WISCONSIN'S NONPOINT SOURCE PROGRAM MANAGEMENT PLAN

FFY 2026-2030

Approved by the EPA on March 6, 2026

Wisconsin's approach to addressing water quality impacts from nonpoint source pollution.

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Acronyms & Abbreviations

Agencies, Departments and Organizations

DATCP	Wisconsin Department of Agriculture, Trade and Consumer Protection
DHS	Wisconsin Department of Health Services
DNR	Wisconsin Department of Natural Resources
DOT	Wisconsin Department of Transportation
DSPS	Wisconsin Department of Safety and Professional Services
EPA	United States Environmental Protection Agency
FSA	Farm Service Agency (part of USDA)
USFWS	United States Fish and Wildlife Service
LCC	County Land Conservation Committee
LCD	County Land Conservation Department
LWCB	Wisconsin Land and Water Conservation Board
LWCD	County Land and Water Conservation Department
NRCS	Natural Resources Conservation Service (part of USDA)
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UWEX	University of Wisconsin-Madison Division of Extension

State and Federal Programs and Terms

AWQMP	Areawide Water Quality Management Plan
BMP	Best Management Practice
CAFO	Concentrated Animal Feeding Operation (Facilities permitted by DNR under NR 243)
CBCW	Clean Boats, Clean Waters
CLMN	Citizen Lake Monitoring Network
CREP	Conservation Reserve Enhancement Program (Federal and state grant program)
CRP	Conservation Reserve Program
CWA	Clean Water Act
CWFP	Clean Water Fund Program
GCC	Wisconsin Groundwater Coordinating Council (comprised of eight state agencies)
EQIP	Environmental Quality Incentive Program (NRCS grant program)
ES	Enforcement Standard
FPP	Farmland Preservation Program (DATCP program)
GRTS	Grants Reporting & Tracking System
HUC	Hydrologic Unit Codes
LWRM	Land and Water Resource Management (DATCP planning program)
NOI	Notice of Intent to Issue a Notice Discharge (DNR program)
NOD	Notice of Discharge (DNR program)
NPS	Nonpoint Source
NPSMP	Nonpoint Source Management Plan
NWQI	National Water Quality Initiative (NRCS grant program)
PAL	Preventative Action Limit
SWIMS	Surface Water Integrated Monitoring System (DNR database)
SWRM	Soil and Water Resource Management (DATCP grant program)
TRM	Targeted Runoff Management grant (DNR grant program)
UNPS	Urban Nonpoint Source and Stormwater Management grant (DNR grant program)
TMDL	Total Maximum Daily Load
WATERS	Waterbody Assessment, Tracking, Evaluation, and Reporting System (DNR database)
WAV	Water Action Volunteers (Citizen monitoring program)
WisCALM	Wisconsin Consolidated Assessment and Listing Methodology
WPDES	Wisconsin Pollutant Discharge Elimination System (DNR permitting program)
WWOW	Wonderful Waters of Wisconsin

Chapter 1 Introduction

This document outlines the state of Wisconsin's approach to addressing water quality impacts from nonpoint sources (NPS) of pollution. Section 319 of the Federal Clean Water Act (CWA) requires states to develop a management program "for controlling pollution added from nonpoint sources to the navigable waters within the State and improving the quality of such waters." (CWA Sec. 319 (b) (1)). This statewide management plan meets the United States Environmental Protection Agency (EPA) Clean Water Act requirements and ensures Wisconsin's eligibility for § 319 (federal NPS Program) funding. This version of the Wisconsin NPS Program's Management Plan covers the projected management activities and efforts from federal fiscal years (FFY) 2026 through 2030 and will be automatically amended based upon enacted administrative rules and modifications to existing state statutes listed in this document. The state NPS PMP is reviewed and revised at a minimum every five years.

1.1 Legislative Authority

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 the CWA goal and protection of Wisconsin's groundwater resource.

Farmland Preservation - Chapter 91, Wisconsin Statutes (Wis. Stats.), authorizes Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) to promulgate rules that set forth technical specifications for farmland preservation zoning maps and establish regulations of farmlands in support of the nonpoint source pollution control program.

Soil and Water Conservation and Animal Waste Management - Ch. 92, Wis. Stats., describes the purpose and duties of DATCP to achieve the intent of the legislature associated with nonpoint source pollution. Stated intent includes implementing policy by enacting this soil and water conservation law to:

a) Establish goals and standards for conservation of soil and water resources;

b) Provide for cost sharing, technical assistance, educational programs and other programs to conserve soil and water resources;

c) Encourage coordinated soil and water conservation planning and program implementation; and

d) Enable the regulation of harmful land use and land management practices by county ordinance.

Department of Agriculture, Trade and Consumer Protection - Ch. 93, Wis. Stats., establishes and describes the powers & duties of the DATCP.

Groundwater Protection Standards - Ch. 160, Wis. Stats., authorizes and defines the duties of the Wisconsin Department of Natural Resources (DNR) to regulate, enforce and promulgate administrative rules related to groundwater protection standards.

Water and Sewage - Ch. 281, Wis. Stats., authorizes and establishes the DNR 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.

Pollution Discharge Elimination - Ch. 283, Wis. Stats., grants the DNR all authority necessary to establish, administer and maintain a state pollutant discharge elimination system.

Remedial Action - Ch. 292, Wis. Stats., grants authority and responsibility to the DNR associated with hazardous substance spills and other remedial actions.

1.2 Wisconsin's Water Landscape

Wisconsin enjoys a historic abundance of clean and public water resources with over 84,000 miles of streams flowing through the state and more than 15,000 lakes totaling 1.2 million surface acres. Add to those water resources over 5.3 million acres of wetlands and enough groundwater to cover Wisconsin to a depth of 100 feet. 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, wetlands and groundwater that are important to Wisconsinites: habitat for aquatic and terrestrial organisms, source of drinking water, recreational uses, storage of floodwaters, assimilation of wastes, hydropower generation and irrigation supply.

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 estimates that nearly 80% of the lakes and streams within assessed watersheds are degraded by NPS pollution. In addition, approximately 10% of private wells statewide have not met drinking water nitrate standards due to NPS impacts. Similarly, NPS impacts to numerous public water supplies have required interventions to assure that the nitrate maximum contaminant level is not exceeded. The Clean Water Act goals of fishable and swimmable waters will not be met and Safe Drinking Water Act standards will continue to be exceeded without sustained attention to the challenge of reducing polluted runoff.

What is Nonpoint Source Pollution?

The origins of NPS pollutants are diffuse and often difficult to trace. 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 and sources include, but are not limited to:

- fertilizers, herbicides, and insecticides from agricultural lands and residential areas,
- oil, grease, and toxic chemicals from non-permitted urban runoff and other sources,
- sediment and nutrients from improperly managed construction sites, crop and forest lands, and eroding stream banks,
- salt from road de-icing and acid drainage from abandoned mines,
- bacteria and nutrients from animal production operations and feedlots, pet wastes, and faulty septic systems and,
- other diffuse sources such as atmospheric deposition and internal recycling of historic pollution.

1.3 Program Overview of Nonpoint Source Pollution Control in Wisconsin

Reducing NPS pollution requires cooperation between numerous stakeholders (Appendix A) including local governments, state and federal agencies, educational institutions, advocacy organizations and private citizens. Three main stakeholders manage NPS pollution in Wisconsin: the DNR, the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), and collectively, the 72 Wisconsin counties. The DNR and DATCP play three key roles 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 and base grants.

The DNR and DATCP work jointly to address 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. Each county must

develop a Land and Water Resource Management (LWRM) Plan that describes the goals and activities to control runoff and other water pollution. In addition to other watershed plans, County LWRM Plans define a locally appropriate mix of approaches (e.g. regulatory, nonregulatory, financial and technical assistance) for implementing state performance standards.

Regulatory Approach: The current regulatory approach to NPS pollution reduction centers on statewide enforceable agricultural and non-agricultural performance standards and manure management prohibitions which are overseen by the DNR through ch. NR 151, Wis. Adm. Code. The DATCP establishes technical standards and other elements related to program implementation, through ch. ATCP 50, Wis. Adm. Code. Wisconsin is continuously improving NPS performance standards, technical specifications, and financial assistance programs. Most recently, ch. NR 151, Wis. Adm. Code, was revised and went into effect in June 2018. The revisions added a new targeted performance standard for manure application in areas with Silurian bedrock. The DATCP revised ch. ATCP 50, Wis. Adm. Code, in June 2024. The performance standards and prohibitions as well as the DNR/DATCP grant programs are discussed in more detail in Chapter 5.

Non-regulatory Approach: Non-regulatory approaches to NPS pollution reduction are equally important to maintaining fishable, swimmable, and drinkable 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, producer-led initiatives, citizen monitoring programs, and financial assistance programs are discussed in more detail in Chapter 5.

Chapter 2 Wisconsin NPS Program Strategy

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 – 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. This theme is reflected in the overall DNR mission as well as in other department strategic plans. The DNR approach to NPS reflects the EPA's 2024 Nonpoint Source Program and Grants Guidelines for States and Territories, and any subsequent amendments thereof, which is further described in this Chapter.

2.1 The DNR Mission for NPS Management

Although managing NPS pollution in Wisconsin involves a partnership of many programs, agencies, and stakeholders, the DNR 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 DNR's mission.

The DNR 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 DNR 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 needed to effectively manage polluted runoff from agricultural and urban nonpoint sources in Wisconsin.

The DNR Watershed Management, Water Quality, and Drinking & Groundwater Bureaus share the primary responsibility for implementing and tracking goals and measures to achieve the goal of fully implementing the Clean Water Act and Safe Drinking Water Act. These programs also share the common goal to "collectively work to protect Wisconsin's surface water and groundwater resources through the reduction of agricultural nonpoint source pollution".

2.2 National Priorities and Key Components

The EPA's 2024 Nonpoint Source Program and Grants Guidelines for States and Territories guidance document identifies national priorities and key components of an effective state program management plan which are described in the following sections.

2.2.a National Priorities

Reduce Nutrient Pollution: Efforts to reduce nutrient pollution in Wisconsin are related to several core functions of the DNR NPS Program. This includes performance-based pollution control policy, holistic ecology-minded monitoring, dynamic best management practice standards, and meaningful statewide collaborations. These efforts are further described in Chapter 5.

Ensure Access to Nonpoint Source Pollution Mitigation Benefits for All: Wisconsin is committed to ensuring all communities benefit from efforts to reduce nonpoint source pollution in the state. This involves thoughtful planning and allocation of grant dollars across the state. Chapter 4 provides more information about nonpoint source planning efforts and Chapter 5 provides additional details about nonpoint source funding sources.

Protect Healthy Waters and Watersheds: Proactively protecting watersheds and waterbodies can help protect communities from future threats, such as emerging water quality problems, drinking water supply disruptions and health-based violations, fragmentation of aquatic habitat, altered water flow, invasive species, and other impacts associated with extreme weather events. Protecting healthy waters and watersheds can prevent the need for water quality restoration, as well as help ensure restoration success. Protection efforts help maintain healthy watersheds that are resilient to the effects of changes in land use, changing weather patterns, and other water quality threats.

Advance Wisconsin's Ability to Navigate Extreme Weather Events through NPS Solutions: Across the Midwest and in Wisconsin, weather patterns including more frequent and longer droughts, wildfires, frequent and more intense storms, and flooding have become more common. These events have broader effects on the NPS program. For example, more prolonged drought or heat waves can increase groundwater demand at the same time as reducing supply. Groundwater quality may be affected by large fluctuations in water table elevation that can occur with extreme weather. More severe flooding can affect groundwater quality, wells and water system operations.

Leverage Innovative Financing for NPS Solutions: Wisconsin utilizes a variety of federal, state, and private funding sources to implement Nonpoint Source solutions. This is further described in 5.4.

2.2.b Key Components

The May 2024 EPA guidance contains a description of key components, seven in total, that characterize an effective state nonpoint source management program. The seven key components from EPA's guidance are addressed in this plan as outlined in the following tables.

Key Component No. 1: The state program identifies water restoration and protection goals and program strategies (regulatory, nonregulatory, financial and technical assistance, as needed) to achieve and maintain water quality standards. It includes relevant, current, and trackable annual milestones for program implementation.

The state's long-term goals reflect a strategically focused state Nonpoint Source Management Plan (NPSMP) designed to achieve and maintain water quality standards and maximize water quality benefits.	Sections 2.3, 2.5
Goals are focused on restoring and protecting waters by reducing and/or preventing NPS pollution statewide and on a watershed scale.	Sections 4.1, 4.2
The milestones built into the five-year program will provide an opportunity to gauge the effectiveness of programs, make needed mid-course corrections through an adaptive management process, and describe outcomes and key actions expected each year.	Section 2.4
Annual milestones in the NPSMP should align with annual work plan actions and be specific enough for the state to track progress and for the EPA to determine satisfactory progress in accordance with §319(h)(8).	Section 2.4
The state identifies key programs needed to achieve implementation of the measures, including, as appropriate, nonregulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects.	Section 4.1
The state NPSMP describes its approach to addressing the twin demands of restoring waters that the state has identified as impaired by NPS pollution and preventing new	Section 4.1

water quality problems from current and reasonably foreseeable future NPS impacts, especially for waters that currently meet water quality standards.	
The state's program describes how it will set priorities and align resources between the restoration and protection of healthy waters based on their water quality challenges and circumstances.	Section 4.1
The state incorporates existing baseline requirements established by other applicable federal or state laws to the extent they are relevant.	Appendix A, Sections 3.2, 4.1, 4.2
For states and territories with approved CNPCPs under CZARA, key commitments to implementation timelines within these CNPCPs should be included in the schedule of annual milestones articulated in state/territory NPSMPs.	Section 5.2

Key Component No. 2: The state program identifies the primary categories and subcategories of NPS pollution, the risks associated with changing climate conditions, any disadvantaged communities, and a process for prioritizing impaired and unimpaired waters.

The state identifies the primary categories and subcategories causing water quality impairments, threats, and risks across the state. The state may include emerging issues, such as pollutants and/or categories of NPS pollution, which require additional data to be collected to fully understand the scope and magnitude of the concern.	Sections 3.4, 3.5, 3.6
The state identifies waters impaired by NPS pollution based on currently available information (e.g., in reports under CWA §§ 305(b), 319(a), 303(d), and 320 and in assessments and analyses of changing land uses within the state).	Sections 3.4, 3.5
The state may identify important unimpaired waters that are threatened or otherwise at risk from NPS pollution.	Section 4.1
The state NPSMP plan includes a process to assign priority and progressively address identified waters and watersheds by conducting more detailed watershed assessments and developing and implementing WBPs.	Sections 4.1, 4.2
The state links its prioritization and implementation strategy to other programs and efforts, such as those listed in components 1 and 4. In establishing priorities for groundwater activities, the state considers wellhead protection areas, groundwater recharge areas, and zones of significant groundwater/surface water interaction, including drinking water sources.	Sections 2.5, 3.6

Key Component No. 3: The state program identifies BMPs and measures that will be undertaken to reduce pollutant loadings resulting from each category, subcategory, or particular nonpoint source identified in component 2 above. The measures should also consider the impact of the BMPs on groundwater quality.

Understanding the BMPs that are best suited for the state's pollutants and climate is essential for developing a strategy to address NPS pollution in varied landscapes.	Section 5.1
Awareness of historical effectiveness and landowners' willingness to implement BMPs is also important when selecting a suite of potential BMPs as part of a broader statewide strategy.	Sections 2.3, 5.1, 6.4
Establishing preliminary suites of BMPs supports the development of a more-focused local nine-element watershed plan.	Section 4.1, 4.3, 5.1
States are encouraged to implement nature-based solutions that reduce NPS pollutants and help mitigate the impact of natural hazards (e.g., floodplain restoration).	Sections 4.3.b, 5.1

Key Component No. 4: The state uses both watershed projects and well-integrated regional or statewide programs to restore and protect waters, achieve water quality benefits, and advance any relevant climate resiliency goals.

The state may achieve water quality results through a combination of watershed approaches and statewide programs, including regulatory authorities.	Section 1.3, Chapter 3, Chapter 4, Chapter 5
The state NPSMP is well integrated with other relevant programs to restore and protect water quality, aligning the priority-setting processes and resources to increase efficiency and environmental results.	Sections 4.1, 5.2, Appendix A
The state makes a strong effort to coordinate and leverage programs that have significant potentially available resources to support NPS activities, such as USDA NRCS conservation programs, Federal Emergency Management Agency (FEMA) natural hazard mitigation and recovery programs, and EPA CWSRF.	Section 2.2, Chapter 5
The state NPSMP plan explains how NPS projects fit into the state's prioritization scheme for CWSRF funding and describes state efforts to increase the use of the state CWSRF for the NPSMP.	Sections 5.1, 5.4
If there are barriers to the prioritization of NPS projects, the state NPSMP describes efforts to coordinate with the CWSRF program and potential future steps to encourage NPS projects.	Section 5.2
If, in reviewing federal programs, the state identifies federal lands and activities that are not managed consistently with state NPS program objectives, the state may seek EPA assistance to help resolve issues at the federal agency level.	Section 5.2

Key Component No. 5: The state identifies and strengthens its collaboration with appropriate federal, state, interstate, Tribal, and regional agencies as well as local entities (including conservation districts, private sector groups, utilities, and citizen groups) that will be utilized to implement the state program. Furthermore, the state supports capacity-building in disadvantaged, underserved, or overburdened communities.

The state NPSMP works collaboratively with partners and other key NPS entities to implement NPS control measures in priority watersheds.	Sections 2.3, 5.2
The state uses a variety of formal and informal mechanisms, such as memoranda of agreement, letters of support, cooperative projects, the sharing and combining of funds, and meetings to share information and ideas.	Sections 5.1, 5.2, Appendix A
Creating and maintaining this cooperative approach is supported through formal engagement with interagency collaborative teams, NPS task forces, and representative advisory groups, as well as through more informal but ongoing NPS program coordination and outreach efforts.	Sections 5.1, 5.2, Appendix A
The state works to ensure its local partners and grantees have the capacity to effectively carry out watershed implementation projects funded to support its NPSMP.	Sections 4.1, 4.2, 5.4
The state seeks public involvement and comments on significant program changes from diverse sources.	Section 2.5

Key Component No. 6: The state manages and implements its NPSMP efficiently and effectively, including necessary financial management.

The state implements its NPSMP to solve water quality problems as effectively and expeditiously as possible, report progress in meeting milestones and improving water quality (CWA §319(h)11) and make satisfactory progress each year by meeting its schedule of annual milestones (per CWA §319(b)(2)(C) and §319(h)(8).	Section 6.1
To ensure that priority water quality problems are addressed in a cost-effective and efficient way, the state program includes a process for identifying water restoration and protection priorities and deploys resources strategically to address those priorities.	Sections 4.2, 5.4
The state's work plans for watershed projects and statewide activities are well-designed, with sufficient detail to ensure effective implementation.	Sections 4.2, 4.3, 6.2.b
The state employs sufficient staff and appropriate programmatic and financial systems to manage §319 funds for maximum water quality benefits while ensuring that §319 dollars and nonfederal match are used efficiently and consistently with legal obligations.	Chapter 6

The state ensures that §319 funds complement and leverage funds available for technical and financial assistance from other federal sources and agencies, including funding through CWSRF, DWSRF, CWA Section 604(b), USDA NRCS, and others.	Sections 2.2, 5.4

Key Component No. 7: The state evaluates its NPSMP using environmental and functional measures of success and revises its NPSMP plan at least every five years.

The state establishes appropriate measures of progress in meeting programmatic and water quality goals and objectives identified in key component 1 above.	Section 2.2, Appendix C
The state assesses the program's effectiveness in meeting its goals and objectives, revises its activities, and appropriately tailors its annual work plans based on a review of the monitoring/evaluation strategies.	Sections 2.3, 2.5, Appendix C
State program goals and objectives are revised as necessary to reflect progress or problems encountered, strategies towards achieving the goals, and indicators to measure progress.	Sections 2.3, 2.5, 6.4
The state should use the five-year update to address evolving issues such as changing priorities, updated science, or natural hazard impacts on state NPS programs.	Chapter 1, Sections 2.3, 2.5, Chapter 3, Section 6.1

2.3 Challenges & Opportunities

Staffing and funding at the local, state, and federal level impacts the capacity to accomplish program goals such as implementing best management practices, applying for grant funds in areas with impaired waters, and driving local efforts associated with education and outreach. In addition, since both the DNR and DATCP have shared responsibilities for NPS Program management, the two agencies must coordinate efforts to effectively implement NPS activities. Making progress towards meeting national priorities is met with various challenges and opportunities.

To efficiently utilize resources, the DNR will continue to build and create relationships with various stakeholder groups. Recent interest in maintaining and expanding producer-led watershed groups has created new opportunities for addressing NPS pollution. Over the last few years, the DNR has been expanding partnerships with local, state, and federal agencies that have growing interest on the topic of surface water and groundwater quality and have been collaborating on projects. Additionally, significant opportunities to protect public health and welfare by enhancing groundwater protection from nonpoint pollution sources are discussed in later sections of this plan. The DNR continues to develop planning and modelling tools for protection of surface and groundwater.

Performance Standards Implementation and Enforcement: Existing runoff pollution performance standards as well as the authority to develop targeted performance standards provide opportunities to make progress towards carrying out the 2003 Implementation Strategy for NR 151. Since then, more counties have been adopting NR 151 performance standards into local code and ordinances and have increased their enforcement roles. Other opportunities exist because the DNR and local agencies have built stronger relationships to address NPS pollution in the state. However, challenges to implementation of performance standards continue to be insufficient staff levels, inadequate time and resources at both the state and county levels, and the lack of cost-share dollars for both structural and non-structural practices. County Land and Water Resource Management Plans (LWRMP) and nine key element watershed-based plans are two sources of information that shed light on the funding and staffing levels needed to adequately implement the performance standards. It is also becoming increasingly apparent that implementation of targeted performance standards may be required to meet Total Maximum Daily Load (TMDL) goals. Additional challenges related to conducting effective enforcement of ch. NR 151, Wis. Adm. Code (which would likely result in reduced nutrient pollution) include staff time, lack of enforcement authorities (e.g., citation authority), and inconsistent understanding of roles and responsibilities with partners in enforcement scenarios.

Including Groundwater Concerns in Watershed Plan Development: Overall, about 70% of Wisconsin residents and 97% of communities rely on groundwater as their drinking water source. For most areas of

the state, groundwater aquifers are the sole source for drinking water. While Wisconsin's NPS planning has focused primarily on impacts to and protection of lakes, reservoirs, rivers, and streams, groundwater quality has also been degraded by nonpoint source pollution, impairing primary drinking water sources. There has been increased internal and external awareness and engagement on groundwater issues, data collection, outreach, and incorporating groundwater into watershed-based plans. However, groundwater management and protection present several challenges, including uncertainty in defining groundwater flow characteristics, lag times between BMP implementation and expected water quality improvements at a well or monitoring site, limited data on effectiveness of BMPs for groundwater protection, potentially higher costs or reduced profitability for farmers when implementing BMPs, and education and outreach needs. Because groundwater and surface water are closely connected in many parts of Wisconsin, managing nitrogen pollution requires a comprehensive approach to both. While groundwater has a long-established nitrate drinking water standard of 10 mg/L, there are currently no numerical surface water criteria for nitrogen in Wisconsin. The DNR has evaluated the state's current nitrogen criteria readiness and produced recommendations for supporting monitoring and data collection that have been incorporated into the 2025-2027 Triennial Standards Review Workplan.

Implementing Watershed-Based Plans: Implementing plans to reduce polluted runoff from cities, construction sites, farms and roads is a challenging process that requires the collaboration of stakeholders and a substantial commitment of public and private dollars. Proactive and preventative efforts are challenging to prioritize when local partners need to address competing local priorities. The scattered nature of implementation efforts across a watershed makes it difficult to quantify and demonstrate success. Additionally, there is a cost to updating data sources (e.g. precipitation frequency) for use in best management practice design, and ultimately in implementation of watershed plans. These challenges also provide opportunities for additional education and outreach with goals of an improved understanding of scale of change needed to achieve quantifiable water quality results and how to best prioritize implementation with limited funding.

While the total cost of statewide NPS implementation would be difficult to calculate given the varying degree of NPS impacts across the state, existing watershed-based plans provide estimates of funding levels needed for staff and best management practices needed in a given watershed area. As an example, the Plum-Kankapot Creeks Watershed Plan, which addresses two HUC12 watersheds in the Lower Fox River TMDL, estimates the total cost to implement the plan is over $14,000,000. There are 574 HUC12s in the state where cropland is over 50% of the land cover which demonstrates that the funding and staffing need is substantial to achieve water quality success. Additionally, funding of projects is inconsistent over time and may not address the highest priority BMP projects or areas.

2.4 Wisconsin NPS Program Objectives and Milestones

Over the next 5 years, implementation of Wisconsin's NPS management program objectives revolve around five broad focus areas: partnerships, planning, funding, implementation and tracking. Proper execution in these focus areas will allow the state to maximize existing resources and provide information for continuous program improvement. For a detailed summary of all objectives and milestones, see Appendix C .

Partnerships: As noted in the EPA's Handbook for Developing Watershed Plans to Restore and Protect Our Waters, the first step in developing watershed plans is to build partnerships. Effective partnerships are also important at the state level. To restore and protect groundwater and surface waters, the DNR focuses on the development of strong internal and external partnerships through education and outreach efforts designed to achieve multiple goals. The goals of these efforts include strengthening existing ties and developing new partnerships (both internally and externally), inspiring stewardship, and improving technical capacity to address nonpoint impacts.

Planning: At the state level, planning is continuous process, which begins with an understanding of the state of the resource. This understanding is developed through the implementation of several monitoring programs. For example, the DNR's Water Resources Monitoring Strategy addresses baseline (status and trends), problem assessment, evaluation, and response monitoring needs for the state. In addition to this strategy, because of the development of effective partnerships, there are multiple other data sources within the state which can be drawn upon to help guide statewide and targeted planning efforts. Targeted

planning efforts such as TMDLs, 9 Key Element and Alternative Watershed-Based Plans, lake and watershed management plans, and county Land and Water Resource Management plans help guide the department in directing funding to projects to protect and restore Wisconsin's waters.

Funding: These planning steps help ensure that limited funding and staff are wisely invested towards projects that will have a higher likelihood of success in protecting and improving surface and groundwater. This concept is carried through the state's process of awarding grant funds and incentive program dollars and subsequent tracking of their success via multiple methods.

Implementation: The funding supplied to partners is focused on several key areas. The state focuses on managing our surface and groundwaters to provide healthy ecosystems, quality recreation and safe drinking water using different approaches depending on issue and regulatory authority. In some contexts, the DNR may rely more on a community-and-science-based approach to guide decisions, and in others, the DNR may rely more on a regulatory approach such as implementing Wisconsin's non-agricultural (urban) and agricultural performance standards and prohibitions. These implementation approaches to limit nonpoint source water pollution are not mutually exclusive, and often the approach is blended. Regardless of the approach to implementation, it requires providing technical and other support to ensure that conservation practices are properly designed and maintained.

Tracking: Finally, to confirm progress in these efforts the state tracks progress through a variety of environmental and administrative indicators. Routine assessment of the state's surface and groundwater is a crucial element in this process, but due to the diffuse nature of NPS pollution, practice adoption and lag times between adoption and water quality response, it is often difficult to demonstrate progress using water quality data alone. Therefore, tracking of practice implementation and associated pollutant load reduction, resolution of NPS enforcement cases, and social indicators are equally important to document progress towards improving and protecting all of Wisconsin's water resources.

2.5 Future Directions

As Wisconsin's NPS Program continues to grow and adapt, long-term planning efforts and the changing landscape of NPS work will shape the future direction of the program. The NPS Program may need to evaluate program subcomponents to identify and address gaps due to unpredictable, emerging issues that arise in future years, ensuring efficient and effective program implementation into the future.

2.5.a Long-term Planning Efforts

The DNR utilizes long-term plans to help guide the future direction of the NPS Program. Several of these plans are ongoing and are in various stages of completion, while some long-term plans are finalized with known recommendations and direction.

Ongoing Program Enhancements: The DNR is focused on enhancing the effectiveness of existing programs through internal and external collaboration and regulatory authority to ensure continued progress in controlling NPS pollution. There are currently limited financial resources to fully support the existing NPS Program and any new action items. Staff from the state's NPS PMP, TMDL program and other water quality-related programs collaborate on evaluation strategies to ascertain the following:

- Evaluation of existing and development of new performance standards
- Incorporation of groundwater and drinking water priorities in watershed planning
- Development of statewide nutrient loss and export spatial modeling tools
- Continued investigation of watershed approaches to better integrate point and nonpoint source efforts and integrate federal, state, local, and non-governmental resources
- Improving partnerships with the DATCP and other stakeholders to further implement NPS reduction goals, while maintaining farm viability and productivity
- Developing new strategies to document implementation of performance standards

- Development of educational/outreach opportunities, targeted at addressing TMDLs, implementation of the phosphorus standard, and implementation of the performance standards
- Investment in wetland monitoring and assessment and applied science for creation of numeric criteria and assessment of NPS impacts to wetlands from local to statewide scales

The Collaborative: The Collaborative is a DNR decision-making body with representation including members from Drinking Water & Groundwater, Watershed Management, and Water Quality Bureaus, and the Office of Great Waters, coordinated by the Office of Agriculture and Water Quality. The Collaborative was formed in response to an internal nonpoint program evaluation which revealed widespread interest for accelerated progress to achieve agricultural nonpoint water quality goals. The goal of The Collaborative is to "collectively work to protect Wisconsin's surface water and groundwater resources through the reduction of agricultural nonpoint source pollution".

To date, the Collaborative has identified the following actions to advance NPS goals and objectives: establish an Agricultural Nonpoint Integration Team; addition of a staff position to strengthen agricultural engagement; launch a quarterly learning series for DNR staff; host an in-person integration event for DNR staff; establish functional mechanisms for ongoing and sustained engagement with the agricultural community; form a compliance workgroup; and to conduct a gap analysis to determine resources needed to achieve statewide compliance with ch. NR 151, Adm. Code agricultural performance standards and prohibitions.

Nutrient Loss Reduction Strategy: The DNR is leading the development of a new statewide Nutrient Loss Reduction Strategy in collaboration with the Interagency Water Quality Workgroup comprised of representatives from the DATCP; Wisconsin Land and Water Conservation Association; the Natural Resources Conservation Service (NRCS); University of Wisconsin-Madison Division of Extension (UWEX); Dane County Land and Water Resources Department; and the US Geological Survey (USGS).

Wisconsin's 2013 Nutrient Reduction Strategy document does not identify specific strategies to coordinate programs and resources across agencies and organizations and there was no process to engage stakeholders in its development. The Interagency Water Quality Workgroup is prioritizing the identification of nutrient loss reduction strategies in consultation with stakeholders in the development of a new strategy.

Strategic Plans: Many organizations utilize strategic planning to provide a roadmap for an organization to achieve its long-term goals, aligning its resources, activities, and objectives to ensure a shared vision and facilitate informed decision-making. The DNR, and many partner organizations and agencies (see Appendix A) have developed strategic plans which may include components related to nonpoint source pollution reduction. These plans have not been fully incorporated into this plan but may help shape future direction of the work that the agencies, advocacy groups, and other organizations will take on. In future iterations of this plan, strategic plans may be more fully incorporated.

2.5.b Changing Landscape of NPS Work

While Wisconsin can sometimes identify emerging issues which will shape the direction of NPS work, unforeseen and rapidly evolving issues may also shape the direction of NPS work in unpredictable ways. There is potential for additional emerging issues to affect the future direction of nonpoint source work in Wisconsin that are currently unknown or poorly defined. A summary of the factors which may contribute to the changing landscape of NPS work is described below.

Non-Traditional NPS Contaminants: Traditionally, the DNR's NPS Program has focused on addressing contaminants including nitrogen, phosphorus, and sediment. There are many other NPS contaminants including chloride, pesticides (including neonicotinoids), microplastics, and per- and polyfluoroalkyl substances (PFAS) that are influencing and will continue to influence the direction of NPS work in Wisconsin. The DNR is developing policies and strategies to address these pollutants. As more research becomes available and policy is revised, the scope of NPS work may broaden. Throughout this document, there may be more specific details regarding how different programs and partners may address these issues.

Enhanced Citizen Engagement: Interest in NPS implementation continues to grow amongst citizen organizations including Producer-Led Watershed Groups, lake/watershed groups, county health department-led private well sampling programs, and others. As citizen engagement grows, staffing support, funding, and other resources will be required. These changing and growing needs will shape NPS work across Wisconsin.

Changing Industries and Markets: As industries experience growth, decline, and other market shifts, the way they impact nonpoint source issues also changes. In Wisconsin, such industries include metallic mining and the livestock industry. Wisconsin nonpoint source work will continue to adapt as industry changes occur.

- Metallic mining: Lead, zinc, iron and copper deposits exist around Wisconsin. These deposits may be mined in the future and are in sparsely populated regions where background information on groundwater and surface water resources are often incomplete. There is a need to collect background data and assessments to inform future decisions about potential mining operations.
- Agricultural industry consolidation: Many animal feeding operations that house thousands of animals have been sited or proposed in Wisconsin. Across the state, a growing trend of consolidation of these operations has begun impacting NPS program delivery and water quality. There is a need to develop better tools for measuring water quality and quantity impacts in and around these operations.

Chapter 3 Monitoring and Assessment

The state integrates monitoring and evaluation strategies with ongoing federal natural resource inventories and monitoring programs. Chapters NR 102, 103, 104, 105, and 119, Wis. Adm. Code, establish water quality standards for surface waters of the state, describing the state's antidegradation policy, designated use categories, some implementation issues, 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 § 305(b) of the Clean Water Act; provide data for determining whether waterbodies should be listed as impaired under 303(d) of the Clean Water Act; and provide background information for conducting Total Maximum Daily Load (TMDL) analyses on impaired waters and management planning for waters meeting water quality standards.

Chapter NR 140, Wis. Adm. Code, establishes standards for groundwater quality. Chapter NR 809, Wis. Adm. Code, addresses Safe Drinking Water Act requirements for public water supply systems by establishing monitoring requirements and setting maximum contaminant levels for primary drinking water contaminants. In addition, various programs within the DNR regulate nonpoint pollution sources that may affect groundwater quality and conduct related monitoring. Finally, several other state agencies, such as the DATCP, the Department of Transportation (DOT), and the Department of Safety and Professional Services (DSPS) regulate activities that require adherence to these standards.

3.1 Water Quality Standards

Surface water quality standards define the goals for a waterbody by designating its uses, (e.g., fish and aquatic life, recreation, public health, or fish consumption), setting criteria to protect those uses (numeric pollutant concentrations and narrative requirements) and 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 § 401 for activities that may affect water quality and that require a federal license or permit
- Reports, such as the reports required under CWA § 305(b), that document current water quality conditions
- CWA § 319 management plans for the control of nonpoint sources of pollution
- Implementation of Wisconsin's Nutrient Loss Reduction Strategy

Under the Clean Water Act, each waterbody is classified according to its designated uses. Assigning a use designation 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. Wisconsin's designated uses are:

Recreational Use: All surface waters are expected to support recreational use, which includes activities that involve contact with water such as swimming, wading, boating, fishing, etc.

Public Health and Welfare: All surface waters are considered appropriate to protect for incidental contact and ingestion by humans as well as human consumption of fish. Public water supply use is a subcategory under the Public Health and Welfare designated use. The Great Lakes as well as a small

number of inland waterbodies are also identified as public water supplies and have associated water quality criteria to ensure that water drawn from these sources will be safe for human consumption after drinking water treatment.

Wildlife: All surface waters are considered appropriate for the protection of wildlife that rely 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, warmwater sport fish community, warmwater forage fish community, limited forage fish community, and limited aquatic life community.

Every three years, the DNR reviews Wisconsin's surface water quality standards or related guidance to determine which standards need development or revision, as required by the Clean Water Act. This comprehensive evaluation, called the Triennial Standards Review, is an essential process to keep Wisconsin's surface waters swimmable, fishable, and drinkable. The following topics are listed as priorities for the 2025-2027 cycle:

- Antidegradation Rule Revisions and Implementation Guidance
- Human Health Criteria Revision/Development
- Biological Thresholds for Streams & Rivers
- Designated Uses Structure/Process Revisions

3.2 Groundwater Standards.

Groundwater quality standards in Wisconsin are established in NR 140, Wis. Adm. Code, which aims to protect public health and welfare by setting standards for substances detected in or having a reasonable probability of entering the groundwater resources of the state. This chapter specifies enforcement standards (ESs) and preventive action limits (PALs) for various substances. These health-based standards are based on recommendations from the Department of Health Services (DHS). PALs serve as early warning thresholds, prompting proactive management to avoid reaching levels where adverse health effects may occur.

The code mandates a response by the DNR when these limits are approached or surpassed, requiring regulated entities to investigate manage, or remediate contamination sources. Section NR 140.10, Wis. Adm. Code plays a critical role in supporting Wisconsin's broader environmental and public health strategies, particularly in agricultural, industrial, and municipal settings, where groundwater contamination risks are highest.

3.3 Surface Water Monitoring Programs

Wisconsin is a state rich with surface water, including lakes, streams, wetlands, aquifers and springs. Wisconsin has thousands of streams stretching over 84,000 miles, more than one million acres of inland lakes, 1,000 miles of Great Lakes shoreline and more than five million acres of wetlands. The Water Quality monitoring program covers wadeable streams, nonwadeable rivers, inland lakes and wetlands within the state. Other water resources such as the Great Lakes open water and coastlines and groundwater are covered by the Office of Great Waters and Drinking Water and Groundwater Program, respectively. The Water Quality Program works closely with these programs within the DNR through collaborative funding, staff assignments and technical assistance. This section provides a general description of the types of monitoring done under the DNR's Water Quality Monitoring Strategy and a description of Wisconsin's citizen-based monitoring program.

3.3.a Wisconsin's Monitoring Approach

The DNR's 2021-2025 Water Quality Monitoring Strategy for surface waters is organized into a three-pronged approach: statewide baseline, prescribed and local needs monitoring. The three monitoring categories differ primarily in intensity, standardization and data needs and are described in more detail below. 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.

Baseline Monitoring is usually less intense at each site, but it is done on a broad geographic scale and standardized to determine trends and to assess statewide health of waters. This monitoring collects baseline physical, chemical, and biological information necessary to satisfy information needs at a broad spatial scale and track water quality trends. This level of monitoring determines water chemistry, quantity and biologic status and trends and identifies potential problem areas based on chemical concentrations and physical and ecological indicators. Waterbody types evaluated under Baseline Monitoring include lakes, rivers, streams, Great Lakes, the Mississippi River and groundwater. For resources that are too numerous to individually evaluate, such as streams and lakes, a probabilistic sampling effort allows information from sampled waters to be used to provide information on the status all the state's waters.

Where environmental problems are discovered through Baseline Monitoring or other credible sources of information, these problem areas are identified and prioritized for further study under Prescribed or Local Needs Monitoring. Except for "Status and Trends" monitoring for wetlands, baseline monitoring for wetlands has not been completed by the DNR to date. The program has only recently achieved development of adequate tools and protocols to begin this effort. The scale of implementation for baseline monitoring of wetlands is currently under discussion and is a longstanding program need that the program is striving to resolve within the timeframe of this plan.

Prescribed Monitoring is focused on a few statewide priorities with opportunity to enhance standardized protocols based on specific project needs. Waterbodies or watersheds needing more information are prioritized and monitored more intensively under Prescribed Monitoring. The Targeted Watershed Assessment Program samples intensively in several HUC12 watersheds across the state every year to provide data for management plans. These watersheds may be monitored to gather data in high quality watersheds, collect pre-BMP implementation data, evaluate BMP implementation success, or for watershed planning. Directed Lakes monitoring prioritizes lakes with minimal data to provide holistic water quality assessments and provide lake monitoring data to support the DNR and partner agencies with lake management activities.

The DNR TMDL program has prioritized developing TMDLs for total phosphorus and total suspended solids on larger watersheds with multiple impairments. TMDL monitoring consists of a relatively standard monitoring protocol for collecting continuous discharge paired with grab sample water chemistry to estimate daily pollutant loads. TMDL monitoring is intensive in data collection, geographic scale, and staff time so that only one watershed at a time can be sampled with available staff and funding resources.

A pilot project is currently underway to integrate wetland monitoring and assessment as part of a Targeted Watershed Assessments. Integration of wetland monitoring and assessment into Directed Lakes monitoring has not yet occurred but is a top priority and will also likely require a pilot study. The wetland monitoring program is working to build capacity within the monitoring program using the decision support tools and monitoring methods that have been established, but additional staffing would be needed to operate at current lake and stream monitoring levels.

Local Needs Monitoring involves projects targeted at management program effectiveness, cross-program support and monitoring of unique stressors, among others. Local Needs Monitoring programs often involve intense monitoring at small geographic scales for projects such as evaluating the effectiveness of management actions, compliance monitoring, spill response (oftentimes manure related), harmful algae blooms and other incidents. This monitoring category provides follow-up analysis of management plans that have been implemented for problem waterbodies and evaluates permit compliance and the effectiveness of the DNR or partner agency management actions. Local needs monitoring evaluates the responses of waterbodies to management actions at many spatial scales (stream reach, waterbody or whole watershed). Effectiveness of waterbody-specific management actions is determined using core indicators from the more intensive sampling designs. The chosen indicators are compared before and

after management actions are implemented. Waterbody-type technical teams, monitoring staff and local biologists all provide input ensuring the project is sufficiently designed to meet data objectives and department priorities.

3.3.b Citizen-Based Water Quality Monitoring Program

Multi-level citizen-based water quality monitoring programs include both lake and stream monitoring programs and were developed to accommodate the varied interests and time availability of citizens. Data collected by volunteers is integral to the DNR's monitoring programs and is used for assessments, trends analysis, and other management needs.

Water Action Volunteers: The Water Action Volunteers (WAV) Program has two levels of participation: baseline stream monitoring, and special projects monitoring for returning volunteers who have demonstrated a commitment to sampling. The Baseline Monitoring level of WAV is designed to introduce citizens to the basics of stream monitoring, educate them about stream health and the connection between land and water. Volunteers are trained to collect instantaneous temperature, dissolved oxygen, transparency, and streamflow during a monthly visit to their sites. Additionally, volunteers complete a biotic index macroinvertebrate assessment at least twice per season, once in the spring and again in the fall and monitor for four priority aquatic invasive species that threaten stream ecosystems. Approximately 500 stream sites are monitored by baseline stream volunteers each year. Starting in 2024, the program began collaborating with community partners to provide bilingual Spanish-English stream trainings and Spanish language training materials and increase access to in Wisconsin's Hispanic and Latino communities.

WAV participants have several opportunities to go above and beyond the Baseline Monitoring program through special projects monitoring, including WAV's Project RED aquatic invasive species monitoring, nutrient monitoring, and continuous temperature monitoring with thermistors. The WAV nutrient monitoring program has a quality assurance plan for total phosphorus sampling. Approximately 150 stream sites are monitored for total phosphorus each year by volunteers.

Citizen Lake Monitoring Network: Citizens that join the Citizen Lake Monitoring Network (CLMN) begin by monitoring Secchi depth, a measure of water clarity. This effort not only collects useful data but also aims to educate people about the lake's water quality and its connection with the surrounding landscape. Approximately 900 lakes are monitored each year for Secchi depth, and the number of lakes monitored continues to increase. A subset of volunteers that successfully monitor water clarity also monitor water chemistry. Approximately 550 lakes are sampled for total phosphorus and chlorophyll *a*, and 360 lakes for dissolved oxygen. Citizens are asked to follow a specific monitoring schedule, including specific times and locations for monitoring. CLMN has a quality assurance plan that includes collection of duplicate and blank water chemistry samples. These data contribute to the DNR's assessment of water quality, analyses of water quality trends, and contributes directly to lake management plans.

Clean Boats, Clean Waters: Clean Boats, Clean Waters (CBCW) is an aquatic invasive species (AIS) prevention program where dedicated citizens, staff and partner programs conduct boat and trailer inspections and educate boaters on how to prevent the spread of AIS at boat landings. CBCW efforts help prevent the introduction of AIS in Wisconsin's surface waters and limit spread of AIS that may already be present. The UWEX conducts trainings for new boat inspectors and coordinate volunteer efforts. More than 250 waterbodies are inspected by more than 700 inspectors annually.

3.4 Assessment Methodology

The DNR 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 § 305(b) of the Clean Water Act, as well as background information to evaluate listing impaired waterbodies under § 303(d) of the Clean Water Act for possible TMDL work based on evidence of impairment and written documentation. The DNR's priority is to create and use clearly defined, publicly available methods for collection and analysis of data to ensure defensible decisions regarding water quality. To this end, the DNR created the Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) to conduct general and specific assessments for determining the attainment of designated uses.

3.4.a Data Used for Assessments

Data collected by the DNR, as well as data submitted by the public through the WAV, CLMN and CBCW programs are used for assessments. The monitoring data used to make assessment decisions are stored in the Surface Water Integrated Monitoring System (SWIMS) and the Fisheries Management Information System (FMIS) databases.

SWIMS enables all staff, as well as the public, to access comprehensive sets of data for each waterbody, and to view monitoring results geographically using Web mapping applications called Surface Water Data Viewer. SWIMS consolidates many monitoring tasks by creating projects that store multiple data types into one place, printing field forms with automated database keys, automatic generation of station numbers, automatic generation of some biological metrics/indices, data flow integration with the UW-Stevens Point Aquatic Biomonitoring Laboratory and State Lab of Hygiene and enables timely entry of results into the EPA Water Quality Exchange Network. Datasets stored in SWIMS includes organic and inorganic water chemistry, sediment chemistry, continuous monitoring data, lake profiles, satellite water clarity estimates and biological taxonomic data such as aquatic invasive species, aquatic macroinvertebrates, aquatic macrophytes among other data.

FMIS is a centralized database for all statewide fish surveys, calculation of the fish Index of Biotic Integrity (IBI) metrics and indices and stream physical habitat data, metrics and indices. FMIS also houses fish propagation information, fishing tournament permits, and fish kill investigations. Raw data and summary reports are available for exporting and analysis.

Assessment data for the State's Integrated Report are stored in the State's Water Assessment, Tracking and Electronic Report System (WATERS). The public can download or view spatial data and written information about each waterbody using the DNR's interactive mapping tool, the Surface Water Data Viewer, searchable water detail pages, or DNR's open data portal.

The DNR ensures that all data used for assessments are collected using approved protocols, adequate quality assurance procedures, and are representative of current conditions. Data for assessments must meet minimum data requirements and demonstrate that sample collection occurred at appropriate sites, during appropriate periods, and use certified laboratories for sample analysis. If quality assurance procedures are adequate, the DNR may use this data to assess the water for possible impairment listing. If the quality assurance procedures are inadequate, these data may be used to initiate further investigations by department staff. Entities outside of DNR who regularly collect and submit data to the DNR may work with the DNR to upload data into the SWIMS database to be considered as part of our evaluation and assessment process.

3.4.b General Condition Assessments

Streams and rivers are evaluated for placement in a revised aquatic life use classification system (currently non-codified), in which the aquatic life use subclasses are referred to as Natural Communities. Natural Communities are defined for streams and rivers using model-predicted flow and temperature ranges associated with specific fish and/or macroinvertebrate communities. 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 or waterbody segment and (2) an "Impairment Assessment" for those which may be degraded.

General condition assessments use some of the same biological and water quality metrics as an impairment assessment but have less stringent data requirements. They are a useful screening tool for prioritizing monitoring efforts. The DNR uses four levels of biological conditions to represent a water's placement in the overall water quality continuum:

- Excellent: Waters are fully supporting their assessed designated uses.
- Good or Fair: Waters are supporting their assessed designated uses.
- Poor: Waters may not support assessed designated use(s) but have insufficient information for an impairment decision.

Waters meeting numeric water quality criteria (e.g., temperature, total phosphorus, chloride, etc.) are attaining their assessed designated uses. Waters determined to be in poor condition or not meeting criteria based on a limited amount of monitoring data are further evaluated and may be selected for additional monitoring. If the limited dataset includes overwhelming evidence of impairment (e.g., large magnitude of exceedance), the water might be considered for impairment listing based on best professional judgment.

3.4.c Impairment Assessments

In accordance with the requirements of § 303(d) of the Clean Water Act, the DNR updates biennially the list of waters that are not meeting water quality standards and require the development of TMDL studies to restore water quality. This list, also known as the "Impaired Waters List", is updated to reflect waters that are added or removed based on new information.

The Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) is refined biennially for each listing cycle. This guidance contains information on water quality standards, data collection, data requirements, and methodologies used to conduct an assessment. Members of the public may provide feedback on WisCALM updates during a public comment period.

Multiple data types (e.g., fish, macroinvertebrates, phosphorus) are then assembled, quality assured and analyzed. The DNR provides an opportunity for the public to submit water quality datasets to be used in assessments. The DNR completes draft assessments and identifies potential impairments of a water's designated uses (e.g., recreation, aquatic life). These draft assessments are then vetted internally by water resources staff and may be updated based on the reviewers' local perspectives. In addition to identifying newly impaired waters, the DNR evaluates waters currently on the list for potential de-listing.

Once the draft list is compiled, the DNR holds informational public meetings to answer questions from the public about the listing process, the draft list and impaired waters in general. The draft list and request for comments is publicly noticed in a press release, posted on the DNR's website and emailed to contacts subscribed to receive notification of listing updates. Following the comment period, responses to comments are developed and the draft list is modified as necessary based on the comments received. The final draft Impaired Waters List is then provided to the EPA for approval. States are required to submit their final draft list to the EPA by April 1 of even-numbered years.

3.5 Surface Water Assessment Results

The EPA encourages the use of a five-category system for classifying all waterbodies (or segments) within its boundaries regarding the waters' status in meeting the State's/Tribe's water quality standards (Table 3-1). The classification system is based on designated uses for reporting on water quality. In Wisconsin's Water Quality Report to Congress each waterbody is assigned a reporting category. All lakes, reservoirs, rivers and streams 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 restoration project is needed or is in progress.

Table 3-1 EPA Integrated Reporting Categories

Category/Subcategory	Description
Category 1	All designated uses are supported. No use is threatened.
Category 2	Available information indicates one or more designated uses are met. No impairments found.
Subcategory 2A*	An impairment-level assessment was done for at least two designated uses with at least two total parameters.
Subcategory 2B*	An impairment-level assessment was done for at least one parameter.
Subcategory 2C*	A general-level assessment was done for at least one parameter.

Category 3	There is insufficient available data and/or information to make a use support determination.
Category 4	Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed.
Subcategory 4a	A State developed TMDL has been approved by the EPA or a TMDL has been established by the EPA for any segment-pollutant combination.
Subcategory 4b	Other required control measures are expected to result in the attainment of an applicable water quality standard in a reasonable period of time.
Subcategory 4c	The non-attainment of any applicable water quality standard for the segment is the result of pollution and is not caused by a pollutant.
Category 5	Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed.

** This subcategory has been established by the DNR. For further guidance, see WisCALM.*

The DNR has further refined Category 5 (waters not meeting water quality standards and a TMDL is needed) subcategories distinguish among differing types of impaired waters and TMDL priorities. The DNR created 5B to identify waters impaired by mercury mainly from atmospheric sources. Within the last decade, the DNR has added additional subcategories under Category 5 (Table 3-2).

Table 3-2 The DNR's Integrated Reporting Subcategories for Impaired Waters Requiring TMDLs

Subcategory	Definition
Category 5A	Available information indicates that at least one designated use is not met or is threatened and/or the anti-degradation policy is not supported, and one or more TMDLs are still needed. This is the default category for impaired waters.
Category 5B	Available information indicates that atmospheric deposition of mercury has caused the impairment, and no other sources have been identified.
Category 5C	Available information indicates that non-attainment of water quality standards may be caused by naturally occurring or irreversible human-induced conditions.
Category 5P	Available information indicates that the applicable total phosphorus criteria are exceeded; however, biological impairment has not been demonstrated (either because bioassessment shows no impairment or because bioassessment data are not available).
Category 5W	Pollutant/impairment is a low priority for a TMDL because the impaired water is included in a watershed area addressed by at least one of the following: 9-Key Element plan, adaptive management plan, adaptive management pilot project, or lake management plan.

Of the 9,643 waters assessed for impairment for the 2024 Integrated Report, 1,709 (18%) were found to not meet water quality standards and are included on the Impaired Waters List. Of the state's impaired waters, 444 (26%) have EPA-approved TMDLs (Category 4A). For those impaired waters still requiring TMDLs, 35 waters are categorized as impaired due to suspected naturally occurring sources of pollution (Category 5C), 105 (8%) are impaired due to atmospheric deposition of mercury only (Category 5B), 185 (15%) are impaired due to levels of phosphorus only (5P), and 682 (67%) waters are impaired due to other causes (5A).

3.5.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 assessment summaries for waterbody type groupings.

Lakes, Impoundments, Reservoirs, Bays and Harbors: Of the 4,293 lakes, impoundments, reservoirs, bays and harbors assessed for the 2024 Integrated Report, 3,923 (91%) were found to be supporting all assessed designated uses (Category 2). Of the 369 waters that were not supporting at least one

designated use, 329 still require TMDLs (Category 5) and 40 are addressed by EPA-approved TMDL studies (Category 4).

Beaches and Great Lakes Shoreline Waters: Of the 284 assessed beaches and Great Lakes shoreline waters, 214 were found to be supporting all assessed designated uses (Category 2). The remaining beaches were not supporting at least one designated use. TMDLs have not been developed for beaches for Great Lakes shoreline waters.

Rivers and Streams: Of the 4,755 river and stream segments assessed for the 2018 Integrated Report, 3,559 (75%) were found to be supporting all assessed designated uses (Category 2). Of the 1,196 waters that were not supporting at least one designated use, 801 still require TMDLs (Category 5) and 395 are addressed by EPA-approved TMDL studies (Category 4).

Wetlands: Despite the State's narrative wetland criteria as defined in ch. NR 103, Wis. Adm. Code, wetlands have not been assessed for impairment to date as part of the DNR's assessment process. Insufficient resources and personnel have restricted efforts towards creation of numeric water quality standards and are urgently needed to assess the state's 5.3+ million acres of wetlands for impairment to identify wetland enhancement, restoration, and other management activities needed as part of watershed planning and allow for access to funds currently only available for improvement of other surface waters, including § 319 funding.

3.5.b Impaired Waters

Assessing waterbodies against water quality standards and identifying impaired waters that do not meet standards is part of the overarching federal Clean Water Act (CWA) framework for restoring impaired waters. Waters that do not meet their designated uses because of water quality standard violations are impaired. Waterbodies are removed from the list when new data indicates that water quality standards are attained.

The 2024 impaired waters list contains more than 1,400 pollutant/water listing combinations. The primary pollutant listings were nutrients (total phosphorus), toxics such as PCBs and chloride, and metals, representing almost 75% of the current listings (Figure 3-1).

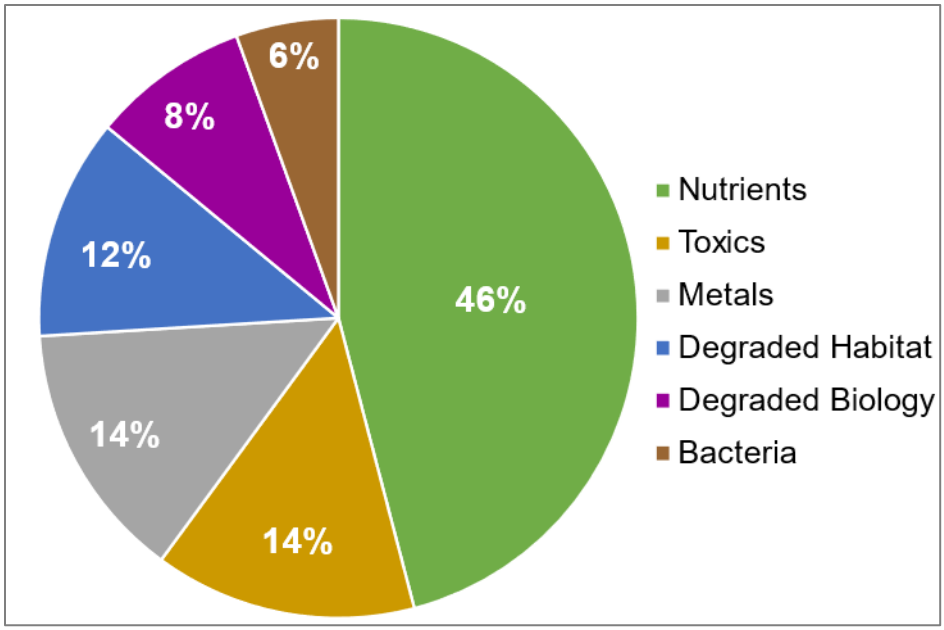

Figure 3-1 Causes of impairment (or pollutants) for waters included on Wisconsin's 2024 CWA § 303(d) list of waters not meeting water quality standards

A total of 85 pollutant/waterbody segment combinations (i.e. listings) were newly proposed for the draft 2024 list. Just under half of the new listings were based on exceedance of total phosphorus criteria

(n=36). The next most common type of new listing was that due to poor biological conditions of the aquatic macrophyte community (n=16).

Of the new listings, 16 occur in TMDL basins: the Milwaukee, Upper Fox-Wolf, Wisconsin, or Northeast Lakeshore. This assessment cycle (2024) was the second where TMDL updates were included in the assessment process. There were 38 listings proposed for removal during the 2024 cycle; over half of those listings were for phosphorus.

When a water is listed as impaired, the potential source(s) causing the impairment are identified. Knowing the impairment sources helps determine future monitoring needs and analyses best suited for the development of restoration plans. Impairment sources currently assigned to impaired waters listings on the 2024 list are shown in Figure 3-2. ***Nonpoint source pollution is the largest source of impairment and contributes to nearly 80% of the impaired waters listings***. Considering that wetlands have not been assessed for impairment to date, this estimate may increase in the future. A description of impairment source categories assigned to impaired waters listings is provided below:

Atmospheric Deposition: This source category includes waters with fish consumption advisories (FCAs) caused by atmospheric deposition of mercury. Atmospheric deposition is currently only applicable to mercury and PCBs, but it could be identified as a source for other pollutants in the future.

Contaminated Sediment: Waters identified through various monitoring activities, sediment core analysis, and collection of fish tissue that exceed ambient water quality criteria for toxics as specified in ch. NR 105, Wis. Adm. Code. In addition, this may include waters where contaminated sediments contain pollutant concentrations that will cause “probable effects” in biological organisms based on guidelines outlined in the Consensus-Based Sediment Quality Guidelines: Recommendations for Use and Application.

Physical Habitat: Waters where designated uses are not being met due to physical habitat degradation, including anthropogenic stream channel and flow alterations, such as a dam installation, stream channelization, bank erosion, and riparian zones disturbance.

Point Source Dominated: Waters are categorized as point source dominated when the impairment may be a result of a discharge from an existing point source. The Wisconsin Pollutant Discharge Elimination System (WPDES) Permit Program issues and evaluates permits for point sources to assure the attainment of standards at the time of permit issuance.

Nonpoint Source (NPS) Dominated: Waters in which the impairment is a result of nonpoint source runoff, including urban and agricultural stormwater runoff.

Nonpoint Source/Point Source Blend: Waters are placed in this category when impairments exist due to both point source contributions and nonpoint source runoff.

Unknown/Other: Waters are placed in this category where the exact cause of the impairment is unknown or is indirectly impacting the segment. For example, a waterbody segment may be listed due to fish tissue contamination, but the fish captured in the segment likely accumulated those toxins prior to migrating to the segment.

Impaired waters listings provide impetus for completing watershed restoration studies. Federal and state cost-share grants may be available to landowners for projects that address nonpoint sources of pollution, and some grants provide incentives for restoration of impaired waters. For certain grants, applicants with projects that help restore impaired waters have a greater chance of receiving funding, including funding from the USDA’s Environmental Quality Incentives Program (EQIP) and the DNR’s Targeted Runoff Management (TRM) Grant Program.

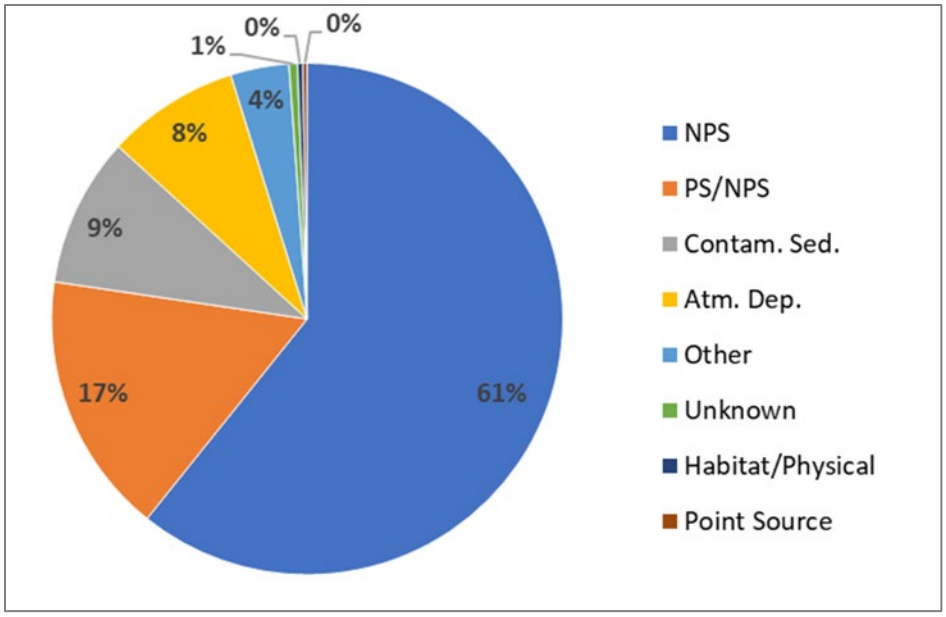

Figure 3-2 Impairment source categories for impaired waters listings included on the 2024 impaired waters list.

3.5.c Next Steps for Surface Water Assessment

The WisCALM guidance is updated every two years for each assessment cycle based on DNR staff and external comments, taking into consideration newly available assessment tools, revised monitoring plans, including changes in the types and amounts of water quality data available, and completed or pending revisions to water quality standards.

Several revisions to future WisCALM guidance are being considered. WisCALM currently does not address aquatic life habitat impairments related to low water level/stream flow or hydrologic impairment of wetlands (by drainage or impoundment of excess water that artificially alter the hydroperiod of wetlands). Methods to assess these fish and aquatic life use impairments may be developed by workgroups in the future. The agency also continues work on a pilot project to develop a process for characterizing the natural hydroperiod of various wetland types across the landscape, which may be a multi-decadal effort.

Assessing and monitoring nearshore areas of the Great Lakes present special challenges. Wisconsin's water quality monitoring strategy for 2021-2025 emphasizes the need for a special monitoring framework for these resources. While total phosphorus criteria already exist for the Great Lakes, the DNR needs to create a consistent methodology for delineating Great Lakes nearshore Assessment Units before these criteria can be applied.

Monitoring on the Mississippi River has revealed episodes of low dissolved oxygen in pools and backwaters, caused by excessive growth of filamentous algae and duckweed. The growth of these plants is encouraged by low flows, high temperatures, and nitrogen enrichment. Current data suggest that nitrogen criteria may be necessary to ensure attainment for these areas of the Mississippi River. Similarly, the DNR has recently completed fieldwork to help determine the extent of nitrogen-limited wadeable streams across the state. For some N-limited streams, total phosphorus criteria may not be sufficient to protect designated uses. In the short term, the DNR will explore and share the results of the study and convene experts to understand whether nitrogen criteria may be appropriate and begin considering this potential update to the 2028 WisCALM.

In-stream suspended sediment and siltation are common impairments of Wisconsin's surface waters. Approximately an eighth of the § 303(d) impairment listings to date are sediment-related (e.g., legacy sediment, turbidity, or TSS). More than three-quarters of these listings are degraded habitat impairments with TSS listed as a "cause" of impairment. These habitat impairments were evaluated for listing on a case-by-case basis based on professional judgment.

Quantitative and qualitative habitat assessment protocols are currently used during baseline monitoring. Historically, this stream physical habitat information was evaluated using biologists' best professional judgment for impairment listing decisions. Over 60 stream impairment listings are attributed to "degraded habitat" in the 2024 integrated report. The DNR may begin work to develop listing/delisting thresholds for specific stream habitat metrics and/or overall habitat scores; these thresholds should be incorporated in WisCALM to guide impairment listing and delisting decisions.

The DNR has made progress toward incorporating lakeshore habitat assessments into WisCALM. The DNR explored the National Lake Assessment (NLA) habitat data, as well as supplemental habitat data from an additional 100 lakes statewide and evaluated the use of the NLA lakeshore riparian and shallow water habitat metrics for use in Wisconsin. In 2020, the DNR produced the Lake Shoreland & Shallows Habitat Monitoring Field Protocol and since then have collected and analyzed shoreland data sets submitted by staff, partners, and grant recipients. These data, collected with standardized protocols, may aid in the future development of standards for lakeshore habitat.

In 2021, the DNR developed an aquatic plant assessment tool for lakes called the "Macrophyte Assessment of Condition" (MAC) and a related version tailored to assessment of phosphorus response called MAC-P. These tools assess the relative abundance of tolerant, moderately tolerant, and sensitive plants to determine the condition of the aquatic plant community. The 2024 WisCALM incorporated the MAC-P assessment for lakes as a phosphorus response indicator applied in combination with total phosphorus concentrations. The DNR expects to continue refining the use of MAC and MAC-P in future assessment cycles.

Wisconsin does not currently assess wetland impairments because no numeric standards for wetlands currently exist. However, wetlands exist across the state that are undoubtedly impaired due to anthropogenic factors including NPS pollution, but most of these factors have not been quantifiable due to the state of the science and lack of resources. To correct this gap, the department has pursued a variety of applied research efforts (as incrementally able through the EPA Wetland Program Development Grants) over the past two decades to create methods of wetland monitoring and assessment that may eventually aid in creation of numeric wetland water quality standards and WisCALM criteria over the next decade.

3.6 Condition of the Groundwater Resource

Wisconsin's groundwater resources have significant associated quality and quantity concerns, which vary depending on land uses, the groundwater susceptibility profile, geologic setting, weather patterns and historical and current water demand. Nonpoint contaminants can infiltrate into groundwater, which also transports substances such as pesticides, nitrate, microbial contamination, and contaminants of emerging concern to surface water bodies. In some settings, surface water can also discharge into groundwater, further influencing water quality dynamics.

3.6.a Groundwater Quality and Quantity Data

Groundwater data may also be used to complement watershed-based assessments and to identify variations of nonpoint source pollution impacts across the state. Wisconsin has more than 11,000 groundwater-sourced public water systems, and monitoring results can be obtained through the Public Drinking Water System Portal. Information on private wells and groundwater quality is available through the Groundwater Retrieval Network. Variations in groundwater quality at various scales can also be visualized with the Well Water Quality Viewer, hosted by the University of Wisconsin at Stevens Point Center for Watershed Science and Education.

In 2014, in response to the DHS revised health recommendation that long term use of water over the standard by anyone poses a significant health risk, ch. NR 812 Wis. Adm. code was changed to require sampling for nitrate in both newly constructed wells and existing wells that had pump work done. This rule change resulted in a significant annual increase in the quantity of well nitrate data that is collected by the DNR. From 2014 through 2024, approximately 230,000 additional nitrate samples were collected from wells at disparate locations throughout the state. In addition to the targeted community groundwater studies described below, the vast trove of private well data and the annual sample results from

Wisconsin's over 11,000 groundwater-sourced public water systems represent a significant monitoring resource that can be utilized for evaluating ambient groundwater quality conditions throughout the state. While groundwater contamination is often visualized on two dimensional maps, groundwater quality throughout an aquifer, with concentrations potentially varying by depth is key for stakeholders seeking informed solutions. In response, the DNR has developed new visualization tools to better understand how contaminants vary with well construction details, such as well depth, casing depth and water depth. One example are Nitrate Vertical Penetration Graphs, which plot all available well data within a township, and provide our best available picture of the variation of nitrate concentrations with depth. Future efforts will explore relationships between contaminants, lithologies and specific geological formations.

County health departments, county land conservation departments and partner agencies have conducted local private well monitoring programs, and several targeted studies have examined private well water quality in regions such as the northeast, southwest, and central areas of the state. Example studies include Assessing Groundwater Quality in Kewaunee County, The Southwest Groundwater and Geology Study, The Green County Groundwater Quality Trend Data Program, and others. These efforts have generated valuable data on contaminants like nitrate, bacteria, and viruses. In some cases, the results have been used by county planners to develop groundwater vulnerability assessments. Data from studies such as these, from visualization tools, and from our centralized databases may be used in 9 Key Element or Alternative Watershed-Based Plans and have also been utilized to support National Water Quality Initiative project planning.

Groundwater is abundant in Wisconsin and provides adequate water supplies for most municipal, industrial, agricultural and domestic uses. However, groundwater pumping can lower water levels in an aquifer, and in certain settings reduce groundwater discharge to surface water bodies connected to the aquifer. The 2017 Little Plover River Groundwater Model and the 2021 Central Sands Lakes Study found that groundwater withdrawals can reduce surface water levels and impact variables associated with lake use and ecosystem health including water quality. The degree to which groundwater withdrawals influence groundwater dependent surface waters can be site-specific.

3.6.b Overview of Statewide Groundwater Conditions

Pesticides: Pesticide contamination in groundwater results from field applications, pesticide spills, misuse, or improper storage and disposal. Pesticide metabolites are related chemical compounds that form when the parent pesticide compound or active ingredient break down in the soil and groundwater. There are approximately 500 unique agricultural pesticide active ingredients used in Wisconsin.

Every five to ten years the DATCP collaborates with the United States Department of Agriculture - National Agricultural Statistics Service to conduct a statewide survey of private potable wells. The survey assesses the occurrence of agricultural chemicals in groundwater, raises awareness among residents about potential contaminants in their drinking water, and promotes the protection of groundwater resources. Since 1998, the DATCP has completed six statewide surveys, most recently in 2023. During the 2023 statewide survey groundwater samples were collected from 380 randomly selected private potable wells. They were analyzed through the DATCP Bureau of Laboratory Services for nitrate plus nitrite as nitrogen and 106 pesticide and pesticide metabolites.

In March 2024, the DATCP published a report related to the 2023 statewide survey of Agricultural Chemicals in Wisconsin Groundwater. This survey estimated that statewide, the percentage of wells that contained a detectable concentration of a pesticide or pesticide metabolite was 43.1%, up from 41.7% in 2016 and 33.5% in 2007 surveys. Pesticides detection rates were generally higher in areas of the state with a higher intensity of agricultural activity. Metabolites of the herbicides metolachlor and alachlor were the most detected compounds with estimated statewide detection rates of 36.1% and 19.6%, respectively. Neonicotinoids insecticides (clothianidin, imidacloprid, and thiamethoxam) were estimated to be detected statewide in 5.3% of the wells, up from 0.2% estimated in the 2016 survey. Only one compound, imidacloprid, was found in one well at a concentration exceeding the Wisconsin Department of Health Services state drinking water health advisory level of 0.2 μg/L. Overall, the survey found no statistically significant change over time in the statewide detection rates of metolachlor and alachlor metabolites, atrazine, or the sum of atrazine and its breakdown products since 2001.

Nitrate: Nitrate is Wisconsin's most widespread groundwater contaminant and is increasing in extent and

severity. Nitrate levels in groundwater above 2 mg/L indicate a source of contamination, such as agricultural or turf fertilizers, animal waste, septic systems, or wastewater. While nitrogen is an essential plant nutrient, high concentrations of nitrate in groundwater lead to public health concerns. Nitrate is the most common groundwater contaminant that exceeds state groundwater and drinking water standards, posing an acute risk to infants and women who are pregnant, a possible risk to the developing fetus during very early stages of pregnancy, and a chronic risk of serious disease in adults. Approximately 90% of nitrate inputs into our groundwater originate from agricultural sources[1].

Approximately 240 public water supply systems (mostly small systems like mobile home parks, restaurants and taverns) exceeded the health-based maximum contaminant level (MCL) of 10 mg/L in 2024, requiring them to post notices, provide bottled water, replace wells, install treatment, or take other corrective actions. Concentrations of nitrate in private water wells have also been found to exceed the standard (Figure 3-3). The DATCP 2023 statewide survey results indicated the percentage of wells containing nitrate between the ch. NR 140, Wis. Admin. Code 2 mg/L Preventive Action Limit and 10 mg/L Enforcement Standard was estimated to be 33%. Additionally, 7.3% of wells exceeded the enforcement standard. These percentages have not changed significantly since 1994, based on data from previous DATCP surveys. There are over 800,000 private wells in Wisconsin. Historically, approximately 10% of all wells statewide have exceeded the nitrate MCL. In agricultural areas, such as the highly cultivated regions in south-central Wisconsin, as many as 20% or more of private well samples may exceed the MCL. Public Water Systems exceeding 5 mg/L nitrate are considered to be significantly impacted and are flagged by the Drinking Water and Groundwater program as candidates for NPS mitigation measures (Figure 3-4). These impacted systems are numerous and located in all regions of the state. GCC member agencies are working on multiple initiatives aimed at reducing the prevalence of high nitrate levels in groundwater and drinking water.

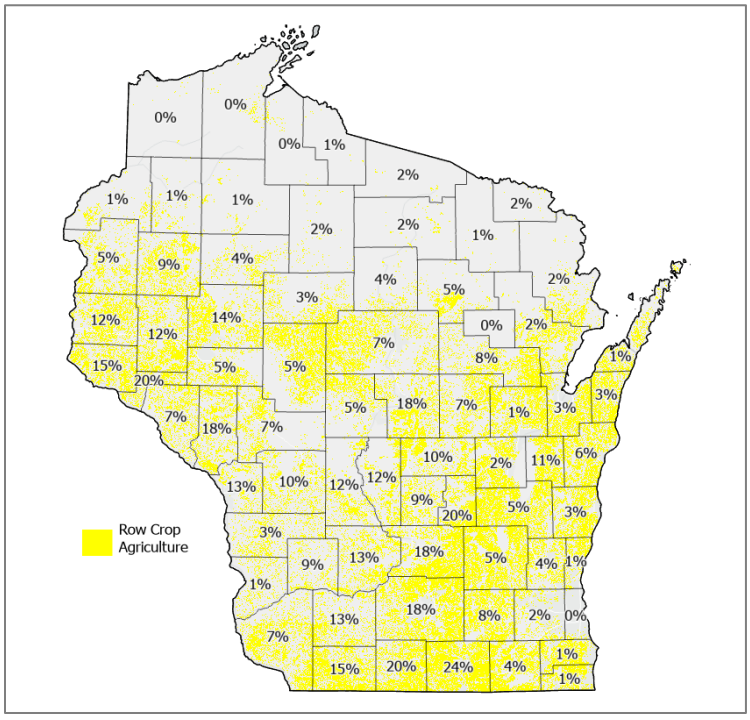

Figure 3-3 Estimated Percentage of Private Wells over Nitrate Standard (10 mg/L) by County with Row Crop Agriculture (January 2023 - June 2024).

[1] Shaw B. 1994. Nitrogen Contamination Sources: A Look at Relative Contribution. Conference proceedings: Nitrate in Wisconsin's Groundwater – Strategies and Challenges. May 10, 1994. Central Wisconsin Groundwater Center, University of Wisconsin – Stevens Point, WI.

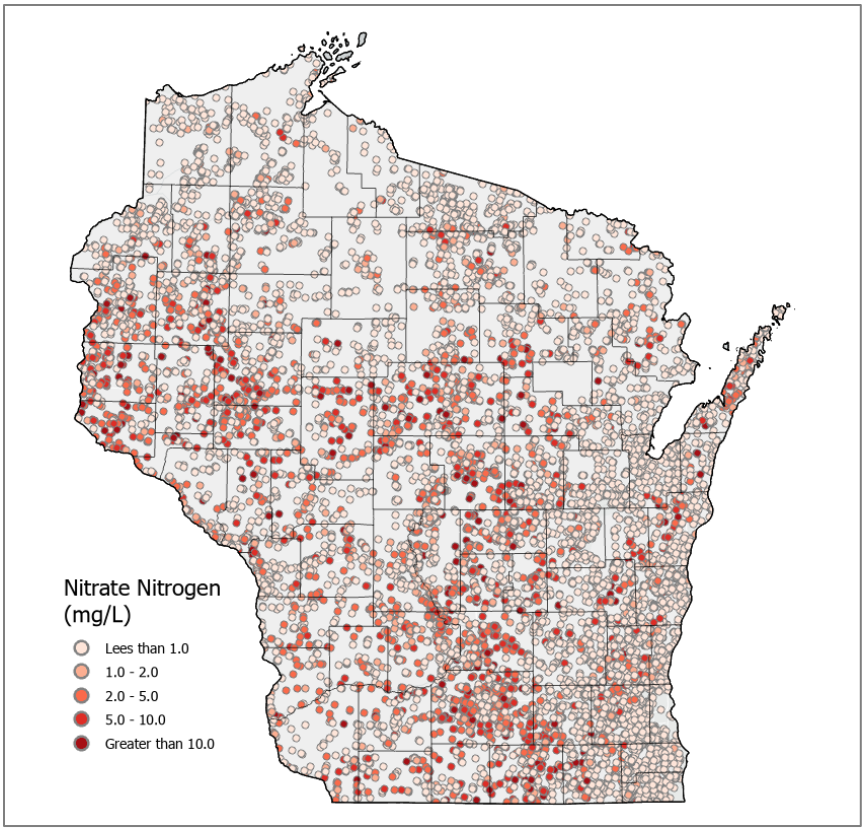

Figure 3-4 Public Water Systems Approaching or Exceeding Unsafe Nitrate Levels

A useful method to assess long-term groundwater nitrate trends throughout the state is to evaluate data from groundwater baseflow-dominated streams. A large portion of the state is covered by "groundwater dominated" watersheds (i.e. the ratio of groundwater baseflow to total streamflow is greater than 50%). Long term trend monitoring sites maintained by the DNR and the USGS in these watersheds provide information about the aggregate water quality yielded by these watersheds over time for groundwater transported contaminants such as nitrate. Wisconsin has some large basins where the baseflow contribution at the monitoring station is estimated to be as high as 90%[2]. In contrast to phosphorus, the DNR's Long Term Trend Network shows increases in nitrate concentration for most river monitoring locations throughout the state over the last two decades (Figure 3-5). This has implications for the future updates and proposed enhancements to the Nutrient Loss Reduction Strategy.

In addition to phosphorus, nitrogen contributes significantly to nutrient-related water quality degradation of lakes and streams in Wisconsin. Groundwater and drain tile-transported nitrate, along with urea and ammonium play a significant role in the over-enrichment of water bodies, driving excessive algae and cyanobacteria growth, along with increasing the potential for harmful algal toxin formation. Wisconsin has documented high nitrate concentrations in groundwater seepage feeding specific lakes and has further evaluated the significant role of nitrogen in contributing to highly eutrophic and excessively productive lakes (S. Giblin, DNR et al., 2025, in preparation). The DNR identified development of nitrogen criteria as a priority in the 2025-2027 Triennial Standards Review Workplan. A more extensive discussion of the condition of nitrate in groundwater in Wisconsin can be found in the 2024 Wisconsin Groundwater Coordinating Council Report to the Legislature.

[2] Gebert, W.A., Walker, J.F., and Kennedy, J.L., 2011, Estimating 1970–99 average annual groundwater recharge in Wisconsin using streamflow data: U.S. Geological Survey Open-File Report 2009–1210 https://pubs.usgs.gov/of/2009/1210/

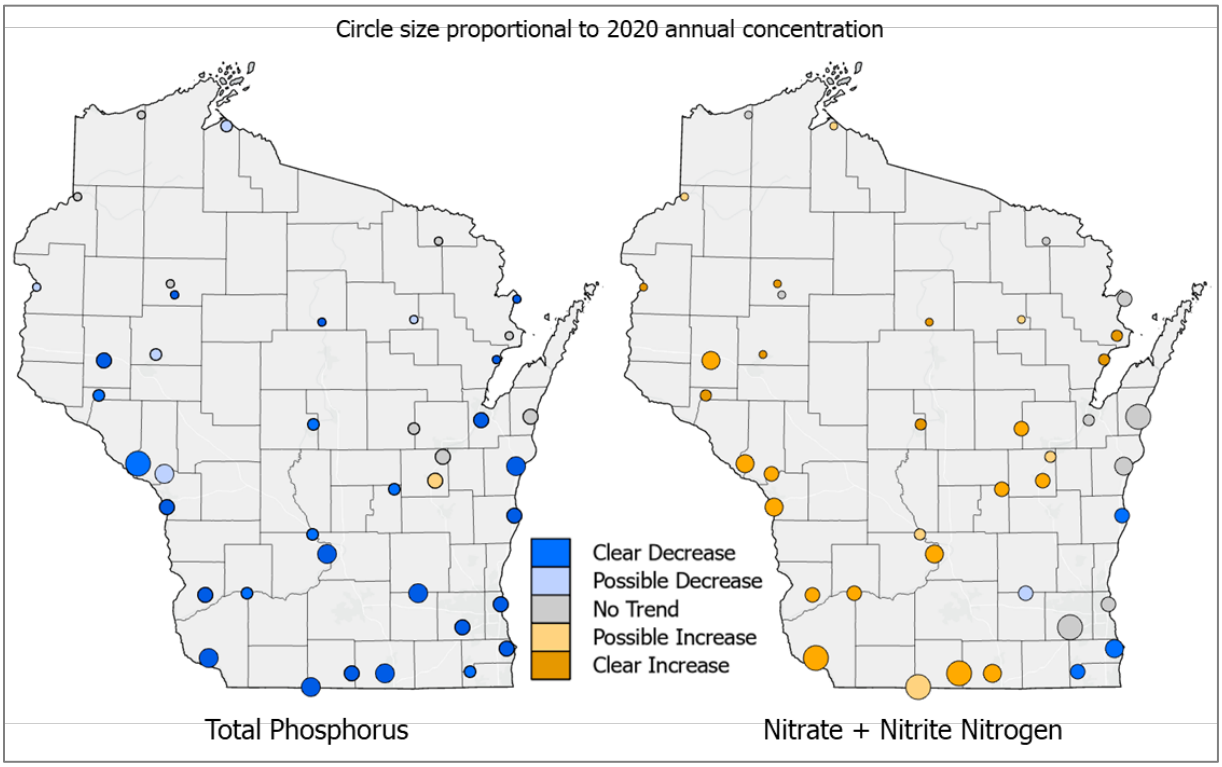

Figure 3-5 In contrast to phosphorus, data from the DNR's Long Term Trend Network for streams shows increases in nitrate concentration for most locations throughout the state (2000-2020 data).

Bacteria, viruses and other pathogens: Bacteria, viruses, and other pathogens often occur in areas where the depth to groundwater is shallow, in areas where soils are thin, or in areas of fractured bedrock. 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[3], approximately 23% of private well water samples statewide tested positive for total coliform bacteria, an indicator species of other biological agents. Approximately 3% of these wells tested positive for E. coli, an indicator of water borne disease that originates in the mammalian intestinal tract.

Viruses in groundwater are increasingly 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. Other studies showed virus presence in four La Crosse municipal wells, in the municipal wells in Madison, and in five shallow municipal wells serving smaller communities.

Public and private water samples are not regularly analyzed for viruses due to the high cost of the tests. The presence of coliform bacteria has historically been used as an indicator that water may not be safe for human consumption. However, recent findings show that coliform bacteria do not always correlate with the presence of enteric viruses.

PFAS Ambient Shallow Groundwater Study: In June 2022, the DNR, in collaboration with the UW-Stevens Point Center for Watershed Science and the Wisconsin State Laboratory of Hygiene, began a project to sample for PFAS and other water quality parameters in 450 private wells, spaced apart

[3] 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.

geographically across the entire state. Wells drawing water from shallower than 40 feet of the uppermost continuous local aquifer were chosen to survey concentrations of PFAS present in shallow, “ambient groundwater”. Wells were also excluded if they were near a known high-concentration release of PFAS.

Another objective was to evaluate the usefulness of several potential source indicator chemicals, (i.e. chemicals that might be used to associatively indicate what the source(s) of PFAS to groundwater may be in an area). Potential PFAS source indicators used for the study included some PFAS compounds that are environmental transformation products of fluorotelomer polymers, some inorganic compounds including nitrate and chloride, and some non-PFAS organic compounds including metabolites of the herbicides alachlor and metolachlor and a suite of human waste indicators that included two artificial sweeteners and two commonly used pharmaceuticals.

Samples were analyzed for 44 individual PFAS compounds, general water quality parameters, and indicators of human waste and agricultural influence. At least one PFAS compound was detected in 71% of the study samples, and 22 of the 44 PFAS analytes were detected in one or more samples. Levels of PFAS detected in the study site home water supplies were generally very low. However, perfluorooctanoic acid (PFOA) and/or perfluorooctane sulfonate (PFOS) exceeded the new federal 4.0 ng/L MCLs for those compounds in ~4% of the 450 study samples, and two of the study samples showed perfluorohexanesulfonic acid (PFHxS) above the new 10 ng/L federal MCL value. The samples above the new federal PFAS MCL levels tended to be associated with both developed land (areas of relatively high rural housing density) and human waste indicators (artificial sweeteners and pharmaceuticals). Most rural housing in Wisconsin utilize an on-site septic system for wastewater treatment/disposal. Human waste indicators such as artificial sweeteners and pharmaceuticals can be released to groundwater via septic system discharge.

Based on a review of land use information it appears that some of the study samples with relatively high PFOA, PFOS, and/or PFHxS levels are in areas where municipal wastewater biosolids and/or industrial waste material is allowed to be land applied on agricultural fields. As some municipal wastewater biosolids and industrial waste materials have been found to contain PFAS, the land application of these materials on agricultural fields could be a source of elevated PFAS in groundwater in some locations. Overall, the study results suggest that human waste sources, septic systems in particular, may likely be a significant source of PFAS, especially those PFAS with less than eight perfluorinated carbons, in shallow groundwater in Wisconsin.

3.6.c Next Steps for Groundwater Protection

For nonpoint contaminants in groundwater, including nitrate, pesticides, PFAS, bacteria, viruses and other pathogens, DNR is committed to bringing concentrations in drinking water supplies down to safe levels. DNR’s Drinking Water and Groundwater (DG) program, through the Source Water Protection (SWP) Workgroup, leads regular cross-program coordination meetings with multiple DNR programs, the Wisconsin Rural Water Association, and guests from multiple state, federal and local programs. These efforts foster ongoing collaboration and ensure alignment of objectives across partners. As part of its ongoing work, the DG program regularly reviews groundwater data to identify wells that are trending higher for nonpoint contaminants, such as nitrate, but have not yet exceeded the maximum contaminant level. Such wells are further evaluated as candidates for potential intervention measures. When such wells are identified, the program reaches out to local partners, such as municipal well operators and county conservation staff. Together, they initiate discussions toward the development of source water protection action plans. This general process of “co-management” of the shared resource - between federal, state, and local partners, has been successfully applied at several scales, including at individual municipal well fields here, at small watershed-based scales, and across multiple HUC12 watersheds in the context of National Water Quality Initiative - Source Water Protection Area (NWQI-SWPA) Watershed projects.

The Source Water Protection Team regularly reviews statewide groundwater quality data to help communities identify potential sources of groundwater contamination and prevent contaminant levels from increasing in water supply wells. Between 2023-2025 the SWP Workgroup worked with the communities of Abbotsford and Athens, respectively, to address rising nitrate trends in series of municipal supply wells

operated by each community. With the aid of the Workgroup and county conservation and county health staff, each community established robust local collaboratives to develop and implement source water protection action plans. In the case of Athens, local producers operating in the zones of contribution to the wells of concern were successfully recruited to implement land use changes designed to provide improved quality of groundwater recharge to the wells of concern. In Abbotsford, lands identified as critical zones of contribution to community wells were fortuitously owned by the local school district. The schools district took an active interest in the project, establishing their own SWP team and actively engaged students in the process of converting the lands from row cropping to native vegetation and trees. To track progress and better understand hydraulic conditions, the DG partnered with the Wisconsin Geological and Natural History Survey (WGNHS) to install monitoring wells and collect soil samples to 50 feet below the surface. Students also witnessed drilling operations and the collection of soil samples. DG and WGNHS are helping teachers with developing ongoing hydrogeologic curricula to continue the valuable educational opportunity. Throughout 2026-2030, DG plans to work cross-program to explore if Alternative Watershed-Based Planning would be a fit for projects such as these and if 319 funding could be applied to implement approved plans.

In 2024 and 2025, DG recruited several Wisconsin counties and provided technical assistance to help them develop NWQI-SWPA project proposals to submit to NRCS. Within these counties, DG identified target public water systems with rising nitrate trends located within a series of HUC12 watersheds that contained substantial proportions of agricultural land use. To date, the Manitowoc Karst SWPA Project, consisting of five HUC12 watersheds containing 16 public water supply wells, and the Kinnickinnic Headwaters SWPA Project, consisting of three HUC12 watersheds located in St. Croix County, have been accepted by NRCS as NWQI Planning Watersheds. DG worked with a third county to submit a NWQI-SWPA project in April 2025.

Throughout 2026-2030, DNR will continue to expand these efforts and work to develop outreach materials and templates for easier replication. Additionally, DG will continue to lead efforts to develop new monitoring, modeling and assessment tools to enable evaluation of options for improving source water assessments, reducing nitrate leaching from agricultural production and for setting water quality targets and milestones for groundwater objectives within Watershed-Based Plans and other applications (See Appendix F - Groundwater Transport and Nitrogen Fertilizer Decision Support Tools). One additional potential objective is to identify an opportunity to pilot an Alternative Watershed-Based Plans for remediation and protection of groundwater sources of drinking water and exploring options for utilizing federal funding, such as the Clean Water Act State Revolving Fund (CWA-SRF) or Safe Drinking Water Act State Revolving Fund (SDWA-SRF) for community-based efforts to mitigate nonpoint pollution and protect “drinking water source infrastructure”.

The Wisconsin Groundwater Coordinating Council (GCC) is an interagency group that is directed by s. 15.347(13) Wis. Stats., with functions outlined in s. 160.50 Wis. Stats. The GCC assists state agencies in the coordination and exchange of information related to groundwater programs for effective management and protection of Wisconsin’s groundwater resources. GCC member agencies have been and continue to work on multiple initiatives related to reducing the risk presented by contaminant levels in groundwater, but in some cases, such as for nitrate, the problem persists. The GCC identifies recommendations for future groundwater protection and management needs. These recommendations include top priorities of immediate concern, ongoing efforts that require continued support, and emerging issues that will need to be addressed in the near future.

The GCC reports annually to the state legislature, and the 2024 GCC Report to the Legislature includes several recommendations applicable to reducing NPS impacts to groundwater. These include establishing new and updated state groundwater standards for PFAS and other contaminants, implementing agricultural practices to protect groundwater from nitrate, pesticides, and other pollutants, and assessing the presence of viruses and other pathogens in groundwater to develop effective response strategies. Another priority is the continued support of applied groundwater research in Wisconsin. Each year, multiple state agencies, including the DNR, and the UW System, fund research on groundwater issues through the Joint Solicitation. While the DNR remains committed to financing these efforts, funding availability is subject to uncertainties.

Chapter 4 Watershed Planning for Nonpoint Source Pollution Control

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, ongoing enhancements to that framework for continued NPS pollution control, and how the different levels of planning interact and influence each other. Watershed planning requires meaningful participation from watershed stakeholders and can be the overarching management tool for achieving watershed goals found within Wisconsin's County Land and Water Resource Management Plans, Total Maximum Daily Loads, Lake Management Plans and Groundwater/Source water protection plans.

4.1 Statewide Planning

The current version of Wisconsin's Nutrient Reduction Strategy is a broad overview of nutrient management activities for both point sources and nonpoint sources in Wisconsin. The strategy was developed in response to the Gulf Hypoxia Action Plan 2008 call for each state in the Mississippi River Basin to develop a strategy by 2013 to reduce the amount of phosphorus and nitrogen carried in rivers from the state to address the biological "dead zone" in Gulf of Mexico. It was also developed in response to the call from the EPA for states to develop frameworks for nutrient reduction as outlined in the March 2011 memo from Nancy Stoner, Acting Assistant Administrator for Water. Wisconsin's strategy was also developed to meet intra-state needs for Wisconsin's lakes and streams and groundwater.

Maps and lists of high priority "top group" HUC10 watersheds, comprising about 10% of the state's watersheds, were developed for the Mississippi River Basin and Lake Michigan Basin for phosphorus and nitrogen to surface waters and for nitrates in public drinking water wells (Figure 4-1). Refer to Wisconsin's Nutrient Reduction Strategy for the names and associated Hydrologic Unit Codes (HUCs) for the top group watersheds.

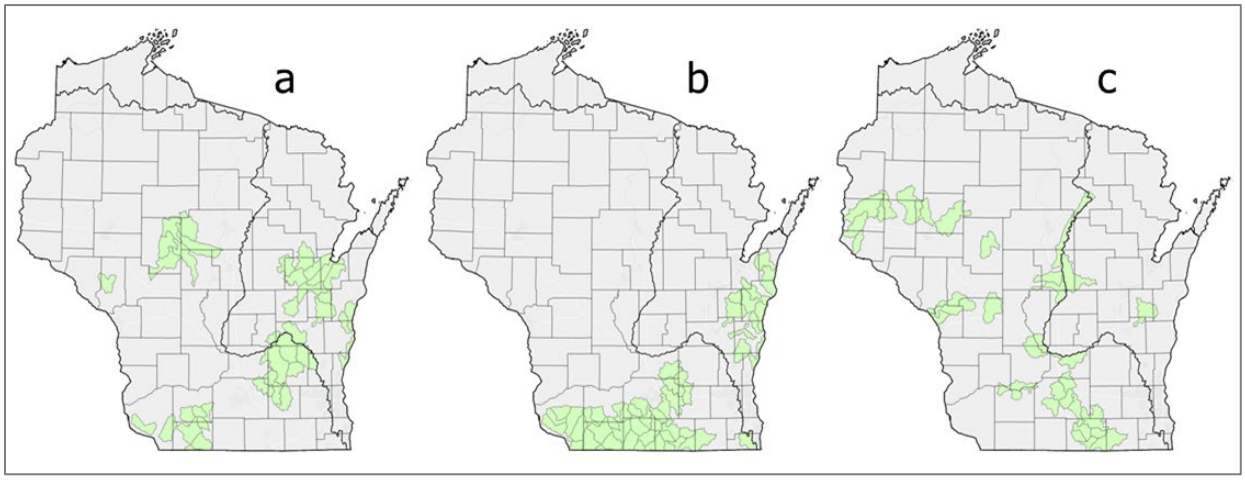

Figure 4-1 Nutrient Reduction Strategy Top Group Watersheds for (a) Phosphorus, (b) Nitrogen and (c) Safe Drinking Water – Nitrates.

Total Maximum Daily Load Prioritization and Development: In December 2013 the EPA published A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act § 303(d) Program, which included goals that are directly tied to or hinge on the involvement and integration with State NPS Programs under § 319 of the Clean Water Act. As the period covered by the 2013 Vision sunset, discussions were initiated between states, territories, federally recognized tribes, and the EPA to renew the 2013 Vision for another 10-year period. This renewal of the 2013 Vision, commonly referred to as "Vision 2.0", builds on previous efforts and emphasizes the prioritization of resources to implement CWA 303(d) Program responsibilities and meet water quality criteria and standards to restore and protect Wisconsin's waterbodies.

Under both the 2013 Vision and Vision 2.0, the DNR is responsible for identifying restoration and protection priorities. These identified priorities constitute a “Candidate Pool” from which individual projects can be selected. As with the two-year reporting cycle for assessment reporting, the DNR will identify which waterbodies from the Candidate Pool will be addressed with new or revised TMDLs, or restoration plans and protection plans every two years. However, the DNR reserves the right to add additional TMDLs, restoration plans, or protection plans to the Candidate Pool. These additions could be the result of new or emerging contaminants, legislative directives, or other priorities as informed and directed by stakeholder input. Of the 12 recent TMDL projects, only two were initiated solely by the DNR based on the existing prioritization framework analysis. The other TMDLs were either initiated and funded by the EPA, in response to joint priorities with the Minnesota Pollution Control Agency, legislative-directed projects, or third-party TMDLs.

As part of the 303(d) list, individual impaired segments and waterbodies must be assigned a prioritization of either high, medium, or low, and the DNR is dividing the Candidate Pool levels consistent with these priorities. Impaired segments and waterbodies on the 303(d) list with a prioritization status of “High”, have restoration plans that are either under development or will be completed within the two-year reporting period form the level 1 Candidate Pool.

Impaired segments and impaired waterbodies listed on the 303(d) list with a prioritization status of “Medium” form level 2 candidate pool and have either TP or TSS/sediment identified as a pollutant parameter. Within the Level 2 Candidate Pool the DNR has identified, through the planning and prioritization process laid out in Appendix B, three basins and their associated waterbodies to prioritize for future TMDL development. These are the Sugar-Pecatonica, Southeast Lakeshore and Buffalo-Trempealeau basins.

Impaired segments and impaired waterbodies listed on the 303(d) list with a prioritization status of “Low” form level 3 Candidate Pool and have pollutant parameters that are best addressed by restoration efforts other than TMDLs, have a pollutant listed as unknown, or require additional data to be collected prior to the development of a restoration plan or TMDL. Examples include toxic pollutants or impairments caused by in-situ sediments that are best addressed through other DNR programs, such as the Great Lakes Areas of Concern (AOC); the Wisconsin Pollutant Discharge Elimination System (WPDES) program; and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The DNR will continue to emphasize nonpoint implementation within its TMDLs, restoration plans, and protection plans and is looking for ways to eliminate redundant planning efforts. For example, the DNR is exploring how to better integrate 9-Element Plans within the TMDL development process by creating TMDLs that already contain and fulfill many if not all the necessary 9-Element planning requirements. While this process may increase the time it takes to develop a TMDL, it may help reduce redundant planning efforts. In addition, addressing more of the implementation planning efforts during TMDL development allows for a more robust analysis and documentation for the reasonable assurance section of the TMDL and promotes better engagement with interested watershed and stakeholder groups.

Wonderful Waters of Wisconsin (WWOW): In May 2022, the DNR released the Wonderful Waters of Wisconsin Action Plan (formerly the Healthy Watersheds, High-Quality Waters Action Plan), one of the first comprehensive water resources protection efforts in the country.

Historically, much of the DNR’s emphasis has been to restore polluted waters as required by the federal Clean Water Act. Evidence is mounting, however, that actively protecting healthy water resources is a wise public investment, and the shift towards protection efforts is growing nationally. The Action Plan also lays the foundation for greater balance between restoration and protection, all the while emphasizing and celebrating the wonderful waters of Wisconsin. The Action Plan relies on continued collaboration amongst partners to implement aspirational actions through 2030 to achieve shared goals. The Action Plan and viewer tool developed by the DNR will help counties and other partners in Wisconsin to identify high-quality waters and healthy watersheds for development of alternative/protection plans.

A guiding principle of the Action Plan is that watershed scale protection is essential for high-quality waters to thrive. In partnership with the EPA and its contractor Cadmus Group, a DNR Healthy Waters Team completed a 3-year, peer-reviewed modeling and assessment project at the HUC12 scale. The team used the EPA’s Restoration and Protection Screening Tool and a suite of waterbody assessment criteria,

including waters meeting water quality standards, to identify the healthiest watersheds at statewide and HUC6 scales. The peer review and partner engagement process resulted in a request to further prioritize watersheds to the 30% healthiest at both the statewide and individual HUC6 scales (Figure 4-2). Watershed vulnerability (e.g., projected land use changes), watershed opportunities (e.g., count of lake, river, and watershed organizations), and overall protection opportunities were also modeled.

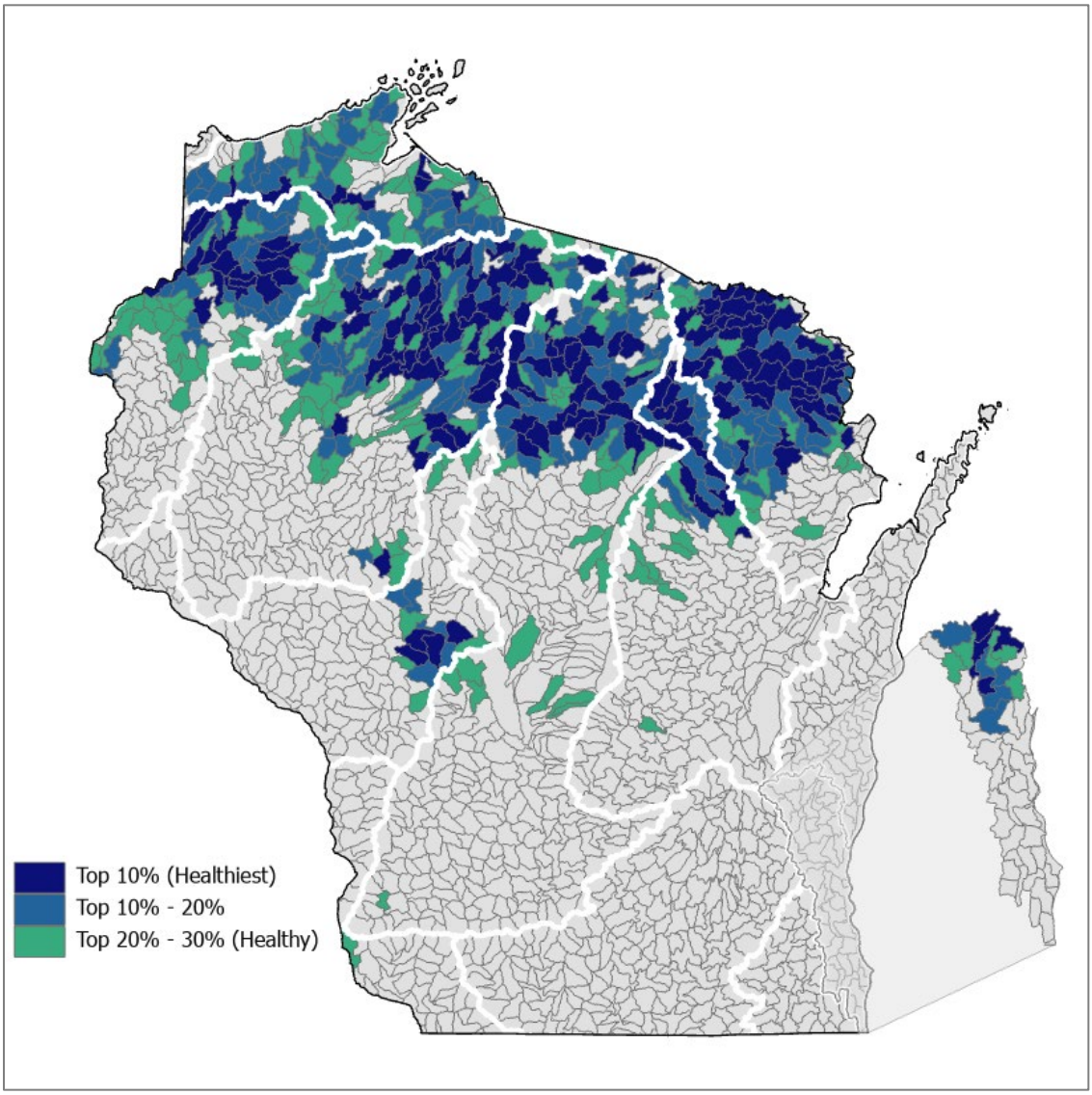

Figure 4-3 The Wonderful Waters of Wisconsin watershed health protection priorities can be sorted at two scales: statewide (left) and Large River & Great Lakes drainage basin (right). In this example, the Southwest Lake Michigan Basin watershed protection priorities were not ranked within the top 30% healthiest at a statewide scale but represent the top 30% healthiest watersheds within the basin.

The waterbody assessment included identifying lakes, rivers, and streams that met two of the following three criteria:

- Containing a unique or rare resource (e.g. wild rice),
- Attaining state water quality standards,
- and having good-to-excellent biotic integrity.

The DNR also assessed Healthy and Rare wetlands that are reference quality, listed as vulnerable or critically imperiled at the state or global scale (the DNR Natural Heritage Inventory list) or have least

disturbed conditions as defined by a wetland floristic quality assessment survey. A detailed description of the HQW assessment can be found within the Healthy Watersheds, High-Quality Waters technical report. The DNR intends to repeat the healthy watershed modeling every 10 years and assess high-quality waters every two years in accordance with the Clean Water Act assessment cycle.

The HWHQW modeling and assessment results and WWOW Action Plan are currently being utilized and implemented, respectively, locally and statewide. County partners are integrating the results into their Land & Water Resource Management Plans, the DNR used the modeling to inform its 303(d) Vision 2.0, and a cross-program and the EPA work group is developing watershed protection planning guidance that will meet the EPA's alternative planning requirements for protecting healthy watersheds and high-quality waters.

NPS pollution continues to be the primary cause of water quality impairments in Wisconsin. However, Wisconsin's NPS Program is committed to balancing the restoration of impaired waters with the protection of healthy watersheds and high-quality waters, since a significant portion of the state's current and previously assessed waters meet water quality standards. And although NPS control funding needs far exceed the federal, state, and local resources available, Wisconsin will continue to address NPS pollution by leveraging various state and federal resources, supporting networks of community-based actions on a watershed scale, and developing statewide regulatory and non-regulatory programs.

4.2 Targeted Nonpoint Source Planning Efforts

4.2.a Section 319 Requirements for Watershed-Based Plans

The EPA developed revised guidelines for states' implementation of nonpoint source management programs under § 319 of the Clean Water Act. The May 4, 2024 guidance specifies that watershed-based plans to protect and restore waters must be consistent with the "Minimum Elements of a Watershed-Based Plan" (commonly referred to as the "nine key elements") and are required for all projects implemented with § 319 "Watershed Project" funds. Beginning in FFY 2015, the following information must be included in watershed-based plans to protect and restore waters impacted by nonpoint source pollution using Watershed Project funds:

1. Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan. Sources that need to be controlled should be identified at the significant subcategory level along 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 from management measures.
3. A description of the nonpoint source management measures that will need to be implemented to achieve load reductions in element b, and a description of the critical areas in which those measures will be needed to implement this plan.
4. 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 this plan.
5. An information and education component used to enhance public understanding of the plan and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.
6. Schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.
7. A description of interim measurable milestones for determining whether nonpoint source 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 toward attaining water quality standards.

9. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under element 8.

In addition, the EPA's May 2024 guidance also recommends criteria for development of Alternative Watershed-Based Plans. Alternative plans are not required to meet all 9 Key Elements and may become more common within Wisconsin, over time; they are described in more detail below.

4.2.b Nine Key Element Watershed Planning in Wisconsin

Watershed-based plans have been part of the DNR's nonpoint source control efforts since at least 1979. The state's existing NPS planning framework is evolving within the sideboards of not only limited nonpoint staff and financial resources, but also the following trends and limitations:

- Wisconsin adopting numeric surface water quality criteria for phosphorus,
- Increased monitoring and assessment of surface waters for total phosphorus impairment and associated aquatic biology/habitat via targeted watershed assessments,
- Development of large-scale, comprehensive TMDLs (i.e. HUC-8 watersheds; focus on phosphorus and sediment reductions for both local streams and downstream lakes/reservoirs),
- Multiple nine key element plans within TMDL watersheds (with dominant agricultural land use) showing a need to adopt and maintain multiple agricultural cropland practices over a majority of agricultural acres in a watershed in order to meet TMDL-based reductions and meet water quality standards,
- Wisconsin's current agricultural performance standards for phosphorus loss from cropland (for both non-CAFO and CAFO facilities) not reflecting TMDL findings and reduction goals,
- Legacy pollutant sources within many agriculturally dominated watersheds (generated decades ago by NPS pollution sources) mask the ability to measure pollutant reductions and show progress towards implementing TMDLs and nine key element plans,
- Increased documentation of groundwater/drinking water sources from bacteria and nitrate contamination across Wisconsin counties, many of which have shallow bedrock or sandy soils, and
- Limited ability to verify implementation of nutrient management plans and associated agricultural cropland performance standards across the state.

These limitations and trends present ongoing challenges to adequately address current NPS planning needs, to meet federal funding and Clean Water Act mandates, and for the development and implementation of nine key element plans. There are and will continue to be very limited DNR staff or funding available to develop and implement nine key element plans.

The DNR continues, as staff and financial resources allow, to:

- Support the development of watershed-based nonpoint source control plans that meet the EPA's 9 Key Elements,
- Support the development of watershed-based TMDL implementation plans for nonpoint source impaired waters,
- Meet TMDL reasonable assurance requirements,
- Support the incorporation of groundwater and/or drinking water contamination areas and concerns,
- Incorporate protection of wetlands and high-quality waters and watersheds,
- Provide additional nonpoint source information for Areawide Water Quality Management Plan (AWQMP) updates, and
- Encourage and support third party development of watershed-based plans.

In doing so, the DNR integrates and aligns NPS implementation planning with the AWQMP process, described in Section 4.3.a, 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 are elements of the state's AWQMP. The existing AWQMP updates already make water quality recommendations related to NPS pollution and TMDLs. The DNR has modified its AWQMP Program to accommodate fewer staff, moving to online, dynamically generated "watershed plans" from databases. The DNR is also evaluating ways to align NPS planning with other Departmental planning efforts (e.g., source water protection and protecting high quality waters/watersheds to prevent impairment) to improve and increase the state's ability to generate § 319-eligible plans.

4.2.c Other Planning Efforts that May Produce or Align with Nine Key Element Plans

The DNR engages in other planning efforts with partners which may comply with the nine key elements in eligible watersheds. When these plans are updated to be consistent with the nine key elements within specific watersheds and approved by the EPA as such, they will be automatically amended to this Management Plan, as well as added to the DNR's nine key element plan website.

TMDLs: Wisconsin's TMDLs are developed with special emphasis placed on implementation of nonpoint pollution sources. This process starts with the development of the watershed model and continues through to translation of load allocations into edge-of-field targets and the prioritization of individual watersheds and areas that may be more vulnerable to erosion and nutrient export to downstream surface waters.

Wisconsin TMDL studies generally rely on watershed models, typically the Soil and Water Assessment Tool (SWAT) watershed model, to simulate runoff volumes and phosphorus and sediment loadings to surface waters from nonpoint sources, including runoff from agricultural lands. To get accurate results, the SWAT model setup includes detailed surveys of both historic and ongoing agricultural practices within the study area. Data is collected from surveys sent to County Land Conservation Offices and from available GIS coverages. Data includes crop rotations, tillage practices, soil and slope parameters, nutrient applications, and overall land use changes. This ensures both a more accurate representation on agricultural conditions and serves as the baseline for future implementation analysis.

Once the watershed modeling is completed, the allocation process involves setting allocations and associated reductions to the various identified sources of the pollutant of concern. The nonpoint sources of pollution are not simply lumped into one overarching load allocation but rather divided into subcategories that include both background sources that are nonreducible and anthropogenic sources.

TMDLs aim to allocate the maximum allowable pollutant load among all sources, including both background and anthropogenic, to ensure water quality standards are met. Background sources include pollutants that naturally occur in the environment without human influence, such as runoff from undisturbed areas. Anthropogenic nonpoint sources include runoff from non-permitted urban sources and agricultural sources (primarily runoff from row crops). The TMDL is developed such that these anthropogenic nonpoint sources are broken out with specific load allocations and associated reductions.

The agricultural load allocations from the watershed modeling are translated into field-scale model outputs that are better understood by the agricultural community, referred to here as "edge-of-field targets". This framework serves as a tool for agricultural producers to evaluate BMPs to implement on their own fields to meet TMDL targets. These edge-of-field targets are developed through and are consistent with outputs from SnapPlus, the standard nutrient management planning software used by Wisconsin agricultural producers. This allows for a seamless integration of TMDL load allocations into farm conservation plans.

Land & Water Resource Management Plans: County Land Conservation Departments (LCDs) are critical stakeholders in the development and implementation of TMDLs and other comprehensive plans that address water quality impairments for surface waters and groundwater. The Land and Water Resource Management (LWRM) Planning Program, administered by the DATCP, is the primary statewide vehicle for targeting and implementing conservation practices to conserve soil and water resources. Counties are responsible for developing LWRM plans in consultation with the DNR, and plans must be presented to the Land and Water Conservation Board (LWCB) and approved by the DATCP. LWRM

plans are approved for up to 10 years and must appear before the LWCB to participate in a review of their LWRM plans after five years. Only counties with approved LWRM plans are eligible to receive annual funding through the DATCP's Soil and Water Resource Management (SWRM) Grant Program.

LWRM planning requirements under s. ATCP 50.12, Wis. Adm. Code are intended to facilitate development of plans that address the nine key elements specified by the EPA. LWRM plans require characterization of water quality and soil erosion conditions throughout the county, including identification of the causes of water quality impairment and pollutant sources along with water quality objectives. Plans also identify the needed conservation practices, procedures to identify priority farms and priority areas of resource concern, strategies to encourage voluntary adoption conservation practices, and compliance procedures to meet state performance standards and related local regulations. Finally, to ensure that the plans are successfully implemented, LWRM plans also include information and education components, plans for coordinating with federal state and local agencies, and measurable benchmarks to monitor plan implementation progress.

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 or threats 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 acting. Lake management planning assistance results 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, and
- 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, which may include revising such plans to reflect the nine key elements and/or TMDLs. Lake Management Plans are developed with the assistance of private consultants, staff and sometimes regional planning commissions with guidance from the DNR. Data collected during plan development is captured electronically and used for statewide water quality assessments and federal reporting, impaired waters determinations and listing and for TMDL development.

Alternatives to Nine Key Element Plans: The EPA's May 2024 Nonpoint Source Program and Grants Guidelines for States and Territories expands upon the EPA's 2013 guidance that recognized several cases where alternatives to nine element plans may provide an effective approach toward achieving the water quality goals of § 319-funded restoration or protection efforts. The 2024 guidance outlines the elements required in alternative plans and the specific circumstances under which alternative plans may be accepted, including those pertaining to:

1. When the impairment is caused by a change in physical conditions or is otherwise not pollutant specific.
2. When responding to an NPS pollution emergency or urgent NPS public health risk.
3. When protecting priority healthy waters.
4. When addressing an isolated, small-scale water quality problem resulting from one or a few sources of pollution.
5. When addressing only agricultural NPS sources in an NRCS NWQI watershed.
6. When implementing an EPA-approved Tribal NPSMP plan.

7. Other circumstances.

The items above are applicable to Wisconsin and are part of this 5-year management plan. The DNR expects items 2, 3, 4 and 5 to be the most applicable to Wisconsin, given the extent of areas with demonstrated nitrate or bacterial contamination of groundwater/drinking water supplies from nonpoint sources, recent healthy watershed and high-quality waters assessments and agricultural NPS focused NWQI watershed-based efforts. Alternative plans may be used in watersheds with no impaired surface waters to reduce ongoing groundwater pollution problems that pose a public health risk or protect priority healthy waters as described in the Wonderful Waters of Wisconsin Action Plan. For alternative plans, a subset of the EPA's nine key elements applies and will be used to develop such plans as described in the EPA's 2024 guidance.

For alternative plans, the DNR will consult with the EPA region prior to drafting alternative planning guidance and during review and approval of the plan to ensure it meets the elements discussed above. However, if the EPA determines that the DNR has a complete and comprehensive understanding of the requirements for developing a certain type of alternative plan, the DNR may not request an EPA review of that type of alternative plan.

4.3 Tools for Developing and Implementing Nine Key Element & Alternative Plans

A variety of surface water quality models and web or GIS-based tools are available to watershed planners and NPS implementation stakeholders to predict the levels, distribution, and risks of NPS pollution in a given waterbody and watershed. Each model or tool has its own set of characteristics and requirements. Watershed planners/stakeholders should review the documentation and consider its strengths, limitations, and data requirements prior to application. Some of the tools that may be useful in the development of 9 key element plans and the targeting of NPS pollution control activities are further described in Appendix E.

4.3.a Wisconsin's Areawide Water Quality Management Planning Program

Continuous Planning Process: Wisconsin's Continuous Planning Process (CPP), authorized under s. 283.83, Wis Stats, directs that the DNR shall establish a continuing water pollution control planning process designed to meet the requirements of 40 CFR § 130.5.

The CPP can be described as an umbrella document that coordinates all aspects of water pollution control to help ensure the states maintain progress toward protecting and preserving water quality. The state CPP is a description of the state's water quality management and planning activities, providing references to technical documents and sources that explain water quality programs in greater detail. The CPP describes ongoing processes and planning requirements of the state's Areawide Water Quality Management Plan (AWQMP).

The AWQMP is not a single plan or document but rather a compilation 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 AWQMP require certification by the governor and the EPA.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), § 208, establishes Areawide Water Quality Management Planning. The state program, codified through ch. NR 121, Wis. Adm. Code, specifies process, program and plan elements, designated agencies and areas, and public participation requirements.

Federal and state funds are used to implement Wisconsin's Water Quality Management Planning Program. Clean Water Act § 205(j) grant awards are authorized through § 604(b) of the Federal Clean

Water Act, s. 281.51, Wis. Stats., and through state general purpose revenue funds targeted for local aids for water quality.

Chapter NR 121, Wis. Adm. Code describes the process for designating areawide water quality planning areas. To date, three highly developed municipal areas have been designated, 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 DNR 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. The DNR 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. Chapter NR 121, Wis. Adm. Code, grants the DNR the authority to request and/or rescind designation status through governor approval and certification by the EPA.

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 DNR. 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.

Watershed-Based Water Quality Management Plans: The 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. 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.

4.3.b Urban Storm Water Management Planning

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

Storm water management, while mostly controlled through WPDES permitting and regulations, contains elements of nonpoint pollution control as well. Storm water management in Wisconsin 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 both federal and state regulations that provide guidance for how 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 § 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 and establish how they address NPS pollution. The requirements for the storm water program have several components:

- Public education and outreach

- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site pollutant control
- Post-construction storm water management
- Pollution prevention
- Storm Sewer System Map

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. 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 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, accommodating extreme weather events and considering the receiving water bodies. The whole concept of low impact development focuses on infiltrating rainwater 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. All these activities work to control nonpoint source pollution in the urban environment.

Storm Water Pollution Prevention for Industrial Operations: Industrial facilities in Wisconsin covered under ch. NR 216, Wis. Adm. Code, are required to have a Storm Water Pollution Prevention Plan (SWPPP). The goal of these plans 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 to prevent the contamination of storm water instead of storm water treatment after contamination has occurred. Source control consists of practices ranging from non-structural (good housekeeping or personnel training) to structural (covering of stored materials to prevent storm water from contacting contaminants). 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 reducing the chance of polluting storm water and 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 and 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. A landowner initiating 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 to prevent 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) 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.

4.3.c Relationship to Water Quality Trading, Adaptive Management, and Multi-Discharger Variance Plans

After promulgating numeric phosphorus criteria for surface waters in 2012, Wisconsin adopted several options for point source dischargers to select to assist them in complying with revised water quality-based effluent limits for phosphorus. These options include Water Quality Trading, Adaptive Management and the Multi-Discharger Variance.

All three of these options may include/involve working with NPS pollution sources within a watershed to reduce phosphorus or sediment losses to surface waters. During 2025-2030, it is expected that more point source dischargers will select one of these options and some of the corresponding projects generated will help directly, or indirectly, reduce nonpoint sources of pollution, implement watershed-based plans or TMDLs and restore nutrient impaired waters.

Federal funding under § 319 of the Clean Water Act has the following restrictions that would make a Water Quality Trading or Adaptive Management project or practice ineligible for § 319 funding or state match of § 319 funding:

1. If a project is specifically listed in an Adaptive Management plan consistent with s. NR 217.18, Wis. Adm. Code.
2. If a practice will be credited toward the achievement of a WPDES permit performance goal.
3. If a practice is not consistent with the goals of this *Nonpoint Source Program Management Plan*.

Chapter 5 Statewide Program Implementation

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. 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 § 319-funded activities and projects.

5.1 Core Implementation Programs, Activities, & Strategies

In Wisconsin, staff work across programs, bureaus, divisions, and state and local agencies to implement the NPS program. For example, the Watershed Management Bureau has expertise in the sources and management of NPS pollution, while the Water Quality Bureau has expertise in understanding the impacts of NPS pollution. Details about relevant programs are detailed further in this Chapter.

5.1.a Watershed Management Bureau – DNR

The DNR's Watershed Management Bureau, with expertise in stormwater, agricultural runoff, and other areas of water resources management, is charged with leading the NPS efforts within the DNR. The Bureau of Watershed Management is in the Division of External Services.

The DNR has made a commitment to performance-based pollution control. Since October 2002, the NPS Program has been 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. The performance standards and prohibitions can be met through the installation of best management practices, alterations to management practices or through design changes. The NPS Program funds practices that are needed to comply with the performance standards. Point source dischargers (including CAFOs) and storm water permit compliance are not eligible to receive § 319 funding.

Wisconsin moved to the use of performance standards rather than requiring prescriptive practices, such as buffer strips or tillage practices, for multiple 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, precipitation patterns, 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 NPS performance standards represent integrated agricultural and urban standards needed to address the major sources of polluted runoff in a cost-effective manner. The performance standards and prohibitions are also designed for a 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 DATCP's Farmland Preservation Program and Livestock Siting Program.

In June 2018, a revised version of ch. NR 151 Wis. Adm. Code was published. The rule changes strengthened regulations to control NPS pollution by adding a targeted performance standard to address groundwater quality issues and protect drinking water and public health in areas where shallow depth to bedrock is pervasive within the Silurian bedrock formation. Revisions to ch. ATCP 50, Wis. Adm. Code in 2024 added requirements and technical standards to facilitate implementation of performance standards including the Silurian bedrock standard.

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 below.

Agricultural Performance Standards and Prohibitions

- **Sheet, rill and wind erosion:** All cropped fields and pasture lands shall meet the tolerable (T) soil erosion rate established for that soil.
- **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 and pasture lands 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.
- **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 that violate groundwater standards shall be upgraded or replaced.
- **Process wastewater handling**: a prohibition against significant discharge of process wastewater from milk houses, stored feed, feedlots, and other similar sources.
- **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 (cropland and pasture) shall do so according to a nutrient management plan that follows the Wisconsin NRCS Nutrient Management Technical Standard 590. (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.)
- **Silurian bedrock:** This targeted performance standard applies in Silurian bedrock areas and includes: manure prohibitions; reduced manure spreading rates; incorporation and injection requirements; fertilizer and manure application timing requirements; manure pathogen reduction requirements; soil depth verification; and manure and fertilizer setback requirements from public and private wells and from direct conduits to groundwater. Farms within the following counties may have Silurian bedrock areas: Brown, Calumet, Dodge, Door, Fond du Lac, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Walworth, Washington, and Waukesha.
- 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, and
    - 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.
- **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.

Non-Agricultural Performance Standards

- New Development, In-fill, and Redevelopment
    - Construction sites with one or more acre of land disturbance shall reduce sediment to the maximum extent practicable in accordance with an erosion and sediment control plan. The performance standard was an 80% sediment reduction until January 1, 2013, after which the standard changed to a maximum discharge of 5 tons per acre per year of sediment.
    - For post-construction storm water management, a plan is required to be developed and implemented to meet the post-construction performance standards for construction sites with one or more acre of land disturbance (Note: Not all post-construction performance standards apply to in-fill or redevelopment). The plan shall include best management practices to meet the performance standards for:
        - Total suspended solids,
        - Peak runoff discharge rates,
        - Infiltration,
        - Protective areas near waterbodies and wetlands, and
        - Control of petroleum products runoff from fueling and vehicle maintenance.
- Developed Urban Areas
    - Municipalities with average population densities of 1,000 people per square mile or greater and contiguous commercial and industrial areas shall meet the following:
        - 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 areas of this size), and
        - detection and elimination of illicit discharges to storm sewers.

In addition to the above, municipalities that are regulated under a municipal separate storm sewer system (MS4) permit pursuant to subchapter I of ch. NR 216, Wis. Adm. Code, are required to meet the developed urban area performance standard of a 20% reduction in total suspended solids. Municipalities covered under an MS4 permit prior to July 1, 2011, that achieved a greater that 20% reduction in total suspended solids as of that date are required to maintain their best management practices to the maximum extent practicable.

Transportation Performance Standards

Transportation facilities (roads and associated structures) are subject to the non-agricultural performance standards listed above. Some specific modifications are made in recognition of the unique character of transportation facilities:

- Exemption from post-construction performance standards for highway resurfacing, reconditioning or minor re-construction,
- Option to use a water quality designed swale to meet the post-construction performance standard,
- Exemption from the infiltration performance standard for highways and other heavily traveled roads, and

- Requirements to meet the total suspended solids control for state and federal highways within municipalities permitted under subchapter I of ch. NR 216, Wis. Adm. Code

5.1.b Water Quality Bureau – DNR

The DNR's Water Quality Bureau, is charged with surface water protection and restoration efforts within the DNR. As discussed earlier, the bureau takes the lead in developing surface water standards, surface water monitoring and assessment and a multitude of planning efforts at different spatial scales to address NPS pollution issues. Given the bureau's experience in lake and river ecology, it is often called on to weigh in on specific in-lake management strategies such as the appropriateness of internal load control in lakes, especially when such projects are funded through the grant programs administered by the Water Quality and Watershed bureaus. Additionally, regional water quality biologists have a long history of building and fostering partnerships with, and among, local conservation groups, universities, and local units of government. Increasingly, these partnerships are involving agricultural producers. Bringing agricultural producers into existing coalitions for watershed management is critical to development and successful implementation of watershed plans.

5.1.c Drinking Water and Groundwater Bureau – DNR

The Drinking Water and Groundwater Bureau manages activities that protect the safety, quality, and availability of drinking water and groundwater resources to safeguard public health and the environment. This includes implementing and enforcing the Safe Drinking Water Act (SDWA) and working with public water systems to meet regulations. The Bureau assists public water systems, particularly small systems, in strengthening their ability to consistently provide safe drinking water through technical, managerial, and financial support. The Bureau manages water use permitting, water use and diversion provisions of the Great Lakes Compact and works on water conservation and efficiency. The Private Well Section provides resources and guidance for owners of private water wells. They assist with issues related to well contamination, proper well and pump installation, well driller education, special casing area requirements, and well filling and sealing. They also offer information on well testing, financial assistance for contaminated wells, and regulations related to private wells.

The Bureau manages the state's groundwater resources by providing technical assistance and regulatory support to internal and external programs that regulate activities that effect groundwater. The Bureau also conducts and funds research, monitoring, and establishes standards for groundwater quality, well drilling, underground injection, operation of water systems, and other activities. Through source water protection activities, the bureau implements strategies to prevent contaminants from entering drinking water sources, including wellhead protection programs. The Bureau engages in several enhanced source water protection activities not covered by statutes, including groundwater data management, outreach and education, targeted interventions for water supplies under threat of contamination, investigating groundwater contamination, and cross program and interagency work to address persistent threats to groundwater quality and public health.

5.1.d Soil & Water Resource Management Program – DATCP & Counties

Through 1997 Act 27 and 1999 Act 9, the Wisconsin legislature established the Soil and Water Resource Management (SWRM) 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 and revise Land and Water Resource Management Plans for the purpose of conserving soil and water resources. Each of Wisconsin's 72 counties has a Land Conservation Committee (LCC) which oversees the activities of a Land and Water Conservation Department (LWCD) or a Land Conservation Department (LCD). The LCCs and LWCDs/LCDs serve as the main local delivery system of natural resource conservation programs and funds and are supported by nearly 375 staff persons. They 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. They also enforce local ordinances and provide cost sharing to landowners.

5.1.e Farmland Preservation Program – DATCP

The DATCP's 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 Program (FPP) tax credits and enforcement of local ordinances. In 2023, about 10,000 farmers, who received approximately $20.6 million in FPP tax credits, were expected to achieve compliance with performance standards to remain in the program. By April 1, 2027, FPP participants will be expected to comply with the newest Silurian Bedrock performance standards added to ch. NR 151, Wis. Adm. Code in 2018, and ch. ATCP 50, Wis. Adm. Code, where applicable.

The Farmland Preservation Program is comprised of Farmland Preservation Planning, the Agricultural Enterprise Area Program, Farmland Preservation Agreements and the Purchase of Agricultural Conservation Easement Program (which currently is not funded). This program 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.

5.1.f Additional DATCP 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 50, Wis. Adm. Code, spells out standards for local ordinances, including manure storage, shoreland management and livestock operations ordinances. Standards for livestock facility siting ordinances are enumerated in ATCP 51, Wis. Adm. Code. The DATCP and DNR both assist local governments to comply with these state standards.

Engineering Assistance: The DATCP is responsible for providing conservation engineering assistance statewide. Working in partnership with the NRCS and county departments, the DATCP engineers and environmental specialists provide technical support to plan, design, and install best management practices throughout Wisconsin. The DATCP specifically provides engineering assistance in the form of training, plan review, project designs and construction oversight, development and maintenance of best management practice standards, development of computer design aids and standard designs, and certification accreditation. The DATCP, in conjunction with the NRCS counterparts, operate a statewide job approval/certification program that authorizes county and state technicians to design and install engineered practices.

5.1.g Best Management Practices for Nonpoint Source Pollution Control

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. The ATCP 50 BMPs outlined in Table 5-1 are implemented in accordance with ch. NR 154, Wis. Adm. Code. Other practices may be approved when determined necessary to meet water quality objectives.

Table 5-1 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(3)	ATCP 50.62	Manure storage systems	Nutrients
NR 154.04(4)	ATCP 50.63	Manure storage systems closure	Nutrients
NR 154.04(5)	ATCP 50.64	Barnyard runoff control systems	Nutrients
NR 154.04(6)	ATCP 50.65	Access road	Sediment, Nutrients
NR 154.04(7)	ATCP 50.66	Trails and walkways	Sediment, Nutrients
N/A	ATCP 50.663	Conservation Cover	Sediment, Nutrients
N/A	ATCP 50.668	Conservation Crop Rotation	Sediment, Nutrients
NR 154.04(8)	ATCP 50.67	Contour farming	Sediment, Nutrients

Legal Authority		BMP	Primary Pollutant(s) Addressed
NR 154.04(9)	ATCP 50.68	Cover crop	Sediment, Nutrients
NR 154.04(10)	ATCP 50.69	Critical area stabilization	Sediment, Nutrients
NR 154.04(11)	ATCP 50.70	Diversions	Sediment, Nutrients
NR 154.04(11m)	ATCP 50.705	Feed storage runoff control systems	Nutrients
NR 154.04(12)	ATCP 50.71	Field windbreaks	Sediment, Nutrients
NR 154.04(13)	ATCP 50.72	Filter strips	Sediment, Nutrients
NR 154.04(14)	ATCP 50.73	Grade stabilization structures	Sediment, Nutrients
N/A	ATCP 50.733	Habitat Diversification	Sediment, Nutrients
N/A	ATCP 50.738	Harvestable Buffer	Sediment, Nutrients
NR 154.04(16)	N/A	Lake sediment treatment	Sediment, Nutrients
N/A	ATCP 50.74	Hydrologic Restoration	Sediment, Nutrients
NR 154.04(17)	ATCP 50.75	Livestock fencing	Sediment, Nutrients
NR 154.04(18)	ATCP 50.76	Livestock watering facilities	Sediment, Nutrients
NR 154.04(19)	ATCP 50.77	Milking center waste control systems	Nutrients
NR 154.04(20)	ATCP 50.78	Nutrient management	Sediment, Nutrients
N/A	ATCP 50.785	Nutrient treatment systems	Nutrients
NR 154.04(21)	ATCP 50.79	Pesticide management	Pesticides
NR 154.04(22)	ATCP 50.80	Prescribed grazing	Sediment, Nutrients
NR 154.04(23)	ATCP 50.81	Relocating or abandoning animal feeding operations	Sediment, Nutrients
NR 154.04(24)	ATCP 50.82	Residue management	Sediment, Nutrients
NR 154.04(25)	ATCP 50.83	Riparian buffers	Sediment, Nutrients
NR 154.04(26)	ATCP 50.84	Roofs	Nutrients
NR 154.04(27)	ATCP 50.85	Roof runoff systems	Nutrients
NR 154.04(28)	ATCP 50.86	Sediment basins	Sediment, Nutrients
NR 154.04(29)	N/A	Shoreline habitat restoration for developed areas	Sediment, Nutrients
NR 154.04(30)	ATCP 50.87	Sinkhole treatment	Nutrients, Bacteria
NR 154.04(31)	ATCP 50.88	Streambank or shoreline protection	Sediment, Nutrients
N/A	ATCP 50.882	Stream restoration	Sediment, Nutrients
NR 154.04(31m)	ATCP 50.885	Stream crossing	Sediment, Nutrients
NR 154.04(32)	ATCP 50.89	Stripcropping	Sediment, Nutrients
NR 154.04(33)	ATCP 50.90	Subsurface drains	Sediment, Nutrients
NR 154.04(34)	ATCP 50.91	Terrace systems	Sediment, Nutrients
NR 154.04(35)	ATCP 50.92	Underground outlets	Sediment, Nutrients
N/A	ATCP 50.925	Verification of Depth to Bedrock	Nutrients
NR 154.04(36)	ATCP 50.93	Waste transfer systems	Nutrients
NR 154.04(37)	ATCP 50.94	Wastewater treatment strips	Nutrients
NR 154.04(38)	ATCP 50.95	Water and sediment control basins	Sediment, Nutrients
NR 154.04(39)	ATCP 50.96	Waterway systems	Sediment, Nutrients
NR 154.04(40)	ATCP 50.97	Well decommissioning	Nutrients, Bacteria

Legal Authority		BMP	Primary Pollutant(s) Addressed
NR 154.04(41)	ATCP 50.98	Wetland development or restoration	Sediment, Nutrients
NR 154.04(42)	N/A	Urban best management practices	Sediment, Nutrients

5.2 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.

5.2.a Statewide Collaborations

Collaboration is a must in today's setting of limited resources. As previously discussed, the DNR works in tandem with the DATCP and the counties (LCD/LWCD) in delivering the NPS Program. This section describes additional relationships that further NPS Program delivery in Wisconsin, see Appendix A for a list of our partners/collaborators. The collaborative relationships are organized broad themes described below.

Program Implementation and Delivery: The core programs described in 5.1 are the backbone of the Wisconsin NPS Program. The successful implementation of these core programs relies on the collaborative works of the DNR, DATCP and the counties (primarily LCDs and LCCs). However, the truest benefits are realized when these core agencies/programs also work together with *their* additional partners.

Administration: Boards and committees such as the NRCS State Technical Committee, the Wisconsin Statewide Interagency Training Committee and the Standards Oversight Council are comprised of leaders from the NRCS, WI Land+Water, DATCP, UWEX, citizens and governor appointed designees. They review and make recommendations to the DNR and DATCP on funding, 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**.**

In addition, the NPS Program works with and seeks the input of the Wisconsin 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 DNR, DATCP, the Wisconsin Department of Administration, plus Governor appointees and representatives from county government. The UWEX 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 DNR and DATCP.

Scientific Discovery: The University of Wisconsin researchers and specialists make many and varied contributions to the science base needed for sound implementation of a statewide NPS Program. A few examples include the Wisconsin Phosphorus Index, developed by the UW-Madison Soil Science Department and the UWEX, which is used as a runoff phosphorus loss risk assessment tool for cropland management planning. 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. The DNR and DATCP funding of university 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 UWEX Agriculture Water Quality Program, 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. Discovery Farms examines

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 on manure runoff issues, one of Wisconsin's biggest NPS issues.

Monitoring: Groundwater monitoring in Wisconsin occurs primarily through public water system testing associated with federal Safe Drinking Water Act (SDWA) requirements, private well testing for drinking water quality by individual homeowners, and formal monitoring programs conducted by the DNR, DATCP, GNHS and USGS. The University of Wisconsin- Stevens Point also maintains an extensive statewide database with water quality results from private wells and winter stream baseflow monitoring. Volunteer monitoring networks is primarily implemented through the UWEX programs with financial support from the DNR and EPA. The information collected from these efforts is used for various public health and environmental management purposes. More details about Wisconsin's monitoring efforts are described in Chapter 3.

Education and Outreach: The UWEX houses several Regional Natural Resources Educators who are focused on education and outreach covering stormwater, agricultural runoff, forestry, drinking water, groundwater and surface water issues. Regional Natural Resources Educators have strong ties to the DNR, often answering the call for specific assistance with public input processes, working with local natural resource groups, and developing and delivering programs to help farmers, municipalities and other stakeholders reach their NPS protection goals. The Natural Resource Educators have brought more UWEX resources to the broad NPS needs in Wisconsin.

The UWEX has created the Agriculture Water Quality Program which will focus on the links between agricultural production practices and water quality impacts. Core efforts will help audiences understand relative benefits of practices to watershed and water quality protection, groundwater/surface water interactions, and other resource benefits. The program will be a hub for internal and external partners in all related fields to collaborate.

The DNR leverages grassroots interest in lakes and rivers by supporting and participating in the Wisconsin Lakes and Rivers Partnership. This framework is organized by the DNR, UWEX, and the non-profit organization Wisconsin Lakes. The Partnership fosters communication and collaboration with hundreds of lake associations, lake districts (local units of government), watershed organizations, county governments, and related non-profit organizations working to protect and restore surface water health. Extension Lakes, a unit of UWEX and the UW Stevens Point College of Natural Resources, takes a lead role in organizing an annual Lakes and Rivers Convention that brings together resource managers, researchers, citizen advocates, volunteers, and lake service providers. Extension Lakes also runs the Wisconsin Lake Leaders Institute, recruiting new leaders to participate in an intense leadership-development program every other year and supporting institute graduates through regular programming and advanced leadership retreats.

The Lakes and Rivers Partnership fosters volunteer participation in water quality monitoring statewide. The Water Action Volunteers (WAV) Program engages people 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 available to anyone wishing to view them. Extension Lakes is home to the Citizens Lake Monitoring Network (CLMN), a decades-long lake monitoring program that has trained thousands of volunteers to monitor lake clarity and chemistry and enter their data into the DNR SWIMS database.

5.2.b Ensuring State/Federal Consistency on Federal Lands, Assistance Applications & Development Projects

Most federal lands in Wisconsin are within the Chequamegon-Nicolet National Forest. Other federal lands include the St. Croix National Scenic Riverway, multiple wildlife refuges, Apostle Islands National Lakeshore and military bases. The DNR 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 (§ 6217 Coastal Zone Act Reauthorization Amendments) and other projects requiring state certification under Clean Water Act § 401 (e.g., waterway permits under ch. 30 Wis. Stats., certain Federal Energy Regulatory Commission projects).

State agencies involved in NPS management have worked closely with federal agencies to bring about consistency in NPS program implementation on federal lands, as well as federal assistance applications and development projects. Several collaborative mechanisms between state and federal entities were discussed earlier in section 5.2. Because of these working collaborations, the DNR has not yet seen the need to involve the EPA in situations where the state cannot resolve federal consistency issues.

5.3 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 efforts. 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. 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 the DNR 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 with the UWEX Regional Natural Resource Educators, and many others with statewide nonprofit organizations, state agencies, and the University of Wisconsin System.

Increasingly, efforts include a technology-based component to facilitate education and participation. Many publications and presentations are also archived on the web to further extend their impacts. Online instruction, such as webinars and other e-learning tools, continues to be 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 ongoing efforts are identified in Appendix A . Areas for increased education and outreach will include: TMDLs, Healthy Watersheds, High Quality Waters Action Plan, and implementation of the agricultural performance standards.

5.4 Implementation Financing

A critical factor in turning watershed plans into action is the ability to fund implementation. For the last 45 years, the DNR and DATCP have made a significant commitment of state funds for implementation, above and beyond available § 319 grant funding. Each year, the two agencies award millions 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 5.4.a. However, no one agency or program can adequately fund all 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, and local levels. This section provides a summary of core and affiliated funding sources available for nonpoint source implementation.

5.4.a Core Funding Programs

Targeted Runoff Management Grant Program: Targeted Runoff Management (TRM) Grants are provided by the DNR to control nonpoint source pollution from both agricultural and urban sites. A combination of state General Purpose Revenue, state Segregated Funds, state Bond Revenue, and federal § 319 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 primarily agricultural BMPs and urban nonpoint source BMPs in TMDL areas. 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, 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. Since the calendar year 2012 grant cycle, projects may be awarded in four categories:

Small-Scale TMDL ▪ Implements a TMDL ▪ Agricultural or urban focus ▪ Individual farms/sites	Small-Scale Non-TMDL ▪ Implements NR 151 performance standards ▪ Agricultural focus only ▪ Individual farms/sites
Large-Scale TMDL ▪ Implements a TMDL ▪ Agricultural focus only ▪ Watershed scale	Large-Scale Non-TMDL ▪ Implements NR 151 performance standards ▪ Agricultural focus only ▪ Watershed scale

Section 281.65(4)(c), 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 the DNR 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% 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.

Notice of Discharge Grant Program: Notice of Discharge (NOD) Project Grants, also governed by ch. NR 153, Adm. Code, are provided by the DNR to local units of government (typically counties). A combination of state Segregated Funds, state Bond Revenue, and federal § 319 Grant funds are used to support NOD 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 Intent (NOI) to Issue a Notice of Discharge and NOD requirements. NOIs and NODs are issued by the DNR under ch. NR 243 Wis. Adm. Code, to small and medium animal feeding operations with unacceptable practices causing a discharge of pollutants to state water resources. The project funds can be used to address an outstanding NOI or NOD.

Surface Water Grant Program: The DNR Surface Water Grant program procedures were updated through ch. NR 193, Wis. Adm. Code that was promulgated in August 2020. Since then, the program has funded over 1,600 surface water grants. Below is a summary of the four major program areas detailed in NR 193 that support the department's NPS management efforts.

Surface Water Education and Planning: Education projects provide information and education to increase understanding of surface water and aquatic ecosystems. Eligible projects may focus on surface water quality, the quality of aquatic ecosystems, the quality of aquatic life, methods to protect the quality of any

of the foregoing, the use of surface water, or the formation of river management organizations. Planning projects support the assessment of surface water quality and aid in the selection of activities that will benefit surface water. Eligible projects may include developing management plans for a waterbody, watershed, aquatic plant community or aquatic invasive species, projects that focus on the social dimensions of collaborative planning or management, evaluating data and reporting the findings, and developing final designs and specifications for management plan implementation projects.

County Lake Grants: Funding awarded under this subchapter allows counties and tribes to assist the department to update and improve lake information and implement activities that will protect water quality and lake ecosystems.

Surface Water Management: Grants awarded under this subchapter implement protection and restoration projects to improve the condition of surface waters and/or aquatic ecosystems. Grant funding awarded under this subchapter may be used to for Healthy Lakes and Rivers projects, shoreland protection, in-water management (e.g., internal load control), wetland restoration, management plan implementation, and ordinance development. Grants awarded under another subchapter provide support for the acquisition of property in fee simple or for conservation easements that will substantially contribute to the protection or improvement of water quality.

Lake Monitoring & Protection Network (LMPN): The LMPN provides annual support to counties, tribes, and designated agents to perform services and activities to assist in AIS prevention and lake monitoring activities. Contracts awarded under this subchapter coordinate lake protection activities statewide, collect and report data on the use and condition of lakes and lake ecosystems, conduct watercraft inspections, complete early detection monitoring of aquatic invasive species, and provide technical assistance to persons engaging in aquatic invasive species prevention and management.

Soil & Water Resources Management Grant Program: The DATCP administers the Soil and Water Resource Management (SWRM) Grant Program that supports locally-led conservation efforts. Each year the DATCP awards grants, primarily to counties, to pay for conservation staff and provide landowner cost sharing to implement Land and Water Resource Management Plans. Counties must receive the DATCP approval of their plans to receive cost-sharing grants for BMP implementation. In 2025, the SWRM Program will provide $5.8 million in grants for county cost sharing.

The DATCP is also responsible for providing local assistance grants for county conservation staff implementing the NPS control programs included in the LWRM plans. In 2025, the SWRM Program will provide $11.7 million in grants for county staff. The DATCP funding is supplemented by local and other sources to support a statewide network of over 375 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 DATCP allocates SWRM grants to counties and others according to an annual “Joint DATCP/DNR Allocation Plan.” The joint annual allocation plan is reviewed by the Land and Water Conservation Board (LWCB) and approved by both the DATCP Secretary and the DNR Secretary (see s. ATCP 50.28, Wis. Adm. Code).

The DATCP developed a SWRM Grant Resources webpage that contains policies and procedures, cost-share agreement forms, and other critical information for county staff to facilitate SWRM Program administration. The DATCP relies on its website to provide current program information and documents in easy-to-use formats.

Farmland Preservation Program: The DATCP’s Farmland Preservation Program, discussed previously in section 5.1.e, 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:

- $10.00 for farmers with a farmland preservation agreement signed after July 1, 2009, and located in an agricultural enterprise area
- $10.00 for farmers in an area zoned for farmland preservation
- $12.50 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.

The following eligibility requirements apply:

- Acres claimed must be 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.

Establish Agricultural Enterprise Areas: Agricultural Enterprise Areas benefit efforts to manage nonpoint pollution by:

- Promoting preservation of large areas of contiguous land primarily in agricultural use
- Encouraging farmers and local governments to invest in agriculture
- Providing an opportunity to enter into farmland preservation agreements to claim income tax credits
- Supporting compliance with state soil and water conservation standards

Producer-Led Watershed Protection Grant Program: The DATCP's Producer-Led Watershed Protection Grant Program provides grant funding to producer-led groups to cost share conservation practice implementation, establish demonstration and research projects, and conduct outreach and education programs within their local watersheds. The farmer-to-farmer model has proven effective in reaching new producers on conservation topics. Flexibility and innovation are key strategies for this program, which allows the DATCP to support farmers with the technical and financial resources needed to trial emerging practices while reducing the economic risk and uncertainty sometimes associated with experimentation and changes to agricultural operations. Awards of up to $40,000 per group are distributed annually. To be eligible to receive a grant, a group must:

- Include at least five agricultural producers from the same or adjacent watersheds
- Establish a memorandum of understanding with one of the following eligible entities:
    - DATCP

- DNR
- A county land conservation committee
- UWEX or Discovery Farms
- A nonprofit conservation organization

- Assist agricultural producers in the watershed(s) to voluntarily conduct nonpoint source pollution abatement activities
- Contribute matching funds equal to at least 50% of eligible costs

Eligible expenses include developing work plans, conservation practice incentive payments, administrative costs such as salary and mileage, hosting outreach events, marketing and outreach materials, shared conservation equipment rentals, edge-of-field and water quality monitoring, and other costs as deemed eligible by the DATCP.

Urban Nonpoint Source & Storm Water Management Grant Program: The DNR'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% 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 50% with a grant maximum of $85,000.

Use of § 319 Funds at Permitted Animal Feeding Operations: Pursuant to the EPA's 2024 Nonpoint Source Program and Grants Guidelines for States and Territories:

> "§ 319 funds may be used to support the implementation of a wide range of water quality management options for animal feeding operations (AFO) that are not subject to NPDES permits. Some operations may be defined as a concentrated animal feeding operation (CAFO) (40 CFR § 122.23(b)) or designated as a CAFO (40 CFR § 122.23(c)). Activities necessary to satisfy NPDES requirements are not eligible for § 319 funds.
>
> The EPA recognizes the benefits of integrating § 319 funds and NPDES activities to achieve the CWA goals, as much as is legally allowable. In general, the use of § 319 funds should advance water quality protection or restoration beyond the requirements or measures required by the NPDES program (i.e., implement projects, performance measures, and outreach and education efforts not required by the NPDES program). States should consult with their EPA regional coordinator on § 319 funding eligibility and are strongly encouraged to do so early in the project development process."

Wisconsin does not currently utilize § 319 funds to implement NPS watershed-based plans or other NPS BMPs at permitted AFOs. The DNR will coordinate with the EPA and consult with stakeholders if changes to this approach are considered in the future. Note that pursuant to s. NR 153.15(2), Wis. Adm. Code, activities associated with or required by AFO permits are ineligible for TRM and NOD funding.

Table 5-2 Summary of Core Funding Programs

Core Programs	Activities Funded				Funding Agency
	BMPs	Planning	Staff	Other	
Targeted Runoff Management Grant Program	X		X	X	DNR
Notice of Discharge Grant Program	X	X			DNR, DATCP
Surface Water Grant Program	X	X	X	X	DNR
Soil & Water Resources Management Program	X	X	X		DATCP
Farmland Preservation Program		X		X	DATCP

Urban Nonpoint Source & Storm Water Management Grant Program	X	X	X	X	DNR
Producer-led Watershed Protection Grants	X	X	X	X	DATCP

5.4.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 5-3 Partner/Affiliated Funding Programs

Partner/Affiliated Programs	Activities Funded		Funding Source
	BMPs	Other[1]	
Great Lakes Restoration Initiative	X		EPA
Farm Service Agency CRP & CREP	X		USDA
Natural Resource Conservation Service EQIP (including NWQI), MRBI & WRP	X		USDA
U.S. Fish & Wildlife Service	X	X	USFWS
Wisconsin Coastal Management Program	X	X	DOA
Dam Municipal Grant Program			DNR
Dam Removal Grant Program	X		DNR
County Funding[2]	X	X	Counties

1. Other activities include tax incentives, planning, training workshops, demonstration sites, etc.
2. Refer to individual County Land & Water Conservation Department web sites.

National Water Quality Initiative: The NRCS, in partnership with the DNR, is implementing the National Water Quality Initiative (NWQI). The United States Department of Agriculture launched the NWQI in federal fiscal year 2012 with the goal to assist producers in addressing high priority water quality concerns in selected watersheds. As mentioned in the § 319 grant guidelines, "NWQI promotes investments in critical watersheds over multiple years to achieve focused implementation of conservation and restoration measures that can yield sustained water quality improvements". Since 2012, the NRCS allocated 5% of EQIP general financial assistance funds to address agriculture-related nutrient and sediment impairments. Wisconsin currently has 4 watersheds which receive NWQI funding:

- Bear Lake – Lower Little Wolf River (HUC 040302021704)
- Beloit-Rock River (HUC 070900021502)
- Town of La Prairie (HUC 070900021501)
- Sinsinawa River (HUC 070600050203)

Additionally, 10 watersheds are currently in the planning phase and may become eligible for NWQI funding in coming years:

- Twin Lakes (HUC 070300051102)
- Headwaters to Kinnickinnic River (HUC 070300051101)
- Village of Baldwin-Rush River (HUC 070400010501)
- Francis Creek-West Twin River (HUC 040301010204)
- Lower Branch River (HUC 040301010503)
- Middle Branch River (HUC 040301010502)
- Cato Falls-Manitowoc River (HUC 040301010603)
- North Branch Pigeon River (HUC 040302021101)
- South Branch Pigeon River (HUC 040302021102)
- Pigeon Lake-Pigeon River (HUC 040302021103)

The NRCS consults with the DNR when selecting watersheds. The DNR will continue to coordinate with the NRCS and the EPA to work in these priority watersheds to accelerate water quality results.

Water Quality Trading & Adaptive Management: Water Quality Trading (WQT) and Adaptive Management (AM) may be used by municipal and industrial Wisconsin Pollutant Discharge Elimination System (WPDES) permit holders ("point sources") to demonstrate compliance with water quality-based effluent limits. Both compliance options provide a unique watershed-based opportunity to reduce pollutant loading to streams, rivers, and lakes through point and nonpoint source collaboration. AM and WQT may also provide a new source of funding for local assistance and implementation of management measures to address nonpoint source pollution and improve water quality.

Multi-Discharger Variance: The multi-discharger variance (MDV) for phosphorus extends the timeline for complying with low-level phosphorus limits. In exchange, point sources commit to stepwise reductions of phosphorus in their effluent as well as implementing nonpoint projects to improve water quality. The point source can implement nonpoint projects by entering into an agreement with the DNR or a DNR-approved agreement with a third party to implement projects designed to offset the amount of phosphorus their discharge exceeds the target value. Alternatively, the point source can make payments to county LCDs of at least $50 per pound times the number of pounds of phosphorus their discharge exceeds the target value. The LCDs must use at least 65% of these funds to bring agricultural sources into compliance with ch. NR 151, Wis. Adm. Code, agricultural performance standards. The remaining funding may be spent on staffing, monitoring, demonstrations, etc. Funds must be targeted to the highest phosphorus loading areas within the participating county. Wisconsin's phosphorus MDV was approved by EPA on February 6, 2017, for a 10-year cycle. After working with DNR, on September 3, 2025, EPA approved the MDV for another 10-year cycle extending the MDV through 2035.

Clean Water Fund Program (Wisconsin's State Revolving Fund (SRF) Program): The Clean Water Fund Program (CWFP) provides financial assistance, primarily in the form of loans, to municipalities for wastewater treatment facilities and urban stormwater projects. A majority of CWFP loan funds are tied to WPDES permit compliance activities.

However, the DNR was granted the authority to use the Clean Water Fund Program to establish "Pilot Projects" for non-traditional wastewater treatment alternatives and worked with the NPS and Wastewater Programs to further define and refine the pilot project program. These are projects intended to address non-traditional Clean Water Fund practices, such as NPS BMPs anticipated in the adaptive management and water quality trading programs, as long as they are eligible under the federal Clean Water Act. Pilot projects help fund non-traditional activities intended to meet a municipal wastewater treatment plant's WPDES permit limits. For example, some treatment plants may determine that adaptive management or water quality trading might be a more cost-effective approach to meet their permit limits than a traditional treatment plant upgrade. Nonpoint source pollution control practices implemented under an adaptive management or water quality trading plan could be considered eligible as pilot projects.

Municipalities are eligible applicants for the Clean Water Fund Program. All applicants seeking pilot project funding will need to follow the same initial process as traditional CWFP projects. The CWFP Intent to Apply (ITA) form has been revised to include pilot projects as an option. The municipality will need to submit an ITA by December 31st of the year prior to the state fiscal year for which they are seeking funding.

The DNR is still assessing what costs might be covered through a pilot project. It is anticipated that partnerships between the municipal wastewater treatment facility and local nonpoint source land and water conservation experts (such as county land conservation staff) will be established to fully implement an adaptive management or water quality trading project. Monitoring and planning costs for adaptive management and trading are likely to be eligible, assuming that they are associated with construction activities. Adaptive management and water quality trading plans will need to include the activities and costs for reducing nutrient outputs to the watershed.

In addition to permitted municipalities, Wisconsin lake districts have utilized the CWFP as a tool to assist in the implementation of NPS projects, most notably several large-scale alum treatments.

Chapter 6 Tracking, Evaluation & Reporting

6.1 The EPA Expectations/Section 319 Grant Requirements

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

Section 319 grant recipients are required to submit annual reports in the "Grants Reporting & Tracking System" (GRTS). GRTS is the primary tool for management and oversight of the grants portion of the EPA's Nonpoint Source Pollution Control Program. GRTS pulls grant information from the 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 the EPA and States to document the accomplishments achieved with the use of § 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 DNR will continue to meet the requirements of performance measures specific to § 319 grants, as well as the Environmental Performance Partnership Agreement (EnPPA) Tracking, Evaluation and Reporting Indicators.

The state's annual report, as required under Section 319(h)(11), characterizes the state's progress in meeting annual milestones, implementing BMPs and watershed projects, and, to the extent information is available, achieving reductions in NPS pollutant loadings and improvements in water quality resulting from program implementation (i.e., achieving water quality goals). The DNR, DATCP, 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 address them more specifically in the context of evaluation and reporting. These include administrative, environmental, and social indicators. Water quality improvements are a functional measure of program success and are also a national NPS Program reporting measure, as reported through the NPS Success Stories.

6.1.a DNR Work Planning & Reporting

The DNR conducts annual work planning that serves as a framework for management to make staff and funding decisions based on the Department's mission, 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 DNR Central Office and Regional staff and is typically initiated in the winter prior to the start of a new calendar year. The process includes updating staff performance measure and results in a workplan that is consistent with the state budget. The workplan allows more effective use of staff time, helps identify impacts of vacancies, and provides realistic staffing projections for budget purposes.

DNR staff in the Bureau of Watershed Management and Bureau of Water Quality provide annual milestone 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 DNR staff and external partners and stakeholders; and
- Collect information for developing the next biennium's goals.

The annual milestone reports are a reporting mechanism to track and evaluate progress in meeting the DNR performance measures that are applicable to the NPS Program. These milestone reports are included in the state's § 319 annual reports.

6.1.b The DATCP Bureau of Land & Water Resources Work Planning & Reporting

The DATCP Bureau of Land & Water Resources, which houses the DATCP's portion of the NPS Program, conducts annual work planning. DATCP staff use the § 319 semi-annual/annual reports that they provide to the DNR in part to evaluate progress in meeting the Bureau's goals. The department also measures program performance by tracking the activities and performance of county and other partners. The Soil & Water Resources Management (SWRM) Grants Program uses a database to track expenditures of allocated funds including county spending of the DATCP cost-share funds by practice and county. The SWRM database enables the DATCP to evaluate long-term trends. The agency also uses a database to effectively track CREP projects and the environmental benefits they generate. To better track the activities of the Farmland Preservation Program, including compliance monitoring, the DATCP uses databases to track program activities. The Nutrient Management and Water Quality Section collects nutrient management plan checklists to track the acres of cropland with nutrient management plans and prepares reports that show implementation of nutrient management plans by county. The Conservation Engineering Unit tracks the work performed by field staff including the design and inspection of engineered practices, review of manure storage and other permit applications, and provision of technical assistance.

6.1.c Annual Combined DNR/DATCP Reporting

The DNR and the DATCP are required under state statute to submit a report to the Wisconsin Land and Water Conservation Board (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 progress in implementation of the performance standards. Information from the SWRM database, annual county work plans, and the county survey/report is incorporated into the DATCP-DNR annual report to the Wisconsin LWCB. Typically, reports for the prior calendar year are published at the end of the current calendar year.

6.2 Administrative Indicators

6.2.a Fiscal Accountability – Section 319 Grants

The DNR has been an EPA grant recipient for the past three decades and has consistently demonstrated grant performance accountability. DNR management of the § 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 are dedicated to each project to provide oversight and coordination. The DNR project officers have satisfactorily met reporting requirements as outlined in the § 319 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 though reporting updates or communication and correspondence with the 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 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), the DNR is working toward five environmental goals to enhance efforts to protect and restore water resources and to measure accomplishments. The five goals are:

- Support healthy aquatic biological communities,
- Support fish populations with safe levels of contaminants,
- Designated swimming waters will be swimmable,
- Public and private water supplies will have water that is consistently safe to drink, and;
- 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 the EPA serves as the overall work plan for federal grant moneys awarded under § 106, 319 (Program Funds only), 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 § 319 grant funds.

Section 319 Watershed Project Fund Grant: Section 319 Watershed Project Grant funds are used by the DNR to implement the Wisconsin NPS Program. Funds are targeted to areas and efforts backed by watershed-based nonpoint source control plans (9 key element plans). Watershed Project funds support implementation of best management practices, water quality monitoring, and TMDL implementation in areas of the state with nonpoint source impaired water bodies and high-quality waters.

The DNR provides regular reports to the EPA on progress made in projects funded with § 319 Watershed Project monies. Progress is measured through annual surveys/reports from counties, as discussed in section 5.1.f, and implementation of the core NPS Program activities, specified in section 4.3, in areas that have 9 key element watershed-based plans or approved alternative watershed-based plans.

The DNR 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.

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

CFA is responsible for ensuring that state and federal program requirements are met, including eligibility, program consistency, full utilization of program funds and that project work is completed. CFA develops funding packages for projects that may include grants from a variety of sources, budgets for individual projects, and several grant programs. CFA also prepares financial reports for federal and state agencies as well as the State Legislature, and provides technical assistance for DNR staff, local governments, organizations, and other grant applicants.

Community Assistance Oracle System (CAOS): The CFA manages numerous state and federally funded grant programs, and each of these programs has its own needs, conditions, data sets, and workflow processes. CAOS, or the “Community Assistance Oracle System”, is an Oracle database application administered by the CFA Bureau. CAOS stores data, produces documents and summary reports, and tracks the workflow life cycle of a grant from application through project close and compliance. 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, etc. CAOS’s “sister” database, ELOS (Environmental Loans Oracle System), manages the bureau’s fiscal loans (e.g., Clean Water Fund Program).

6.2.b Grants Reporting and Tracking System Reporting System

EPA's Grants Reporting and Tracking System (GRTS) is a web-based data system that allows for data entry to report § 319 grant progress. The state has established systems to ensure it meets its reporting obligations and uses the EPA's GRTS effectively. The DNR conducts the necessary GRTS data entry as new § 319 grants are awarded, as well as annual and semi-annual reporting of project progress. Table 6-1 presents the data elements that currently must be entered into GRTS at the project level.

Table 6-1 GRTS Mandated Elements

50/50 Funding Split	Project Title
Subgrantee(s)*	Description
This Project Will/Did Result in Load Reductions	Statewide Project and/or Project includes work in specific Drainage Areas
51% or More of Project Budget Used to Protect Unimpaired/High Quality Waterbodies	Project Budget
Work Categories	Quality Assurance Project Plan*
Sources of NPS Pollution	Watershed Plans
Status of TMDL for Waterbody/Watershed	Schedule
Waterbody Information	Drainage Areas*
Drainage Area Pollutants*	Best Management Practices*

*Where applicable

6.2.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 (DNR, DATCP), 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 DNR and DATCP 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.

The DNR reviews draft County Land and Water Resource Management Plans to assure that the plans adequately address ch. NR 151, Wis. Adm. Code, implementation. The DNR also tracks the development of memorandums of understanding between individual counties and the DNR for coordinating ch. NR 151, Wis. Adm. Code, implementation roles and responsibilities.

The DNR tracks notice issuances under ss. NR 151.09 and NR 151.095, Wis. Adm. Code, and satisfaction of these notices, and state enforcement of cases related to violation of ch. NR 151, Wis. Adm. Code. The DNR 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.

The DNR 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.

Suggested procedures for conducting and reporting compliance are contained in the *Implementation Strategy for NR 151 - Agricultural Nonpoint Performance Standards and Prohibitions* that was developed jointly by the DNR, DATCP, and representatives of Wisconsin's Land Conservation Departments. The strategy provides a framework for local implementation of ch. NR 151 Wis. Adm. Code, though counties have widely varying programs and processes in place to conduct and track compliance. 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. The suggested process and elements of a compliance check are contained in Table 6-2.

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 tax credits under the Farmland Preservation Program meet ch. NR 151, Wis. Adm. Code, cross-compliance requirements. Local zoning and licensing authorities which administer livestock facility siting ordinances must verify that an applicant is complying with manure management prohibitions and standards incorporated into ch. ATCP 51 Wis. Adm. code. 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. The DNR and DATCP are developing protocols for counties to improve reporting data by parcel so agencies can better evaluate compliance statistics. A pilot system for this is being developed and will be available for DNR staff to begin testing in 2026. With successful testing, the system could be expanded to include data inputs from non-DNR sources, greatly improving the dataset and its utility.

Table 6-2 Chapter 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.

6.2.d BMP Implementation Tracking System

The DNR nonpoint source pollution reduction programs require external entities (counties, permittees, consultants, and others) to submit data regarding how they are using state and other funds to reduce NPS pollution through the implementation of best management practices (BMP). Given the number of different programs that need this type of data, the DNR has been developing a web-based system referred to as the Best Management Practices Implementation Tracking System (BITS) since 2015. BITS facilitates data submission (including spatial components) and analysis to provide better transparency to the public as to how funds are being used and to better track progress towards nutrient reduction goals and related the DNR and EPA reporting requirements.

To date, the MDV, TRM, NOD, and UNPS-Construction Grant tracking modules in BITS have been developed and implemented. The UNPS-Planning Grant module is currently in development. The NR 151 agricultural performance standards tracking module is under development, and DNR staff will begin testing in 2026.

6.2.e Manure Runoff/Spills Reporting & Tracking

Pursuant to ch. 292, Wis. Stats., spills with the potential to harm human health or the environment must be reported to the DNR. Data associated with manure spills reported to the DNR through the Spills Hotline is available online through the Bureau for Remediation and Redevelopment Tracking System (BRRTS).

The UWEX is a longtime partner in understanding manure spills in Wisconsin. On an approximately 5-yr basis they collect all manure spill data on a statewide scale for analysis, including spill causation. The UWEX have been able to use the information on common causes of spills to train manure applicators through groups such as the Professional Nutrient Applications Association of Wisconsin.

6.2.f County Work Plan Updates

As a condition of annual grant funding from the DATCP, counties must annually 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. Counties must report each year to DATCP on their implementation of the past year's work plan. The DNR attempts to coordinate with counties as they complete annual work plans to focus on priority watersheds or farms identified in their county LWRM plans.

6.3 Environmental Indicators

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

6.3.a Surface Water Monitoring

The monitoring strategy employs baseline, prescribed, and local needs water quality monitoring, as outlined in Chapter 3. Although any of these categories of monitoring could help to evaluate the success of management actions, local needs monitoring offers the opportunity to design projects tailored to evaluating specific BMPs. However, local needs monitoring resources are too limited to allow evaluation of every project. Prescribed monitoring has been useful for evaluating improvements in water quality by revisiting the same Targeted Watersheds or Directed Lakes after significant management actions have been taken. The DNR will continue to seek the funding resources needed to more fully realize the potential of scale appropriate evaluation monitoring. Baseline monitoring is also helpful for evaluating success where management actions occur in the watersheds upstream from the DNR's long-term monitoring sites.

Citizen monitoring data is uploaded in the DNR's SWIMS 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 as described in Chapter 3. Due to the wide spatial and temporal coverage of citizen monitoring, this monitoring effort can be useful for evaluating the success of watershed management activities. Volunteer monitoring sites are often established to track water quality of lakes or streams with active implementation efforts.

6.3.b Groundwater Monitoring

Groundwater monitoring is outlined in section 3.6, but needs are constantly evolving as new problems emerge. Ultimately, implementation of the monitoring strategy supports development of actions to address environmental and public health concerns regarding multiple contaminants: nitrate, microbial agents, pesticides and their degradates, and emerging contaminants such as perfluoroalkyl and polyfluoroalkyl substances (PFAS). Monitoring data may be used to compliment surface water assessments and to identify groundwater impacted by nonpoint source pollution. An example of this connection is that private well monitoring conducted by county programs may be used in 9 Key Element plans.

The Groundwater Coordinating Council 2024 Report contains several monitoring recommendations. One of them is to provide permanent funding to test private wells. Only one third of private well owners have ever had their water tested for nitrate, the state's most common contaminant exceeding human health standards (an estimated 10% or more of private wells exceed the nitrate MCL). Other recommendations

are to continue to identify PFAS sources and their potential impacts to groundwater and other environmental media, and to develop ch. NR 140, Wis. Admin. Code state groundwater standards for PFAS substances. Additionally, the report recommends continuing to monitor and assess our understanding of pathogens in groundwater where and when they pose threats to human health.

It is recommended that the DNR and partners continue to collect, catalog, share and interpret new data about Wisconsin's groundwater so that it can be used by health care providers, people seeking business locations, homeowners and local governments. The Groundwater Coordinating Council 2024 Report also suggests prioritizing groundwater data storage and availability through the Groundwater Retrieval Network (GRN) as the premier state groundwater data service to enhance resource knowledge and management capacity. The GRN functions as a centralized data warehouse, housing well inventory and groundwater data associated with both public and private wells.

6.3.c Clean Water Act Report Consolidation

Wisconsin submits both its *Clean Water Act Report to Congress* and *Impaired Waters List* in an integrated report. The 2024 Wisconsin Water Quality Report to Congress combines a summary of the DNR'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 applied up-to-date assessment protocols to a wealth of monitoring data collected by DNR field biologists and fisheries staff and over 1,000 volunteers in the Citizen Lake Monitoring Network and Citizen-Based Stream Monitoring Programs described above.

6.4 Social Indicators

Social science tools provide additional information to aid projects and NPS program staff in understanding how to focus project implementation efforts and determine whether change occurs. Staff involved with individual NPS projects can use results reports with local audiences and the information can inform future program directions locally and potentially at the statewide level.

Most NPS projects seek to influence voluntary behaviors to improve or protect water quality. Social science tools can be used to provide a more comprehensive picture of attitudes, perceptions, and motivations; social organizations and structures; history and culture; population and demographic characteristics; institutions and processes

Social science information can help project staff focus and evaluate their efforts toward the following intended outcomes: increased awareness of relevant technical issues and/or recommended practices; changed attitudes to facilitate desired behavior change; reduced constraints to behavior change; increased capacity to leverage resources; increased capacity to support appropriate practices; and increased adoption of practices to maintain or improve water quality.

Social science complements environmental indicators and provide an approach for assessing and improving project and program performance. The DNR encourages NPS projects to use tools such as the Social Indicators for Planning and Evaluation System developed with the EPA, other state agencies, and the USDA/NIFA Great Lakes Regional Water Program.

Survey and interview data with target audiences can be used to measure pre and post levels of awareness, attitude, constraints, and behaviors. Measures may also address components of capacity for the organizations implementing projects. It is critical to choose the right method and approach for the specific question/problem you wish to address. Different methods and approaches are used to answer different types of questions. Different questions could include who are the key stakeholders and decision makers, and what are the community's perceptions of the resource. Different methods include focus groups, surveys, and interviews.

The timing associated with the use of social science tools depends on type and stage of the project. For example, projects focusing on watershed planning would use the approach near the end of their planning process. Projects implementing NPS plans should also consider including pre and post measurement as part of their project work plan.

Appendix A Nonpoint Source Program Partners & Affiliated Programs

This appendix includes summaries of the many Nonpoint Source Program partners and advocacy groups (Table A-1, Table A-2 and Table A-3) as well as affiliated NPS partner programs (Table A-4).

Table A-1 Nonpoint Source Program State Partners

Partner	Description
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.
League of Wisconsin Municipalities	Governmental association representing the interests of cities and villages
Regional Planning Commissions	Regional stormwater and floodplain management planning
Standards Oversight Council (SOC)	The SOC oversees the development, maintenance and distribution of quality technical and conservation practice standards to support urban and rural land and water conservation programs in Wisconsin. Participating members include the NRCS, DNR, WALCE, WI Land+Water, DATCP, UWEX, and the Department of Commerce.
State Technical Committee (STC)	The STC is a subset of the NRCS and is composed of a varied group of public and private entities to provide advice on a wide variety of policy issues to the NRCS. Although the STC has no implementation or enforcement authority, USDA gives strong consideration to the Committee's recommendations.
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.
University of Wisconsin – Madison, Division of Extension	Statewide implementation, outreach and education on a variety of agricultural issues, including Wisconsin Discovery Farms
University of Wisconsin System - Madison, Stevens Point and others	Research and technical assistance
Wisconsin Counties Association (WCA)	Governmental association representing the interests of counties at both the state and federal level
Wisconsin Department of Administration - Coastal Management Program	Wisconsin Coastal Management Program (WCMP) works cooperatively with state, local, and tribal government agencies and non-profit organizations to manage the ecological, economic, and aesthetic assets of the Great Lakes coastal area
Wisconsin Department of Health Services	Assists with the development of health-based state groundwater and drinking water standards
Wisconsin Department of Transportation	Culvert replacement and erosion control and stormwater management on transportation projects
Wisconsin Geological and Natural History Survey	Conducts studies, writes reports on the state of groundwater resources.
Wisconsin Fertilizer Research Council	The Fertilizer Research Council is a statutory council created under s. 15.137(5), Wis. Stats. The Fertilizer Research Council recommends research projects to be conducted with fertilizer research funds collected under s. 94.64, Wis. Stats. Funds are collected by the DATCP's Agricultural Resource Management Division, in the form of tonnage fees on fertilizer sales. Funds are forwarded to the University of Wisconsin to be used for research on soil management, soil fertility, plant nutrition problems, groundwater problems that may be related to fertilizer usage, and other purposes designated by statute, subject to the recommendations of the Fertilizer Research Council.
Wisconsin Land and Water Conservation Association (WI Land+Water)	WI Land+Water 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.

Wisconsin 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 oversees the implementation of the State's NPS Program under ss. 92.04 and 281.65(3), Wis. Stats. and advises DATCP and DNR on NPS grant allocations; reviews management plans and administrative rules

Table A-2 Tribal and Federal Partners.

Partner	Description
Tribal Governments	Bad River Band of Lake Superior Chippewa, Forest County Potawatomi, Ho-Chunk Nation, Lac Courte Oreilles Band of Lake Superior Chippewa, Lac du Flambeau Band of Lake Superior Chippewa, Menomoniee Indian Tribe of Wisconsin, Oneida Nation, Red Cliff Band of Lake Superior Chippewa, Mole Lake Band of Lake Superior Chippewa, St. Croix Chippewa Indians of Wisconsin, Stockbridge-Munsee Community Band of Indians, and Brothertown Indian Nation
National Oceanic and Atmospheric Administration (NOAA)	NOAA's many assets — including research programs, vessels, satellites, science centers, laboratories and a vast pool of distinguished scientists and experts — are essential, internationally recognized resources.
Farm Service Agency (FSA)	FSA supports CREP, CRP and other complementary programs.
U.S. Army Corps of Engineers (USACE)	The USACE works diligently to strengthen national security by building and maintaining infrastructure, researching and developing technology by using engineering expertise to promote stability and improve quality of life.
U.S. Environmental Protection Agency (EPA)	The EPA protects human health and the environment by developing & enforcing regulations, giving grants, studying environmental issues, sponsoring partnerships, teaching people about the environment, and publishing information.
U.S. Fish and Wildlife Service (USFWS)	The USFWS 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.
USDA Forest Service	Established in 1905, the Forest Service manages public lands in national forests and grasslands. Its mission is to sustain the ecological health and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.
U.S. Geological Survey (USGS)	USGS provides science about the natural hazards that threaten lives and livelihoods, the water, energy, minerals, and other natural resources we rely on, the health of our ecosystems and environment, and the impacts of land-use change.
USDA Natural Resources Conservation Service (NRCS)	The NRCS aids 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.
USDA Risk Management Agency	USDA's Risk Management Agency is a partner in delivery of the Insurance Premium Rebate for Planting Cover Crops Program.

Table A-3 NPS Advocacy Groups. Advocacy organizations play an important role in influencing NPS policy and in providing public education regarding NPS programs. Active advocacy groups in Wisconsin include but are not limited to the groups listed in this table.

Group	Description
Fox-Wolf Watershed Alliance	Regional organization focused on improving water quality within the Fox-Wolf basin with a focus on agriculture, aquatic invasive species, erosion management, harmful algal blooms, shoreline restoration, trash free waters, and urban stormwater.
Lake Associations	Regional – Lake Associations are voluntary organizations which are typically focused on improving water quality.

Group	Description
Lake Districts	Regional – Lake Districts are special purpose units of government. The purpose of a district is to maintain, protect, and improve the quality of a lake and its watershed for the mutual good of the members and the lake environment.
Michael Fields Agricultural Institute	Regional – The Michael Fields Agricultural Institute is a non-profit advancing regenerative agriculture through research, policy, and education, supporting communities across the Upper Midwest and beyond.
Producer-led Watershed (PLW) Groups	Regional – PLW Groups are organized by farmers with a goal of improving soil & water quality and advancing producer-led solutions that increase on the ground practices and farmer participation in local watershed efforts (e.g., Hay River Farmer-Led Watershed Council, Sauk Soil & Water Improvement Group, Yahara Pride Farms, Inc.).
Clean Wisconsin	State-wide organization focusing efforts on combating changing weather patterns and pollution in our air, water, and land, and ensuring a healthy future for every Wisconsin community.
Dairy Business Association	State-wide non-profit organization comprised of Wisconsin dairy farmers, milk processors and business partners who work together to boost the state's dairy community with a vision of building a trusted and vibrant dairy community that balances business, environmental and social responsibility.
Farmers for Sustainable Food	State-wide organization, which is a collaborative, industry-supported effort to promote and support farmer-led solutions to today's environmental challenges. We are the only collaborative, non-profit organization that provides resources, advocacy, support and empowerment for farmers who are innovating and demonstrating sustainable farming practices during a time of increased interest in agriculture and food origins.
Gathering Waters	State-wide organization which advocates for government funding that provides millions of dollars to land trusts each year; provides tools, resources, education opportunities, and a network of peers for land trust staff and board members; and increases statewide awareness of the opportunities and benefits land trusts bring to the communities they serve.
Midwest Environmental Advocates	State-wide nonprofit law center that combines the power of law with the resolve of communities to secure and protect the rights of all people to healthy water, land, and air.
Professional Dairy Producers of Wisconsin	State-wide organization which aims to share ideas, solutions, resources, and experiences that help dairy producers succeed with a vision of leading the success of the dairy industry through education.
River Alliance of Wisconsin	State-wide organization which aims to empower people to protect and restore water with a vision a thriving community, economy, and habitat through access to clean, abundant water.
Sand County Foundation	State-wide organization with a vision of a future where there is widespread adoption of a land ethic based on personal responsibility, effective incentives, and science for the benefit of people and the environment.
Wisconsin Association of Professional Agricultural Consultants	State-wide organization with a goal to promote agricultural consulting as a profession and to elevate the public's perception of the role of consultants in agriculture.
Wisconsin Farm Bureau Federation	State-wide organization with a mission is to lead the farm and rural community through legislative representation, education, public relations and leadership development.
Wisconsin Farmers Union	State-wide organization committed to enhancing the quality of life for family farmers, rural communities, and all people through educational opportunities, cooperative endeavors, and civic engagement.
Wisconsin's Greenfire	State-wide organization with a mission to advance science-informed analysis and policy solutions that address Wisconsin's greatest conservation challenges.
Wisconsin Lakes	State-wide non-profit organization with a mission to conserve, enhance and restore Wisconsin's lakes to ensure their sustainability for the benefit and collective use and enjoyment for this and future generations.
Wisconsin Conservation Voters	State-wide organization which advocates for sound environmental laws and policies, holds elected officials accountable for their votes and actions, and elects pro-conservation candidates who will champion our priority issues.

Group	Description
Wisconsin Rural Water Association	State-wide organization focused on assisting, educating, and representing their members in the water and wastewater industries.
Wisconsin Wetlands Association	State-wide non-profit organization dedicated to the protection, restoration, and enjoyment of wetlands and associated ecosystems through science-based programs, education, and advocacy.
Resource Conservation and Development Councils	State-wide non-profit organizations that share a common goal: encouraging economic development while protecting and conserving land, water, and related resources to assure the quality of the natural resource base for future generations.
American Water Resources Association	Federal organization with a mission to advance multidisciplinary water resources education, management, and research.
American Water Works Association	Federal organization focused on providing solutions to effectively manage water, the world's most vital resource
Association of State Drinking Water Administrators	Federal organization with the purpose of supporting states in their efforts to protect public health through the provision of safe drinking water; collecting and making information available to all state program administrators to assist them in fulfilling their duties; encouraging the exchange of experiences and information among state drinking water programs; promoting responsible and feasible drinking water program requirements at the state and federal levels; and providing advice, counsel, and expertise to organizations and entities having an interest in drinking water, including Congress, the EPA, and other federal, state, and local organizations.
Ground Water Protection Council	Federal non-profit organization with a mission to promote and conduct research, education, and outreach, in the areas of development and application of technical systems, pollution prevention efforts related to ground water protection, underground injection technology, and watershed conservation and protection.
The Nature Conservancy	National organization with a mission of conserving the lands and waters on which all life depends.

Table A-4 Affiliated Programs Addressing NPS Issues

Program Title	Admin. Code/ Statute	Lead Agency	Program Description/Emphasis
Wisconsin Clean Sweep	ATCP 34	DATCP	The program provides financial assistance to Wisconsin counties, regional planning commissions, cities, villages, and other municipalities to collect and dispose of unwanted pesticides, household hazardous wastes, and prescription drugs, reducing public health and water quality risks
Conservation Reserve Enhancement Program (CREP)		FSA DATCP Counties	A program to encourage voluntary retirement of sensitive lands, thus decreasing erosion, restoring wildlife habitat and safeguarding surface and groundwater.
Confined Animal Feeding Operations (CAFO) Permits	NR 243	DNR	Requires owners/operators of CAFOs to control runoff, comply with surface and groundwater quality standards, and ensure pollutants are not discharged from the production area to navigable waters.
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.
Road 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.

Program Title	Admin. Code/ Statute	Lead Agency	Program Description/Emphasis
Dam Safety Program	NR 333 NR 335	DNR	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.
Environmental Quality Incentives Program (EQIP)		NRCS	Provides financial and technical assistance for development of a farm conservation plan that guides nutrient management and decreases negative impacts on area waters
Forestry Best Management Practices Program	NR 46	DNR	Intended to help landowners, loggers, 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.
Non-Metallic Mining	NR 135	DNR	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.
Public Trust Doctrine	ch. 30, Wis. Stats.	DNR	Allows for the protection of public waterways and the consideration of the cumulative impacts of individual projects in decisions including nonpoint source pollution abatement.
Shoreland Zoning	NR 115	DNR	Protects lakes and rivers by requiring buffer zones and other measures to reduce the impacts from development.
Waterways & Wetlands Program	ch. 30 and s. 281.36, Wis. Stats.	DNR	Regulates waterways and wetlands through permits, exemptions, and education & outreach.
DNR Public and Easement Lands		DNR	Focused specifically on restoring ecosystems: State Natural Areas, State Forests, Fisheries Easements, State Wildlife Areas and private ag land easements
WI Water Quality Trading Clearinghouse	s. 16.9685 Wis Stats.		The Wisconsin Water Quality Trading Clearinghouse is a marketplace and facilitator for water quality trading—connecting sellers (landowners and agricultural producers) with buyers (municipal wastewater treatment/stormwater facilities and private industries) to help reduce phosphorus and total suspended solids, entering surface waters.
Wisconsin Agricultural and Water Quality Program		UWEX	The Agriculture Water Quality Program delivers educational content for farmers, crop advisors and conservation professionals on the relationships between ag production practices and water quality outcomes.
Cover Crop Insurance Rebate Program		DATCP	DATCP, in partnership with the U.S. Department of Agriculture Risk Management Agency and Approved Insurance Providers may provide crop insurance rebates for planting cover crops

Appendix B Wisconsin's Vision 2.0

1 303(d) Vision & Goals

In December 2013 the EPA published "A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act § 303(d) Program", which included goals that are directly tied to or hinge on the involvement and integration with State NPS Programs under § 319 of the Clean Water Act. This became known as the "Vision", hereafter referred to as the 2013 Vision and focused the 303(d) program around six core principles. The 2013 Vision period concluded in September 2022, coinciding with the 50th anniversary of the Clean Water Act. As the period covered by the 2013 Vision sunset, discussions were initiated between states, territories, federally recognized tribes, and the EPA to renew the 2013 Vision for another 10-year period. This renewal of the 2013 Vision, commonly referred to as "Vision 2.0", builds on previous efforts and emphasizes the prioritization of resources to implement CWA 303(d) Program responsibilities and meet water quality criteria and standards to restore and protect Wisconsin's waterbodies.

Under both the 2013 Vision and Vision 2.0, the DNR is responsible for identifying priorities. These identified priorities constitute a "Candidate Pool" from which individual projects can be selected. During every two-year FFY period, referred to as the Metric Reporting Period, the DNR will identify projects and which waterbodies will be addressed with new or revised TMDLs, or other restoration plans and protection plans. These commitments must be entered into EPA's Assessment and TMDL Tracking and Implementation System (ATTAINS) by September 30 for the corresponding Metric Reporting Period.

2 Candidate Pools

The DNR's commitments for each of the Metric Reporting Periods will be selected from the Candidate Pool; however, the DNR reserves the right to add additional TMDL or protection plans to the Candidate Pool. These additions could be the result of new or emerging contaminants, Legislative Directives as was the case for the NE Lakeshore TMDL, or other priorities as informed and directed by stakeholder input. Historically, these factors have played a significant role in the selection of individual projects for TMDL development. Of the 12 recent TMDL projects, only two were initiated solely by the DNR based on the prioritization framework analysis. The other TMDLs were either initiated and funded by the EPA, in response to joint priorities with the Minnesota Pollution Control Agency (MPCA), Legislative directed projects, or third-party TMDLs.

As part of the 303(d) list, individual impaired segments and waterbodies must be assigned a prioritization of either high, medium, or low. The DNR has ensured that the prioritization required for the 303(d) list is consistent with the prioritization and candidate pool under Vision 2.0. To accomplish this, the DNR is dividing the candidate pool into three levels corresponding with the high, medium, and low prioritization included on the 303(d) list.

Level 1 Candidate Pool: Listed on the 303(d) list with a prioritization status of "High", these impaired segments and impaired waterbodies have restoration plans that are either under development or will be completed during the corresponding two-year Metric Reporting Period.

Level 2 Candidate Pool: Listed on the 303(d) list with a prioritization status of "Medium", these impaired segments and impaired waterbodies have either TP or TSS/sediment identified as a pollutant parameter. Within the Level 2 Candidate Pool the DNR has identified, through the planning and prioritization process laid out in section 3 of this document, three basins and their associated waterbodies to prioritize for future TMDL development. Given that all three of these basins contain a blend of both permitted and nonpoint pollutant sources, a TMDL restoration plan is appropriate. The order in which these projects are listed does not denote any sort of implied prioritization among these three projects within the Level 2 candidate pool; the numbers are used only to reference their location on Figure B-1.

Sugar – Pecatonica Basin: Located in Southwest Wisconsin covering portions of Lafayette, Iowa, Dane, Green, and Rock Counties, the Sugar-Pecatonica Basin lies within the Driftless Area of Wisconsin. The major streams in the basin, in addition to the Sugar and Pecatonica Rivers, are the Little Sugar River, East branch Pecatonica River, West branch Pecatonica River, Raccoon Creek, and Mineral Point branch. While water quality monitoring data needs to be updated, it is estimated that roughly 12.5% of stream miles are not meeting potential uses and another 28% of stream miles only partially meet their potential use. The main pollutants of concern are TP and TSS/sediment. Nonpoint sources of pollution are likely the main source of impairments; however, point sources, often located toward the headwaters of streams, also contribute pollutants of concern. For planning purposes, the Grant-Platte is often combined with the Sugar – Pecatonica Basin; however, this TMDL would focus on the Sugar-Pecatonica Basin.

Figure B-1 Level 2 Priorities

The SE Lakeshore of Lake Michigan: The SE Lakeshore portion of Wisconsin covers portions of Racine, Kenosha, Waukesha, and Milwaukee Counties. It includes portions of the Milwaukee Metropolitan Sewerage District's service area as well as numerous other industrial and municipal wastewater dischargers. The land use is comprised of a mix of permitted urban, nonpermitted urban, and agricultural land uses; however, the corridor between Milwaukee and Chicago continues to see ongoing urban development. Significant changes in the watershed include the addition of the return flow from the Waukesha Diversion to the Root River and the development of approximately four-square miles of land into the Wisconsin Valley Science and Technology Park coinciding with the previously planned Foxconn development. A TMDL would focus on the combination of point and nonpoint sources that are causing numerous waterbodies to not meet designated uses with the main pollutants of concern being TP, TSS/sediment, and chlorides.

Buffalo – Trempealeau Basin: Located in the Driftless Area in the western portion of Wisconsin, the main rivers in the basin, the Buffalo and Trempealeau, both drain to the Mississippi River. Both rivers display impairments associated with eutrophication caused by TP from both point and nonpoint pollutant sources. In addition, numerous smaller named and unnamed tributaries are listed as impaired due to TP, TSS/sediment, and bacteria. The predominate land use is split with roughly 42% as forest and 26 to 34% as agriculture, depending on the watershed. Waterbodies are comprised of a mix of cool-warm, and cold-water habitats with many high gradient streams and creeks. The topography and local soils of the area leaves it prone to runoff from large rainfall events and requiring a focus of nonpoint controls along stream and river valleys to mitigate the delivery of pollutants. A TMDL for this basin would serve both to address the impaired waters but also protect existing high quality trout streams and numerous outstanding and exceptional resource waters located in the headwaters of the basin.

Level 3 Candidate Pool: Listed on the 303(d) list with a prioritization status of "Low", these impaired segments and impaired waterbodies have pollutant parameters that are best addressed by restoration efforts other than TMDLs, have a pollutant listed as unknown, or require additional data to be collected prior to the development of a restoration plan or TMDL. Examples include toxic pollutants or impairments caused by in-situ sediments that are best addressed through dredging or other remedial actions.

3 Vision 2.0 Prioritization

The Vision 2.0 prioritization continues to focus planning efforts on two pollutants, TP and TSS/sediment and places a lower priority on toxic pollutants, like mercury and PCBs. While the DNR considers impairments caused by mercury and other toxics to be important pollutants of concern, TMDLs for which the prioritization framework is designed to address are not well suited to toxic pollutants. In addition, TP

and TSS/sediment are two of the most common pollutants identified on Wisconsin's impaired waters list and often originate from a combination of point and nonpoint sources. Therefore, TP and TSS/sediment are two pollutants emphasized in the DNR's TMDL program. Sources of impairments caused by heavy metals or other toxic pollutants are often localized legacy contamination and are being addressed primarily through other DNR programs, such as the Great Lakes Areas of Concern (AOC); the Wisconsin Pollutant Discharge Elimination System (WPDES) program; and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund Program.

The prioritization within the three candidate pools was arrived at by utilizing a GIS based analysis with individual factors being weighted to arrive at an overall rating. The primary mechanism for identifying priority areas (HUC12 watersheds) was the use of modeling tools to identify areas with predicted poor ecological health or high phosphorus yields and high instream concentrations. Analysis that was conducted, in part, through the EPA's Healthy Watersheds Initiative and used in the DNR's HWHQW initiative identified watersheds that were placed in the Level 2 Candidate Pool for the development of future TMDLs or other restoration and protection plans. In addition to the priority areas identified using the Healthy Watersheds High Quality Waters (HWHQW) datasets, the phosphorus priority areas identified in Wisconsin's Nutrient Reduction Strategy were incorporated in the Level 2 Candidate Pool for the development of TMDLs and restoration plans addressing sources of TP.

This prioritization analysis was further refined using a Kernal analysis, a form of Bayesian statistics, that factors in the overall distribution and density of impaired waters across an area to create a cluster analysis which helps identify critical areas. The results of the Kernal density analysis were overlaid on the priority index areas resulting in the maps shown in Figure B-2. Figure B-3 summarizes the Priority index by HUC8 showing overlays of HUC12 watersheds that already have approved Nine Key Element Watershed Plans, active agricultural Producer Led Groups which emphasize and promote implementation of agricultural nonpoint practices, and existing EPA approved TMDLs. Figure B-3 uses a numbering key, provided after the figure in Table B-1, to identify individual HUC8 watersheds. Additional details on this process and supporting figures can be found in the DNR's Vision 2.0 documentation.

The pace at which the DNR can commit to the development of new TMDLs or protection plans will be influenced by available resources for both the development and implementation of new and existing TMDL and protection plans. As recently highlighted by the EPA,

> *"States should support the development of WBPs at a sufficient pace to advance implementation efforts funded through §319 and other funding sources. However, states should also be careful not to use §319 funds for WBP and TMDL development at a pace that significantly exceeds the rate of implementation, as these plans may become outdated before they can be implemented."*

The DNR will continue to emphasize nonpoint implementation within its TMDLs, and protection plans and is looking for ways to eliminate redundant planning efforts. For example, the DNR is exploring how to better integrate 9-Element Plans within the TMDL development process by creating TMDLs that already contain and fulfill many if not all the necessary 9-Element planning requirements. While this process may increase the time it takes to develop a TMDL or protection plan, it may help reduce redundant planning efforts. In addition, addressing more of the implementation planning efforts during TMDL development allows for a more robust analysis and documentation for the reasonable assurance section of the TMDL and promotes better engagement with interested watershed and stakeholder groups.

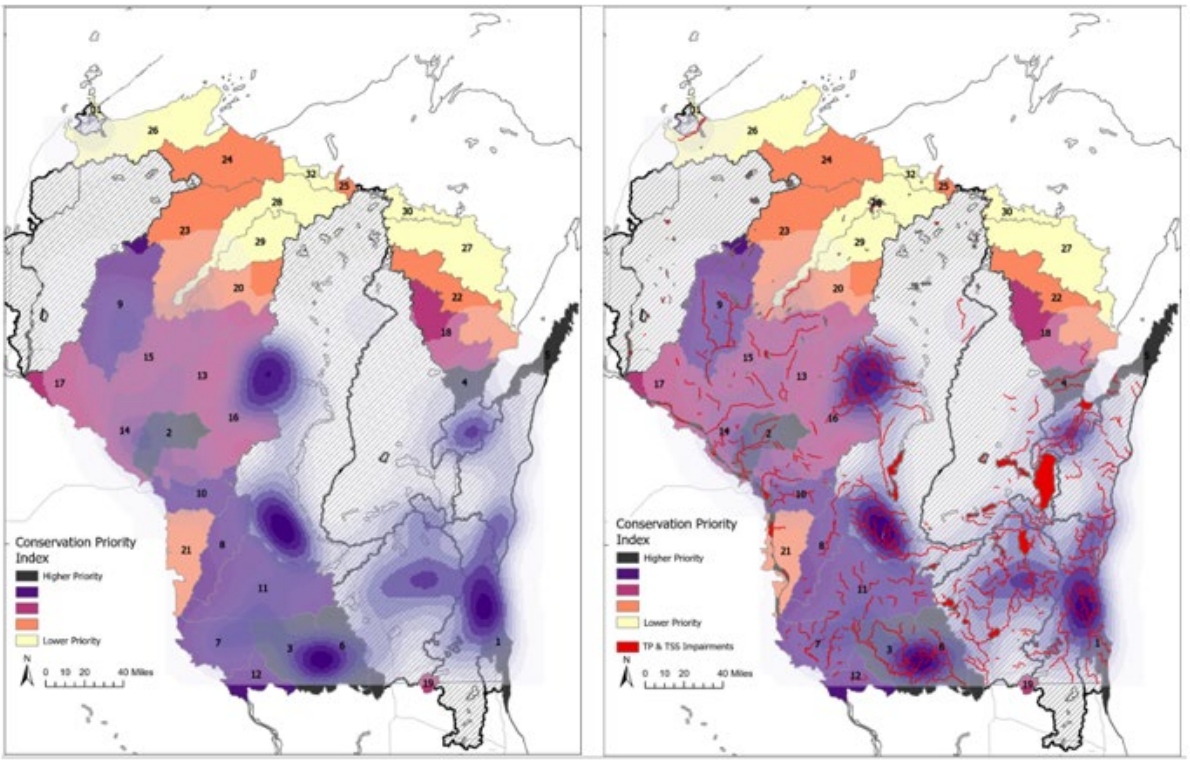

Figure B-2 Results of Kernal Analysis of Phosphorus and TSS Impaired River and Streams shown without (Left) and with Impaired Waters in Red (Right).

Table B-1 Watershed Key for Figure B-3.

Map ID	HUC8 Code	HUC8 Watershed	Map ID	HUC8 Code	HUC8 Watershed	Map ID	HUC8 Code	HUC8 Watershed
1	04040002	Pike-Root	12	07060005	Apple-Plum	23	07050001	Upper Chippewa
2	07040005	Trempealeau	13	07050006	Eau Claire	24	04010302	Bad-Montreal
3	07090003	Pecatonica	14	07040003	Buffalo-Whitewater	25	04020102	Ontonagon
4	04030103	Duck-Pensaukee	15	07050005	Lower Chippewa	26	04010301	Beartrap-Nemadji
5	04030102	Door-Kewaunee	16	07040007	Black	27	04030108	Menominee
6	07090004	Sugar	17	07040001	Rush-Vermillion	28	07050002	Flambeau
7	07060003	Grant-Little Maquoketa	18	04030104	Oconto	29	07050003	South Fork Flambeau
8	07070006	Kickapoo	19	07090006	Kishwaukee	30	04030106	Brule
9	07050007	Red Cedar	20	07050004	Jump	31	04010201	St. Louis
10	07040006	La Crosse-Pine	21	07060001	Coon-Yellow	32	04020101	Black-Presque Isle
11	07070005	Lower Wisconsin	22	04030105	Peshtigo			

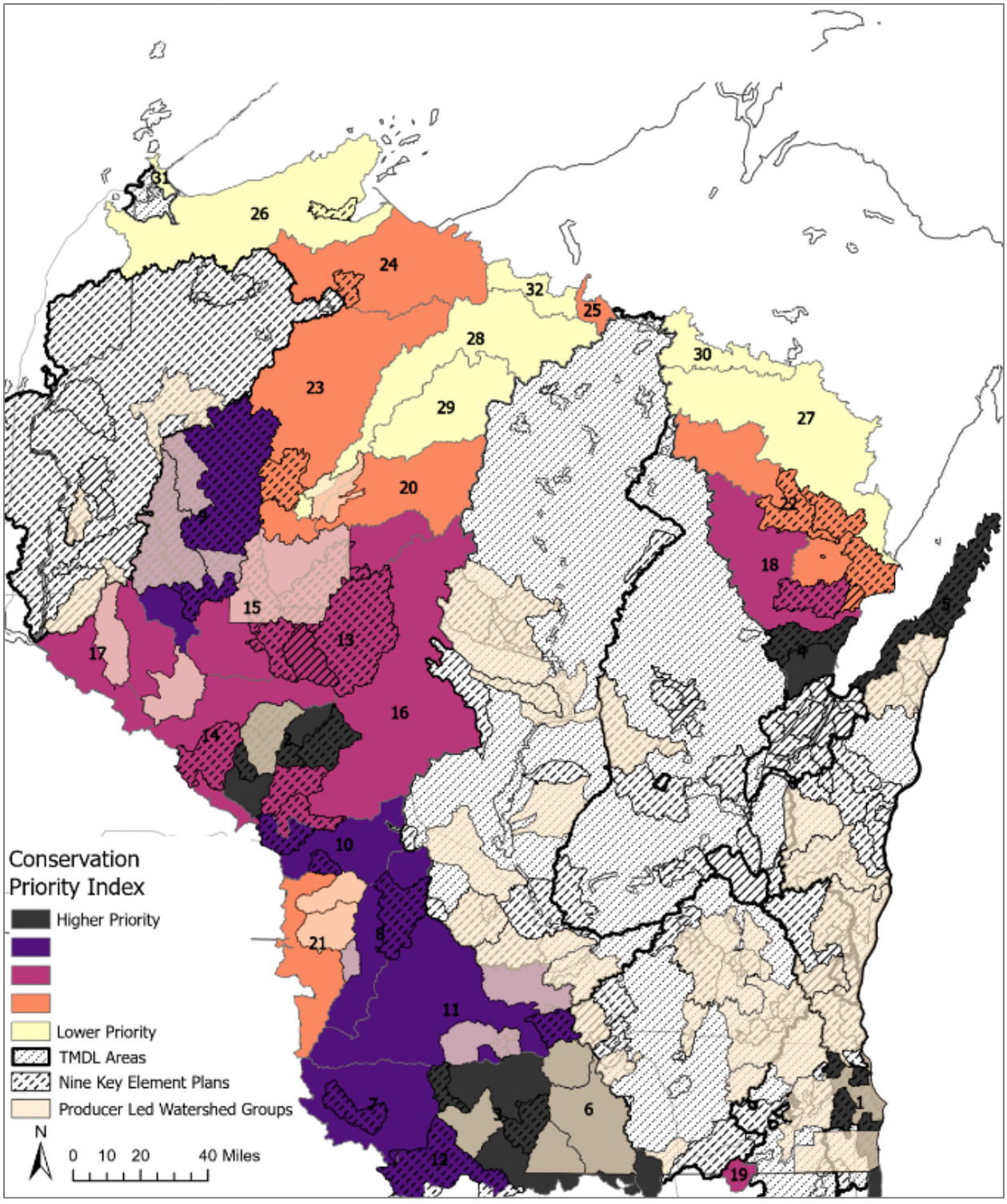

Figure B-3 Conservation Priority Index with TMDLs, 9-Element Plans, and Producer Led Groups.

Additional Factors to Consider for Prioritization: Final selection of project areas for the development of restoration and protection plans is a two-stage process. The first stage is based on the GIS analysis and Kernel analysis described above that objectively identifies priority areas in need of restoration and protection. The second stage is to refine those areas using a variety of factors that rely on local expertise about individual watersheds. A similar approach was used in the 2013 Vision; however, refinements made through the Vision 2.0 process allowed for a more objective analysis of the following factors which, under the 2013 Vision, had been more subjective. These include the severity of observed water quality impairments, the likelihood of water quality improvement in response to management actions, and watersheds with ongoing water quality studies or restoration work.

More qualitative factors that were not able to be directly factored into the analysis include the social and overall economic importance of individual waterbodies and the ability and eagerness of stakeholders to engage in restoration activities. These qualitative factors are evaluated based on input from both the DNR staff and stakeholders. It should be noted that the development of restoration and protection plans can generate stakeholder interest and eagerness and help direct funds for implementation of restoration and protection efforts. As such, the lack of eagerness by stakeholders should not be a significant factor.

Wisconsin's Vision 2.0 framework contains additional information including addressing the goals and focus areas laid out in the EPA's 2022-2032 Vision for the Clean Water Act Section 303(d) Program released in September 2022.

One area of emphasis for Wisconsin's TMDL program is nonpoint implementation assistance through translation of the load allocations for agricultural nonpoint sources into edge of field targets consist with Wisconsin's nutrient management planning software SnapPlus and the NRCS's erosion prediction model RUSLE2.

Appendix C Objectives & Milestones

Table C-1 The DNR Bureau of Watershed Management Objectives & Milestones Applicable to the NPS Program

Objective: 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.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Track issuance and resolutions of ch. NR 243 Wis. Admin. Code NOIs and Notice of Discharge issued.	X	X	X	X	X
Track issuance and resolutions of ch. NR 243 Wis. Admin. Code Notices of Designations issued.	X	X	X	X	X
Commit annually to allocate 100% of available, reserved funds to the DNR Notice of Discharge (NOD) grants.	X	X	X	X	X

Objective: Water quality is protected by implementing best management practices designed to achieve non-agricultural (urban) performance standards and prohibitions that limit nonpoint source water pollution.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Commit annually to allocate 100% of available funds to grants for Urban TRM, UNPS- P, and UNPS-C projects.	X	X	X	X	X
Monitor grantee activities toward completion of 100% of funded Urban TRM, UNPS-P and UNPS-C projects.	X	X	X	X	X
Track Urban TRM and UNPS-C pollutant load reduction with data entry in BITS.	X	X	X	X	X

Objective: Water quality is protected by implementing best management practices designed to achieve agricultural performance standards and prohibitions that limit nonpoint source water pollution.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Provide compliance support for implementation of ch. the NR 151 Wis. Admin. Code performance standards for partners on a statewide basis.	X	X	X	X	X
Participate in the revision process, review, and comment on 100% of the county draft LWRMP revisions.	X	X	X	X	X
Track issuance and resolution of ch. NR 151 Wis. Admin. Code Notices issued by the DNR.	X	X	X	X	X
Commit annually to allocate 100% of available funds to grants for TRM projects.	X	X	X	X	X
Monitor grantee activities toward completion of 100% of funded TRM projects.	X	X	X	X	X
Track TRM and pollutant load reduction with data entry in BITS.	X	X	X	X	X
Assist program partners to ensure that NPS planning meets the § 319 Program's "9 key elements" for watershed-based plans.	X	X	X	X	X
Provide support for the implementation of all nine key element plan areas (e.g., ch. NR 151 Wis. Admin. Code implementation, grants, education and outreach).	X	X	X	X	X

Objective: Water quality is protected by developing strong internal and external partnerships and education and outreach efforts.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Meet with each county at least every other year to identify strategies for NPS pollution control.	X	X	X	X	X
Collaborate with external partners (e.g. the DATCP, NRCS, UWEX, WI Land and Water, SOC). on NPS issues, policy development and data sharing.	X	X	X	X	X

Objective: Maintain an effective partnership among the DNR Regional Offices and Central Office through administrative and management support.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Enhance productivity, performance, and accountability among elements of water quality programs. Structure and implement evaluation processes, programs, and tools to determine if they meet their intended purpose. Work through internal programs and teams for cross-program integration, collaboration, and information exchange among staff and with the Policy & Management Teams.	X	X	X	X	X
Collaborate with internal partners on NPS issues, policy development and data sharing.	X	X	X	X	X

Table C-2 The DNR Water Quality Program Objectives & Milestones Applicable to the NPS Program

Objective: Waterbodies are managed for healthy ecosystems and quality recreation using a community- and science-based approach.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Continue to improve the SWIMS database and associated viewers and data visualization tools making them easier to use and reducing the amount of IT staff time needed to find and enter data for field staff and partners. Conduct training for partners and staff as needed. Make more data complete and available e.g. aquatic plant and shoreland habitat, bathymetry, water levels and flows, etc. including metadata and documents for current and historic projects. Continue to support waterbody assessment efforts enabling more lakes, rivers and streams to be successfully assessed.	X	X	X	X	X
Enhance citizen-based lake monitoring network (CLMN) and water action volunteer (WAV) networks by adding and implementing new protocols, conducting training and/or refresher courses, and conducting QA/QC on 10% of the volunteers or fieldwork events per year.	X	X	X	X	X

Objective: Wisely invest staff and financial resources to assist projects that protect and improve surface water.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Administer a surface water grant program that provides financial support for surface water planning and education.	X	X	X	X	X
Administer a surface water grant program that provides financial support for surface water management, including restoration and implementation of rivers, lakes, and/or watershed projects.	X	X	X	X	X
Implement ch. NR 193, Wis. Adm. Code and continuously improve the surface water grant program and project outcomes.	X	X	X	X	X

Objective: Strengthen and diversify an effective partnership for protection and restoration of Wisconsin lakes and rivers.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Engage people, politics and partnerships for lake protection by conducting regional or issue-based workshops throughout the year and at annual statewide Lakes and Rivers Convention.	X	X	X	X	X
Promote organizational capacity building by offering regular training to lake organization governing boards and publish capacity-related articles in each Lake Tides newsletter.	X	X	X	X	X
Organize and facilitate Wisconsin Lake Leadership Institute for a new crew of participants (approximately 20 citizens from across the state) every other year. Bring Lake Leader alumni together at the annual convention and regional workshops.	X	X	X	X	X
Engage counties, tribes, and river and wetland related organizations to participate in the activities of the Lakes and Rivers Partnership.	X	X	X	X	X

Objective: Inspire and engage people for water stewardship.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Implement and track best practices installed as part of Healthy Lakes & Rivers program. Continue outreach to increase property owner and partner organization participation through tools such as the "Score My Score" survey. Maintain existing and engage new property owners as ambassadors of the Healthy Lakes & Rivers philosophy.	X	X	X	X	X
Participate in and increase the recognition of citizen volunteers who demonstrate leadership in water monitoring, protection and restoration.	X	X	X	X	X
Lakes and Rivers Partnership to use newsletter, websites, bookstore, social media, emails, and other means to connect with 30,000-plus lake and river stakeholders multiple times each year.	X	X	X	X	X

Objective: Maintain an effective partnership among the DNR Regional Offices and Central Office though administrative and management support.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Enhance productivity, performance, and accountability among elements of water quality programs. Structure and implement evaluation processes, programs, and tools to determine if they meet their intended purpose. Work through internal programs and teams for cross-program integration, collaboration, and information exchange among staff and with the Policy & Management Teams.	X	X	X	X	X
Collaborate with internal partners on NPS issues, policy development and data sharing.	X	X	X	X	X

Objective: Lakes, rivers, and streams throughout the state are assessed using representative data collected with standardized biological, chemical, and physical metrics.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Develop and submit a statewide Integrated Report to the EPA for review that documents the water quality standards attainment status for lakes, rivers, and streams throughout the state (by April 1 of even-numbered years). The attainment status will be determined using the Wisconsin's Consolidated Assessment & Listing Methodology (WisCALM) Guidance in combination with best professional judgment.	X	X	X	X	X
Draft the § 303(d) list of impaired lakes, rivers, and streams § 303(d) waters, their pollutants, and TMDL priority via WisCALM guidance (January 1 of even-numbered years).	X	X	X	X	X

Objective: Modeling efforts support nonpoint and point source pollution reduction programs, including EAPs and TMDLs and their coordination. Efforts frequently transcend Section and Bureau boundaries in support of implementation efforts.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Develop and maintain predictive models to inform water quality monitoring, assessment, restoration, and protection efforts. Provide documentation of modeling methods, and quantitative evaluations of model performance. Participate in technical forums, learning from activities in other state programs, and present results of Wisconsin models. Focal areas include quantifying the relative proportion of nonpoint source pollutant loading within a watershed (both edge-of-field and estimates of delivery ratios), prioritizing and targeting watersheds that yield disproportionately high levels of pollution, and assisting in agricultural implementation efforts.	X	X	X	X	X
Provide programmatic coordination and analysis in the development of TMDLs or other restoration and protection plans identified as either commitments under the Metric Reporting Period or that have otherwise been identified by the DNR for update or development. Collaborate with the Nonpoint Source Program, including the development and reporting associated with the § 319 Program.	X	X	X	X	X

Objective: Water quality protection is accomplished through having an effective Water Resources Monitoring Strategy.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Continue to implement the 2021-2025 Water Resources Monitoring Strategy. Develop and refine a 2026-2030 Water Resources Monitoring Strategy, including ongoing refinement of stream, river, lake, and wetland monitoring approaches to meet water quality and watershed program needs and the EPA expectations related to NPS pollution.	X	X	X	X	X

Objective: Water quality protection is supported by implementing an annual monitoring work plan that incorporates baseline (status and trends), problem assessment, evaluation, and response monitoring needs for the agency in a balanced and cost-effective manner.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Complete Baseline Monitoring as required in annual workplans, including: 1. Natural Community Random; 2. Rivers LTT; 3. Streams LTT; 4. Lakes LTT; 5. Large River watershed rotation. Data is entered in SWIMS and reviewed for completeness (stations, data quality, and applicable final reports).	X	X	X	X	X
Complete Prescribed Monitoring including Targeted Watershed Assessments, Directed Lakes, and other monitoring (e.g., watershed planning, pre- and post-BMP implementation evaluation, TMDL development and § 303(d) validation). Data is entered in SWIMS and reviewed for completeness (stations, data quality, and applicable final reports). Each year, final reports are linked in SWIMS and new findings are incorporated into the WATERS system in a timely manner.	X	X	X	X	X
Complete Local Needs monitoring projects as planned, approved, and funded. Data is entered in SWIMS and reviewed for completeness (stations, data quality, and applicable final reports). Each year, final reports for Local Needs projects are linked in SWIMS and new findings are incorporated into the WATERS system in a timely manner.	X	X	X	X	X
Continue to pilot integration of wetland monitoring and assessment into Baseline Monitoring, Targeted Watershed Assessment, Directed Lakes, Local Needs Projects, and other opportunities.	X	X	X	X	X
Complete response monitoring activities related to Harmful Algal Blooms in lakes, streams, and rivers related to NPS pollution.	X	X	X	X	X

Objective: Water quality protection is achieved by supporting and enhancing capacity for monitoring and assessment activities within the DNR and with external partners.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Maintain and enhance citizen water quality monitoring on lakes and streams to support Department priorities, including projects relating to evaluation of NPS impairments and progress on implementation activities.	X	X	X	X	X
Develop and implement a strategy to regularly assess recreational and drinking water exposure to and risks from Harmful Algal Bloom toxins generated in NPS dominated lakes, rivers and streams, using new EPA guidelines.	X	X	X	X	X
Develop a strategy to maintain and increase staffing levels to build wetland monitoring, assessment and applied science capacity for the Water Resources Program, including projects relating to evaluation of NPS impairments and further development of numeric water quality standards for wetlands that are NPS related. Expand funding sources beyond the EPA Wetland Program Development Grants, which are not eligible for implementation of routine program implementation activities. Evaluate and explore options for wetland restoration and mitigation within NPS funding sources.	X	X	X	X	X

Objective: Emphasize the protection and promotion of healthy waters in the state for all communities through the Wonderful Waters of Wisconsin initiative.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Increase capacity to provide technical assistance in healthy watersheds and high-quality waters with the following strategies: increased modeling and assessment and action plan outreach and training opportunities; development of a protection BMP toolkit, water resource protection info hub; and outreach to non-traditional partners.	X	X	X	X	X
Leverage and adapt existing program tool to achieve results with the following strategies: develop planning guidance, including an alternative watershed-based plan for protection, and integrate with partner and cross-program planning efforts and other conservation planning tools; partner for increased shoreland protection; and evaluate existing DNR resources designations and update where needed.	X	X	X	X	X
Increase utilization of funding for protection with the following strategies: maintain a catalog of protection funding opportunities; evaluate and improve current DNR funding opportunities (e.g., surface water grant program, § 319 Nonpoint Source Program, Clean Water State Revolving Fund, Knowles-Nelson Stewardship Grants) as/if able; pilot protection planning and funding in priority watersheds; support private sector funding efforts; develop a fundraising toolbox; and explore incentives for increased water resources protection funding.	X	X	X	X	X
Increase external awareness of WWOW initiative and locations with the following strategies: improve our understanding of water resources protection through social science; promote, record, and share water resources protection stories; go where people are to make it happen; develop a WWOW communications plan; create a Wonderful Waters of Wisconsin Day; and expand opportunities for outdoor recreation and youth education.	X	X	X	X	X

Table C-3 The DNR Drinking Water and Groundwater (DG) Program Objectives & Milestones Applicable to the NPS Program

Objective: Groundwater quality is protected through strong internal and external partnerships and education and outreach efforts.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
DG staff lead regular cross-program source water protection coordination meetings to enhance efforts to mitigate NPS impacts to drinking water supplies	X	X	X	X	X
DG coordinates the annual interagency publication of the Groundwater Coordination Council annual report to the legislature, which includes a groundwater condition assessment and new and ongoing recommendations for resource management.	X	X	X	X	X
DG provides outreach and education through such activities as trainings, GW Teacher Workshops, internal and external presentations, facilitating access to groundwater data and resources, website updates, consumer confidence reports, webinars, and participation in national and state GW and SWP forums.	X	X	X	X	X

Objective: Work with partners to improve state capacity to address nonpoint impacts to groundwater sources of drinking water					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Support county and local level SWP planning and implementation efforts through data analysis and updates to source water assessments. Support water quality interventions at individual public water systems and assist with groundwater and source water protection components of watershed-based plans.	X	X	X	X	X
Support NRCS SWP provisions of the 2018 Farm Bill, including participation in state technical subcommittees for source water protection, by providing recommendations for SWP priority watersheds, assisting with NWQI-SWPA projects, and other activities as needed.	X	X	X	X	X
Support groundwater research projects, as funding allows, that inform SWP and NPS impact mitigation strategies.	X	X	X	X	X
DG manages and shares groundwater data through the Groundwater Retrieval Network.	X	X	X	X	X
DG supports the ongoing development and rollout of GW and Nitrogen Fertilizer Decision Support Tools.	X	X	X	X	X

Table C-4 The DNR Office of Agriculture & Water Quality Objectives & Milestones Applicable to the NPS Program

Objective: Water quality is protected by developing strong internal and external partnerships and education and outreach efforts.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Coordinate stakeholder engagement in development, implementation, and monitoring associated with the state's Nutrient Loss Reduction Strategy	X	X	X	X	X
Coordinate cross-program collaboration on NPS programs within the DNR through the Collaborative (a multi-program leadership group formed in 2024 for this purpose).	X	X	X	X	X
Provide leadership to the Interagency Water Quality Workgroup and Steering Committees to foster multi-institutional cooperation and collaboration on implementation of the Nutrient Loss Reduction Strategy.	X	X	X	X	X
Participate in multi-state collaborative workgroups and associations (e.g. Upper Mississippi River Basin Association, Hypoxia Task Force and Coordinating Committee, SERA - 46) to share lessons learned and innovative approaches to addressing NPS pollution.	X	X	X	X	X

Objective: Water quality is protected by implementing best management practices designed to achieve agricultural performance standards and prohibitions that limit nonpoint source water pollution.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Support the application of science to inform farm operators, conservation professionals, and consultants about the efficacy of agricultural best management practices and strategies for overcoming obstacles to adoption of those practices.	X	X	X	X	X

Table C-5 The DATCP Land & Resource Management, Conservation Engineering and Soil & Watershed Management

Objective: Grant or Incentive Administration for Soil & Water Resource Management (SWRM), Producer-Led Watershed Protection, Conservation Reserve Enhancement Program, etc.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Collect and evaluate SWRM grant applications from 72 counties and other grant cooperators and make funding decisions based on grant criteria.	X	X	X	X	X
Prepare preliminary and final allocations in cooperation with the DNR to make SWRM grant awards for county staff, landowner cost-sharing and other grants.	X	X	X	X	X
Update grant contracts and administer grant awards for 72 counties and other grant recipients.	X	X	X	X	X
Provide targeted SWRM cost sharing to resolve farm discharges, including administration of the Notice of Discharge/Notice of Intent cost sharing in cooperation with the DNR.	X	X	X	X	X
Track expenditures of SWRM cost-share funds by practice and county and evaluate long-term trends. Provide data of expenditures to meet match requirements for § 319 grants.	X	X	X	X	X
Ensure that SWRM cost-share funds are used to install practices that meet state standards.	X	X	X	X	X
Coordinate with federal programs, such as the conservation reserve enhancement program (see below).	X	X	X	X	X
Award grants to producer-led groups to implement conservation practices, conduct outreach, and engage in demonstration and research trials.	X	X	X	X	X
Administer Insurance Premium Rebate for planting cover crops to promote cover crop adoption outside of other state or federal incentives.	X	X	X	X	X
Administer Nitrogen Optimization Pilot Program to encourage producers to develop innovative approaches to optimize application of nitrogen for a duration of at least two growing seasons.	X	X	X	X	X

Objective: Land & Water Resource Management Plan Administration - Coordinate all aspects of the DATCP-led program to support locally led conservation statewide by (1) ensuring that counties have approved Land and Water Resource Management (LWRM) plans, (2) ensuring that counties submit current work plans, and (3) collecting LWRM implementation results and data for use in annual report					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Implement system for review of plans, including checklist and continuous review of process to make improvements.	X	X	X	X	X
Develop and implement a schedule for completion of 72 county plan revisions within a ten-year period and a schedule for review of plan implementation five years after each plan is approved.	X	X	X	X	X
Conduct annual survey for annual report and collect annual work plans for current year.	X	X	X	X	X
Assemble implementation data for annual report, including collection of performance data for each county based on prior year's work plan.	X	X	X	X	X
Approve county revisions to LWRM plan based on criteria in ch. 92, Wis. Stats., and ch. ATCP 50, Wis. Adm. Code.	X	X	X	X	X
Where data is available, coordinate LWRM plan revisions with the DNR to facilitate development of watershed plans consistent with the EPA's nine key elements.	X	X	X	X	X

Objective: Nutrient Management - Improve/protect water quality by promoting the statewide adoption of nutrient management performance standard.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Conduct training workshops including train the trainer workshops and farmer training to educate on nutrient management planning and SnapPlus software.	X	X	X	X	X
Support SnapPlus software development and updates.	X	X	X	X	X
Manage grants administration for cost-share funds and nutrient management planning support activities, including farmer education training and coordination with University of Wisconsin - Madison College of Agriculture and Life Sciences.	X	X	X	X	X
Assess quality of nutrient management plans through quality assurance review and feedback.	X	X	X	X	X
Maintain resources for farmers that assist in planning nutrient applications, including management planning restriction maps and a runoff risk indicator to inform when weather and soil conditions make spreading risky.	X	X	X	X	X
Engage in program and policy evaluation and strategic planning for the purposes of better capturing program goals and improving program delivery, with a focus on increasing adoption and implementation of nutrient management plans and addressing water quality impacts related to nutrient applications.	X	X	X	X	X
Assist the DNR on ch. NR 151, Wis. Stats. including Silurian bedrock targeted performance standards, P standards, and TMDL issues.	X	X	X	X	X

Objective: Farmland Preservation Program (f.k.a. Working Land Initiative) - Ensure that the program participants (farmers and counties) understand and implement state agricultural performance standards and related conservation practices.					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Implement and modify, as needed, the conservation compliance and certification process. As part of the process ensure counties and farmers have necessary information to meet compliance requirements.	X	X	X	X	X
Provide outreach and education about compliance framework.	X	X	X	X	X
Provide compliance assistance to counties.	X	X	X	X	X
Implement procedures for the review of local compliance efforts, conducting an average of 18 reviews of county programs every year and tracking county compliance activities.	X	X	X	X	X
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

Objective: Conservation Engineering - Provide technical and other support to county land conservation departments (LCDs) and others to ensure properly designed conservation practices					
Milestones	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**
Provide project-related technical assistance and support directly related to the installation of engineered BMPs.	X	X	X	X	X
Provide support and assistance to farmers and other landowners seeking to qualify for state and federal cost sharing, with a focus on projects involving complex engineered practices.	X	X	X	X	X
Perform targeted local education and outreach to enhance the skills of technical staff and ensure the quality of the BMPs they design and install.	X	X	X	X	X
Provide engineering assistance to local governments to support the administration of water quality ordinances.	X	X	X	X	X
Provide technical assistance to support the implementation of a watershed plan or watershed-related activities.	X	X	X	X	X
Provide coordination and administrative support to implement conservation programs, including the NRCS EQIP and CSP.	X	X	X	X	X

Appendix D Tools and Resources for Nonpoint Source Management

Erosion Vulnerability Assessment for Agricultural Lands (EVAAL): The DNR Bureau of Water Quality has developed the Erosion Vulnerability Assessment for Agricultural Lands (EVAAL) toolset to assist watershed managers in prioritizing areas within a watershed which may be vulnerable to water erosion (and thus increased nutrient export) and thus may contribute to downstream surface water quality problems. It evaluates locations of relative vulnerability to sheet, rill and gully erosion using information about topography, soils, rainfall and land cover. This tool enables watershed managers to prioritize and focus field-scale data collection efforts, thus saving time and money while increasing the probability of locating fields with high sediment and nutrient export for implementation of best management practices (BMPs).

Spreadsheet Tool for Estimating Pollutant Loads (STEPL) and Pollution Load Estimation Tool (PLET): The EPA offers the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) which calculates nutrient and sediment loads from different land uses and the load reductions that would result from the implementation of various BMPs at a variety of scales (i.e., watershed, fields, farms, project site, etc.). STEPL provides a virtual basic (VB) interface to create a customized spreadsheet-based model in Microsoft Excel. It computes watershed surface runoff; nutrient loads, including nitrogen, phosphorus, and 5-day biological oxygen demand (BOD5); and sediment delivery (USLE) based on various land uses and management practices.

The EPA released the Pollution Load Estimation Tool (PLET) in 2022 to help users reduce Microsoft Excel versioning and compatibility issues associated with STEPL. PLET provides a user-friendly web interface to create a customized pollutant loading model at the watershed, field or site scale. PLET model scenarios are saved online and can be shared with other PLET users. Like STEPL, PLET uses similar algorithms to compute surface runoff, nutrient loads and sediment delivery (RUSLE 2) based on various land uses and management practices

SnapPlus Nutrient Management Software: SnapPlus (**S**oil **n**utrient **a**pplication **p**lanner) is Wisconsin's nutrient management planning software, developed by the University of Wisconsin Soil Science Department with funding from the DNR, DATCP, and NRCS-WI. The program is designed to help farmers make the best use of their on-farm nutrients, as well as make informed and justified commercial fertilizer purchases. It includes calculators for fertilizer recommendations, field nutrient balances, soil erosion, the P Index (runoff P yield estimator), and checks to makes sure the plan follows Wisconsin Nutrient Management Standard 590 and additional requirements for WPDES-permitted farms. It connects to a web-based GIS-system, SnapMaps. Planners can draw or import field boundaries into SnapMaps, and the software will download required soil and nutrient application restriction area information to SnapPlus. SnapMap layers include high-leaching potential soils; areas with shallow water tables, groundwater, or fractured bedrock; and will buffer areas for surface and groundwater protection zones. Producers can also import their routine agronomic soil test results from state-certified laboratories into SnapPlus. By calculating potential soil and phosphorus runoff losses on a field-by-field basis, noting required setback distances and application rate restrictions, SnapPlus provides Wisconsin farmers with a tool for evaluating the effects of alternative crop management practices on their own fields. SnapPlus also assists agencies and certified crop advisors to evaluate compliance with statewide agricultural performance standards (ch. NR 151, Wis. Adm. Code) and is another tool for the development and implementation of nine key element plans. It includes assessments designed to support phosphorus and sediment water quality trading.

Model My Watershed: Model My Watershed is a watershed-modeling web app that enables citizens, conservation practitioners, municipal decision-makers, educators, and students to:

- Analyze real land use and soil data in their neighborhoods and watersheds
- Model stormwater runoff and water-quality impacts using professional-grade models

- Compare how different conservation or development scenarios could modify runoff and water quality

Model My Watershed is part of the WikiWatershed Toolkit, an initiative to help citizens, conservation practitioners, municipal decision-makers, researchers, educators, and students advance knowledge and stewardship of fresh water.

APLE Lots: The APLE-Lots model was developed to estimate P and sediment loss in runoff from cattle lots in Wisconsin. Research shows cattle lots can be significant sources of P loss for two reasons. First, the high concentration of cattle leads to high rates of manure deposition and P accumulation relative to pastures and cropland. Second, cattle holding areas can be partially or completely devoid of vegetation and have compacted soil or an impermeable (e.g., concrete) surface, which can lead to high rates of runoff. This combination of a concentrated P source and transport pathways creates the potential for high rates of P loss. APLE Lots can be used in areas with both non-point source P pollution issues and a high prevalence of cattle farms with outdoor lots. It can help assess the P loss impact of lots relative to other land uses on farms to see if alternative lot management is needed and cost-effective. This model is intended to be user-friendly and does not require extensive input data to operate.

Groundwater Transport and Nitrogen Fertilizer Decision Support Tools

To help achieve groundwater protection in the context of nutrient management planning, the Drinking Water and Groundwater Program is presently working with USGS and University of Wisconsin system partners to develop a series of Groundwater and Nitrogen Fertilizer Decision Support tools (DSTs). These tools are designed for communities, conservation departments, the agricultural community, and other stakeholders to identify groundwater-protective management options that align with existing nutrient management programs.

An early tool is an online nitrogen leaching calculator developed by the Central Wisconsin Groundwater Center using a mass balance approach (Meisinger and Randall, 1991). With minimal inputs (e.g., N fertilizer, crop yield, soil characteristics, etc.) the user can estimate the potential leachable nitrogen. Features include accounting for irrigation water nitrate, cover crops, and varying fertilizer rates. Validation studies show it performs well, especially for susceptible coarse textured soils and where regionally specific crop fertilizer rate trial is utilized. A presentation on this tool and method, including at the field scale as well as applied regionally to the Central Sands can be found at the UW Extension Agriculture Water Quality website.

To support nitrate mitigation and groundwater protection, a new DST is being developed that couple nitrogen loss estimates with groundwater transport modeling. This enhanced tool can project concentrations based on current nitrogen loads or, alternatively, determine the load reductions and timeframe needed to reach a target well concentration. While still under development, an early version has been recently published.

The current DST projects are expected to deliver several new tools over next several years. However, the idea behind this project is to enable ongoing development of new inventive decision support tools by multiple participants via the creation of a shared state resource: an open-source platform of vetted nitrogen management data, data services, and an open-source code (Figure D-1). With stakeholder buy-in, the platform will evolve through collaboration with agencies, researchers, producers, and other stakeholders, supporting shared responsibility in protecting drinking water and reducing nitrogen losses statewide.

Overall, the DSTs aim to estimate realistic nitrate leaching rates under common practices, evaluate reductions from conservation measures, and support the development of “conservation application rates”, for example by coupling Maximum Return to Nitrogen (MRTN) analysis with leaching estimates. These rates can be designed to protect groundwater and can be voluntarily adopted or supported by conservation funding. DSTs also may help identify tradeoffs in productivity, guide targeted interventions, and estimate time lags between management changes and water quality improvements.

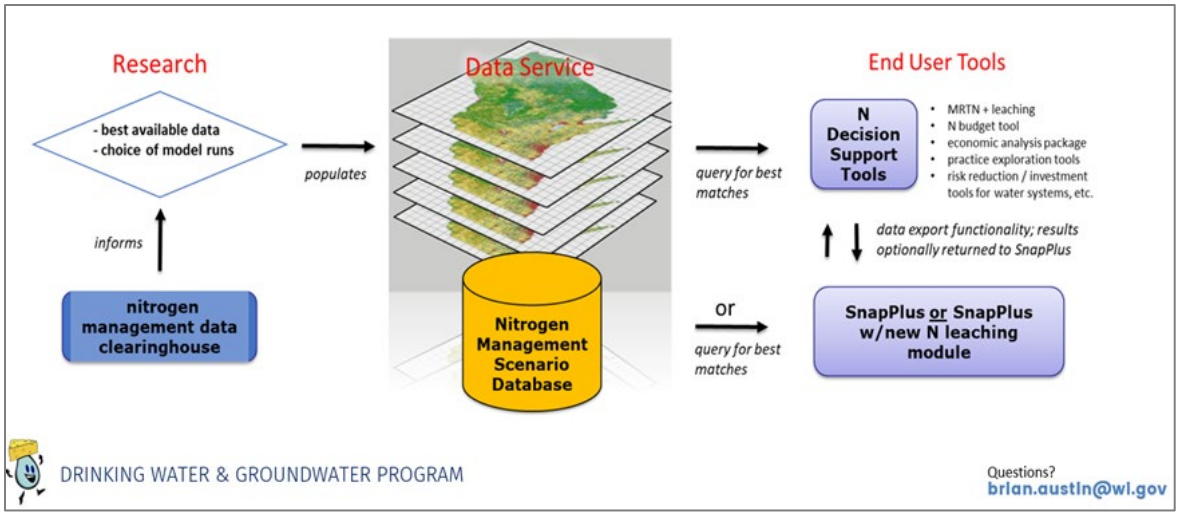

Figure D-1 Proposed framework for state collaboration and development.

The "proposed framework for state collaboration and continued development", and improvement of groundwater and nitrogen fertilizer decision support, is suggested as a way to sustain and build an "open source" state resource, where additional partners, research and data can be incorporated over time, and the provenance and quality of the data being used to feed the end-user software tools can be vetted and updated over time. The integration of additional partners within a coordinated statewide research, planning, outreach and implementation effort is needed to address the substantial challenge of preventing excess nitrogen losses to our waters. The current Groundwater and Nitrogen Decision Support Tool development partnership seeks to expand collaboration with agencies, researchers, outreach specialists, decision support application developers, and agricultural producers.

In source water protection areas where nitrate mitigation is needed, the goal is to couple an analysis of practices to reduce nitrate leaching potential with existing nutrient management planning tools already in use in Wisconsin. For example, a user might export nutrient management data from an updated version of Wisconsin's SnapPlus nutrient management software and process separately with a Nitrogen DST to explore options to reduce nutrient losses while maintaining productivity. Alternatively, future versions of SnapPlus could be programmed to include scripts that calculate potential nitrogen losses by pulling in best matching conditions data from a central nitrogen management scenario database that is pre-populated with best available data from field trials, the scientific literature and model runs that simulate effects of management practice and weather variation.

DNR Web Viewers:

The Water Condition Viewer (WCV) is an interactive mapping tool that focuses on water condition, monitoring, assessment, and management data.

The Surface Water Data Viewer (SWDV) is a DNR data delivery system that provides interactive web mapping tools for a wide variety of datasets, including chemistry (water, sediment), physical, and biological (macroinvertebrate, fish) data.

The Watershed Restoration and Protection Viewer (WRV) is a DNR interactive web mapping tool for exploring water quality improvement projects within TMDL, 9 Key Element Plans and HWHQW areas across Wisconsin.

Additional Groundwater Resources:

Wisconsin Geological and Natural History Survey (WGNHS) Maps and Data Look Up: WGNHS has been producing geologic maps, scientific reports, and more for over 125 years. Our publications catalog offers thousands of maps, reports, datasets, and other publications.

The Central Wisconsin Groundwater Center works with citizens and local governments throughout Wisconsin, particularly those in the central part of the state to manage the groundwater in Wisconsin wisely, through education, public information, applied research, and technical assistance.

The UW Stevens Point – Well Water Quality Viewer is an educational tool to help the public better understand Wisconsin's groundwater resources which many residents rely on for drinking water.

UW Stevens Point Center for Watershed Science and Education's Guide to Organizing a Community Drinking Water Testing and Educational Program

Appendix E Outreach & Education Efforts

Table E-1 Recent and Ongoing Information & Education Efforts

Educational Focus	Organizers	Results
Agricultural Performance Standards and Prohibitions: *Local, County and Regional Efforts*	County Land Conservation Staff, County-based NRCS staff, DNR, UWEX Natural Resource 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. Regional biennial meetings between DNR, County Land Conservation staff, and other partners as needed.
Agricultural Performance Standards and Prohibitions: *Statewide – Other*	DNR, DATCP, NRCS, Professional Nutrient Applicators Association of Wisconsin, University of Wisconsin, Wisconsin Technical Colleges, UWEX Natural Resource Educators, State Specialists, and County Educators. Nutrient Pest Management (NPM) Program UWEX Teams Discovery Farms Discovery Watersheds Winter Manure Spreading Media Campaign Runoff Risk Advisory Forecast	Factsheets, workshops, etc. http://dnr.wi.gov/topic/nonpoint/ Presentations/informational meetings for farm commodity organizations https://datcp.wi.gov/Pages/Programs_Services/NutrientManagement.aspx http://uwdiscoveryfarms.org/ https://extension.wisc.edu/natural-resources/ http://wpindex.soils.wisc.edu/ http://www.manureadvisorysystem.wi.gov/runoffrisk/index 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), Citizen Lake Monitoring Network (CLMN), Clean Boats, Clean Waters (CBCW), DNR, UWEX Natural Resource and County Educators, County LCD/LWCD staff, citizens and citizen groups.	Training workshops, newsletters, list serve, Facebook page Data collection and reporting https://wateractionvolunteers.org/ https://www3.uwsp.edu/cnr-ap/UWEXLakes/Pages/programs/clmn/default.aspx https://www3.uwsp.edu/cnr-ap/UWEXLakes/Pages/programs/cbcw/default.aspx
Confined Animal Feeding Operations	DNR, DATCP, UWEX, and County LCD/LWCDs.	Response to concerns expressed by agricultural and environmental groups and the state legislative committees dealing with agriculture CAFO compliance calendars http://dnr.wi.gov/topic/AgBusiness/CAFO/ Manure runoff prevention education
Conservation Professional Development Training (SITCOM)	DNR, DATCP, UWEX, NRCS, County LCD/LWCDs, commodity and interest groups.	Workshops, field days, conferences/meetings, publications http://wisconsinlandwater.org/training/state-interagency-training-committee

Educational Focus	Organizers	Results
Forestry BMPs	DNR Forestry Division, UWEX Natural Resource Educators, UWEX Forestry Specialists, Wisconsin Woodland Owners Association, Forest Industry Safety & Training Alliance (FISTA), land trusts, and professional forestry organizations.	Wisconsin Woodland Assistance Website: www.woodlandinfo.org "Learn About Your Land" in person classes, online classes, DVD versions, Facebook page, blog for woodland owners Wisconsin Woodland Landowners Conferences and North Central Land Stewardship Conferences Funding mechanism that results in annual forestry education through WEEB https://www.uwsp.edu/cnr-ap/weeb/Pages/about/index.aspx LEAF – DNR K-12 Education Program and UWSP School Forest Education Assorted state and local workshops, newsletters and conferences
Healthy Lakes & Rivers	DNR led effort with assistance from UW Extension – Lakes.	Statewide initiative to improve habitat and water quality with five best practices, technical assistance, and possible grant funding for shoreland properties. https://healthylakeswi.com/
Impaired Waters/TMDLs	DNR led effort with assistance from UWEX Natural Resource Educators, consultants, and local groups.	Website https://dnr.wisconsin.gov/topic/SurfaceWater/ConditionLists.html https://dnr.wisconsin.gov/topic/TMDLs Public input webinars Informational meetings Factsheets
Urban Performance Standards: *Construction Site Erosion*	DNR, UWEX Natural Resource Educators, UWEX Specialists, consulting firms, municipal staff.	Technical workshops Webinars Local materials, media campaigns
Urban/Non-Ag. Performance Standards: *Stormwater*	Collaborative effort between UWEX, DNR and local partners.	Rain Garden Education https://dnr.wisconsin.gov/topic/Stormwater/raingarden Regional collaboratives have developed extensive local workshops, materials, media campaigns, tours, etc.
Watershed Projects	DNR, DATCP, UWEX, NRCS, County LCD/LWCD's, the River Alliance, Trout Unlimited, and local watershed groups.	DNR's online watershed reports. https://dnr.wisconsin.gov/topic/Watersheds Funds obtained for local projects such as restoration, BMP installation, education
Wisconsin Master Naturalist Program	UWEX	https://naturalresources.extension.wisc.edu/programs/wisconsin-master-naturalist-program/ Training curriculum, public education
Youth Education Groups	Future Farmers of America, 4-H, Wisconsin Land & Water Youth Education Committee	Youth education and outreach
Demonstration Farms	Pioneer Farms, UWEX, Counties, NRCS Demonstration Farms Network	Field demonstrations, data collection, public outreach
Nitrogen Use Efficiency Trials	Discovery Farm	Field demonstrations, data collection, public outreach https://uwdiscoveryfarms.org/on-farm-projects/nitrogen-use-efficiency/

Educational Focus	Organizers	Results
Nitrogen Optimization Pilot Program (NOPP)	DATCP	Field demonstrations, data collection, public outreach https://datcp.wi.gov/Pages/CommercialNitrogenOptimizationPilotGrantProgram.aspx
Drainage District Program	DATCP	https://datcp.wi.gov/Pages/Programs_Services/DrainageTraining.aspx Presentations and outreach
Drainage and Tiling Workshops	UWEX	Workshops Public Outreach & Education