areas, and public participation requirements. <http://dnr.wi.gov/org/water/wm/glwsp/>

Federal and state funds are used to implement Wisconsin's Water Quality Management Planning Program. Clean Water Act Section 205(j) grant awards are authorized through Section 604(b) of the Federal Clean Water Act, s. 281.51, Wis. Stats. (previously s. 144.235(2)(c), Wis. Stats.), and through general purpose revenue funds targeted for state local aids for water quality.

Chapter NR 121, Wis. Adm. Code, identifies three highly developed municipal areas as “designated areas” – Fox Valley Water Quality Planning Area (Brown County and portions of the East Central Regional Planning Area), Dane County, and the seven far southeast Wisconsin counties. Explicitly named agencies or “designated agencies” are responsible for planning activities in these designated areas. Only one of the original designated agencies – Southeast Wisconsin Regional Planning Commission (SEWRPC) – continues to carry out its originally designated agency functions. In all other areas, contract relationships are in place to ensure ongoing water quality management planning work.

In non-designated areas – and in areas without a designated agency – the WDNR is directly responsible for creating water quality management plans and all related elements, including that communities with populations of greater than 10,000 have plans and procedures for sewered service. WDNR must also ensure that state actions taken in these non-designated areas, such as permit limits or grant awards, are in conformance with the Areawide Water Quality Management Plan. Ch. NR 121, Wis. Adm. Code, grants WDNR the authority to request and/or rescind designation status through governor approval and certification by the U.S. EPA.

### **3.2.d State Water Quality Planning Framework**

Wisconsin has conducted water quality planning since the mid-1970s, when newly promulgated Clean Water Act authorities were delegated to the WDNR. The specific type of planning work has changed over time, but the end goal -- restoring, protecting and maintaining clean water and healthy aquatic ecosystems -- has been a constant through the past nearly 40 years.

#### **History - Early Water Quality Planning (1970s)**

Initially, water quality management plans, or "basin plans" were designed to assess the need for and extent of wastewater treatment plant upgrades to secondary treatment. The majority of work involved conducting wasteload allocations for biological oxygen demand (BOD) on major river systems to determine the allowable pollutant loads from point source discharges. Examples of river systems that were analyzed include the Fox River (Green Bay), Wisconsin River, Milwaukee River, and Rock River. Every few years the state produced a *Water Quality Assessment Report to Congress* (CWA, Section 305(b)), which provided a narrative of the state's water condition and a summary of work achieved under the water quality program.

#### **Basin Planning, Facilities Plan Reviews, Sewer Service Area Planning (1980s)**

The 1980s brought significant changes to the water quality planning program in Wisconsin. The state implemented its innovative Priority Watershed Program to control nonpoint source discharges and enacted state legislation to systematize the connection between the state's delegated CWA responsibility and its evaluation of point source discharges including urbanizing areas throughout the state. Chapters NR 121, NR 110, and NR 120, Wis. Adm. Code, provided a structure and framework to tie together the state's planning program with its implementation vehicles for permitting point source discharges and outreach and education for voluntary efforts for nonpoint sources of pollutants.

The development of Sewer Service Area Plans (<http://dnr.wi.gov/org/water/wm/glwsp/SSAPlan/>) for areas in the state specifically "designated" or mentioned in ch. NR 121, Wis. Adm. Code, as well as for communities with populations of greater than 10,000 individuals, began. This work required review and formal "amendment" of specific actions such as permits or specialized plans to the state's basin plans, which were the umbrella vehicle for related water quality work in the state. Water Quality Planners conducted "conformance reviews" for proposed permit limits, storm water plans, sewer service area plans, and priority watershed plans to ensure that the proposed work was needed to protect or restore, the water quality in the respective basin.

### **Watershed Approach, Integrated Planning, and "GMUs" (1990s)**

In the 1990s, the state began enacting a series of water resources rules, which up until that point, had been "covered" under the state Sewer Service Area Program's Environmentally Sensitive Area (ESA) designations. [ESAs are resource areas identified in Sewer Service Area Plans that must not be developed with public sewer (as per ch. NR 121, Wis. Adm. Code) (<http://dnr.wi.gov/org/water/wm/glwsp/SSAPlan/delineate.htm>).]

State rules and federal law regarding shoreland/wetland areas, wetlands, floodplain zones, and Great Lakes related issues provided updated authorities for protecting and better managing these sensitive areas. For much of the state, these rules brought tremendous positive change with greater consistency and resource protection.

Basin planning, or "Water Quality Management Planning", continued to evolve in response to the modified legal framework and supplementary management tools. Recommendations in "basin plans" focused more on partnership, and on "ecosystem" recommendations, particularly those plans developed in the late 1990s. In 1999, the water quality program worked with lands and fisheries to develop "integrated basin plans" statewide. These plans were designed to capture the essence of popularly discussed holistic, systems-based planning approaches. These Integrated Basin Plans, or State of the Basin Reports, reflected the department's reorganized structure into geographic management units (GMUs) and were reflective of "basin team" partnerships at the local level. Integrated Plans, or State of the Basin Reports, were developed for most of the state's 23 GMUs from 1999 through 2002.

### **Watershed Planning Network (2007)**

Technological investments by WDNR have resulted in the state's ability to better identify and track resource issues and better manage and share information on water condition. In 2001, the state received the first of many federal grants to invest in the development of data systems that build upon the state's 1:24,000-Scale Hydrography (<http://dnr.wi.gov/maps/gis/datahydro.html>) data layer.

Work conducted in the past six years has resulted in two new water-related GIS-enabled data systems. The first is the Water Assessment Tracking and Electronic Reporting System (WATERS), which supports the state's water quality planning program (<http://dnr.wi.gov/org/water/watersheds/network/>), including waterbody level assessments, water quality standards, and use designation assessments. The second is the Surface Water Integrated Monitoring System (SWIMS), which supports a wide variety of work, but its primary function is to provide ready access to monitoring sites and results against the state's hydrologic systems. Both WATERS and SWIMS are supplemented by the Water Program's Surface Water Data Viewers, interactive web mapping tools which provide "data delivery" to WDNR staff and partner agencies.

The logical evolution of these tools is the development of support systems for partnership work which affects and is affected by WDNR water program activity. The WDNR recognizes, and in many cases provides funding for, watershed/water quality planning work on specific waterbodies or specific areas of the state. For several years, this planning work was conducted and no further action was taken. However, with the advent of new tools, WDNR is now able to provide online progress reporting and easy to use tools for partners funded through WDNR grants to share their final reports and resource status with WDNR and others by a simple "click of the mouse"!

### **3.2.e Watershed-Based Water Quality Management Plans Today**

Wisconsin DNR has modified its water quality planning program to accommodate fewer staff and fewer fiscal resources by moving to online, dynamically generated watershed plans from data stored in databases. Since the last update of State of the Basin Reports in 2000-2002, the most recent watershed plans were updated for 24 of the state's 330 watersheds. This rotating targeted watershed approach will allow the state to continue its work of targeting high priority watersheds, leveraging critical resources

where possible, with mandated monitoring, assessment and planning work. Final plans are available on the WDNR web site at: <http://dnr.wi.gov/org/water/condition/wtplans/>.

### 3.3 Future Watershed-Based Nonpoint Source Control Plans

#### 3.3.a Strategy for Future Watershed-Based NPS/TMDL Plans

The WDNR continues to transition from Priority Watershed Plans to the development of other Section 319-eligible watershed-based nonpoint source control plans, including TMDL implementation plans to address nonpoint source impaired waters. To adequately address current NPS/TMDL planning needs and meet federal mandates, an update to the state's existing NPS planning framework is needed that fits within the sideboards of limited existing staff and financial resources. There are and will continue to be very limited WDNR staff resources available to develop NPS/TMDL plans.

In addition, the NPS/TMDL planning framework will likely need to be updated to reflect a new EPA guidance document pertaining to TMDL "reasonable assurance". U.S. EPA Headquarters is developing national guidance that may further unite TMDL development with TMDL implementation planning, so that states may more effectively document and provide "reasonable assurance" that the TMDL will be implemented. The U.S. EPA anticipates that the guidance document will be finalized in 2011.

#### ***What is TMDL Reasonable Assurance?***

*When a TMDL is developed for waters impaired by both point and nonpoint sources, and the WLA is based on the assumption that nonpoint source load reductions will occur, the U.S. EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. Reasonable assurances typically include descriptions of the regulatory and nonregulatory efforts at the state and local levels that will likely result in reductions from the load allocation portion of the TMDL. They also include the identification of potential or likely funding sources that will enable reductions from the load allocation.*

The WDNR recognizes the need to create an updated, streamlined planning process to:

- Develop watershed-based nonpoint source control plans;
- Develop watershed-based TMDL implementation plans for nonpoint source impaired waters,
- Meet Section 319 grant requirements;
- Meet TMDL reasonable assurance requirements;
- Provide additional nonpoint source information for Areawide Water Quality Management Plan updates; and
- Encourage and support 3<sup>rd</sup> party development of plans.

With limited staff resources, the WDNR will revise its NPS planning framework over the next few years to ensure that a streamlined planning approach still meets the Section 319 Program's "9 key elements" for watershed-based plans. In doing so, the WDNR will evaluate ways to integrate and align NPS/TMDL implementation planning with the AWQMP process to prevent redundant planning efforts. Federal and state law (ch. NR 121, Wis. Adm. Code) requires that NPS analyses and solutions and impaired waters lists and TMDL plans are elements of the state's AWQMP. The existing AWQMP updates already make water quality recommendations related to NPS pollution and TMDLs. As mentioned previously, WDNR has modified its AWQMP Program to accommodate fewer staff, moving to online, dynamically-generated "watershed plans" from databases. The WDNR will also evaluate ways to align NPS/TMDL planning with other Departmental planning efforts to improve and increase the state's ability to generate Section 319-eligible plans.

### 3.3.b Relationship of Nonpoint Source Control Plans to Other Types of Plans

Formal watershed plans as discussed above are not the only planning efforts that address NPS pollution. Counties, lake associations/districts, and municipalities, have related planning processes and methods by which they address some of the NPS pollution issues affecting the state's waters. Some of these planning activities are needed to meet a regulatory requirement, such as Storm Water Management Plans, but even such regulated plans still address what citizens can do about NPS pollution on their own property. Some of these ancillary plans and activities are discussed below.

#### Land & Water Resource Management Plans

The Land and Water Resource Management (LWRM) Planning Program, administered by WDATCP, is the primary statewide vehicle for targeting and implementing conservation practices. The program requires counties to develop LWRM plans for the purpose of conserving soil and water resources. The plans advance land and water conservation and prevent NPS pollution by:

- Inventorying water quality and soil erosion conditions in the county.
- Identifying relevant state and local regulations, and any inconsistencies between them.
- Setting water quality goals, in consultation with the WDNR.
- Identifying key water quality and soil erosion problems, and practices to address those problems.
- Identifying priority farm areas using a range of criteria (e.g., impaired waters, manure management, high nutrient applications).
- Identifying strategies to promote voluntary compliance with statewide performance standards and prohibitions, including information, cost-sharing, and technical assistance.
- Identifying enforcement procedures, including notice and appeal procedures.
- Including a multi-year workplan to achieve soil and water conservation objectives.

LWRM plans for Wisconsin's 72 counties can be found on county web sites. The LWRM Planning Program is discussed in more detail in Section 4.3.

County Land Conservation Department (LCD) staff are often critical stakeholders in the development and implementation of comprehensive watershed management plans that address water quality impairments. The knowledge, skills, and connections to local land owners and producers that local LCDs provide are a critical element in the development of any comprehensive watershed plan, as well as implementation of practices and programs designed to improve water quality.

WDNR and WDATCP are evaluating the extent to which LWRM plans align with Section 319 Program's 9 key elements for watershed-based plans.

#### Lake Management Plans

The State encourages using science- and community-based goal setting processes to direct the protection and restoration of lake ecosystems and watershed health. Reports and lake management plans are often written for lakes with water quality impairments caused by NPS pollution. Whether a lake community's goals are to protect, manage, or restore lake health, planning is a key first step before taking action. Lake management planning assistance result in:

- Collection of chemical, biological, physical and sociological data about lake ecosystems
- Identification and evaluation of the problems effecting lakes
- Citizen involvement in developing realistic expectations and appropriate lake management goals
- Effective management strategies that are suited to a lake's ecology and watershed conditions
- Better economic and environmental outcomes

With a holistic view of lake ecology and surrounding factors that are affecting lake health, communities can choose effective strategies that will prevent or solve lake problems, rather than merely applying temporary band-aids. Lake management plans serve as a gateway for funding and the collaboration of resources to implement activities that will help protect or restore lakes. Plans are developed with the assistance of private consultants, county land and water staff and sometimes regional planning commissions with guidance from regional DNR staff. Information from the plans are captured electronically and used for statewide water quality assessments and federal reporting, impaired waters determinations and listing and for TMDL development.

### **Storm Water Management Plans**

Storm water runoff is water from rain storms or snow melt that flows over the land rather than evaporating or soaking into the ground. Urban areas generate more storm water runoff than rural areas because buildings and pavement cover much of the land and prevent water from soaking into the ground. Drainage systems in urban areas carry excess water and the associated pollutants to nearby water bodies. In these lakes and streams, urban storm water creates many problems, including: increased storm flows and decreased base flow, and channel erosion with wider flood plains, poor water quality, and loss of habitat and recreational use.

Storm water management, while mostly controlled through permitting and regulations, contains elements of nonpoint pollution control as well. Storm water management in Wisconsin usually focuses on three main areas:

- Storm water permits for municipalities;
- Storm water pollution prevention for industrial operations; and
- Construction site storm water runoff.

There are numerous federal and state regulations that provide guidance for how these various elements of storm water runoff are regulated as point sources, much of it covered under ch. NR 216, Wis. Adm. Code. The focus here will be how the control of these sources of storm water runoff interacts with the control of nonpoint source pollution. (It is important to note that federal regulations and guidance limit how Section 319 funds can be used for any planning or BMP installation involving point sources. Wisconsin's NPS Program closely evaluates projects to ensure that funding is not allocated to activities required by a storm water permit.)

#### *Storm Water Permits for Municipalities*

A municipality large enough to require a storm water permit must develop a storm water management program to address the discharge of pollutants from its storm sewer system. The requirements for the storm water program have several components, including the following:

- Public information and outreach
- Detection and elimination of discharges that should not go to the storm sewers
- Construction site erosion control and storm water management ordinances
- Storm sewer system mapping
- Pollution prevention measures to reduce the amount of total suspended solids enter lakes and streams

The control of NPS pollution in urban environments can be assisted through proper land use planning and proper design and construction of best management practices. In order to meet requirements within their storm water permit for minimizing the amount of total suspended solids (TSS) in their runoff, a municipality will use many methods at their disposal. Street sweeping, detention ponds, and constructed treatment practices are just some of the best management practices (BMPs) municipalities can use to minimize the amount of pollution contained in urban runoff. While there is a fixed, or "permitted" level of

TSS that the municipality must achieve, achieving this limit can be accomplished by any suite of BMPs and design that the municipality can incorporate.

Growth of urban areas is often done with mostly an economic focus, but there is an increasing interest in designing and carrying out urban development with an eye toward low impact to the environment, including receiving water bodies. The whole concept of low impact development focuses on infiltrating rain water where it falls, rather than the traditional method of moving water off property and into a storm sewer or drainage ditch, moving it quickly to a local stream or lake. This infiltration can be accomplished, again, by proper planning as well as design and installation of BMPs. However, getting property owners to incorporate practices on their own property focused on decreasing runoff is also a part of this concept. The information and education element required in a storm water management program often includes information and training for urban residents on how to design and install rain gardens, or how to build and use rain barrels on their downspouts. All these activities work to control nonpoint source pollution in the urban environment.

#### *Storm Water Pollution Prevention for Industrial Operations*

Most industrial facilities in Wisconsin covered under ch. NR 216, Wis. Adm. Code, are required to have a Storm Water Pollution Prevention Plan (SWPPP). The ultimate goal of such a plan is to prevent contaminants from polluting the waters of the state through discharge in storm water.

The focus of the SWPPP for industrial facilities is the use of source control instead of storm water treatment to prevent the contamination of storm water. Source control consists of practices ranging from non-structural (good housekeeping or personnel training) to structural (covering of stored materials). These practices reduce the chance of polluting storm water. Storm water treatment consists of structural practices which remove pollutants from contaminated storm water. Such structural and non-structural practices are used to prevent any sort of pollutant from entering storm water in the first place, thus minimizing the need for treatment of the contaminated storm water.

Some potential sources of storm water contamination that are addressed by a SWPPP can include:

- outdoor manufacturing areas
- shipping and receiving areas
- material handling sites
- refuse sites
- vehicle maintenance and cleaning areas
- areas of significant soil erosion
- storage areas

Industrial facilities that properly address potential storm water pollution issues from such sites will help decrease the overall amount of nonpoint source pollution entering Wisconsin's waters.

#### *Construction Site Storm Water Runoff*

Most construction sites in Wisconsin that are disturbing one acre or more need a storm water permit. The DNR oversees permits that are not associated with transportation construction projects (that fall under the jurisdiction of the Department of Transportation).

A landowner about to embark on a construction project must develop and implement site-specific erosion control and storm water management plans. The erosion control plan details how they will control sediment and other pollutants on the construction site by implementing erosion and sediment control practices throughout the duration of the construction until the project is completed and the site is stabilized from erosion. These practices include sediment ponds, tracking pads, silt fence, temporary seeding, and mulching. The storm water management plan for long-term pollutant control will include BMPs such as wet ponds, infiltration structures, grass swales, vegetative filter strips and vegetative buffers to control runoff from the site after construction is completed. Because every site is unique, erosion control and storm water management plans must be customized to site-specific conditions. The

erosion control and storm water management plans must be completed before the landowner files a Notice of Intent (NOI) form for permit coverage.

Much like industrial facilities, the focus of construction storm water control is keeping the possible pollutants (primarily sediment in most construction sites) from getting into storm water in the first place. This helps minimize the amount of nonpoint source pollution from such sites.

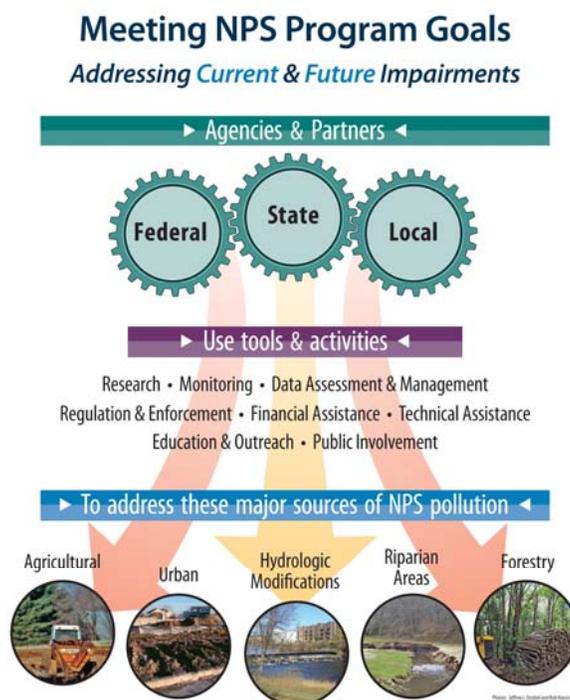
## CHAPTER 4: Statewide Implementation Program for Protection and Improvement of NPS Impacted Waters

### Introduction

Wisconsin has long been recognized as a leading state in the effort to control nonpoint source pollution. Since 1978, the state's NPS Program has made significant progress in addressing runoff-related water quality problems that, in many cases, had existed for decades. (In 2011 alone, the WDNR and WDATCP allocated nearly \$20 million in state and federal funds to counties for nonpoint source pollution abatement activities.) Even with this work, runoff management is still one of the largest remaining challenges to improving and protecting the state's water quality. This chapter describes the partnerships, programs and financial resources that work in coordination to decrease NPS pollution and describes how the state has institutionalized its program beyond the annual implementation of Section 319-funded activities and projects.

### 4.1 Comprehensive Nonpoint Source Management

Wisconsin's NPS Program is implemented through a comprehensive network of federal, state, and local agencies, working in partnership with other organizations and the citizens of Wisconsin to address the significant nonpoint sources in the state, including agriculture, urban, forestry, wetlands, and hydrologic modifications. The core activities of these programs – research, monitoring, data assessment and management, regulation and enforcement, financial and technical assistance, education and outreach, and public involvement – work to address current and prevent future water quality impairments and threats caused by NPS pollution. Wisconsin's success in addressing NPS issues is aided by the partnerships that have been developed and the use of both voluntary and regulatory approaches coupled with financial and technical assistance.



## 4.2 Legal Implementation Authority

<http://legis.wisconsin.gov/rsb/stats.html>

Wisconsin's history of progressivism in natural resource protection is reflected in the value its citizens, legislature, and public institutions place upon upholding the fundamental concept that the waters of the state should meet the federal CWA goal of being fishable and swimmable. The development of strong legislation guides the state toward this goal. Listed below is a summary of Wisconsin State Statutes that influence water quality and nonpoint source pollution.

**Section 281.11, Wis. Stats.**, identifies the WDNR “as the central unit of state government to protect, maintain and improve the quality and management of the waters of the state, ground and surface, public and private.” This section of the statutes also states that “a comprehensive action program directed at all present and potential sources of water pollution whether home, farm, recreational, municipal, industrial or commercial is needed to protect human life and health, fish and aquatic life, scenic and ecological values and domestic, municipal, recreational, industrial, agricultural and other uses of water. The purpose of this subchapter is to grant necessary powers and to organize a comprehensive program under a single state agency for the enhancement of the quality management and protection of all waters of the state.” Wisconsin's NPS Program is part of this comprehensive program to attain and maintain water quality standards for both surface water and groundwater.

**Section 281.15, Wis. Stats.**, authorizes the promulgation of water quality standards, including designated uses.

**Section 281.16, Wis. Stats.**, establishes the state framework for developing and implementing standards to control nonpoint source pollution. WDNR is primarily responsible for adopting performance standards to prevent pollution runoff from farm and non-farm sources. The performance standards are designed to achieve water quality standards by limiting nonpoint source pollution. The WDATCP must prescribe conservation practices to implement the WDNR performance standards for farms.

**Section 281.31, Wis. Stats.**, provides protection for navigable waters and states:

“To aid in the fulfillment of the state's role as trustee of its navigable waters and to promote public health, safety, convenience and general welfare, it is declared to be in the public interest to make studies, establish policies, make plans and authorize municipal shoreland zoning regulations for the efficient use, conservation, development and protection of this state's water resources. The regulations shall relate to lands under, abutting or lying close to navigable waters. The purposes of the regulations shall be to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structure and land uses and reserve shore cover and natural beauty.”

**Section 281.65, Wis. Stats.**, establishes the nonpoint source pollution abatement financial assistance program, including the Priority Watershed Program, Targeted Runoff Management Grant Program, and Notice of Discharge Grant Program, to:

- “(a) Provide the necessary administrative framework and financial assistance for the implementation of measures to meet nonpoint source water pollution abatement needs identified in areawide water quality management plans.
- “(b) Provide coordination with all elements of the state's water quality program in order to ensure that all activities and limited resources are optimally allocated in the achievement of this state's water quality goals.
- “(c) Provide technical and financial assistance for the application of necessary nonpoint source water pollution abatement measures.
- “(d) Focus limited technical and financial resources in critical geographic locations where nonpoint source related water quality problems and threats are the most severe and control is most feasible.

(e) Provide for program evaluation, subsequent modifications and recommendations.”

**Section 281.68, Wis. Stats.**, establishes the lake management planning grants program.

**Section 281.69, Wis. Stats.**, establishes the lake management and classification grant program to provide funding for:

“(a) Lake management projects that will improve or protect the quality of water in lakes or the quality of natural lake ecosystems.

(b) Lake classification projects that will classify lakes by use and implement protection activities for the lakes based on their classification.”

**Section 91.80, Wis. Stats.**, requires owners claiming farmland preservation tax credits to comply with applicable land and water conservation standards.

**Section 91.82, Wis. Stats.**, establishes county responsibilities for monitoring compliance of and issuing notices of noncompliance, as appropriate, to landowners receiving farmland preservation tax credits.

**Section 92.05, Wis. Stats.**, establishes WDATCP as the central state agency responsible for setting and implementing soil and water conservation policies and administering the state's soil and water conservation programs in coordination with WDNR programs.

**Section 92.10, Wis. Stats.**, establishes the land and water resource management planning program to conserve long-term soil productivity, protect the quality of related natural resources, enhance water quality and focus on severe soil erosion problems.

**Section 92.14, Wis. Stats.**, establishes the soil and water resource management program for:

“(a) Enhancing protection of surface water and groundwater resources in this state.

(c) Providing statewide financial and technical assistance for land and water conservation activities at the county level.

(d) Promoting cost-effective land and water conservation activities.

(e) Promoting soil and water conservation by persons claiming farmland preservation tax credits.

(g) Promoting and attaining the soil erosion control goals.

(h) Encouraging innovative local strategies, regulations and incentives to address soil and source water conservation activities.

(i) Increasing local technical assistance to address soil and water resource problems.

(j) Enhancing the administration and coordination of state nonpoint source water pollution abatement activities by the department and the department of natural resources, including providing a single process for grant application, funding allocation, reporting and evaluation.”

**Section 93.90, Wis. Stats.**, established WDATCP as the state agency to promulgate rules for specifying standards for siting and expanding livestock facilities.

### 4.3 Core Implementation Programs, Activities, & Strategies

The WDNR's Runoff Management Program, WDATCP's Working Lands Initiative, and Land and Water Resource Management Planning Program described below provide the core of Wisconsin's NPS Program implementation.

The Wisconsin DNR's Runoff Management Section, with expertise in stormwater, agricultural runoff, and other areas of water resources management, is charged with leading the NPS efforts within the WDNR. The Runoff Management Section is part of the Bureau of Watershed Management in the Division of Water (refer to Figure 1.0).

The WDATCP's Soil and Water Resource Management Program requires that county-based conservation departments submit a Land and Water Resource Management Plan to WDATCP for approval. These programs integrally connect WDATCP, county conservation departments and the WDNR and provide the framework for identifying and addressing agricultural runoff in Wisconsin, thus, being referred to in this plan as the "core" implementation partners of Wisconsin's NPS Program.

This core work is guided by a deliberate effort to address NPS pollution issues. Work planning processes, discussed in more detail in Chapter 5, are used to ensure a thorough coverage of NPS issues in day-to-day work activities. County Conservation Departments' work is guided by work plans that are developed as part of the Land and Water Resource Management Plan. These state-approved plans must meet minimum requirements to promote compliance with state performance standards using voluntary and other means.

Like WDNR, WDATCP's state programs rely on a range of vehicles for implementation, including coordination of cost-share grants from local, state, and federal sources, technical assistance, and progressive compliance actions, including suspension of a violator's eligibility for Farmland Preservation tax credits and enforcement of local ordinances.

#### **4.3.a Runoff Management Program - WDNR** (<http://dnr.wi.gov/runoff/>)

The WDNR has made a commitment to performance-based pollution control. Since October 2002, the NPS Program has been in transition from implementing Priority Watershed Projects to implementing the statewide agricultural, non-agricultural and transportation performance standards as well as manure management prohibitions. The standards, promulgated in ch. NR 151, Wis. Adm. Code, are intended to be minimum standards of performance necessary to achieve water quality standards. Implementing the performance standards and prohibitions on a statewide basis is a high priority for the NPS Program.

Wisconsin moved to the use of performance standards rather than requiring prescriptive practices such as buffer strips or tillage practices for a number of reasons. This method allows the affected party, whether a crop, livestock or dairy farmer, or a regulated municipality the ability to use their knowledge of their land, past practices, and resource availability, as well as their short-term goals and long-term plans in deciding how best to meet the standards. Using performance standards recognizes that methods, which work well in one area of the state, might not work in others due to differences in soil, climate conditions, slope or other variables. It also recognizes that technology and management practices continue to evolve and thus a performance standard allows for continued improvement without the need to change the regulations.

The WDNR believes that the NPS performance standards represent the most integrated standards needed to address the major sources of polluted runoff in rural and urban areas in a cost-effective manner. The performance standards and prohibitions are also designed for a more comprehensive approach to control NPS pollution in Wisconsin and to restore designated uses to waterbodies degraded by polluted runoff. Implementation of the performance standards and prohibitions through local ordinances conveys more implementation and enforcement capabilities to local governments. These standards have become a compliance requirement in other programs, including the WDATCP's Farmland Preservation Program and Livestock Siting Program.

In 2010, the state Natural Resources Board submitted a revised rule package to the legislative Committee on the Environment. The rule was published in December 2010 and became law on January 1, 2011 (except for delayed implementation as stated in specific sections of the rule).

The recent changes seek to strengthen regulations to control NPS pollution, particularly phosphorus, from agriculture and urban sources and also to fairly balance controlling runoff between urban and agricultural

sources. In addition, the revised rule language established a process for addressing the more stringent NPS controls that will likely be needed in TMDL areas.

In addition to nonpoint sources of phosphorus pollution being addressed through the 2010 revision to ch. NR 151, Wis. Adm. Code, the State of Wisconsin in 2010 adopted numeric phosphorus water quality standards criteria in ch. 102, Wis. Adm. Code, for lakes, reservoirs, streams and rivers. Ch. NR 217, Wis. Adm. Code, provides for implementation of those criteria for point sources of phosphorus pollution through Wisconsin Pollutant Discharge Elimination System (WPDES) permits. The phosphorus criterion for listed rivers is 100 ug/L and the criterion for all other streams, unless exempted, is 75 ug/L. The criteria are set at levels intended to prevent in-stream algae and plant growth to the extent that is detrimental to fish and aquatic life as determined by intensive field studies. For lakes and reservoirs, a series of phosphorus concentrations were set as criteria, ranging from 15 ug/L for lakes supporting a cold water fishery in lower positions of the lake to 40 ug/L for shallow lakes and reservoirs. For small impoundments, the criteria are the same as the inflowing streams or river.

The switch from a focus on Priority Watersheds to performance standards was initiated in 1997, when the Wisconsin Legislature and the Governor, recognizing the continued impacts that NPS pollution pose to the state's water resources, passed Act 27, which required the WDNR to do the following (s. 281.16, Wis. Stats.):

- develop non-agricultural nonpoint source performance standards designed to meet water quality standards;
- in consultation with WDATCP, develop agricultural nonpoint source performance standards and prohibitions designed to meet water quality standards, including, at a minimum, the four manure management prohibitions specified in statute;
- specify a process for development and dissemination of technical standards to implement the non-agricultural performance standards;
- administer cost-sharing funds provided for compliance;
- specify criteria for determining whether cost sharing is available for compliance by an agricultural facility; and
- jointly with WDATCP specify procedures for review and approval of proposed local regulations of livestock operations demonstrated by the local government unit as necessary to achieve water quality standards.

Act 27 also directed WDATCP, in consultation with WDNR, to prescribe conservation practices and specify a process for development and dissemination of technical standards to implement the agricultural performance standards. At a minimum, the conservation practices and technical standards needed to cover animal waste management, nutrients applied to the soil and cropland sediment delivery.

Act 9, the state's 1999-2001 biennial budget, provided funding and other provisions that facilitated the redesign of the nonpoint source programs. The legislation:

- created a new urban nonpoint source program (Urban Nonpoint Source & Storm Water Management Grant Program);
- provided funding for targeted, competitive nonpoint source projects (Targeted Runoff Management Grant Program);
- transferred funding to WDATCP for local assistance grants to priority watershed and priority lake projects;
- provided base level funding to counties for staff and cost sharing;
- created a unified grant submission and interagency clearinghouse between DNR and WDATCP; and
- further clarified the content and role of county Land and Water Resource Management Plans.

Below is a summary of the resulting eight administrative rules that were promulgated in October 2002, and revised in 2010, to meet the intent of Acts 9 and 27 to govern NPS pollution control in Wisconsin:

**Ch. NR 151 - Runoff Management:** This rule defines agricultural performance standards and manure management prohibitions, a process for agricultural implementation, non-agricultural performance standards, transportation facility performance standards and a process for the development and dissemination of non-agricultural technical standards.

**Ch. NR 152 - Model Ordinances for Construction Site Erosion Control and Storm Water Management:** This rule provides examples of ordinances for construction site erosion control and storm water management.

**Ch. NR 153 - Targeted Management Grant Program:** This rule contains policies and procedures for administering targeted runoff management grants to reduce both agricultural and urban nonpoint source pollution. Grants may be used to cost share the installation of best management practices as well as to support a variety of local administrative and planning functions. Projects are selected through a competitive scoring system and generally take two to three years to complete.

**Ch. NR 154 - Best Management Practices, Technical Standards, and Cost-Share Conditions:** Lists of acceptable best management practices, technical standards, and cost-share conditions for projects outlined in chs. NR 153 and NR 155, Wis. Adm. Code. For agricultural practices, this rule is closely coordinated with ch. ATCP 50, Wis. Adm. Code.

**Ch. NR 155 - Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program:** This rule contains policy and procedures for administering the urban nonpoint source and storm water management grant program authorized under s. 281.66, Stats. The department may make grants under this program to governmental units for practices to control both point and nonpoint sources of storm water runoff from existing urban areas, and to fund storm water management plans for developing urban areas and areas of urban redevelopment. The goal of this grant program is to achieve water quality standards, minimize flooding, protect groundwater, coordinate urban nonpoint source management activities with the municipal storm water discharge permit program and implement the non-agricultural nonpoint source performance standards under ch. NR 151, Wis. Adm. Code. Grants to a governmental unit may be used to cost share the installation of best management practices as well as to support a variety of local administrative and planning functions. The department may also make grants to the board of regents of the University of Wisconsin System to control urban storm water runoff from campuses in selected locations. Projects are selected through a competitive scoring system and generally take one to two years to complete.

**Ch. NR 216 - Storm Water Discharge Permits:** Chapter NR 216, Wis. Adm. Code, requires certain municipalities, industries, and construction sites to follow the non-agricultural performance standards as part of their storm water permits. Revisions of ch. NR 216, Wis. Adm. Code, completed in 2002 provided cross regulations with ch. NR 151, Wis. Adm. Code. The revisions to ch. NR 216, Wis. Adm. Code, incorporate the non-agricultural performance standards of ch. NR 151, Wis. Adm. Code, into the storm water discharge permit process. In addition, governmental units, industrial units and construction sites must now meet the stormwater discharge performance standards in ch. NR 151, Wis. Adm. Code.

**Ch. NR 243 - Animal Feeding Operations:** Chapter NR 243, Wis. Adm. Code, addresses water quality impacts associated with Concentrated Animal Feeding Operations or CAFOs. Chapter NR 243, Wis. Adm. Code, states that owners, operators or animal feeding operations that receive a Notice of Discharge (NOD) for an unacceptable practice shall implement corrective measures within a specified compliance period specified.

**Ch. ATCP 50 - Soil and Water Resource Management Program:** A companion administrative rule, developed by WDATCP, to implement Wisconsin's soil and water resource management program,

under ch. 92, Wis. Stats. Ch. ATCP 50, Wis. Adm. Code, provides for cost sharing, technical assistance, educational programs and other programs to conserve soil and water resources and encourages coordinated soil and water conservation planning and program implementation.

**Ch. ATCP 51 - Livestock Facility Siting:** A companion administrative rule that establishes state standards that local governments must apply in issuing permits to new and expanding livestock facilities. The siting standards are designed to be consistent with those in chs. ATCP 50 and NR 151, Wis. Adm. Code.

## NR 151 Overview

A brief description of the agricultural and non-agricultural performance standards and manure management prohibitions in ch. NR 151, Wis. Adm. Code, is included here. The full administrative code can be found at: <http://legis.wisconsin.gov/rsb/code/nr/nr151.pdf>.

### *Agricultural Performance Standards and Prohibitions*

- **Tillage setback:** A setback of 5 feet from the top of a channel of a waterbody for the purpose of maintaining stream bank integrity and avoiding soil deposits into state waters. Tillage setbacks greater than 5 feet but no more than 20 feet may be required if necessary to meet the standard. Harvesting of self-sustaining vegetation within the tillage setback is allowed.
- **Phosphorus Index (PI):** A limit on the amount of phosphorus that may run off croplands as measured by a phosphorus index with a maximum of 6, averaged over an eight-year accounting period, and a PI cap of 12 for any individual year. The PI will take effect on July 1, 2012 for pastures.
- **Process wastewater handling:** a prohibition against significant discharge of process wastewater from milk houses, feedlots, and other similar sources.
- **Meeting TMDLs:** A standard that requires crop and livestock producers to reduce discharges if necessary to meet a load allocation specified in an approved Total Maximum Daily Load (TMDL) by implementing targeted performance standards specified for the TMDL area using best management practices specified in ch. ATCP 50, Wis. Adm. Code. If a more stringent or additional performance standard is necessary, it must be promulgated by rule before compliance is required.
- **Sheet, rill and wind erosion:** All cropped fields shall meet the tolerable (T) soil erosion rate established for that soil. This provision will also apply to pasture lands starting in 2012.
- **Manure storage facilities:** All new, substantially altered, or abandoned manure storage facilities shall be constructed, maintained or abandoned in accordance with accepted standards, which includes a new margin of safety. Failing and leaking existing facilities posing an imminent threat to public health or fish and aquatic life or violate groundwater standards shall be upgraded or replaced.
- **Clean water diversions:** Runoff from agricultural buildings and fields shall be diverted away from contacting feedlots, manure storage areas and barnyards located within water quality management areas (300 feet from a stream or 1,000 feet from a lake or areas susceptible to groundwater contamination).
- **Nutrient management:** Agricultural operations applying nutrients to agricultural fields shall do so according to a nutrient management plan. This standard does not apply to applications of industrial waste, municipal sludge or septage regulated under other DNR programs provided the material is not commingled with manure prior to application.
- **Manure management prohibitions:**
  - no overflow of manure storage facilities
  - no unconfined manure piles in a water quality management area
  - no direct runoff from feedlots or stored manure into state waters

- no unlimited livestock access to waters of the state in locations where high concentrations of animals prevent the maintenance of adequate or self-sustaining sod cover

#### *Non-Agricultural Performance Standards*

##### **Construction & Post-Construction Sites:**

- Construction on any size site shall reduce sediment to a maximum of 5 tons/acre/year. This is a change from the 2002 rule that specified an 80% reduction. A two-year delay in implementation of this standard will allow for appropriate model development to measure compliance.
- Construction site erosion control BMPs located in navigable waters or wetlands are disallowed, except for sites that were initiated prior to the effective date of the rules or for re-development sites where the BMP is on an intermittent waterway and all applicable permits are received.
- Storm water management plans are required to be implemented following construction on sites of one acre or more. The plans shall include BMPs to:
  - reduce total suspended solids
  - reduce peak runoff discharge rates using the 1-year 24 hour design storm and the 2-year, 24 hour design storm as peak flow rates that must match the pre-development 1- and 2-year storms.
  - infiltrate initial runoff except where groundwater contamination could occur. The rule specifies 3 levels of connected impervious conditions and assigns an infiltration percentage to each level, reflecting the ability of the development to meet the goal.
  - maintain a permanent 50 foot vegetative buffer area around lakes, rivers, streams and wetlands in the construction area. The buffer zone is increased to 75 feet for high quality wetlands such as sedge meadows, open and coniferous bogs, low prairies, calcareous fens, coniferous swamps, lowland hardwood swamps, and ephemeral ponds.
  - control petroleum products in runoff from fueling and vehicle maintenance areas

##### **Developed Urban Areas:**

- Municipalities with average densities of 1,000 people per square mile or greater and contiguous commercial and industrial areas shall implement the following requirements:
  - public education promoting proper yard and garden care to minimize polluted runoff
  - appropriate leaf management and collection and proper disposal of grass clippings
  - nutrient application schedules when fertilizers are applied to its properties over 5 acres (This also applies to privately-owned impervious areas of this size).
  - detection and elimination of illicit discharges to storm sewers
- Municipalities that are regulated under the ch. NR 216, Wis. Adm. Code, permit program, prior to January 1, 2010, will be required to implement the performance standards in two stages. Stage 1 to be implemented by March 10, 2008, shall include:
  - Meeting the four requirements listed above
  - 20 % reduction in total suspended solids (usually achieved through street sweeping, annual catch basin cleaning and de-icer management)Stage 2 to be implemented by March 10, 2013, shall include:
  - 40 % reduction in total suspended solids (through high efficiency street sweeping or structural BMP retrofit practices)
- Municipalities that are regulated under the ch. NR 216, Wis. Adm. Code, permit program will be required to meet a 40 % reduction in TSS on from parking areas and internal roads for all reconstruction projects, but not on other impervious surfaces in the redevelopment.
- Municipalities that are regulated under the ch. NR 216, Wis. Adm. Code, permit program after January 1, 2010 will have seven years to meet the standards.
- The 2010 rule allows for regional treatment for redevelopment or in-fill development the same as for new development.

- In addition the 2010 rule:
  - Provides an implementation schedule for a 2-year time period from permit issuance for compliance.
  - Provides options for municipalities that have difficulty in meeting the 40% TSS reduction requirement.
  - Specifies the use of models or equivalent methodology to demonstrate compliance.
  - Specifies the elements to be included in a long term storm water management plan and lays out review procedures.
  - Provides flexibility toward meeting the TSS performance standard for certain practices that are not accounted for in the computer models.
  - Defines “maximum extent practicable” as it applies to the performance standard. The explanation includes a cap on expenditures for municipalities.

#### 4.3.b Working Lands Initiative - WDATCP

([http://datcp.wi.gov/Environment/Working\\_Lands\\_Initiative/index.aspx](http://datcp.wi.gov/Environment/Working_Lands_Initiative/index.aspx))

The Wisconsin Working Lands Initiative, administered by WDATCP, includes the Farmland Preservation Program, Agricultural Enterprise Area Program, and Purchase of Agricultural Conservation Easement Program. The Initiative, signed into law as part of the 2009 – 2011 state budget, seeks to preserve areas that are significant for current and future agricultural uses and requires cross-compliance with the ch. NR 151, Wis. Adm. Code, agricultural performance standards and prohibitions. It does so through successful implementation of these components:

- **Expand and modernize the state’s existing Farmland Preservation Program**
  - Modernize county farmland preservation plans to meet current challenges
  - Provide planning grants to reimburse counties for farmland preservation planning
  - Establish new minimum zoning standards to increase local flexibility and reduce land use conflicts; local governments may apply more stringent standards
  - Increase income tax credits for program participants
  - Improve consistency between local plans and ordinances
  - Ensure compliance with state soil and water conservation standards
  - Collect a flat per acre conversion fee when land under farmland preservation zoning is re-zoned for other uses
- **Establish Agricultural Enterprise Areas**
  - Maintain large areas of contiguous land primarily in agricultural use
  - Encourage farmers and local governments to invest in agriculture
  - Provide an opportunity to enter into farmland preservation agreements to claim income tax credits
  - Encourage compliance with state soil and water conservation standards
- **Develop a Purchase of Agricultural Conservation Easement (PACE) Grant Program**
  - Protect farmland through voluntary programs to purchase agricultural conservation easements
  - Provide up to \$12 million in state grant funds in the form of matching grants to local governments and non-profit conservation organizations to purchase agricultural conservation easements from willing sellers
  - Stretch state dollars by requiring grants to be matched by other funds such as federal grants, local contributions and/or private donations
  - Establish a council to advise the state on pending grants and proposed easement purchases
  - Consider the value of the proposed easement for preservation of agricultural productivity, conservation of agricultural resources, ability to protect or enhance waters of the state, and proximity to other protected land
  - Ensure consistency of state-funded easement purchases with local plans and ordinances

#### 4.3.c Land & Water Resource Management Planning Program – WDATCP & Counties ([http://datcp.wi.gov/Environment/Land and Water Conservation/Land and Water Resource Management Plans/index.aspx](http://datcp.wi.gov/Environment/Land_and_Water_Conservation/Land_and_Water_Resource_Management_Plans/index.aspx))

Through 1997 Act 27 and 1999 Act 9, the Wisconsin legislature established the Land and Water Resource Management (LWRM) Planning Program (Ch. 92, Wis. Stats.). This program is the primary statewide vehicle for implementing conservation practices as identified in ch. ATCP 50, Wis. Adm. Code. Under the program, counties are required to develop land and water resource management plans for the purpose of conserving soil and water resources. Each of Wisconsin's 72 counties has a Land and Water Conservation Department (LWCD) or a Land Conservation Department (LCD), and they serve as the main local delivery system of natural resource conservation programs and funds. The LCD/LWCDs provide educational outreach and technical assistance to the public on land and water resource management issues including lake and stream conservation, erosion control, groundwater protection, farmland preservation, water quality, and capacity-building of stakeholders involved with conserving natural resources. A Land Conservation Committee (LCC) provides leadership, support and advice to respective conservation departments (LCD/LWCD). The more than 450 LCC members (including 350 local conservation department staff) representing the 72 county conservation departments have the responsibility of developing and encouraging adoption of local programs aimed at conserving water resources.

The LWRM plans are the product of a locally-led process conducted regularly to establish conservation priorities and identify activities to address these key concerns. Each plan, describing how the county will implement the state performance standards to control agricultural and urban runoff, is developed in consultation with WDNR and must be approved by the WDATCP.

Every 10 years, counties must revise their LWRM plans and are scheduled to present these revisions to the Land and Water Conservation Board (LWCB). The LWCB is responsible for recommending the plans for approval by the WDATCP. Only counties with WDATCP-approved LWRM plans are eligible to receive annual funding through WDATCP's Soil and Water Resource Management (SWRM) Grant Program (discussed further in Section 4.7). LWRM plans can be found on the county web sites.

The plans advance land and water conservation and prevent NPS pollution by:

- Inventorying water quality and soil erosion conditions in the county.
- Identifying relevant state and local regulations, and any inconsistencies between them.
- Setting water quality goals, in consultation with the WDNR.
- Identifying key water quality and soil erosion problems, and practices to address those problems.
- Identifying priority farm areas using a range of criteria (e.g. impaired waters, manure management, high nutrient applications).
- Identifying strategies to promote voluntary compliance with statewide performance standards and prohibitions, including information, cost-sharing, and technical assistance.
- Identifying enforcement procedures, including notice and appeal procedures.
- Including a multi-year workplan to achieve soil and water conservation objectives.

WDATCP staff provide support to counties in developing LWRM plans beyond the information found in the plan guidelines. A description of support services is available on the WDATCP website: [http://datcp.wi.gov/Environment/Land and Water Conservation/Land and Water Resource Management Plans/Plan Development Assistance/index.aspx](http://datcp.wi.gov/Environment/Land_and_Water_Conservation/Land_and_Water_Resource_Management_Plans/Plan_Development_Assistance/index.aspx).

#### 4.3.d Additional WDATCP Programs & Responsibilities

**Local Ordinances:** County and local governments may regulate conservation practices on farms, within limits specified by state law, including local regulation of the ch. NR 151, Wis. Adm. Code, performance standards and manure management prohibitions. Subchapter VII of ch. ATCP, Wis. Adm. Code, spells

out standards for local ordinances, including manure storage, shoreland management and livestock facility siting ordinances. WDATCP helps local governments comply with these applicable state standards.

**Engineering Assistance:** WDATCP is responsible for providing conservation engineering assistance statewide through regional field offices. WDATCP engineers and engineering specialists provide technical support to design and install best management practices throughout Wisconsin. WDATCP specifically provides engineering assistance in the form of training, plan review, development and maintenance of best management practice standards, development of computer design aids and standard designs, and certification accreditation.

#### 4.3.e Best Management Practices for Nonpoint Source Pollution Control

(<http://legis.wisconsin.gov/rsb/code/nr/nr154.pdf>  
<http://legis.wisconsin.gov/rsb/code/atcp/atcp050.pdf>)

Wisconsin has identified best management practices (BMPs) that may be used to address agricultural, urban, and other categories or sources of NPS pollution and to meet the statewide performance standards and prohibitions. BMPs are enumerated in chs. NR 154 and ATCP 50, Wis. Adm Code. See Table 4.1. Other practices may be approved when determined necessary to meet water quality objectives.

**Table 4.1 Best Management Practices Outlined in ch. NR 154 and ch. ATCP 50, Wis. Adm. Code.**

Legal Authority		BMP	Primary Pollutant(s) Addressed
NR 154.04	ATCP 50.62	Manure storage systems	Nutrients
NR 154.04	ATCP 50.63	Manure storage systems closure	Nutrients
NR 154.04	ATCP 50.64	Barnyard runoff control systems	Nutrients
NR 154.04	ATCP 50.65	Access roads and cattle crossings	Sediment, Nutrients
NR 154.04	ATCP 50.66	Animal trails and walkways	Sediment, Nutrients
NR 154.04	ATCP 50.67	Contour farming	Sediment, Nutrients
NR 154.04	ATCP 50.68	Cover and green manure crop	Sediment, Nutrients
NR 154.04	ATCP 50.69	Critical area stabilization	Sediment, Nutrients
NR 154.04	ATCP 50.70	Diversions	Sediment, Nutrients
NR 154.04	ATCP 50.71	Field windbreaks	Sediment, Nutrients
NR 154.04	ATCP 50.72	Filter strips	Sediment, Nutrients
NR 154.04	ATCP 50.73	Grade stabilization	Sediment, Nutrients
NR 154.04	ATCP 50.74	Heavy use area protection	Sediment, Nutrients
NR 154.04	N/A	Lake sediment treatment	Sediment, Nutrients
NR 154.04	ATCP 50.75	Livestock fencing	Sediment, Nutrients
NR 154.04	ATCP 50.76	Livestock watering systems	Sediment, Nutrients
NR 154.04	ATCP 50.77	Milking center waste control systems	Nutrients
NR 154.04	ATCP 50.78	Nutrient management	Sediment, Nutrients
NR 154.04	ATCP 50.79	Pesticide management	Pesticides
NR 154.04	ATCP 50.80	Prescribed grazing	Sediment, Nutrients
NR 154.04	ATCP 50.81	Relocating or abandoning animal feeding operations	Sediment, Nutrients
NR 154.04	ATCP 50.82	Reside management	Sediment, Nutrients
NR 154.04	ATCP 50.83	Riparian buffers	Sediment, Nutrients
NR 154.04	ATCP 50.84	Roofs for animal lot and manure storage structures	Nutrients
NR 154.04	ATCP 50.85	Roof runoff systems	Nutrients
NR 154.04	ATCP 50.86	Sediment basins	Sediment, Nutrients
NR 154.04	N/A	Shoreline habitat restoration for developed areas	Sediment, Nutrients
NR 154.04	ATCP 50.87	Sinkhole treatment	Nutrients
NR 154.04	ATCP 50.88	Streambank and shoreline protection	Sediment, Nutrients

Legal Authority		BMP	Primary Pollutant(s) Addressed
NR 154.04	ATCP 50.89	Strip-cropping	Sediment, Nutrients
NR 154.04	ATCP 50.90	Subsurface drains	Sediment, Nutrients
NR 154.04	ATCP 50.91	Terrace systems	Sediment, Nutrients
NR 154.04	ATCP 50.92	Underground outlets	Sediment, Nutrients
NR 154.04	ATCP 50.93	Waste transfer systems	Nutrients
NR 154.04	ATCP 50.94	Wastewater treatment strips	Nutrients
NR 154.04	ATCP 50.95	Water and sediment control basins	Sediment, Nutrients
NR 154.04	ATCP 50.96	Waterway systems	Sediment, Nutrients
NR 154.04	ATCP 50.97	Well decommissioning	Nutrients
NR 154.04	ATCP 50.98	Wetland development	Sediment, Nutrients
NR 154.04	N/A	Urban best management practices	Sediment, Nutrients

#### 4.4 Partnering & Affiliated Programs, Activities, & Strategies

Bringing together people, policies, priorities, and resources is critical to the success of the NPS Program. These partners and affiliated programs have goals that align or overlap with the goals of the core NPS Program, thus providing mutual benefits. Partnering efforts also strengthen the program by bringing in new ideas and input and by increasing public understanding of the problems, and more important, public commitment to the solutions.

**Table 4.2 NPS Program Partners**

Partner	Description	Web Link
Citizen initiatives	Many citizen initiatives, such as watershed and friends groups provide volunteer labor for restoration, education, and monitoring of water quality.	Example web sites: <a href="http://usrwa.org/">http://usrwa.org/</a> <a href="http://rockrivercoalition.org/">http://rockrivercoalition.org/</a>
Farm Service Agency (FSA)	FSA supports CREP, CRP and other complementary programs.	<a href="http://www.fsa.usda.gov">http://www.fsa.usda.gov</a>
Groundwater Coordinating Council (GCC)	The GCC is an interagency group that is directed by law to assist State agencies in the coordination and exchange of information related to groundwater programs. The GCC publishes a statewide Groundwater Directory, with contact information for agencies and education resources.	<a href="http://www.dnr.state.wi.us/org/water/dwg/gcc/">http://www.dnr.state.wi.us/org/water/dwg/gcc/</a>
Land and Water Conservation Board (LWCB)	The LWCB is composed of members of county land conservation committees, state agency leaders, and Governor-appointed members that represent urban and rural natural resource issues. The Board provides recommendations on funding and implementing state NPS programs including allocation of county staffing.	<a href="http://www.wisgov.state.wi.us/appointments_detail.asp?boardid=82">http://www.wisgov.state.wi.us/appointments_detail.asp?boardid=82</a>
Natural Resource Conservation Service (NRCS)	NRCS provides assistance to farmers to improve water quality. This includes improving nutrient and pesticide management and reducing soil erosion, thus decreasing sediment that would otherwise end up in lakes and streams. Technical assistance, including engineering, structure design and layout for manure management and water quality practices contributes significantly to state water quality efforts.	<a href="http://www.wi.nrcs.usda.gov/">http://www.wi.nrcs.usda.gov/</a>

Partner	Description	Web Link
Non-Governmental Organizations (NGO)	NGOs, such as the River Alliance of Wisconsin, the Wisconsin Farmers Union and Midwest Environmental Advocates, play an important role in influencing NPS policy and in providing public education regarding NPS programs.	Example web sites: <a href="http://www.wisconsinrivers.org">http://www.wisconsinrivers.org</a> <a href="http://www.wisconsinfarmersunion.com">http://www.wisconsinfarmersunion.com</a> <a href="http://midwestadvocates.org/">http://midwestadvocates.org/</a>
Office of the Great Lakes	On Earth Day 2004, Governor Doyle directed the WDNR to establish an Office of the Great Lakes. The Office is charged with implementing a comprehensive program to protect the lakes, identify problems and solutions, and serve as a contact point for the Great Lakes community.	<a href="http://dnr.wi.gov/org/water/greatlakes/">http://dnr.wi.gov/org/water/greatlakes/</a>
Standards Oversight Council (SOC)	The SOC oversees the development, maintenance and distribution of quality technical standards to support urban and rural land and water conservation programs in Wisconsin. Participating members include NRCS, WDNR, WALCE, WLWCA, WDATCP, UWEX, and the Department of Commerce.	<a href="http://www.socwisconsin.org/sitemap.html">http://www.socwisconsin.org/sitemap.html</a>
State Technical Committee (STC)	The STC is a subset of NRCS and is composed of a diverse group of public and private entities to provide advice on a wide variety of policy issues to NRCS. Although the STC has no implementation or enforcement authority, USDA gives strong consideration to the Committee's recommendations.	<a href="http://www.wi.nrcs.usda.gov/about/stc.html">http://www.wi.nrcs.usda.gov/about/stc.html</a>
Statewide Interagency Training Committee (SITCOM)	SITCOM is made up of members from various agencies and organizations around the state that develop and sponsor training for conservation professionals in Wisconsin.	<a href="http://www.walce.org/pages/Committees.htm">http://www.walce.org/pages/Committees.htm</a>
U.S. Forest Service	Established in 1905, the Forest Service is an agency of the USDA. The Forest Service manages public lands in national forests and grasslands. Its mission is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.	<a href="http://www.fs.fed.us/">http://www.fs.fed.us/</a>
U.S. Fish and Wildlife Service	The U.S. Fish and Wildlife Service is dedicated to the conservation, protection, and enhancement of fish, wildlife and plants, and their habitats. The Service also helps ensure a healthy environment for people through its work benefiting wildlife, and by providing opportunities for Americans to enjoy the outdoors and our shared natural heritage.	<a href="http://www.fws.gov/">http://www.fws.gov/</a>
University of Wisconsin (incl. Extension) & Wisconsin Technical Colleges	The state's university and technical college system provides technical and implementation support with focus on nutrient management.	<a href="http://www.uwex.edu/erc/">http://www.uwex.edu/erc/</a> <a href="http://ipcm.wisc.edu/Default.aspx?tabid=62">http://ipcm.wisc.edu/Default.aspx?tabid=62</a> <a href="http://uwdiscoveryfarms.org/">http://uwdiscoveryfarms.org/</a> <a href="http://wpindex.soils.wisc.edu/">http://wpindex.soils.wisc.edu/</a>
Wisconsin Association of Land Conservation Employees (WALCE)	WALCE is a non-profit organization of county staff that provides professional development, a forum for the exchange of	<a href="http://walce.org/">http://walce.org/</a>

Partner	Description	Web Link
	information, and offers input on program rules and policies, legislative initiatives and the activities of other related organizations.	
Wisconsin Coastal Management Program (WCMP)	The WCMP is a voluntary state-federal partnership. Through a Governor-appointed Council, WCMP provides policy coordination among state agencies, and awards federal funds to local governments and other entities for the implementation of coastal initiatives.	<a href="http://coastalmanagement.noaa.gov/mystate/wi.html">http://coastalmanagement.noaa.gov/mystate/wi.html</a>
Wisconsin Land and Water Conservation Association (WLWCA)	WLWCA is a nonprofit organization representing Wisconsin's County Land Conservation Committees and Departments and linking local conservation efforts with federal and state agencies to improve program delivery and strengthen cooperation and coordination.	<a href="http://www.wlwca.org/">http://www.wlwca.org/</a>

**Table 4.3 Affiliated Programs Addressing NPS Issues**

Program Title	Admin. Code	Lead Agency	Program Description/Emphasis	Web Link
Conservation Reserve Enhancement Program (CREP)	NA	FSA DATCP	A program to encourage voluntary retirement of sensitive lands, thus decreasing erosion, restoring wildlife habitat and safeguarding surface and groundwater.	<a href="http://datcp.state.wi.us/arm/agriculture/land-water/conservation/crep/index.jsp">http://datcp.state.wi.us/arm/agriculture/land-water/conservation/crep/index.jsp</a>
Confined Animal Feeding Operations (CAFO) Permits	NR 243	WDNR	Requires owners/operators of CAFOs to control runoff, comply with surface and groundwater quality standards and ensure pollutants are not discharged to navigable waters.	<a href="http://www.dnr.state.wi.us/runoff/ag/permits.htm">http://www.dnr.state.wi.us/runoff/ag/permits.htm</a>
Construction of Bridges	TRANS 207	DOT	Provides standards and specifications for the design and construction of municipal highway bridges, arches, and culverts over and in navigable streams, to reduce obstructions and sediment delivery to the waterbody.	<a href="http://legis.wisconsin.gov/rsb/code/trans/trans.html">http://legis.wisconsin.gov/rsb/code/trans/trans.html</a>  <a href="http://legis.wisconsin.gov/rsb/code/trans/trans207.pdf">http://legis.wisconsin.gov/rsb/code/trans/trans207.pdf</a>
Construction Site Runoff	TRANS 401	DOT	Outlines basic principles of erosion control and stormwater management, performance standards, best management practices and an erosion control implementation plan to reduce runoff from construction sites.	<a href="http://legis.wisconsin.gov/rsb/code/trans/trans.html">http://legis.wisconsin.gov/rsb/code/trans/trans.html</a>  <a href="http://legis.wisconsin.gov/rsb/code/trans/trans401.pdf">http://legis.wisconsin.gov/rsb/code/trans/trans401.pdf</a>
Dam Safety Program	NR 333 NR 335	WDNR	Ensures that dams are safely built, operated and maintained. NR 333 provides design and construction standards for large dams and NR 335 covers the administration of the Municipal Dam Repair and Removal Grant Program. Both serve to protect habitat and minimize sediment and nutrient runoff.	<a href="http://legis.wisconsin.gov/statutes/Stat0031.pdf">http://legis.wisconsin.gov/statutes/Stat0031.pdf</a>  <a href="http://www.dnr.wisconsin.gov/org/water/wm/dsfm/dams/regulations.html">http://www.dnr.wisconsin.gov/org/water/wm/dsfm/dams/regulations.html</a>
Environmental Quality Incentives Program (EQIP)	NA	NRCS	Provides financial and technical assistance for development of a farm conservation plan that guides nutrient management and decreases negative impacts on area waters	<a href="http://www.wi.nrcs.usda.gov/programs/eqip.html">http://www.wi.nrcs.usda.gov/programs/eqip.html</a>
Forestry Best	Ch. 77,	WDNR	Intended to help landowners, loggers,	<a href="http://www.dnr.state.wi.us/forestr">http://www.dnr.state.wi.us/forestr</a>

Program Title	Admin. Code	Lead Agency	Program Description/Emphasis	Web Link
Management Practices Program	Wis. Stats. NR 46		and natural resource managers minimize nonpoint source pollution from forest management activities by requiring the implementation of best management practices in forests enrolled in the Managed Forest Law program.	<a href="#">y/Usesof/bmp/</a> <a href="http://www.dnr.state.wi.us/forestry/publications/pdf/FR-349.pdf">http://www.dnr.state.wi.us/forestry/publications/pdf/FR-349.pdf</a>
Groundwater Programs	NR 140 NR 141	DATCP WDNR	Establishes groundwater standards and regulates/restricts use of products that may enter groundwater.	<a href="http://dnr.wi.gov/org/water/dwg/code.htm">http://dnr.wi.gov/org/water/dwg/code.htm</a> <a href="http://legis.wisconsin.gov/rsb/code/nr/nr140.pdf">http://legis.wisconsin.gov/rsb/code/nr/nr140.pdf</a> <a href="http://legis.wisconsin.gov/rsb/code/nr/nr141.pdf">http://legis.wisconsin.gov/rsb/code/nr/nr141.pdf</a>
Livestock Facility Siting	Ch. 93, Wis. Stats.; ATCP51	DATCP	Establishes standards and procedures that affect manure storage and handling, runoff, setbacks and odor issues.	<a href="http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/siting.jsp">http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/siting.jsp</a>
Non-Metallic Mining	Ch. 295, Wis. Stats.; NR 135	WDNR	Provides a framework for statewide regulation of nonmetallic mining reclamation, thus achieving approved post-mining land uses. This results in environmental protection, stable non-eroding sites, productive end land uses and potential to enhance habitat and increase land values and tax revenues.	<a href="http://dnr.wi.gov/org/aw/wm/mining/nonmetallic/">http://dnr.wi.gov/org/aw/wm/mining/nonmetallic/</a> <a href="http://legis.wisconsin.gov/rsb/code/nr/nr135.pdf">http://legis.wisconsin.gov/rsb/code/nr/nr135.pdf</a>
Public Trust Doctrine	Ch. 30, Wis. Stats.	WDNR	Allows for the protection of public waterways and the consideration of the cumulative impacts of individual projects in decisions including nonpoint source pollution abatement.	<a href="http://dnr.wi.gov/org/water/wm/ds_fm/shore/doctrine.htm">http://dnr.wi.gov/org/water/wm/ds_fm/shore/doctrine.htm</a>
Shoreland Zoning	NR 115	WDNR	Protects lakes and rivers by requiring buffer zones and other measures to reduce the impacts from development.	<a href="http://dnr.wi.gov/org/water/wm/ds_fm/shore/news.htm">http://dnr.wi.gov/org/water/wm/ds_fm/shore/news.htm</a> <a href="http://dnr.wi.gov/org/water/wm/ds_fm/shore/documents/NR115revisions.pdf">http://dnr.wi.gov/org/water/wm/ds_fm/shore/documents/NR115revisions.pdf</a>
Storm Water Permits	NR 216	WDNR & Local Municipalities	Regulates discharge of storm water from construction sites, industrial facilities and municipalities to prevent the transportation of pollutants via stormwater runoff. Some communities require a municipal storm water permit designed to reduce adverse impacts to water quality from urban sources of storm water runoff.	<a href="http://dnr.wi.gov/runoff/stormwater.htm">http://dnr.wi.gov/runoff/stormwater.htm</a> <a href="http://legis.wisconsin.gov/rsb/code/nr/nr216.pdf">http://legis.wisconsin.gov/rsb/code/nr/nr216.pdf</a> <a href="http://www.dnr.state.wi.us/runoff/stormwater/constforms.htm">http://www.dnr.state.wi.us/runoff/stormwater/constforms.htm</a> <a href="http://www.dnr.wisconsin.gov/runoff/pdf/rules/NR216FactSheet.pdf">http://www.dnr.wisconsin.gov/runoff/pdf/rules/NR216FactSheet.pdf</a>
Wellhead and Source Area Protection	NR 118	WDNR	Achieves groundwater pollution prevention by protecting the wellhead areas of public water supplies.	<a href="http://www.dnr.state.wi.us/org/water/dwg/gw/whp.htm">http://www.dnr.state.wi.us/org/water/dwg/gw/whp.htm</a>
Wetland Zoning	NR 103	WDNR	Establishes water quality standards for wetlands, with the intention of protecting public rights and interest, public health and welfare and the present and prospective uses of all	<a href="http://dnr.wi.gov/wetlands/programs.html">http://dnr.wi.gov/wetlands/programs.html</a> <a href="http://legis.wisconsin.gov/rsb/code/nr/nr103.pdf">http://legis.wisconsin.gov/rsb/code/nr/nr103.pdf</a>

Program Title	Admin. Code	Lead Agency	Program Description/Emphasis	Web Link
			waters of the state.	<a href="http://dnr.wi.gov/wetlands/documents/TemplateEnvPlanNR103.pdf">http://dnr.wi.gov/wetlands/documents/TemplateEnvPlanNR103.pdf</a>

## 4.5 Statewide Collaborations

Collaboration is a must in today's setting of limited resources. As previously discussed, the WDNR works in tandem with the WDATCP and the counties (LCD/LWCD) in delivering the NPS Program. In addition, the NPS Program works with and seeks the input of the statewide Land & Water Conservation Board (LWCB). Created by state law, the LWCB is a policy level board concerning soil and water conservation and NPS pollution abatement. It consists of secretary-level representation from the WDNR, WDATCP, the Wisconsin Department of Administration, plus Governor appointees and representatives from county level government. The University of Wisconsin-Extension and the NRCS are among the advisors to the board. The LWCB meets six times per year and deals with program policy, project selection, and program evaluation. It also makes recommendations on administrative rules and program budget requests to the WDNR and WDATCP.

This section describes additional relationships that further NPS Program delivery in Wisconsin. The collaborative relationships are organized around four themes: collaboration in administration and counsel; collaboration in scientific and technical discovery; collaboration in program implementation and delivery; and collaboration in education and outreach. See Table 4.2 for a brief description of the organizations, committees, and boards mentioned below.

**Collaboration in Program Implementation and Delivery:** The core programs described in section 4.3 are the backbone of the Wisconsin NPS Program. The successful implementation of these core programs relies on the collaborative works of the WDNR, WDATCP and the counties (primarily LCDs and LCCs). However, the truest benefits are realized when these core agencies/programs also bring *their* additional partners and collaborators, including all of those mentioned in the following three collaborative themes.

**Collaboration in Administration and Counsel:** Boards and committees such as the Land and Water Conservation Board, the NRCS State Technical Committee, the Wisconsin Statewide Interagency Training Committee and the Standards Oversight Council are comprised of agency leaders from NRCS, WALCE, WLWCA, WDATCP, UWEX, and the Department of Commerce as well as, citizens and Governor appointed designees. They review and make recommendations to the WDNR and WDATCP on staffing, research and education issues, develop and sponsor training for conservation professionals, oversee the development and distribution of technical standards, and provide coordination and consistency in NPS Program delivery and support of urban and rural land and water conservation programs in Wisconsin.

**Collaboration in Scientific Discovery:** The University of Wisconsin researchers and specialists make many and varied contributions to the science base needed to have sound implementation of a statewide NPS Program. A few examples include the Wisconsin Phosphorus Index, developed by the UW-Madison Soil Science Department and UW-Extension, which can be used as a runoff phosphorus loss risk assessment tool for cropland management planning. Also, the Wisconsin Buffer Initiative, a collaborative effort between a group of Wisconsin citizens and UW-Madison College of Agricultural and Life Sciences faculty to develop recommendations on how riparian buffers can be part of a larger conservation system to address agricultural NPS pollution. In addition, researchers in the UW-Madison Soil Science Department routinely focus on soil-related environmental-protection issues, including movement and degradation of plant nutrient and pesticide residues in soils and assessment, prevention and remediation of soil, groundwater and surface water contamination. WDATCP funding of university and technical

college system programs provides the outreach, training, and support necessary to implement nutrient management statewide.

The Discovery Farms Program, a cooperative effort between Wisconsin farmers and the UW-Extension and UW-Madison, conducts environmental and economic research on working Wisconsin farms and uses the research findings to educate and improve communications between the agricultural community, consumers, researchers, and policy-makers. The Discovery Farms examine environmental challenges faced by Wisconsin farmers and works with farm families to learn about and develop solutions to those challenges that make both economic and environmental sense. The program's research has provided valuable information that has been used to tackle manure runoff issues, one of Wisconsin's biggest NPS issues.

**Collaboration in Education and Outreach:** In 1998, the administrators from the WDNR, UW-Extension, and the NRCS joined their resources to develop a network of Natural Resources Educators that would work in geographic areas aligned with the WDNR's newly formed "Basin" structure. Initially, seven educators began working to provide educational programs across eleven of Wisconsin's major river basins. Through continued support, the "Wisconsin Basin Education Initiative" grew to include 15 educators serving areas coinciding with Wisconsin's major river and Great Lakes basins. The work of the Basin Educators, as varied as the landscapes of Wisconsin, has included extensive and ongoing education and outreach covering stormwater issues, agricultural runoff issues, forestry, drinking water, groundwater and lakes and rivers issues. The Basin Educators have strong ties to the WDNR, often answering the call for specific assistance with a public input process, working with local natural resource groups, and developing and delivering programs to help farmers, municipalities and other stakeholders reach their NPS protection goals. As part of the UW-Extension team, the Basin Educators have also brought more county and state UW-Extension resources to NPS needs in Wisconsin.

Another example of the additive effects of a collaboration is the Water Action Volunteers (WAV) Program, coordinated through a partnership between the WDNR and UW-Extension. WAV is a statewide program for Wisconsin citizens who want to learn about and improve the quality of Wisconsin's streams and rivers. WAV participants are active in storm drain stenciling, river cleanup and stream monitoring. The extensive network of citizen stream monitors includes hundreds of volunteers who annually collect and submit thousands of data sets that are stored online and readily accessible to anyone wishing to view them. There is also a Citizen Lake Monitoring Network. The WDNR and UW-Extension provide training and equipment, while citizens volunteer their time and energy, playing an important part in lake monitoring and protection. In 2009, 934 volunteers monitored water quality at over 798 monitoring stations, and 589 data sets were entered online.

Another program that engages citizens and other stakeholders in natural resource protection is the Wisconsin Lakes Management Partnership which shares responsibility for lake protection action with the WDNR, UW-Extension, local units of government, lake districts and associations, and lake-specific conservation and community groups. The program acts as catalyst to help produce the greatest benefit from the coordinated actions of the 20 or so WDNR programs that affect lakes.

#### **4.5.a Ensuring State/Federal Consistency on Federal Lands, Assistance Applications & Development Projects**

The amount of federal land in Wisconsin is relatively small. The majority is within National Forests, and a small portion is in National Lakeshore and military bases. The WDNR Forestry Management Program works closely with the U.S. Forest Service on management of national forests. The Forest Service was involved in the development of the *Forestry Best Management Practices Manual* and uses the management practices on national forests. The state's review of applications for federal financial assistance or federal development projects includes the review of nonpoint-source-related applications and projects that fall under the jurisdiction of "Wisconsin's Coastal Nonpoint Pollution Control Program"

(Section 6217 Coastal Zone Act Reauthorization Amendments) and the state's waterway permits (Chapter 30, Wis. Stats.).

State agencies involved in NPS management have worked closely with federal agencies to bring about consistency in NPS program implementation on other federal lands, as well as federal assistance applications and development projects. A number of collaborative mechanisms between state and federal entities were discussed earlier in Section 4.5. Because of these working collaborations, WDNR has not seen the need to involve the U.S. EPA in situations where the state cannot resolve federal consistency issues.

## 4.6 Information & Education

While the regulatory aspect of Wisconsin's NPS Program is necessary and effective, public outreach and education are also a vital part of the state's NPS Program Management Plan. Information and education efforts are conducted through the network of agencies and organizations in a collaborative effort to maximize participation and increase stakeholder adoption of practices that protect and enhance water quality. These collaborative efforts take advantage of key skills and knowledge of partner organizations, rather than creating an education expertise within the agency. With decreasing resources, this approach has been fundamental to the success of Wisconsin's NPS outreach and education. In addition, education itself is integrated into nonpoint source programs, rather than approached as an add-on. While some view education as a stand-alone effort, Wisconsin has endeavored to make it integral to its NPS programs, as evidenced by partnerships, such as the Wisconsin Basin Education Initiative, and many others with statewide nonprofit organizations, state agencies, and the University of Wisconsin System.

Increasingly, efforts include a technology-based component to heighten accessibility and participation. Many publications and presentations are also archived on the web to further extend their impacts. It is likely that online instruction such as webinars and other e-learning tools will become even more widely accepted and used as we strive to offer information and education in a time of limited human and financial resources.

Key areas and organizers from recent and on-going efforts are identified in Table 4.4. Areas for increased education and outreach in the future will include: TMDLs, understanding and implementing the phosphorus water quality standard, development and implementation of a water quality trading strategy, and implementation of the revised agricultural performance standards.

**Table 4.4 Recent and Ongoing Information & Education Efforts**

Educational Focus	Organizers	Results
Agricultural Performance Standards and Prohibitions: <i>Local, County and Regional Efforts</i>	County Land Conservation Staff, County-based NRCS staff, WDNR, UWEX Basin Educators, County UWEX Agents and other local partners and organizations.  County LCD/LWCD's outreach goals are detailed in each county's LWRM Plan.	Farm visits, field days, factsheets, newsletters, radio programs and other local media outlets  "What Compliance Looks Like" workshops  "Explore and Restore" programs in the Lakeshore Basin  Door County Water Quality/Land Management booklet (16 pages)
Agricultural Performance Standards and Prohibitions: <i>Statewide Planning Efforts</i>	WDNR, WDATCP, UWEX Basin Educators, UWEX State Specialists and County Educators, County Land Conservation, and NRCS Staff working together on the Statewide Agricultural Performance Standards and Prohibitions Information & Education Committee.	Runoff info website: <a href="http://runoffinfo.uwex.edu/">http://runoffinfo.uwex.edu/</a>  Workshops/informational meetings  Display

Educational Focus	Organizers	Results
		"What Farmers Need to Know" factsheet and powerpoint <a href="http://dnr.wi.gov/runoff/pdf/ag/farmersneed.pdf">http://dnr.wi.gov/runoff/pdf/ag/farmersneed.pdf</a>
Agricultural Performance Standards and Prohibitions: <i>Statewide – Other</i>	WDNR, WDATCP, NRCS, Professional Nutrient Applicators Association of Wisconsin, University of Wisconsin, Wisconsin Technical Colleges, UWEX Basin Educators, State Specialists, and County Educators. <ul style="list-style-type: none"> <li>• Nutrient Pest Management (NPM) Program</li> <li>• UWEX Teams</li> <li>• Discovery Farms</li> <li>• Discovery Watersheds</li> <li>• Winter Manure Spreading Media Campaign</li> </ul>	Factsheets, workshops, etc. <a href="http://dnr.wi.gov/runoff/ag/agpubs.htm">http://dnr.wi.gov/runoff/ag/agpubs.htm</a>  Presentations/informational meetings for farm commodity organizations  <a href="http://ipcm.wisc.edu/Default.aspx?tabid=62">http://ipcm.wisc.edu/Default.aspx?tabid=62</a>  <a href="http://www.uwex.edu/ces/ag/teams/nutrient/">http://www.uwex.edu/ces/ag/teams/nutrient/</a>  <a href="http://uwdiscoveryfarms.org/">http://uwdiscoveryfarms.org/</a>  <a href="http://www.uwex.edu/erc/">http://www.uwex.edu/erc/</a>  <a href="http://wpindex.soils.wisc.edu/">http://wpindex.soils.wisc.edu/</a>  Radio advertisements, press releases and various outreach activities to reach producers with important reminders regarding the timing of manure land applications
Citizen Monitoring	Water Action Volunteers (WAV), WDNR, UWEX Basin and County Educators, County LCD/LWCD staff, citizens and citizen groups.	Training workshops, newsletters, list serve, Facebook page  Data collection and reporting  <a href="http://watermonitoring.uwex.edu/wav/monitoring/index.html">http://watermonitoring.uwex.edu/wav/monitoring/index.html</a>  The DNR monitoring strategy has a volunteer component, including more advanced than WAV monitoring. A full discussion can be found in Chapter 2.
Confined Animal Feeding Operations	WDNR, WDATCP, UWEX, and County LCD/LWCDs.	Public input meetings during the NR 243 revision process  Response to concerns expressed by agricultural and environmental groups and the state legislative committees dealing with agriculture  CAFO webcasts and archived materials: <a href="http://runoffinfo.uwex.edu/wksp/2008cafo.html">http://runoffinfo.uwex.edu/wksp/2008cafo.html</a>  CAFO compliance calendars <a href="http://dnr.wi.gov/runoff/ag/permits.htm">http://dnr.wi.gov/runoff/ag/permits.htm</a>  Manure runoff prevention education
Conservation Professional Development Training	WDNR, WDATCP, UWEX, NRCS, County LCD/LWCDs, commodity and interest groups.	Workshops, field days, conferences/meetings, publications <a href="http://conservation-training.wisc.edu/states/homepage?state=WI">http://conservation-training.wisc.edu/states/homepage?state=WI</a>
Forestry BMPs	WDNR Forestry Division, UWEX Basin Educators, UWEX Forestry Specialists, Wisconsin Woodland Owners Association, Forest Industry Safety & Training Alliance	Wisconsin Woodland Assistance Website: <a href="http://basineducation.uwex.edu/woodland/index.htm">http://basineducation.uwex.edu/woodland/index.htm</a>

Educational Focus	Organizers	Results
	(FISTA), land trusts, and professional forestry organizations.	"Learn About Your Land" classes for Woodland Owners  SE Wisconsin Woodland Landowners Conference and North Central Land Stewardship Conferences  Funding mechanism that results in annual forestry education through WEEB: <a href="http://www.uwsp.edu/cnr/weeb/grant-program/categories/category-forestry.htm">http://www.uwsp.edu/cnr/weeb/grant-program/categories/category-forestry.htm</a>  LEAF – DNR K-12 Education Program and UWSP School Forest Education  Assorted state and local workshops, newsletters and conferences
Impaired Waters/TMDLs	WDNR led effort with assistance from UWEX Basin Educators, consultants, and local groups.	Website (Impaired Waters DNR) <a href="http://dnr.wi.gov/org/water/wm/wqs/303d/index.htm">http://dnr.wi.gov/org/water/wm/wqs/303d/index.htm</a>  Public input webinars  Informational meetings  Factsheets  Interactive website (DNR – in development)
Urban Performance Standards: <i>Construction Site Erosion</i>	WDNR, WI Dept. of Commerce, UWEX Basin Educators, UWEX Specialists, consulting firms, municipal staff.	Technical workshops  Webinars  Local materials, media campaigns  Regional collaboratives have developed extensive local workshops, materials media campaigns, tours, etc. Some are described in the document.  WI Municipal Stormwater Collaboratives found at: <a href="http://runoffinfo.uwex.edu/pdf/swgroups9-07.pdf">http://runoffinfo.uwex.edu/pdf/swgroups9-07.pdf</a>
Urban Performance Standards: <i>Nutrients</i>	WDNR, the Municipal Environment Group, and other professionals.	Working together on the development of educational materials for municipal wastewater treatment facilities and a pollutant trading framework.
Urban Performance Standards: <i>Stormwater</i>	Collaborative effort between UWEX, WDNR and local partners.	Wisconsin Storm Water Education Plan template: <a href="http://runoffinfo.uwex.edu/wksp/2007-4-25.html">http://runoffinfo.uwex.edu/wksp/2007-4-25.html</a>  Rain Garden Educators Kit <a href="http://dnr.wi.gov/runoff/rg/kit.htm">http://dnr.wi.gov/runoff/rg/kit.htm</a>  Statewide webinar series archived at: <a href="http://runoffinfo.uwex.edu/urban/workshops.html">http://runoffinfo.uwex.edu/urban/workshops.html</a>

Educational Focus	Organizers	Results
		Factsheet Series "What Municipalities Need to Know" <a href="http://runoffinfo.uwex.edu/urban/education.html">http://runoffinfo.uwex.edu/urban/education.html</a> Regional collaboratives have developed extensive local workshops, materials, media campaigns, tours, etc. Some are described in the document  Municipal Stormwater collaboratives found at: <a href="http://runoffinfo.uwex.edu/pdf/swgroups9-07.pdf">http://runoffinfo.uwex.edu/pdf/swgroups9-07.pdf</a>
Watershed Projects	WDNR, WDATCP, UWEX, NRCS, County LCD/LWCD's, the River Alliance, Trout Unlimited, and local watershed groups.	DNR's online watershed reports. <a href="http://dnr.wi.gov/org/water/condition/wtplans/">http://dnr.wi.gov/org/water/condition/wtplans/</a>  Funds obtained for local projects such as restoration, BMP installation, education

## 4.7 Implementation Financing

A critical factor in turning watershed plans into action is the ability to fund implementation. For the last thirty years, the WDNR and WDATCP have made a significant commitment of state funds for implementation, above and beyond available Section 319 grant funding. In calendar year 2011 alone, the two agencies awarded over \$21 million in *state* funds (General Purpose Revenue, Segregated Funds, and Bond Revenue) for local assistance, planning, and BMP construction cost-sharing grants to local units of government from the core funding programs discussed in Section 4.7.a. However, no one agency or program can adequately fund all of the nonpoint source control needs across the state. Stakeholders are encouraged to leverage funds from existing programs to efficiently target and meet the needs of a particular area. Funding can be accessed from numerous sources at the federal, state, local level. This section provides a summary of core and affiliated funding sources available for nonpoint source implementation.

### 4.7.a Core Funding Programs

#### Targeted Runoff Management Grant Program

Targeted Runoff Management (TRM) grants are provided by the WDNR to control nonpoint source pollution from both urban and agricultural sites. A combination of state General Purpose Revenue, state Bond Revenue, and federal Section 319 Incremental Grant funds is used to support TRM grants. The grants are available to local units of government (typically counties) and targeted at high-priority resource problems. TRM grants can fund the design and construction of agricultural and urban BMPs. Some examples of eligible BMPs include livestock waste management practices, some cropland protection, and streambank protection projects. These and other practices eligible for funding are listed in s. NR 154.04, Wis. Adm. Code.

Revisions to ch. NR 153, Wis. Adm. Code, (<http://legis.wisconsin.gov/rsb/code/nr/nr153.pdf>) which governs the program, took effect on January 1, 2011, and modified the grant criteria and procedures, increasing the state's ability to support performance standards implementation and TMDL implementation. Beginning with the calendar year 2012 grant cycle, projects may be awarded in four categories:

<p style="text-align: center;"><b>Small-Scale TMDL</b></p> <ul style="list-style-type: none"> <li>• Implements a TMDL</li> <li>• Agricultural or urban focus</li> </ul>	<p style="text-align: center;"><b>Small-Scale Non-TMDL</b></p> <ul style="list-style-type: none"> <li>• Implements NR 151 performance standards</li> <li>• Agricultural or urban focus</li> </ul>
<p style="text-align: center;"><b>Large-Scale TMDL</b></p> <ul style="list-style-type: none"> <li>• Implements a TMDL</li> <li>• Agricultural focus only</li> </ul>	<p style="text-align: center;"><b>Large-Scale Non-TMDL</b></p> <ul style="list-style-type: none"> <li>• Implements NR 151 performance standards</li> <li>• Agricultural focus only</li> </ul>

Section 281.65(4c), Wis. Stats., defines additional priorities for Targeted Runoff Management Projects as follows:

- TRM projects must be targeted to an area based on any of the following:
  - Need for compliance with established performance standards.
  - Existence of impaired waters.
  - Existence of outstanding or exceptional resource waters.
  - Existence of threats to public health.
  - Existence of an animal feeding operation receiving a Notice of Discharge.
  - Other water quality concerns of national or statewide importance.
- Projects are consistent with priorities identified by WDNR on a watershed or other geographic basis
- Projects are consistent with approved county land and water resource management plans.

The maximum cost-share rate available to TRM grant recipients is up to 70 percent of eligible costs (maximum of 90% in cases of economic hardship), with the total of state funding not to exceed established grant caps. TRM grants may not be used to fund projects to control pollution regulated under Wisconsin law as a point source.

Grant application materials are available on the WDNR web site at:  
<http://dnr.wi.gov/runoff/grants/applications/>.

### Notice of Discharge Grant Program

Notice of Discharge (NOD) Project Grants, also governed by ch. NR 153, Adm. Code, are provided by WDNR and WDATCP to local units of government (typically counties). A combination of state General Purpose Revenue, state Bond Revenue, and federal Section 319 Incremental Grant funds are used to support TRM grants. The purpose of these grants is to provide cost sharing to farmers who are required to install agricultural best management practices to comply with Notice of Discharge requirements. Notices of Discharge are issued by the WDNR under ch. NR 243 Wis. Adm. Code (Animal Feeding Operations - <http://legis.wisconsin.gov/rsb/code/nr/nr243.pdf>), to small and medium animal feeding operations that pose environmental threats to state water resources. The project funds can be used to address an outstanding NOD or an NOD developed concurrently with the grant award.

Each state agency administers its own NOD project funds. This is because statutory and other administrative requirements for the two agencies vary slightly with respect to cost sharing NODs. Although the criteria for using agency funds vary between the two agencies, WDNR and WDATCP have jointly developed a single grant application that can be used to apply for funding from either agency. The

two agencies jointly review the project applications and coordinate funding to assure the most cost-effective use of the available state funds.

Grant application materials are available on the WDNR web site at:  
<http://dnr.wi.gov/runoff/grants/applications/>.

### **Lake Planning Grant Program**

The WDNR provides grants to eligible parties to collect and analyze information needed to protect and restore lakes and their watersheds and develop lake management plans. Section 281.68, Wis. Stats., and ch. NR 190, Wis. Adm. Code, provide the framework and guidance for WDNR's Lake Management Planning Grant Program. Grant awards may fund up to 75% of the cost of a lake planning project. Grant awards cannot exceed \$10,000 per grant for large-scale projects.

Eligible planning projects include:

- Gathering and analysis of physical, chemical, and biological information on lakes.
- Describing present and potential land uses within lake watersheds and on shorelines.
- Reviewing jurisdictional boundaries and evaluating ordinances that relate to zoning, sanitation, or pollution control or surface use.
- Assessments of fish, aquatic life, wildlife, and their habitats. Gathering and analyzing information from lake property owners, community residents, and lake users.
- Developing, evaluating, publishing, and distributing alternative courses of action and recommendations in a lake management plan.

Grants can also be used to investigate pollution sources, including nonpoint sources, followed by incorporation into the lake management plan of strategies to address those sources. Investigation can involve many types of assessment, including determining whether or not the water quality of the lake is impaired. A plan approved by WDNR for a lake impaired by NPS pollution should incorporate the U.S. EPA's "Nine Key Elements" for watershed-based plans (refer to Section 3.1.a of this document).

Grant application materials are available on the WDNR web site at:  
<http://dnr.wi.gov/org/caer/cfa/grants/Lakes/smalllake.html> and  
<http://dnr.wi.gov/org/caer/cfa/grants/Lakes/Largelake.html>.

### **Lake Protection Grant Program**

The WDNR provides grants to eligible parties for lake protection grants. Sections 281.69 and 281.71, Wis. Stats., and ch. NR 191, Wis. Adm. Code, provide the framework and guidance for the Lake Protection Grant Program. Grant awards may fund up to 75 percent of project costs (maximum grant amount \$200,000). Eligible projects include:

- Purchase of land or conservation easements that will significantly contribute to the protection or improvement of the natural ecosystem and water quality of a lake.
- Restoration of wetlands and shorelands that will protect a lake's water quality or its natural ecosystem (these grants are limited to \$100,000). Special wetland incentive grants of up to \$10,000 are eligible for 100 percent state funding if the project is identified in the sponsor's comprehensive land use plan.
- Development of local regulations or ordinances to protect lakes and the education activities necessary for them to be implemented (these grants are limited to \$50,000)
- Lake management plan implementation projects recommended in a plan and approved by WDNR. These projects may include watershed management projects, lake restoration, diagnostic feasibility studies, or any other projects that will protect or improve lakes. Sponsors should submit a copy of their lake management plan and the recommendation(s) it wants to fund for WDNR approval at least two months in advance of the May 1 deadline. Plans must have been officially

adopted by the sponsor and made available for public comment prior to submittal. The WDNR will review the plan and advise the sponsor on the project's eligibility and development of a lake protection grant application for its implementation.

Grant application materials are available on the WDNR web site at:  
<http://dnr.wi.gov/org/caer/cfa/grants/Lakes/lakeprotection.html>.

### **Soil & Water Resources Management Grant Program**

The WDATCP administers the Soil and Water Resource Management (SWRM) Grant Program that supports locally-led conservation efforts. Each year WDATCP awards grants, primarily to counties, to pay for conservation staff and provides landowner cost sharing to implement Land and Water Resource Management Plans. Counties must receive WDATCP approval of their plans to receive cost-sharing grants for BMP implementation. In 2011, the SWRM Program will provide \$4.2 million in grants for county cost sharing.

The WDATCP is also responsible for providing local assistance grants for county conservation staff implementing the NPS control programs included in the LWRM plans. In 2011, the SWRM Program will provide \$9.3 million in grants for county staff. WDATCP funding is supplemented by local and other sources to support a statewide network of over 350 conservation department staff in 72 counties. County staff are key to delivering NPS-related programs in the state, such as the Farmland Preservation Program, Environmental Quality Incentives Program (EQIP), and the Conservation Reserve Enhancement Program (CREP).

The WDATCP allocates SWRM grants to counties and others according to an annual "Joint WDATCP/WDNR Allocation Plan." The joint annual allocation plan is reviewed by the Land and Water Conservation Board (LWCB) and approved by both the WDATCP Secretary and the WDNR Secretary (see ATCP 50.28).

WDATCP developed a working manual that contains policies and procedures, cost-share agreement forms, and other critical information for county staff to facilitate SWRM Program administration. The WDATCP relies on its web site to provide current program information and documents in easy-to-use formats. The manual is available on the WDATCP web site at:

[http://datcp.wi.gov/Environment/Land\\_and\\_Water\\_Conservation/SWRM\\_Grant\\_Program\\_Working\\_Manual/index.aspx](http://datcp.wi.gov/Environment/Land_and_Water_Conservation/SWRM_Grant_Program_Working_Manual/index.aspx).

Additional SWRM grant information is available on the WDATCP web site at:

[http://datcp.wi.gov/Environment/Land\\_and\\_Water\\_Conservation/Soil\\_and\\_Water\\_Resource\\_Management/index.aspx](http://datcp.wi.gov/Environment/Land_and_Water_Conservation/Soil_and_Water_Resource_Management/index.aspx).

### **Working Lands Initiative**

The WDATCP's Working Lands Initiative, discussed previously in Section 4.3.b, provides multiple funding mechanisms that allow for the preservation of farmland and influence proper farm management, decreasing NPS pollution (nutrients and sedimentation) from productive farmlands enrolled in the program.

- *Farmland Preservation Program Tax Credits*  
The Wisconsin Farmland Preservation Program is designed to preserve agricultural land and open spaces through land use planning and development, promote soil and water conservation, and provide tax relief to farmers in the program. The program provides landowners with an opportunity to claim income tax credits. Eligible landowners may collect one of the following per acre amounts:

- \$5.00 for farmers with a farmland preservation agreement signed after July 1, 2009 and located in an agricultural enterprise area
- \$7.50 for farmers in an area zoned for farmland preservation
- \$10.00 for farmers in an area zoned for farmland preservation and in an agricultural enterprise area, with a farmland preservation agreement signed after July 1, 2009

There is no cap on the amount of credit that an individual can claim or on the amount of acreage eligible for a credit. However, if the total amount of claims exceeds the total available funds in a given year, the state is obligated to prorate the value of the credits available to individuals.

The following eligibility requirements apply:

- Acres claimed must be located in a farmland preservation area identified in a certified county farmland preservation plan. Eligible land includes agricultural land or permanent undeveloped natural resource areas or open space land that is:
  - in an area certified for farmland preservation zoning, and/or
  - located in a designated agricultural enterprise area and under a farmland preservation agreement.
- Claimants must have \$6,000 in gross farm revenue in the past year or \$18,000 in the past three years. Income from rental receipts of farm acres does not count toward gross farm revenue. However, gross farm revenue produced by the renter on the landowner's farmland can be used to meet this eligibility requirement.
- Claimants must be able to certify that all property taxes owed from the previous year have been paid.
- Farmers claiming farmland preservation tax credits must certify on their tax form that they comply with the statewide agricultural performance standards and manure management prohibitions. New claimants must also submit a certification of compliance with the standards and prohibitions that has been issued by the county land conservation committee.

More information about the Farmland Preservation Program tax credits is available on the WDATCP web site at:

[http://datcp.wi.gov/Environment/Working\\_Lands\\_Initiative/Farmland\\_Preservation\\_Tax\\_Credits/index.aspx](http://datcp.wi.gov/Environment/Working_Lands_Initiative/Farmland_Preservation_Tax_Credits/index.aspx).

- *Purchase of Agricultural Conservation Easement (PACE) Grant Program*

The Working Lands Initiative established the PACE Program to protect farmland through the voluntary purchase of agricultural conservation easements. The easements are designed to conserve agricultural resources and protect and enhance the waters of the state. The program provides up to 50% of the cost of purchasing the easements, including transaction costs. The state provides funding to cooperating local governments or non-profit organizations to purchase easements from willing landowners. Land with an agricultural conservation easement cannot be developed for any purpose that would prevent its use for agriculture. A council is established to advise the state on pending grants and proposed easement purchases and ensure consistency of state-funded easement purchases with local plans and ordinances. More information about the PACE Program is available on the WDATCP web site at:

[http://datcp.wi.gov/Environment/Working\\_Lands\\_Initiative/PACE/index.aspx](http://datcp.wi.gov/Environment/Working_Lands_Initiative/PACE/index.aspx).

### Urban Nonpoint Source & Storm Water Management Grant Program

The WDNR's Urban Nonpoint Source & Storm Water Management Grant Program provides grant funding to local units of government to decrease urban polluted runoff. Funds are awarded for either construction or planning projects primarily in areas covered by municipal storm water discharge permits.

Projects to construct urban BMPs may be funded with cost sharing grants, covering up to 50 percent of the total project costs with a grant maximum of \$150,000.

Planning grants can be used to pay for a variety of technical assistance activities such as stormwater management planning, related information and education activities, ordinance and utility development and enforcement and are cost shared up to 70 percent with a grant maximum of \$85,000.

Grant application materials are available on the WDNR web site at:

<http://dnr.wi.gov/runoff/grants/applications/>.

**Table 4.5 Core Funding Programs**

Core Programs	Activities Funded				Funding Source	Web Link
	BMPs	Planning	Staff	Other*		
Targeted Runoff Management Grant Program	X		X	X	WDNR	<a href="http://dnr.wi.gov/runoff/grants/applications/">http://dnr.wi.gov/runoff/grants/applications/</a>
Notice of Discharge Grant Program	X	X			WDNR WDATCP	<a href="http://dnr.wi.gov/runoff/grants/applications/">http://dnr.wi.gov/runoff/grants/applications/</a>
Lake Planning Grant Program		X			WDNR	<a href="http://dnr.wi.gov/org/caer/cfa/grants/Lakes/smalllake.html">http://dnr.wi.gov/org/caer/cfa/grants/Lakes/smalllake.html</a> <a href="http://dnr.wi.gov/org/caer/cfa/grants/Lakes/Largelake.html">http://dnr.wi.gov/org/caer/cfa/grants/Lakes/Largelake.html</a>
Lake Protection Grant Program	X				WDNR	<a href="http://dnr.wi.gov/org/caer/cfa/grants/Lakes/lakeprotection.html">http://dnr.wi.gov/org/caer/cfa/grants/Lakes/lakeprotection.html</a>
Soil & Water Resources Management Program	X	X	X		WDATCP	<a href="http://datcp.wi.gov/Environment/Land_and_Water_Conservation/Soil_and_Water_Resource_Management/index.aspx">http://datcp.wi.gov/Environment/Land_and_Water_Conservation/Soil_and_Water_Resource_Management/index.aspx</a>
Working Lands Initiative				X	WDATCP	<a href="http://datcp.wi.gov/Environment/Working_Lands_Initiative/index.aspx">http://datcp.wi.gov/Environment/Working_Lands_Initiative/index.aspx</a>
Urban Nonpoint Source & Storm Water Management Grant Program	X	X		X	WDNR	<a href="http://dnr.wi.gov/runoff/grants/applications/">http://dnr.wi.gov/runoff/grants/applications/</a>

#### 4.7.b Partnering & Affiliated Funding Programs

The following list is a sampling of partnering or affiliated funding programs that contribute to NPS pollution control in Wisconsin.

**Table 4.6 Partner/Affiliated Funding Programs**

Partner/Affiliated Programs	Activities Funded		Funding Source	Web Link
	BMPs	Other*		
Great Lakes National Program Office (GLNPO)	X		EPA	<a href="http://www.epa.gov/glnpo/fund/current.html">http://www.epa.gov/glnpo/fund/current.html</a>
Great Lakes Basin Program for Soil Erosion & Sediment Control	X		Great Lakes Commission	<a href="http://glc.org/basin/funding.html">http://glc.org/basin/funding.html</a>
Farm Service Agency CRP & CREP	X		USDA	<a href="http://www.fsa.usda.gov">http://www.fsa.usda.gov</a>
Natural Resource Conservation Service EQIP, WHIP & WRP	X		USDA	<a href="http://www.wi.nrcs.usda.gov/">http://www.wi.nrcs.usda.gov/</a>
U.S. Fish & Wildlife Service	X	X	USFWS	<a href="http://www.fws.gov/grants/">http://www.fws.gov/grants/</a>
Wisconsin Coastal Management Program	X		DOA	<a href="http://coastalmanagement.noaa.gov/mystate/wi.html">http://coastalmanagement.noaa.gov/mystate/wi.html</a>
Dam Safety Program Grants	X		WDNR	<a href="http://dnr.wi.gov/org/water/wm/dsfm/dams/grants.html">http://dnr.wi.gov/org/water/wm/dsfm/dams/grants.html</a>

\*Other activities include tax incentives, planning, training workshops, demonstration sites, etc.

## CHAPTER 5: Tracking, Evaluation & Reporting

### 5.1 EPA Expectations/Section 319 Grant Requirements

Under Clean Water Act Section 319(h), EPA awards grants for implementation of state NPS Management Programs. As the grant recipient for the State of Wisconsin, the WDNR is required to submit semi-annual and annual NPS progress reports to EPA, which address milestone progress, resulting decreases in pollutant loadings, and other water quality improvements contained in the grant workplan and also the state's NPS Management Program.

Section 319 grant recipients are required to submit their semi-annual and annual reports in the "Grants Reporting & Tracking System" (GRTS). GRTS is the primary tool for management and oversight of the grants portion of EPA's Nonpoint Source Pollution Control Program. GRTS pulls grant information from EPA's centralized grants and financial databases and allows grant recipients to enter detailed information on the individual projects or activities funded under each grant. GRTS enables EPA and States to document the accomplishments achieved with the use of Section 319(h) grant funds. The data entered into GRTS is used by the EPA to respond to inquiries received from Congressional committees, the White House, and various constituent groups.

The WDNR will continue to meet the requirements of performance measures specific to Section 319 grants, as well as the Environmental Performance Partnership Agreement (EnPPA). This currently includes such requirements as SP-10 (reports the de-listing of an impaired water), SP-11 (de-listing of a single impairment on a waterbody) and SP-12 (supports de-listing using a watershed approach, whereby, within a 12-digit HUC, at least ½ the waterbody must qualify for de-listing), among others. It is anticipated that, since these targets were to be achieved by 2012, these performance measures will be updated at some point thereafter.

#### 5.1.a Tracking, Evaluation and Reporting Indicators

WDNR, WDATCP, and affiliated agencies and organizations collect, maintain, and report numerous indicators of success in implementing nonpoint source programs and in improving water quality. A number of these indicators are directly or indirectly addressed elsewhere in this document, however the subsequent sections of this Chapter, 5.2-5.4, address them more specifically in the context of evaluation and reporting. These include administrative, environmental, and social indicators.

#### 5.1.b WDNR Bureau of Watershed Management Goals, Objectives & Performance Measures

The NPS Program shares and supports the WDNR's Water Division goal ***to fully implement the Clean Water Act in order to achieve the long-term goal of fishable and swimmable waters throughout the state of Wisconsin***. This goal specifies the priority areas for NPS Program focus, which includes the efforts of four sections (Runoff Management, Water Evaluation, Monitoring & Management, and Lakes & Wetlands) and numerous programs in the WDNR's Bureau of Watershed Management.

Objectives and performance measures have been assigned to this and other Water Division goals, giving the Department the ability to assess the NPS Program's success in achieving its goals. Efforts to meet the performance measures are reported and tracked on a quarterly basis, using the WDNR's Waterbody Assessment, Tracking, Evaluation, and Reporting System (WATERS). WATERS provides a web-based reporting system and gives WDNR staff and managers the ability to create management reports to track progress.

The WDNR Bureau of Watershed Management maintains and updates several categories of performance measures applicable to its programs. Those performance measures applicable to nonpoint source

programming are shown in Table 5.1 (below). The objectives and measures will be implemented by WDNR to meet the Water Division goals and objectives that apply to the NPS Program as funding allows.

**Table 5.1 WDNR Bureau of Watershed Management Performance Measures & Milestones  
 Applicable to NPS Program**

Objective Performance Measure(s)	Milestones					Lead WDNR Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
<b>Objective RM2: Water quality is protected by ensuring that impacts such as fish kills, surface water pollution, and well contamination from agricultural discharges from non-permitted livestock operations are minimized, resolved, and ultimately prevented.</b>						
1. Resolve 100% of NR 243 NOIs and NODs issued since October 1, 2002.	X	X	X	X	X	Runoff Management
2. Commit annually to grants 100% of DNR allocated NOD funds.	X	X	X	X	X	Runoff Management
<b>Objective RM4: Water quality is protected by implementing best management practices designed to achieve performance standards and prohibitions that limit nonpoint source water pollution.</b>						
1. Develop one DNR-County MOU for NR 151 implementation per region per biennium if warranted.	X	X	X	X	X	Runoff Management
2. Identify counties that need and are willing to develop MOUs with DNR for NR 151 implementation.	X	X	X	X	X	Runoff Management
3. Review and comment on 100% of the county draft LWRMP revisions concerning NR 151 implementation strategies.	X	X	X	X	X	Runoff Management
4. Resolve 100% of NR 151 Notices issued by DNR since October 1, 2002.	X	X	X	X	X	Runoff Management
5. Commit annually to grants 100% of funds allocated for TRM, USW-P, and USW-C projects.	X	X	X	X	X	Runoff Management
6. Monitor grantees activities toward completion of 100% of funded TRM, USW-P and USW-C projects.	X	X	X	X	X	Runoff Management
7. With UWEX Basin Educators, support interagency and county coordination for the agricultural performance standards by implementing workplans of the agricultural performance standards I&E committee that are developed each spring. Report on the progress of the elements of the workplan.	X	X	X	X	X	Runoff Management

Objective Performance Measure(s)	Milestones					Lead WDNR Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
8. With UWEX Basin Educators, communicate and promote the importance of implementing the non-agricultural performance standards to key municipal audiences by developing and implementing annual workplans of the UWEX/DNR stormwater education team. Report on the progress of the elements of the workplan. With UWEX Basin Educators, communicate and promote the importance of implementing the non-agricultural performance standards to key municipal audiences by developing and implementing annual workplans of the UWEX/DNR stormwater education team. Report on the progress of the elements of the workplan.	X	X	X	X	X	Runoff Management
9. Revise and implement the NPS planning framework to ensure that a streamlined planning approach still meets the Section 319 Program's "9 key elements" for watershed-based plans.	X	X	X	X	X	Runoff Management
<b>Objective LK1: An effective partnership is maintained for protection and restoration of WI Lakes.</b>						
1. Engage people, politics and partnerships for lake protection through conducting approximately four regional or issue-based workshops annually and the annual Lakes Convention.	X	X	X	X	X	Lakes & Wetlands
2. Assist the creation of 4 new lake organizations; provide direct organizational, technical and capacity-building assistance to 65 lake organizations or local government; publish four issues of Lake Tides; improve the knowledge base of 20 citizens (at least two per region) through the Lake Leadership Institute and hold a training session on lake organization governance annually. (There are currently over 800 known lake organizations statewide.)	X	X	X	X	X	Lakes & Wetlands
3. Enhance citizen-based lake monitoring network by adding and implementing new protocols e.g. color, blue green algae, and lake levels; conducting an annual staff/trainer refresher course; providing refresher training/audit for all volunteers every five years; conducting a field QA/QC	X	X	X	X	X	Lakes & Wetlands

Objective Performance Measure(s)	Milestones					Lead WDNR Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
on 10% of the volunteers per year and; encourage every new Seechi volunteer to accept training in AIS monitoring.						
4. Initiate a strategic planning update for the Lake Team that looks to expand beyond traditional partners.	X	X				Lakes & Wetlands
<b>Objective LK2: Lakes are managed for healthy ecosystems and quality recreation using a community- and science-based approach.</b>						
1. Initiate a whole-lake research and demonstration projects, large-scale adaptive lake management project or impaired lake restoration project in each region in the biennium.	X	X	X	X	X	Lakes & Wetlands
2. Continue to improve the SWIMS database and user interface for data reporting and to develop and improve the lakes & aquatic invasive dynamic web pages. Conduct training for partners and staff as needed. Begin to incorporate aquatic plant management and monitoring data into SWIMS and the dynamic web pages; develop rules to apply new Lake Assessment Methodology to the data to generate lake assessment reports; create public portal for downloading monitoring data.	X	X	X	X	X	Lakes & Wetlands
<b>Objective LK3: Lake staff and financial resources are wisely invested.</b>						
1. Revise NR 190 Lake Management Planning Grants and develop corresponding guidance to implement new Lake Assessment Methodology and TMDL implementation strategy. Complete a prototype for online lake and AIS grant reporting. Inventory lakes with approved management plans.	X	X	X	X	X	Lakes & Wetlands
<b>Objective WQ2: Water quality is protected by implementing the Watershed Bureau's responsibilities within the Water Division Monitoring Strategy.</b>						
1. Prepare a comprehensive monitoring plan for each TMDL initiative approved by WT Management. Plan should clearly identify specific monitoring needs, timeframes, funding sources, budgets, as well as staff or contractor resources to be used to fulfill the plan. A status report on each plan to	X	X	X	X	X	Monitoring & Management

Objective Performance Measure(s)	Milestones					Lead WDNR Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
be shared with the WT Board by December 31 <sup>st</sup> of each year.						
2. Prepare an annual report on the implementation success of the Water Division Monitoring Strategy. Submit report to Water Division Administrator by January 1 <sup>st</sup> of each year.	X	X	X	X	X	Monitoring & Management
3. Complete Tier 1 (baseline) monitoring as required in annual workplan. Data is entered in SWIMS and reviewed for completeness (stations, data quality, and applicable final reports).	X	X	X	X	X	Monitoring & Management
4. Complete monitoring, SWIMS data entry/completeness review (stations, data quality, applicable final reports), and final reports for all Tier 2 and Tier 3 projects as planned, approved, and funded. Each year, final reports for Tier I baseline monitoring are linked in SWIMS and new findings are incorporated into the WATERS system in a timely manner.	X	X	X	X	X	Monitoring & Management
5. Continue to develop a comprehensive Citizen-Based Stream Monitoring program.	X	X	X	X	X	Monitoring & Management
<b>Objective WQ3: Water quality is protected and accurate water status evaluation is assisted by maintaining a comprehensive and current Impaired Waters List as required by Section 303(d) of the Federal Clean Water Act.</b>						
1. Revise Wisconsin's 303(d) List by March 1 <sup>st</sup> of even-numbered years and submit to U.S. EPA for approval.	X	X	X	X	X	Water Evaluation
<b>Objective WQ4: Water quality is protected and restoration goals are identified and established by developing Total Maximum Daily Load (TMDL) reports for surface waters on the state Impaired Waters List.</b>						
1. By October 1 <sup>st</sup> of each year, propose to WT Board the number of TMDLs that may be completed in the ensuing federal fiscal year based on resources available (i.e., requisite data, project staff, and contractor resources).	X	X	X	X	X	Water Evaluation
2. Prepare TMDL Implementation Plans concurrent with TMDL Development, within 2 years of federal approval of a TMDL, or as agreed by Bureau Management.	X	X	X	X	X	Runoff Management & Wastewater

### 5.1.c WDNR Bureau of Watershed Management Workplanning & Reporting

The WDNR Bureau of Watershed Management conducts biennial work planning that serves as a framework for management to make staff and funding decisions based on the Department's mission, the Water Division goals, objectives and performance measures, and the budget. Work planning strives to allocate staff time to high priority activities to best achieve the Department's goals. The planning process involves WDNR Central Office and Regional staff and is typically initiated in the autumn of even-numbered years and completed by the spring of odd-numbered years. The process begins with updating the performance measure listed in Section 5.1.b and results in a workplan that coincides with the development of the state biennial budget. The workplan allows more effective use of staff time, helps identify impacts of vacancies, and provides realistic staffing projections for budget purposes.

WDNR staff in the Bureau of Watershed Management provide quarterly goals reports that help to establish progress and improve the Department's ability to:

- Assess the effectiveness of programs in meeting their goals, objectives, and performance measures;
- Provide information for management decisions regarding progress and an opportunity for midcourse correction on goals, as needed;
- Communicate measurable progress on goals to Water Division staff and external partners and stakeholders;
- Streamline the process for developing an annual report; and
- Collect information for developing the next biennium's goals.

The quarterly Division Goals reports are the central reporting mechanism to track and evaluate progress in meeting the WDNR performance measures that are applicable to the NPS Program. Portions of these WDNR reports are included in the state's Section 319 annual and semi-annual reports.

### 5.1.d WDATCP Bureau of Land and Water Resources Work Priorities

The WDATCP's Bureau of Land and Waters Resources develops work plan priorities annually.

**Table 5.2 WDATCP NPS Program Implementation Work Priorities**

Goal Objective(s)	Milestones					Lead WDATCP Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
<b>Goal: Soil &amp; Water Resource Management Program Administration</b> - Develop the annual allocation of Soil and Water Resource Management Program grant funds and manage expenditure of grant awards consistent with ch. ATCP 50, Wis. Adm. Code, and Bureau policies.						
1. Collect and evaluate grant applications from 72 counties and other grant cooperators and make funding decisions based on grant criteria.	X	X	X	X	X	Resource Planning
2. Prepare preliminary and final allocations in cooperation with DNR making awards for county staff, landowner cost-sharing and other grants.	X	X	X	X	X	Resource Planning
3. Develop annual grant contracts and administer grant awards for 72	X	X	X	X	X	Resource Planning

Goal Objective(s)	Milestones					Lead WDATCP Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
counties and other grant recipients.						
4. Manage program data and prepare reports.	X	X	X	X	X	Resource Planning
5. Administer Notice of Discharge/Notice of Intent cost sharing in cooperation with WDNR.	X	X	X	X	X	Resource Planning
6. Track expenditures of WDATCP cost-share funds by practice and county and evaluate long term trends.	X	X	X	X	X	Resource Planning
7. Coordinate with federal programs, such as the conservation reserve enhancement program (see below).	X	X	X	X	X	Resource Planning, Land Management
8. Ensure that cost-share funds are used to install practices that meet state standards.	X	X	X	X	X	Resource Planning, Conservation Engineering
<b>Goal: Land &amp; Water Resource Management Plan Administration</b> - Coordinate all aspects of WDATCP-led program to support locally led conservation statewide by (1) ensuring that counties have approved Land and Water Resource Management (LWRM) plans that meet state requirements, (2) ensuring that counties submit current work plans, and (3) collecting LWRM implementation results and data for use in annual report.						
1. Implement system for review of plans, including checklist and continuous review of process to make improvements.	X	X	X	X	X	Water Quality
2. Develop and implement a schedule for completion of 72 county plan revisions within a five-year period.	X	X	X	X	X	Water Quality
3. Ensure that plan revisions meet rule requirements.	X	X	X	X	X	Water Quality
4. Conduct annual survey for annual report.	X	X	X	X	X	Water Quality
5. Assemble implementation data for annual report.	X	X	X	X	X	Water Quality
6. Ensure that counties have current approved plans as condition of grant awards. (The current version of WDATCP's plan review checklist is available at: <a href="http://datcp.wi.gov/uploads/Environment/pdf/checklist.pdf">http://datcp.wi.gov/uploads/Environment/pdf/checklist.pdf</a> .)	X	X	X	X	X	Water Quality, Resource Planning

Goal Objective(s)	Milestones					Lead WDATCP Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
<b>Goal: Working Land Initiative</b> - Ensure that the Working Lands Initiative participants (farmers and counties) understand and implement state agricultural performance standards and related conservation practices.						
1. Implement and modify required forms for checking compliance and issuing Notice of Noncompliance.	X	X	X	X	X	Land Management, Water Quality
2. Implement and modify guidance for county and farmers to meet new compliance requirements.	X	X	X	X	X	Land Management, Water Quality
3. Implement and modify the conservation certification process.	X	X	X	X	X	Land Management, Water Quality
4. Implement and modify conservation compliance procedures.	X	X	X	X	X	Land Management, Water Quality
5. Provide outreach and education about new compliance framework.	X	X	X	X	X	Land Management, Water Quality
6. Provide compliance assistance to counties.	X	X	X	X	X	Land Management, Water Quality
7. Assist counties in identifying farmers claiming tax credits who must meet compliance requirements.	X	X	X	X	X	Land Management, Water Quality
8. Develop procedures for the review of local compliance efforts, and conduct an average of 18 reviews of county programs every year.	X	X	X	X	X	Land Management, Water Quality
9. Support counties in efforts to evaluate compliance status of farmers collecting tax credits and ensuring that counties evaluate all farmer participants once every four years for compliance.	X	X	X	X	X	Land Management, Water Quality
<b>Goal: Nutrient Management</b> - Improve/protect water quality by promoting the statewide adoption of nutrient management performance standard.						
1. Conduct training workshops including train the trainer workshops to educate on nutrient management planning.	X	X	X	X	X	Water Quality
2. Support SNAP software development and updates.	X	X	X	X	X	Water Quality
3. Support SNAP software training, including farmer training.	X	X	X	X	X	Water Quality

Goal Objective(s)	Milestones					Lead WDATCP Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
4. Manage grants administration for cost-share funds and nutrient management planning support activities, including coordination with UW CALS, Extension and Wisconsin Technical Colleges.	X	X	X	X	X	Water Quality
5. Participate in Quality Assurance Team.	X	X	X	X	X	Water Quality
6. Maintain management planning restriction maps that assist a farmer in planning nutrient applications by managing vulnerable fields (steep or close to water) and risky seasons (winter being the worst). Available at: <a href="http://www.manureadvisorysystem.wi.gov/">http://www.manureadvisorysystem.wi.gov/</a> .	X	X	X	X	X	Water Quality
7. Maintain runoff risk indicator that lets farmers know whether it is risky to spread based on weather conditions today or tomorrow. Is the soil wet and is it going to rain? More importantly, is it likely that runoff will occur? Available at: <a href="http://www.manureadvisorysystem.wi.gov/">http://www.manureadvisorysystem.wi.gov/</a> .	X	X	X	X	X	Water Quality
8. Evaluation of planning, implementation, and water quality impacts.	X	X	X	X	X	Water Quality
9. Nutrient management water quality research.	X	X	X	X	X	Water Quality
10. Assist WDNR on NR 151, P standards, and TMDL issues.	X	X	X	X	X	Water Quality
11. Assist WDNR on EPA Hypoxia Taskforce (this will involve coordination CREP and WRP programs).	X	X	X	X	X	Water Quality
<b>Goal: Conservation Engineering</b> - Provide technical and other support to county land conservation departments (LCDs) and others to ensure properly designed conservation practices						
1. Provide engineering training and design assistance to LCD staff.	X	X	X	X	X	Conservation Engineering
2. Conduct engineering plan reviews.	X	X	X	X	X	Conservation Engineering
3. Develop and maintain BMP standards, including technical standards for manure storage and transfer, and feed	X	X	X	X	X	Conservation Engineering

Goal Objective(s)	Milestones					Lead WDATCP Section
	FY 11	FY 12	FY 13	FY 14	FY 15	
storage leachate and runoff control.						
4. Develop computer design aids and standard designs.	X	X	X	X	X	Conservation Engineering
5. Maintain and administer Agricultural Engineering Practitioner Certification Program.	X	X	X	X	X	Conservation Engineering
6. To enhance the CAFO WPDES permitting process by establishing a mutually supported DNR/WDATCP interagency work unit to provide timely review and approval of CAFO engineering plans.	X	X	X	X	X	Conservation Engineering

### 5.1.e WDATCP Bureau of Land & Water Resources Workplanning & Reporting

The WDATCP Bureau of Land & Water Resources, which houses WDATCP's portion of the NPS Program, conducts annual workplanning. WDATCP staff use the Section 319 semi-annual/annual reports that they provide to WDNR in part to evaluate progress in meeting the Bureau's goals. The Department also measures program performance by tracking the activities county and other partners. The Soil & Water Resources Management Program uses a database to track expenditures of allocated funds including county spending of WDATCP cost-share funds by practice and county. The SWRM database enables WDATCP to evaluate long-term trends. The agency uses a database to effectively track CREP projects and the environmental benefits they generate. To better track the activities of the new Working Lands Initiative, including compliance monitoring, a new database is in the works. WDATCP also tracks engineering review of plans for the design and installation of manure storage, feed storage, and other livestock structures.

### 5.1.f Annual Combined WDNR/WDATCP Reporting

The WDNR and the WDATCP are required under state statute to submit a report to the Wisconsin LWCB summarizing and evaluating progress made throughout Wisconsin to implement the land and water conservation programs funded or administered by the agencies. To develop this annual report, the agencies use the information provided to them in an annual survey of counties to determine, among other things, progress in implementation of the performance standards. Information from the SWRM database, annual county work plans and the county survey is incorporated into the WDATCP-WDNR annual report to the Wisconsin Land and Water Conservation Board. The agencies publish this report online: [http://datcp.wi.gov/Environment/Land\\_and\\_Water\\_Conservation/Annual\\_Reporting/index.aspx](http://datcp.wi.gov/Environment/Land_and_Water_Conservation/Annual_Reporting/index.aspx).

## 5.2 Administrative Indicators

### 5.2.a Fiscal Accountability – Section 319 Grants

The WDNR has had the opportunity to be an EPA grant recipient for the past three decades and has consistently demonstrated grant performance accountability. WDNR management of the state's Section

319 grant is a joint effort that consists of multiple mechanisms to ensure expected outcomes and deliverables have been satisfactorily met. Internal Grant Project Officers (GPOs) are dedicated to each project to provide oversight and coordination. WDNR project officers have satisfactorily met reporting requirements as outlined in the Section grant's programmatic and administrative conditions (annual, and/or semi-annual, and final) for all grants received to date. Project officers are responsible for meeting technical reporting and periodic project status requirements conveyed through reporting updates or communication and correspondence with EPA.

Financial accountability has been demonstrated through systematic tracking by staff grant accountants and financial accountants. State budgetary information systems track project activity and project related expenditures in order to provide accurate fiscal reporting. State procurement policies and processes provide guidelines to ensure funds are managed appropriately. Financial reporting is completed on a quarterly basis as required in programmatic terms and conditions to include a "Final Federal Financial Report" (SF-425).

### **Performance Partnership Grant (PPG)**

PPGs have consolidated administrative overhead and created greater flexibility in financial management within several grant categories. Through the Environmental Partnership Performance Agreement (EnPPA), WDNR is working toward five environmental goals to enhance efforts to protect and restore water resources and to measure accomplishments. The five goals are:

1. Support healthy aquatic biological communities;
2. Support fish populations with safe levels of contaminants;
3. Designated swimming waters will be swimmable;
4. Public water supplies will have water that is consistently safe to drink, and;
5. The quantity and quality of critical aquatic habitat, including wetlands, will be maintained or improved.

The PPG is the primary federal funding mechanism to work toward these goals. The EnPPA between the State of Wisconsin and EPA serves as the overall work plan for federal grant moneys awarded under sections 106, 319, 604(b) and 104(g) of the Clean Water Act. As part of the EnPPA process, the State of Wisconsin prepares a self-assessment annual report at the end of each federal fiscal year identifying work plan accomplishments. In addition, the state also prepares a more in-depth report for expenditure of Section 319 grant funds.

### **Section 319 Incremental Grant**

Section 319 Incremental Grant funds are used by the WDNR to implement the Wisconsin NPS Program. Funds are targeted to areas and efforts backed by watershed-based nonpoint source control plans or TMDLs. Incremental funds support implementation of best management practices, water quality monitoring, TMDL development, and TMDL implementation in areas of the state with nonpoint source impaired water bodies.

WDNR provides regular reports to EPA on progress made in projects funded with Section 319 incremental monies. Progress is measured through annual reports from counties, as discussed in section 5.2 TMDL reports submitted to EPA, and development of a TMDL implementation program.

### **WDNR Bureau of Finance**

The Bureau of Finance is responsible for the administration and management of the Department's fiscal and controllership functions. It serves as a financial advisor to the Office of the Secretary, administrators and program managers.

The bureau objectives are to ensure that financial transactions comply with statutes, administrative rules and the State Controller's Office policies and procedures; and to summarize data into meaningful and accurate reports for both internal and external customers.

The bureau consists of five sections: Accounting Systems, General Accounting, Management Accounting, Purchasing, and Reporting. A Finance team in each region provides selected services to its respective region.

### **WDNR Bureau of Community Financial Assistance**

The Bureau of Community Financial Assistance (CFA) manages grant and loan programs for WDNR, awarding about \$200 million annually. Program staff work closely with local governments and interested organizations to develop and support projects that protect public health, natural resources, the environment and outdoor recreational opportunities. CFA staff reduces duplication of effort by consolidating grant and loan management activities in one Bureau.

From a financial management perspective, the Bureau is responsible for ensuring that:

- People who receive money are legally entitled to it
- All grant applicants are treated fairly and equitably
- Program dollars are fully used
- Project work gets done
- State and federal program requirements are met.

The Bureau develops:

- Funding packages for a project that could include grants from a variety of sources
- Financial reports for federal and state agencies as well as the Legislature
- Budgets for individual projects, as well as grant programs, with our partners.

The Bureau provides technical assistance for DNR staff, local government, conservation organizations, and other grant applicants:

- To plan and prepare for a project
- To make project applications competitive
- To design programs and projects with evaluation in mind.

Finally, CFA ensures that projects awarded funds:

- Are aligned with WDNR's mission
- Are run within state and federal regulations
- Meet program requirements through hands-on site visits.

### **Community Assistance Oracle System (CAOS)**

CFA manages numerous state and federally funded grant programs, and each of these programs has its own needs, conditions, data sets, and work flow processes. CAOS, or the "Community Assistance Oracle System", is an Oracle database application designed to help track and manage fiscal grants administered by the CFA Bureau. CAOS's "sister" database, ELOS (Environmental Loans Oracle System), manages the bureau's fiscal loans.

CAOS stores data, produces documents, and tracks the workflow life cycle of a grant from application through project close and compliance.

In addition to being able to store data and track project status for many different grants, CAOS is also able to provide MS-Word letters and documents that can be generated for a particular grant. A series of standard and program specific reports, available in Excel, PDF and other formats in CAOS, allow users to query the database for details such as projects nearing expiration, projects pending a final payment, projects in a particular legislative district or county, and so on. Reports can be generated not only by grant program, but across programs as well – such as a user being able to see all grants awarded in a particular county or to a particular grantee.

### 5.2.b GRTS Reporting System

GRTS is a web-based data system that allows for efficient data entry to report Section 319 grant progress. Table 5.3 presents the data elements that currently must be entered into GRTS at the project level:

**Table 5.3 GRTS Mandated Elements**

Project Title	Statewide Indicator
Load Reduction Indicator	TMDL Status
Project Start & End Dates	Section 319(h) Base/Incremental Funds
Description	Overview
Methods	Functional Category
Category of Pollution	Waterbody Type
USGS HUC/Watershed	Wetland Acres Restored/Created*
Drainage Area Location	Load Reduction Model*
Stream Reach Code(s)	Pollutants/Load Reductions*
Best Management Practices (BMPs)	303(d) Impaired List ID*
Streambank Shoreline Protection*	Stream Channel Stabilization*

\*If applicable

WDNR conducts the necessary GRTS data entry as new Section 319 grants are awarded, as well as annual and semi-annual reporting of project progress.

### 5.2.c Agricultural Performance Standards and Related Compliance Tracking & Evaluation

Implementation of the statewide agricultural performance standards and manure management prohibitions contained in ch. NR 151, Wis. Adm. Code, is a partnership between state government (WDNR, WDATCP), local government (primarily county), and individual farmers. Each entity has a different role to play in NR 151 implementation and collects different types of information that is used to assess progress:

- Annually, the WDNR and WDATCP collect and evaluate basic information from each county about ch. NR 151, Wis. Adm. Code, implementation and prepare statewide statistical summaries that give a broad view of statewide activity. This information is presented in the annual Land and Water Conservation Report discussed in Section 5.1.f.
- WDNR tracks its grant program effectiveness in addressing standards and prohibitions. This includes tracking the portion of available grant funds committed to standards and prohibitions, the percentage of grant funds committed to grants, and the portion of funded projects completed.
- WDNR evaluates and comments on each draft County Land and Water Resource Management Plan to assure that the plan adequately addresses ch. NR 151, Wis. Adm. Code, implementation. WDNR also tracks the development of memorandums of understanding between individual counties and WDNR for coordinating state and local ch. NR 151, Wis. Adm. Code, implementation roles and responsibilities.
- WDNR tracks ch. NR 151, Wis. Adm. Code, notice issuance under ss. NR 151.09 and NR 151.095, Wis. Adm. Code, and satisfaction of these notices. WDNR also tracks state enforcement of cases related to violation of ch. NR 151, Wis. Adm. Code.

- WDNR also tracks regulatory activity under ch. NR 243, Wis. Adm. Code, for small and medium sized farms including issuance and satisfaction of pre-regulatory notices (NOIs), regulatory notices (NODs) and environmental enforcement cases. Some of these are performance standards violations.

Suggested procedures for conducting and reporting compliance are contained in the *Implementation Strategy for NR 151 – Agricultural Nonpoint Performance Standards and Prohibitions* (<http://runoffinfo.uwex.edu/pdf/strategy151.pdf>) that was developed jointly by WDNR, WDATCP and representatives of Wisconsin's Land Conservation Departments. The Strategy provides a framework for local implementation of the entire 2002 redesigned nonpoint program, though counties have widely varying programs and processes in place to conduct and track compliance checks. Consistent with s. 92.10(6)(a)5, Wis. Stats., and s. ATCP 50.12(2)(i) Wis. Adm. Code, the first component of this framework establishes that in their Land and Water Resource Management Plans, counties identify the local strategy and process they will use to implement and ensure compliance with the State's agricultural performance standards and prohibitions. Component 4 of the Strategy addresses compliance checks. The suggested process and elements are contained in Table 5.4.

Although state laws authorize counties to enforce and track implementation of ch. NR 151, Wis. Adm. Code, standards and prohibitions, counties are not required to do so. The exception is that counties are required to assure that farmers receiving payments or credits under the state Working Lands Initiative, or who receive a local livestock siting permit, meet ch. NR 151, Wis. Adm. Code, cross-compliance requirements. Detailed records of compliance with performance standards and prohibitions, by individual land parcel, are developed and maintained by counties on a case-by-case basis. These data systems are typically GIS based. Some are developed in-house by the County. Others are developed as proprietary systems by the private sector and are sold to County clients. Detailed parcel-specific data is kept at the local level and is not reported to state agencies. It is available to state agencies involved in ch. NR 151, Wis. Adm. Code, enforcement. The WDNR and WDATCP are developing protocols for counties to improve reporting data by parcel so agencies can evaluate general compliance statistics by watershed. However, additional funding is needed to implement this new reporting at the county level.

**Table 5.4 Ch. NR 151, Wis. Adm. Code, Implementation Strategy: Determination of Compliance.**

Component	Elements
Records Inventory	1. Compile records of existing State and/or Federal program participants who have previously signed contracts to install conservation practices to control soil erosion and nonpoint sources of pollution.
	2. From records, evaluate which parcels are subject to which standards and prohibitions.
	3. Based on above evaluations, determine which landowners are currently already meeting standards and prohibitions.
Onsite Evaluations	1. Compile list of parcels for which on-site evaluations will be conducted, according to systematic methodology outlined in the county Land & Water Plan.
	2. Contact owners of selected parcels and schedule site evaluations.
	3. Conduct onsite evaluations: a) Determine and document the extent of current compliance with each of the performance standards and prohibitions. b) Where non-compliant, determine costs and eligibility for cost sharing.

#### 5.2.d Manure Runoff/Spills Reporting & Tracking

Tracking of runoff and spill information is ongoing, with an attempt to centralize as much information as possible. One obstacle is that many spill and runoff events are not reported to the WDNR. State law only requires that spills with the potential to harm human health or the environment be reported to WDNR. And currently, there is no comprehensive database to track manure runoff or spills in Wisconsin. Of the spill/runoff events being centrally tracked by WDNR, the following data is kept: date; WDNR region;

county; location information; nature of spill, release or runoff; resource impacts; person reporting; and, relevant contact information. Efforts to characterize spill and runoff events are ongoing as well.

### 5.2.e County Work Plan Updates

As a condition of annual grant funding from WDATCP, counties must update their work plans to reflect the most current activities that they intend to pursue. These updates fill in critical details not provided in long-term LWRM plans which are revised less frequently.

## 5.3 Environmental Indicators

Water monitoring data are the primary environmental indicators of improvements to water quality in Wisconsin. Significant monitoring is conducted in accordance with WDNR's *Water Division Monitoring Strategy*. The Strategy directs the WDNR's monitoring efforts to efficiently address the variety of management information needs, while providing adequate depth of knowledge to support management decisions.

### 5.3.a Tier 3 Monitoring

The Strategy employs a three-tiered approach to the collection of water resource data, as outlined in Chapter 2. The most intense and costly monitoring is for Tier 3, which involves follow-up studies on targeted waters to determine the success of management actions. Tier 3 monitoring is also used to evaluate levels of compliance of facilities regulated for effluent discharges to waterways, and determine effectiveness of permit conditions in protecting water quality. However, Tier 3 monitoring resources are too limited to allow follow-up to all projects where significant resources have been invested in nonpoint source controls. WDNR will continue to seek the funding resources needed to more fully realize the potential of Tier 3 monitoring.

### 5.3.b Citizen monitoring

As discussed in Chapter 2, Wisconsin enjoys a robust, well organized citizen surface water monitoring program, a multi-partner effort of the WDNR and the University of Wisconsin-Extension. Monitoring protocols are well-established, volunteers are well-equipped and trained, and credible data is generated for hundreds of bodies of water each year, including lakes, streams and wetlands, among other natural resources.

Level 2 and 3 citizen monitoring data is uploaded in the WDNR's monitoring database, where it is reviewed for quality assurance, integrated with other water resource data and is used in the same manner as any Department-collected data for status and trends monitoring.

### 5.3.c Clean Water Act Report Consolidation

Wisconsin now submits both its *Clean Water Act Report to Congress* and *Impaired Waters List* in an integrated report. The *2010 Water Quality Report to Congress* ([http://dnr.wi.gov/org/water/condition/2010\\_IR/Attachment\\_A\\_2010\\_WQ\\_RptToCongress\\_FINAL\\_3-30-2010.pdf](http://dnr.wi.gov/org/water/condition/2010_IR/Attachment_A_2010_WQ_RptToCongress_FINAL_3-30-2010.pdf)) combines a summary of WDNR's water protection programs, an overview of the general status of the state's lakes and streams, and a list of impaired waters; which are those not meeting water quality expectations. This report required the application of new assessment protocols to a wealth of monitoring data collected by WDNR field biologists and fisheries staff and over 1,000 volunteers in the Citizen Lake Monitoring Network and Citizen-Based Stream Monitoring Programs described above.

### 5.3.d Data Integration

Data for these reports is generated from the WDNR's Surface Water Integrated Monitoring Systems (SWIMS) and Waterbody Assessment, Tracking, Evaluation, and Reporting System (WATERS) databases after being reviewed for quality assurance. Thousands of assessment sites on waterbodies (using the state's 1:24,000 scale hydrography dataset) are analyzed to create waterbody condition determinations such as excellent, good, fair or poor. The SWIMS and WATERS databases, created over a six-year period from 2002 to 2008, provide real-time data through the GIS-platform called the "Surface Water Data Viewer" ([http://dnr.wi.gov/org/water/data\\_viewer.htm](http://dnr.wi.gov/org/water/data_viewer.htm)). This mapping application allows people to view and analyze watershed-related data on lakes and streams, monitoring stations, impaired waters, Outstanding or Exceptional Resource Waters, etc. for decision making.

## 5.4 Social Indicators

Social indicators for NPS programs function as interim measures of performance for projects seeking to influence environmental behaviors that influence NPS water quality. They complement administrative and environmental indicators and provide an approach for focusing social measures and using them for assessing project and program performance. The WDNR will encourage NPS projects to use the Social Indicators for Planning and Evaluation System (SIPES) developed with USEPA, other state agencies, and the USDA/NIFA Great Lakes Regional Water Program. The SIPES handbook and related information is available here: <http://www.uwex.edu/ces/regionalwaterquality/Flagships/Indicators.htm>.

### Application and Methodology

Social indicators for NPS and the SIPES approach are intended for NPS projects seeking behavior change to improve or protect water quality. These include projects addressing agricultural NPS, urban nutrient and flow reduction, training among professionals on NPS issues (e.g., landscapers or snow-plow drivers), and others.

SIPES uses survey and interview data with target audiences to measure pre and post levels of awareness, attitude, constraints, and behaviors. Measures also address components of capacity for the organizations implementing projects. Projects focusing on watershed planning would use the approach near the end of their planning process. Projects implementing NPS plans would include pre and post measurement as part of their project work plan.

Implementation projects would include the following tasks (Table 5.5) in their work plans; projects involved in plan development would only conduct the pre-intervention survey.

**Table 5.5 Project tasks for using social indicators.**

Benchmarks	Task Description	Start Date	Completion
Assemble information for survey	Assemble lists of addresses, landowners, etc.		
Develop questionnaire	Work with SIDMA to develop questionnaire		
Pre-intervention survey	Distribute the survey to target audience (include necessary practices to ensure adequate response rate)		
Data return and recording	Enter returned survey data into SIDMA		
Post-intervention survey	Distribute the survey to target audience (include necessary		

Benchmarks	Task Description	Start Date	Completion
	practices to ensure adequate response rate)		
Data return and recording	Enter returned survey data into SIDMA		
Data reporting and analysis	SIDMA analyzes data for differences between the pre and post intervention surveys. Project team assesses the information for relevance to planning and implementing project strategies		
Project assessment	Implementation interventions are amended, as needed		

The SIPES handbook provides step-by-step guidelines for each task. Once finalized in 2011, projects using social indicators will have access to the online Social Indicators Data Management and Analysis (SIDMA) tool. SIDMA will assist projects in developing a suitable questionnaire and will providing the system for data entry and analysis. Individual projects and WDNR staff will have access to SIDMA data, allowing for comparison over time and across multiple projects.

Sample survey questionnaires and additional guidance are available at the project website: <http://www.uwex.edu/ces/regionalwaterquality/Flagships/Indicators.htm>.

### Reporting, Implementation, and Integration with NPS Management and Evaluation

Social indicators provide additional information to aid projects and NPS program staff in understanding how to focus project implementation efforts and determine whether change occurs. SIDMA will integrate with existing administrative reporting systems (e.g. GRTS) to simplify state program reporting. Staff involved with individual NPS projects can use results reports with local audiences.

A list of core social indicators used in SIPES, along with specific project goals and intended outcomes for each type of indicator are included in Table 5.6. This core set was selected to provide a manageable number of indicators that address important components of the behavior change process. Social indicators will help project staff focus and evaluate their efforts toward the following intended outcomes:

- Increased awareness of relevant technical issues and/or recommended practices in critical areas;
- Changed attitudes to facilitate desired behavior change in critical areas;
- Reduced constraints to behavior change;
- Increased capacity to leverage resources in critical areas;
- Increased capacity to support appropriate practices in critical areas; and
- Increased adoption of practices to maintain or improve water quality in critical areas.

The set of core social indicators (Table 5.6) is not comprehensive. While some indicators may appear more relevant to some projects than others, all projects using the SIPES system will collect all the core indicators. Other social indicators can also provide important information for planning, implementing, and evaluating NPS projects.

WDNR and partners will support social indicators in the following ways:

- Work with project staff to help them understand which steps in the SIPES apply to their projects.
- Help project staff determine what types of mid-project evaluations are necessary.
- Help insure that projects collect data using the SIPES protocols.

- Communicate with the U.S. EPA and the regional social indicators team on refining and improving SIPES.

**Table 5.6 Core Social Indicators in SIPES.**

<b>Goal</b>	<b>Outcome(s)</b>	<b>Indicators</b>
<b>Goal 1:</b> Increase target audience awareness	<b>Awareness Outcome 1:</b> Increase awareness of relevant technical issues and/or recommended practices in critical areas	<b>Awareness Indicator 1:</b> Awareness of consequences of pollutants to water quality <b>Awareness Indicator 2:</b> Awareness of pollutant types impairing water quality <b>Awareness Indicator 3:</b> Awareness of pollutant sources impairing water quality <b>Awareness Indicator 4:</b> Awareness of appropriate practices to improve water quality <b>AI 4.1:</b> Awareness of general practices to improve water quality <b>AI 4.2:</b> Awareness of key practices to improve water quality
<b>Goal 2:</b> Change target audience attitudes	<b>Attitudes Outcome 1:</b> Change attitudes to facilitate desired behavior change in critical area	<b>Attitudes Indicator 1:</b> General water-quality-related attitudes <b>Attitudes Indicator 2:</b> Willingness to take action to improve water quality
<b>Goal 3:</b> Reduce target audience constraints	<b>Constraints Outcome 1:</b> Reduce constraints to behavior change	<b>Constraints Indicator 1:</b> General constraints to behavior change <b>Constraints Indicator 2:</b> Constraints to adopting key practices
<b>Goal 4:</b> Increase organizational capacity	<b>Capacity Outcome 1:</b> Increase capacity to leverage resources in critical areas	<b>Capacity Indicator 1:</b> Resources leveraged by grant recipient in the watershed as a result of project funding (including cash and in-kind resources)
	<b>Capacity Outcome 2:</b> Increase capacity to support appropriate practices in critical areas	<b>Capacity Indicator 2:</b> Funding available to support NPS practices in critical areas <b>Capacity Indicator 3:</b> Technical support available for NPS practices in critical areas <b>Capacity Indicator 4:</b> Ability to monitor practices in critical areas

## CHAPTER 6: Future Directions – Through FFY 2015

Wisconsin's NPS Program continues to evolve and grow, most notably with the promulgation of numeric phosphorus water quality standards and additional statewide performance standards, as well as increased regulatory and financial capacity to implement TMDLs. The NPS Program will actively evaluate program subcomponents to identify and address gaps with new initiatives, ensuring efficient and effective program implementation into the future. However, with the state's current economic climate, the program faces many challenges that will limit its ability implement new initiatives in the years covered by this plan (FFY 2011-2015).

In recent years, the state has faced a growing budget deficit. To address the existing deficit, the state's 2009-2011 biennial budget contained program funding lapses and furlough days for all state employees. State agency budget cuts will continue to depress environmental programs. As the state develops its 2011-2013 budget, economic forecasts do not improve the outlook for budget improvements. Wisconsin ended its state fiscal year 2010 with a \$2.71 billion deficit.

In addition, the State of Wisconsin is making a concerted effort to reduce the total number of state employees. Significant staff cuts have occurred in all agencies in the past several years. Numerous employees are retiring, and state positions have been eliminated to address the budget deficit. The remaining positions have had to pick up additional work, making it increasingly difficult to implement existing programs.

With the economic uncertainty, the program's future initiatives, listed below, will be ongoing over the next five years and focused, as resources allow, on enhancing the effectiveness of existing programs and regulatory authority to ensure continued progress in controlling NPS pollution:

- Implementation of the phosphorus water quality standard, including the "Adaptive Management" option outlined in ch. NR 217, Wis. Adm. Code
- Development of a water quality trading framework
- Development of a statewide nutrient reduction strategy
- Implementation of ch. NR 151, Wis. Adm. Code, additions/revisions, including the new performance standards
- Development of statewide nutrient export spatial modeling tools
- Development of a revised Impaired Waters Program framework
- Continued development and implementation of TMDLs
- Continued investigation of watershed approaches to better integrate point and nonpoint source efforts
- Development and evaluation of watershed approaches for agricultural NPS-dominated watersheds, integrating federal, state, local, and non-governmental resources
- Development of a NPS/TMDL implementation planning framework
- Implementation of ch. NR 153, Wis. Adm. Code, revisions for the TRM Grant Program, increasing the WDNR's ability to fund TMDL implementation
- Improving partnerships with WDATCP and other stakeholders to further NPS reduction goals, while maintaining farm viability and productivity
- Development of educational/outreach opportunities, targeted at addressing TMDLs, implementation of the phosphorus standard, water quality trading, and implementation of the new performance standards
- Continued investigation of solutions to groundwater NPS pollution problems
- Updating surface water quality assessment guidance
- Continued updates to the assessment database to make the documentation of the state's waters as comprehensive as possible.

## Citations

Borchardt. (1997, 1999)

Borchardt, Mark A., Nathaniel L. Haas, and Randall J. Hunt. (2004) Vulnerability of Drinking-Water Wells in La Crosse County, Wisconsin, to Enteric-Virus Contamination from Surface Water Contributions. *Applied and Environmental Microbiology*, 70 (10), 5937-5946.

Bradbury. (2007)

Ferguson, Paul. (January 2009) *Nonpoint Source Water Pollution Abatement and Soil Conservation Programs*. Wisconsin Legislative Fiscal Bureau: Informational Paper 66.

Holden, Carol and Shell, Justin. (2008) *Wisconsin Land and Water Conservation Annual Progress Report*. WDATCP, WDNR.

Hunt, R.J., and M.A. Borchardt. (2003) Susceptibility of La Crosse municipal wells to enteric virus contamination from surface water contributions. Final report submitted to Wisconsin Department of Natural Resources, June 23, 2003.

Nelson. (2010) Personal communication.

Warzecha, C., R. Gerhardt, and S. Kluender. (1995) Wisconsin private well water quality survey. Wisconsin Department of Health and Social Services, Department of Natural Resources, and State Laboratory of Hygiene. Unpublished report.

WDNR. (2008) *The Waters of Wisconsin: A Progress Report*.