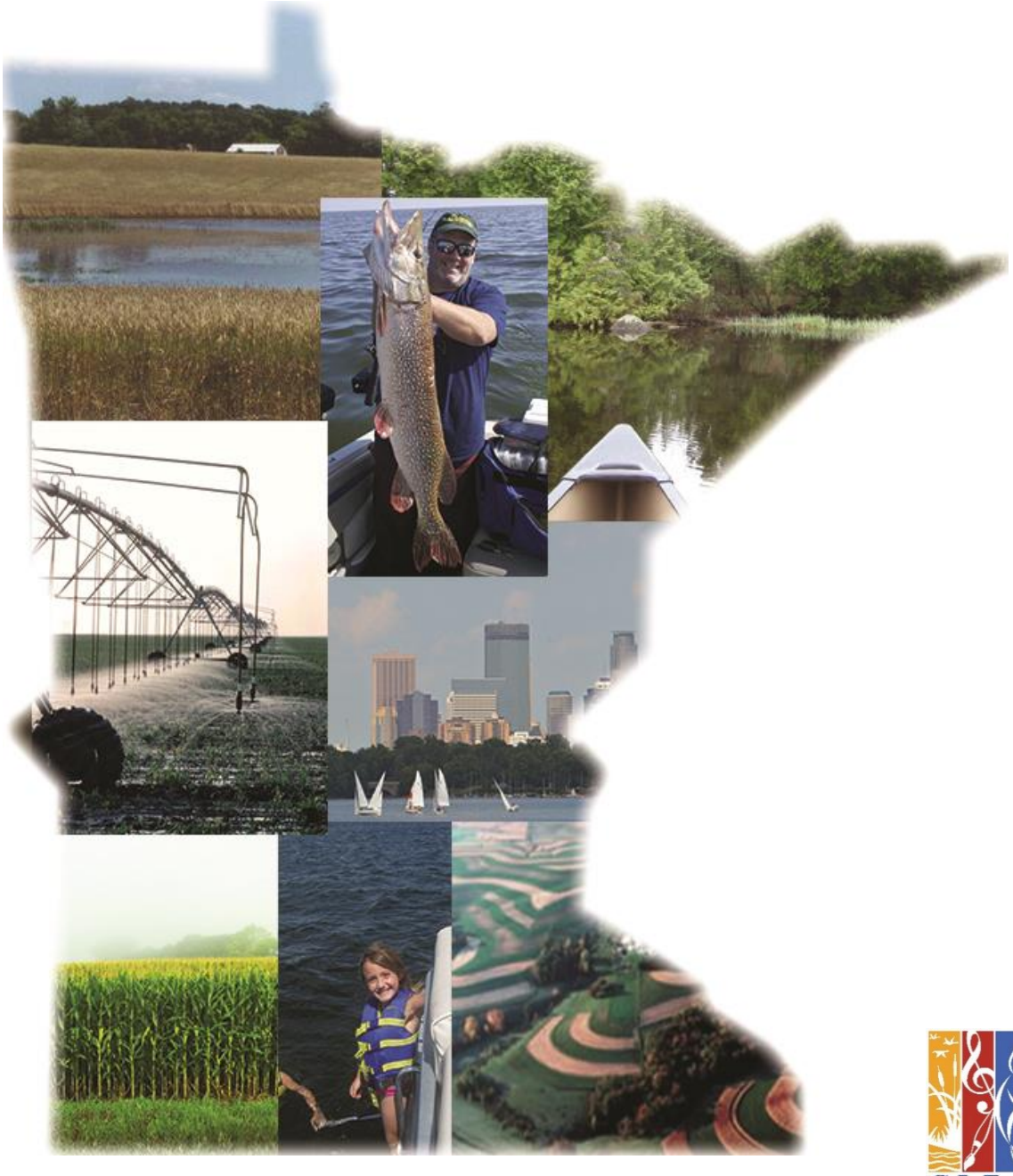
2016 Nonpoint Priority Funding Plan

July 2016 – June 2018



June 27, 2016

CLEAN WATER LAND & LEGACY AMENDMENT

The final version of this draft document is posted on BWSR's Nonpoint Priority Funding Plan web page at www.bwsr.state.mn.us/planning/npfp as of July 1, 2016.

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Introduction

The Nonpoint Priority Funding Plan (NPFP) is a criteria-based process to prioritize Clean Water Fund nonpoint implementation investments. It provides state agencies with a coordinated, transparent and adaptive method to ensure that Clean Water Fund implementation allocations are targeted to cost-effective actions with measurable water quality results.

Version 1.0 of the NPFP (Appendix A) was foundational and continues to provide guidance on how to prioritize nonpoint implementation actions at the State level. With only one fiscal year of funding distributed thus far, this update does not evaluate, reassess or change the three high level State priorities or the nine criteria established in the first version.

The primary focus of this update is to:

- Provide specific examples on the progress made to date on how the NPFP is being used to guide and prioritize nonpoint implementation actions at the State level.
- Provide updated financial information from the FY18-19 biennial budget request (BBR).

The intent of this update is not to provide accountability of Clean Water Fund programs, nor track the progress made using Clean Water Funds. Two case studies are provided (on Page 12; in Section 4 of this update) as examples of efforts currently underway; demonstrating how statewide water quality goals translate to local sub-watershed actions.

Section 1: Nonpoint Priority Funding Plan Summary

1.1 Purpose

Preparation of a Nonpoint Priority Funding Plan (NPFP) is required by the *Clean Water Accountability Act* (Act). The Act placed into law the Minnesota Pollution Control Agency (MPCA) Watershed Restoration and Protection Strategy (WRAPS), required the MPCA to produce a biennial report of progress in achieving pollutant reductions, and required the Minnesota Board of Water and Soil Resources (BWSR) to prepare a priority funding plan to prioritize how Clean Water Funds are used; with updates required on both of these reports every two years.

Specifically, the Act amends Minnesota Statutes 2012, section 114D.50 to read:

Subd. 3a. Nonpoint Priority Funding Plan.
(a) Beginning July 1, 2014, and every other year thereafter, the Board of Water and Soil Resources shall prepare and post on its Web site a priority funding plan to prioritize potential nonpoint restoration and protection actions based on available WRAPS, TMDLs and local water plans. The plan must take into account the following factors: water quality outcomes, cost-effectiveness, landowner financial need, and leverage of nonstate funding sources. The plan shall include an estimated range of costs for the prioritized actions.
(b) Consistent with the priorities listed in section 114D.20, state agencies allocating money from the clean water fund for nonpoint restoration and protection strategies shall target the money according to the priorities identified on the nonpoint priority funding plan. The allocation of money from the clean water fund to projects eligible for financial assistance under section 116.182 is not governed by the nonpoint priority funding plan.
M.S. 2013, Chapter 137, Article 2, Section 14.

1.2 Version 1.0

Version 1.0 of the NPFP (June 25, 2014) was foundational and continues to provide guidance on how to prioritize nonpoint implementation actions at the State level. The NPFP sets forth:

- High-level State priorities for investing Clean Water Fund nonpoint implementation funding,
- Criteria for evaluating proposed activities for purposes of prioritizing nonpoint funding,
- High-level *Keys to Implementation*, and
- Estimated costs for implementing nonpoint pollution reduction practices and activities.

BWSR and other State agencies that use the Clean Water Fund to implement nonpoint source implementation actions are required to use the NPFP when making nonpoint investment decisions. The NPFP does not include a single scoring system with weighted criteria; instead it allows State agencies the flexibility to apply the NPFP priorities and criteria in ways that meet their strategic and legislative goals.

1.3 Scope of Update

Only one fiscal year of funding has been distributed since the first publication of the NPFP. As a result, the three high level State priorities and the nine criteria are not being reassessed or changed in this update. Version 1.0 of the NPFP will continue to provide guidance on the prioritization of Clean Water Fund nonpoint implementation allocations for the July 1, 2016 to June 30, 2018 time frame (Appendix A). One focus of this update is to highlight progress made to date including:

- Status update from State agencies using the NPFP;
- MPCA's Watershed Restoration and Protection Strategies and program progress;
- BWSR's watershed-based local water plans and program progress;
- Minnesota Department of Health's (MDH) Groundwater Restoration and Protection Strategies and program progress; and
- New and improved tools for targeting management practices and measuring practice effectiveness.

Updated financial information from the FY18-19 biennial budget request (BBR) is included in this report. And finally, two case studies were selected to show how Comprehensive Watershed Management Plans use science-based information from Total Maximum Daily Load Studies (TMDLs) and Watershed Restoration and Protection Strategies (WRAPS) to produce local lists of prioritized, targeted actions; capable of achieving measurable results.

1.4 High Level State Priorities and Criteria

Leadership from the State agencies that are tasked with protection and restoration of Minnesota's water resources came together and agreed on a set of high-level State priorities that align their programs and activities, working to reduce nonpoint source pollution as follows:

- Restore those impaired waters that are closest to meeting State water quality standards.
- Protect those high-quality unimpaired waters at greatest risk of becoming impaired.
- Restore and protect water resources for public use and public health, including drinking water.

The first version of the NPFP established the following nine criteria as a guide for evaluating program or project activities that are under consideration for receiving nonpoint implementation funding from the Clean Water Fund. Integrating the criteria into decision-making ensures that the uses of Clean Water Funds are cost-effective and will result in measurable water quality improvements. Currently, drinking water management is integral to both groundwater and surface water restoration and protection efforts. Over the next biennium, criteria will be evaluated in relationship to how they align with groundwater and drinking water projects.

- **Aligned with State Priorities:**
  Alignment of proposed activities with State priorities.
- **Locally Prioritized and Targeted:**
  Effective prioritization and targeting of proposed activities at the watershed scale.
- **Measurable Effects:**
  Capability of the proposed activities to produce measurable results at the watershed scale.
- **Multiple Benefits:**
  Secondary water quality or other environmental benefits of the proposed activities.
- **Longevity:**
  Expected lifespan of the proposed activities with proper maintenance or, for annual management practices, assurance that practices will be maintained for a specified period of time.
- **Capacity:**
  Readiness and ability of local water management authorities and partners to execute the proposed activities.
- **Leverage:**
  All non-Clean Water Fund dollars contributed for every dollar of Clean Water Fund money. Non-Clean Water Fund dollars include non-State dollars as well as State dollars from sources other than the Clean Water Fund.
- **Cost-Effectiveness:**
  Cost per unit of pollutant load reduced or prevented as compared against specific water quality goals – Clean Water Fund cost and total project cost.
- **Landowner Financial Need:**
  Increased financial assistance for low-income landowners.

Section 2: Update

While there have been advancements in the development of Watershed Restoration and Protection Strategies (WRAPS), watershed-based local water plans, and other water resource data since the first version of the NPFP was published, there is not yet a place in the State where all these pieces align. Noteworthy progress of key actions necessary for meeting clean water goals, in addition to the strategic allocation of funding, is detailed in this section.

2.1 Agency Status Update: Criteria and High Level State Priorities

The NPFP provides State agencies receiving nonpoint implementation Clean Water Funds with a process for working together to align program decisions and ensure that Clean Water Funds are used efficiently and effectively. The process can help agencies identify gaps and needs in existing programs, and connects project-related funding decisions to cost-effective water quality outcomes. Although not all agencies receive on-the-ground implementation dollars through the Clean Water Fund, their program work aligns well with, and supports, the purpose of the NPFP.

This status update is intended to share how BWSR and other agencies are working to integrate the high-level State priorities and nine criteria into their program decisions. This does not track progress made with Clean Water Funds. The Clean Water Performance Report helps clarify connections between Clean Water Funds invested, actions taken and outcomes achieved. Read the report at: https://www.pca.state.mn.us/sites/default/files/lrp-f-3sy16.pdf

Board of Water and Soil Resources

In 2016, BWSR began using the NPFP in grant and easement programs that invest funding in on-the-ground conservation. In the Clean Water Fund Request for Proposals, BWSR emphasized the three high-level State priorities and added Cost Effectiveness to the Clean Water Fund Competitive Grant and Targeted Watershed ranking criteria. The criteria *aligned with State priorities*, *locally prioritized* and *targeted, measurable effects, and multiple benefits* have previously been and remain in the ranking criteria. *Leverage* and *capacity* are addressed through eligibility requirements and *longevity* through program policy. *Landowner financial need* is addressed through providing increased financial assistance for low-income landowners.

Minnesota Department of Agriculture

In 2016 the MDA began using the NPFP to document how their Clean Water Fund projects and activities support specific statewide goals and keys to implementation. The Department of Agriculture's current Clean Water Fund implementation activities, including technical assistance, research and groundwater protection, align closely with the NPFP.

Metropolitan Council

The Metropolitan Council does not receive nonpoint source implementation funding from the Clean Water Fund. However, Clean Water funds are used to fund multiple efforts in water supply planning and water conservation. For example, Clean Water Funds were used in FY 16-17 for "Water Demand Reduction Grants." In addition, the Metropolitan Council receives some Clean Water Funds from the MPCA to support monitoring efforts on metropolitan area streams through the Watershed Outlet Monitoring Program II (WOMPII). These monitoring results have been used to assess measurable changes in stream water quality over time.

Minnesota Department of Natural Resources

The DNR uses the criteria in the NPFP to determine priorities for implementation work in the following ways:

1. Focusing forest stewardship efforts in watersheds of Tullibee lakes, which are which are high quality lakes that are sensitive to degradation due to land use changes. The program aims to protect water quality by keeping the forests in these watersheds healthy. The program is using a similar targeted approach in the Root River Watershed, and
2. Determining priorities for where technical assistance on restoration projects is provided and ensuring the projects use science-based information, are a capable of achieving measurable effects and suggesting strategies that will have multiple benefits.

Minnesota Department of Health

The Department of Health's Clean Water Fund-supported initiatives focus primarily on drinking water protection and most closely align with the high-level State priority to restore and protect water resources for public use and public health, including drinking water.

Minnesota Pollution Control Agency

The High Level State Priorities of the NPFP were used to develop the draft protection strategy for lakes and will also be reviewed for the development of a protection strategy for streams. The MPCA created a protection strategy for lakes in 2015 to help systematically identify protection opportunities for unimpaired but possibly vulnerable lakes in WRAPS projects, and it will be piloted in 2016/2017.

MPCA Clean Water Funds are used for statewide monitoring and assessment, HSPF modeling of each HUC8 watershed, identification of stressors and sources of nonpoint source pollution, development of TMDL studies, research and tool development projects, and of course, the WRAPS. These strategies must be prioritized for implementation funding according to the nine criteria in the NPFP, as required by State statute.

2.2 Keys to Implementation: Status Updates

The following discussion includes updated, supplemental information for State-level programs and activities working to reduce sources of nonpoint pollution and are identified in the *Keys to Implementation;* from the NPFP, 2014-2016: http://www.bwsr.state.mn.us/planning/npfp/.

Accelerate Watershed Scale Implementation

Implementation will be most effective when Clean Water Fund money for the highest-priority actions follows local government adoption of watershed-based local water plans.

Comprehensive Watershed Management Planning Program

In 2015, the Minnesota Legislature passed Minnesota Statutes §103B.801, the Comprehensive Watershed Management Planning Program. This legislation defined the purposes and further outlined the structure for the One Watershed, One Plan Program.

In 2016, BWSR adopted the One Watershed, One Plan *Content Requirements* and *Operating Procedures*. Adoption of these two documents makes the program available to any local governments in the State who wish to initiate a One Watershed, One Plan project. In addition, BWSR released for public comment, a plan outlining a strategic approach for achieving the legislative goal of statewide transition to One Watershed, One Plan by 2025.

One Watershed, One Plan Pilot Projects

All of the following pilot projects, except for the North Fork Crow Pilot Watershed, are nearing the completion of their first draft One Watershed, One Plan and moving in to the plan review phase:

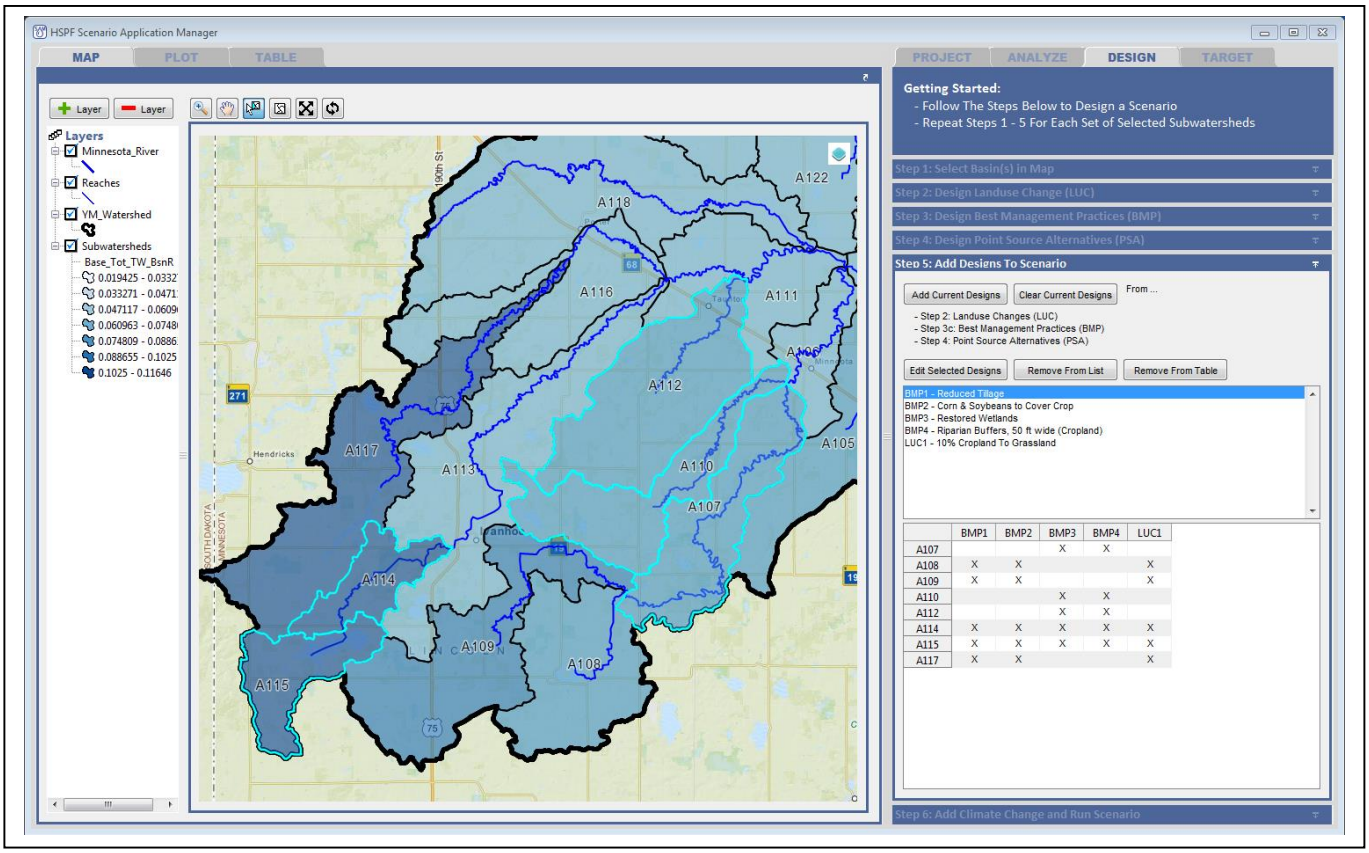
- Root River Pilot Watershed (see case study on page 11 for more information about this project)
- Red Lake River Pilot Watershed
- Lake Superior Pilot Watershed
- Yellow Medicine Pilot Watershed
- North Fork Crow Pilot Watershed

Prioritize and Target at the Watershed Scale

The key to developing watershed-based project implementation schedules and estimated costs is to first prioritize surface and groundwater strategies at the watershed scale and then target practices within subwatersheds or similar-scale units, using the best available science.

Surface Water Quality Models & Tools Interagency Discussion

Models and tools are useful for watershed prioritization and for identifying potential impacts to surface and groundwater. They are often capable of targeting which actions, locations, and management practices are most



An example of HSPF Scenario Application Manager. HSP- SAM was designed to provide a desktop method for generating multiple implementation scenarios to test the impact of various BMPs in various subwatersheds, and compare the costs and benefits of the scenarios. MPCA uses HSPF-SAM when developing strategies found in WRAPS.

effective at addressing water quality goals and project objectives. Models and tools are used to project outcomes of specific actions, locations, and management practices to forecast measurable results. Using these models and tools together with the best available science can efficiently inform Minnesota's Water Quality Framework.

In order to develop a broader understanding of how Minnesota's agencies are using models and tools for watershed prioritization and implementation targeted to critical areas that provide the largest water quality benefits, the Clean Water Fund Interagency Research Team hosted the Surface Water Quality Models & Tools Interagency Discussion in February, 2016. The event, consisting of 14 coordinated presentations and attended by over 250 participants, promoted dialogue and enhanced collaboration between State employees involved in Minnesota's Water Management Framework activities through the sharing of information about surface water quality models and tools currently being used or funded by agency programs.

Measure Results at the Watershed Scale

Similar to prioritizing and targeting, measuring results is best achieved at the watershed scale. Watershed-based local water plans capable of producing measurable results are essential to adaptive management and accountability to the public.

Accountability Report

As required by the Act, MPCA will provide the first accountability report in July 2016, and every other year thereafter. The report will describe the progress toward implementation milestones for Minnesota watersheds that align with completed WRAPS. In the future, MPCA will relate the progress made in the watersheds to the reduction strategies identified in the Minnesota Nutrient Reduction Strategy Report, and other statewide efforts.

Prioritization, Targeting, and Measuring Water Quality Improvement Application (PTMA)

One new tool that is now available, and leverages scientific data, is the PTMA. The PTMA is a GIS web and desktop application that can be used by local decision makers to prioritize subwatersheds for implementation; target specific fields for best management practices; and project water quality improvement by cost and expected load reductions within the watershed. An example of the PTMA is included in the Root River One Watershed, One Plan case study.

Use Science-Based Information

A key to developing prioritized implementation schedules for projects with targeted actions, and measuring results of these actions, is to incorporate the wealth of science-based information, summarized in WRAPS, other technical reports and practice effectiveness research into local water planning and project development processes.

The goal of the One Watershed, One Plan Program is to align local water planning on major watershed boundaries with watershed-based WRAPS, GRAPS and State strategies towards prioritized, targeted, and measurable implementation plans.

Watershed Restoration and Protection Strategies (WRAPS)

According to the MPCA's 2016 Environmental and Performance Measures' Dashboard (https://www.pca.state.mn.us/sites/default/files/Dashboard-MPCA-2016-web.pdf), watershed monitoring has been completed in 86% of the 80 watersheds. By 2019 the MPCA expects to have all watershed monitoring data collected. Currently, all 80 watersheds have WRAPS projects underway. In 2018, the next 10-year cycle will begin to gather additional water quality monitoring data and determine if the water quality in these watersheds has improved.

Protection Strategies in WRAPS

In 2015, a ranked priority lake list based on sensitivity to additional phosphorus loading was published. For each lake, a phosphorus loading reduction target was computed with the expectation that local governments might find the estimates useful for their lake conservation efforts. The goal was to identify lakes that were not resilient to additional phosphorus loading; the most sensitive lakes identified would most likely see substantial declines in

water clarity with increasing nutrient pollution load. Guidance has been developed to help systematically identify protection opportunities in WRAPS projects that follow the priorities outlined in the NPFP. The DNR data, information, and expertise are also used in developing these protection strategies.

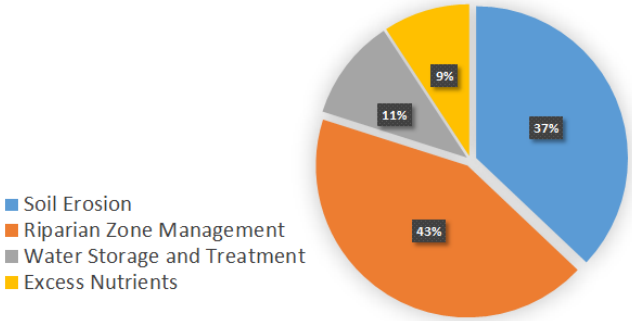
Groundwater Restoration and Protection Strategies (GRAPS)

GRAPS reports are an analogue to the WRAPS reports. The GRAPS Program is an interagency effort led by the Minnesota Department of Health. While the focus of the WRAPS reports are on assessment and diagnostic work that can be used to prioritize actions and strategies for implementation relative to surface water, the emphasis for GRAPS reporting is groundwater and drinking water resources.

These reports will summarize known conditions based on existing data and information from State agencies. One of the primary objectives is to provide a baseline understanding of groundwater conditions and associated resource management concerns for the watershed. The expectation is that the information and strategies identified will aid local prioritization and targeting efforts to protect and restore groundwater resources. Two pilot GRAPS reports are currently underway, the Pine River and the North Fork Crow watershed.

Build Local Capacity

The work of nonpoint implementation rests on the shoulders of local governments. As WRAPS proliferate and local water planning begins shifting to a watershed-based framework, success is dependent on highly capable local government staff to develop, prioritize, and target projects at the local level.



Soil and Water Conservation District Capacity Funding by Resource Areas

Build Staffing Capacity for Soil and Water Conservation Districts (SWCD)

SWCDs received $22 million in increased funding for the FY 2016-2017 biennium to build local capacity. The increase recognizes the role SWCDs play in providing technical assistance to private landowners and focuses on increasing SWCD capacity to address four resource concern areas—Soil Erosion, Riparian Zone Management, Water Storage and Treatment, and Excess Nutrients.

Technical Service Area (TSA) Shared Services

Funding was made available for the FY 2016-2017 biennium to help SWCDs provide technical and engineering assistance to landowners. These funds are used for building regional capacity across the State to efficiently accelerate on-the-ground projects and practices that improve or protect water resources.

Technical Training and Certification Strategy

BWSR, the Minnesota Association of Soil and Water Conservation Districts, the Minnesota Association of Conservation District Employees, and the Natural Resources Conservation Service are committed to providing resources for increased technical training and certification of local SWCD staff to maintain and enhance conservation. A State Technical Training Coordinator was hired in 2016.

Rock County's Doug Bos talks with BWSR staff. Thanks to increased capacity funding, the county will be able to accelerate the amount of conservation it can put on the ground.

Maximize Existing Laws and Regulations

Customary approaches to nonpoint pollution implementation include regulation as well as financial incentives and education. A key to developing effective Watershed Restoration and Protection Strategies is maximizing the effectiveness of existing laws and regulations.

Buffer Law

Governor Mark Dayton's landmark buffer initiative was signed into law in 2015 and amended in 2016. The law establishes perennial vegetation buffers along rivers, streams, and ditches that will help filter out phosphorus, nitrogen, and sediment. It provides flexibility and financial support for landowners to install and maintain buffers and boost compliance with buffer laws across Minnesota. Guidance is available on the BWSR website and will be updated and expanded as appropriate: http://www.bwsr.state.mn.us/buffers/.

Soil Erosion Law

Enacted in 1984, Minnesota's Soil Erosion Law (Minn. Stat. 103F.401-.455) set forth a broad public policy regarding excessive soil loss. This law prohibited excess soil loss only through county ordinance. In 2015, the requirement for a local ordinance was removed, so now affected property owners or elected officials can file a complaint. The law now also provides for enforcement through the administrative penalty order process.

Support Innovative Non-Regulatory Approaches

One of several keys to leveraging Clean Water Fund implementation money is to support the development of market-driven and reward-driven approaches.

Minnesota Agricultural Water Quality Certification Program (MAWQCP)

This program is the product of a state-federal partnership that includes the MDA, MPCA, BWSR, DNR, the U.S. Department of Agriculture's Natural Resource Conservation Service and the U.S. Environmental Protection Agency. The MAWQCP has transitioned from its initial four pilot areas to a program available to all farmers statewide. It is a voluntary program that supports the implementation of conservation practices on a field-by-field, whole-farm basis through its process of identifying and mitigating agricultural risks to water quality. The MAWQCP is incorporated in the Minnesota Nutrient Reduction Strategy as a key strategy for increasing the adoption of Minnesota's Agricultural Best Management Practices.

Integrate Hydrologic Management Systems into Watershed Management Plans

Much of Minnesota's natural hydrology has been altered for agricultural, forestry, urban/suburban, and industrial development. Increased runoff volumes and rates – due to drainage, removal of perennial vegetation, surface water alterations, and the addition of impervious surfaces – contribute significantly to water quality problems.

Multipurpose Drainage Management Program

This BWSR Clean Water Fund grant program was established in 2016 to target multipurpose drainage management for priority Chapter 103E drainage systems and the associated watersheds. Specific purposes include reducing erosion and sedimentation, detaining runoff to reduce peak flows and flooding, improving water quality and decreasing vulnerabilities to extreme rainfall, while protecting drainage system efficiency and reducing drainage system maintenance. This program integrates public and private funding for these purposes through project partnerships between county and watershed district drainage authorities and soil and water conservation districts.

Section 3: Estimated Cost Updates

Biennial Budget Request

The NPFP law states "the plan shall include an estimated range of costs for the prioritized actions." Meeting this requirement will be a challenge until the State is blanketed by watershed-based local water plans that incorporate the best available WRAPS and pre-WRAPS information and contain project implementation schedules with estimated costs. Presently the best source of data for estimating nonpoint implementation costs for the State is BWSR's Biennial Budget Request (BBR).

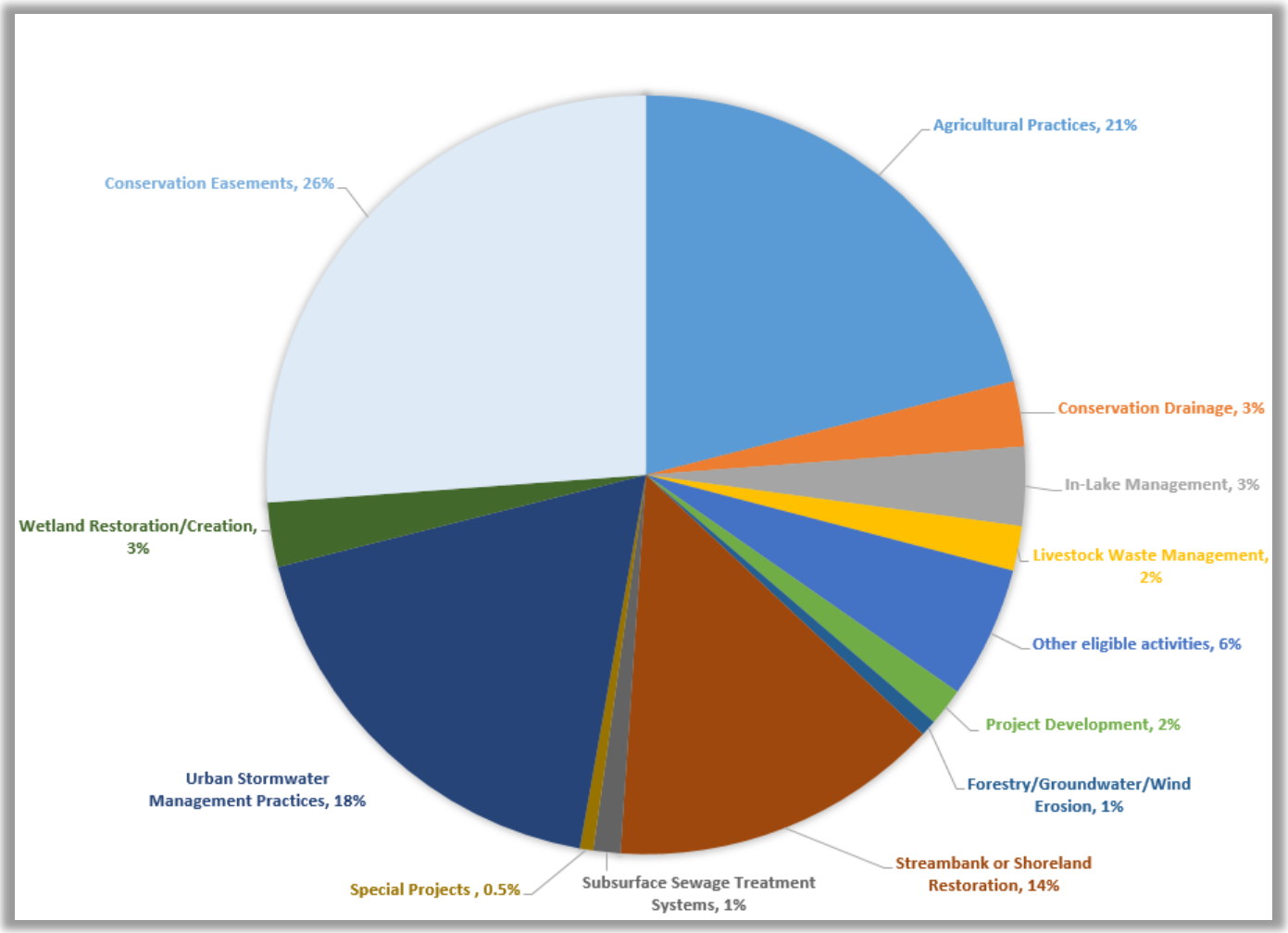


Figure 1. Statewide estimated costs to implement various Clean Water Fund eligible nonpoint activities during the FY 2018-19.

The BBR is a process for collecting data voluntarily submitted by local governments based on local water plans. The Biennial Budget Request reflects the diversity of water resource and conservation concerns across Minnesota. Local governments are asked to provide their best estimate of the projects and activities that could be implemented during the next biennium along with the most likely source of the funds available. The bulk of the requests are for existing programs, including regulatory administration and technical/financial assistance to landowners along with Clean Water Fund opportunities with a primary emphasis on water quality. For all categories and programs the amount requested across the State exceeds the anticipated amount of funding currently available.

To be included in the estimate for the NPFP, projects have to directly address water quality priorities or strategies identified in local water plans, TMDL studies and implementation plans, WRAPS, surface water intake plans, or wellhead management plans. They should be able to realistically be "shovel ready" and accomplished during the FY 2018-19 biennium. In addition to data about activities eligible for funding from BWSR, the BBR also collects data about activities eligible for funding from other State agencies.

For the FY 2018-19 biennium, the total estimated statewide cost to implement a wide range of high-priority, shovel-ready nonpoint activities that are eligible for funding through appropriations to BWSR and other State agencies is more than $554 million or $277 million per year (Fig. 1). Clean Water Fund implementation requests make up just over half of that total amount: $230 million for the biennium or $115 million per year. Local government participation in statewide data collection, community engagement, and future water management planning using Clean Water Funds is included in the overall BBR request.

Clean Water Fund Competitive Grants

The BWSR Clean Water Fund Competitive Grants Program publishes an annual request for proposals for projects that protect, enhance, and restore water quality in lakes, rivers, and streams in addition to protecting ground water and drinking water sources from degradation. To be eligible, proposals must demonstrate significant, measureable project outputs and outcomes that will help achieve these water quality objectives.

Using the Nonpoint Funding Plan criteria, BWSR generates a prioritized list of recommended projects.

Specifics about projects receiving CWFs, dispersed through BWSR, are available at: http://www.bwsr.state.mn.us/cleanwaterfund/legislative_rpts/2016_CWF_Rpt_to_Legislature.pdf.

Section 4: Case Studies

Minnesota is still early in the process of transitioning to statewide coverage of comprehensive watershed management plans. These plans, grounded in science-based information collected and analyzed by the State, are a critical part of Minnesota's Water Management Framework. The result will be watershed-based implementation actions that align with State priorities, are targeted to the most critical areas of the landscape, and are capable of achieving measurable water quality results. When the statewide cycle is complete, each watershed planning boundary will have a detailed 10-year implementation plan.

While there is not statewide coverage yet, several local governments throughout the State do have comprehensive watershed management plans. The two case studies below are provided as examples of efforts currently underway, demonstrating how statewide water quality goals translate to local sub-watershed actions.

Root River One Watershed, One Plan Pilot Project

The Root River in Southeast Minnesota contains some of the most diverse natural and geologic resources in Minnesota. This diversity makes the Root River excellent for trout fishing, hunting, hiking and biking. With its scenic bluffs and deeply carved river valleys, the outdoor recreation associated with the river is a significant driver of the local economy, drawing visitors from the Upper Midwest. However, the very features that make this river system unique also make it vulnerable to nonpoint source pollution.

The watershed is underlain by karst geology characterized by thin soils over soluble limestone and dolomite bedrock. Karst landscape features include sinkholes, springs, caves and disappearing streams that provide complex interconnections between surface water and groundwater. Surface contaminants can bypass soil filtration processes and quickly reach karst aquifers used for drinking water.

The steep landscape is susceptible to heavy water runoff, soil erosion, and nutrient leaching, which if unchecked could degrade the river. Keeping the Root River healthy is a top priority for local governments in Southeast Minnesota. Doing so will help sustain and enhance recreation opportunities and tourism while preventing some of the worst impacts of flooding.

Watershed Planning

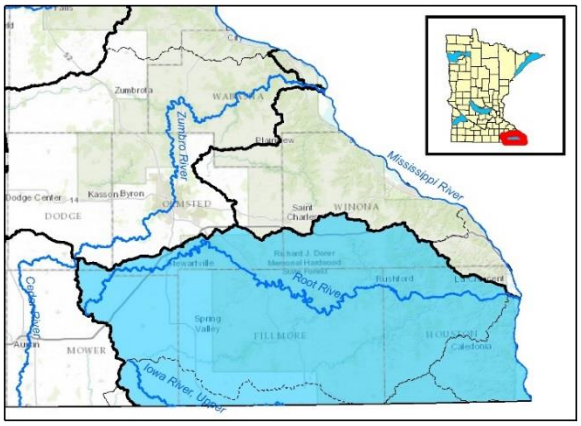
In 2014, the Root River watershed was selected by BWSR as a One Watershed, One Plan pilot project; to demonstrate the transition from county-based water management planning into a comprehensive watershed management approach. The Root River Watershed One Watershed, One Plan is being developed by a coalition of counties, soil and water conservation districts, and the Crooked Creek Watershed: http://www.fillmoreswcd.org/rootRiverWatershed.html.

The expected project completion date is in the fall of 2016. This plan builds on existing efforts, including current local water plans, state and local knowledge, and a systematic, science-based approach to watershed management. The One Watershed, One Plan will be completed by 2016, and local governments will implement it throughout the 10-year timeframe of the plan.

Science-Based Watershed Assessment

As part of Minnesota's Watershed Approach, intensive watershed monitoring and stressor identification were performed for the Root River watershed by the MPCA beginning in 2008. Results from this monitoring data evaluation were used to inform the WRAPS, currently in draft. These strategies, including associated scales of adoption and timelines, are based on what is likely needed to meet the water quality goals for restoration and protection within the Root River watershed.

The primary assessment findings indicate that nonpoint source pollution is the main source of water quality problems in the watershed. Recommendations include reducing sediment, bacteria, and nitrate levels as well as restoring habitat. For the purposes of this case study, a subwatershed of the Root River, the South Fork, will be the focus. In the South Fork Root River, poor macroinvertebrate communities and high suspended sediment concentrations are the main issues identified in the draft WRAPS. Nitrate was also identified as one of the stressors for the macroinvertebrate communities.



Reduction Goals

The WRAPS (currently out for public comment) was not final when the One Watershed, One Plan pilot began, so numeric reduction goals are not yet established. However, reduction goals are incorporated into the Plan using surrogate water quality goals from the Minnesota's Nutrient Reduction Strategy. The Minnesota Nitrogen Fertilizer Management Plan includes groundwater goals that are applicable to the watershed. Those goals are reflected in the current draft of the plan.

For example, for the South Fork Root River planning region, water quality goals were set at 45% reduction in sediment and 45% reduction in nitrogen to meet identified water quality goals.

Strategies

The draft WRAPS identified the following primary strategies for improving water quality within the South Fork Root River:

- Pasture and Nutrient Management
- Increased Living Cover
- Soil Erosion Control and Improving Soil Health
- Water Retention and Treatment
- Streambank Protection

One Watershed, One Plan

Establishing plans with clear implementation timelines, milestones, and cost estimates that will address the largest resource threats and provide the greatest environmental benefit unique to each watershed is one of the guiding principles of the One Watershed, One Plan Program.

For the Root River watershed, to ensure progress toward achieving the goals for the South Fork Root River, action items are consistent with recommendations identified in the Nutrient Reduction Strategy and the draft WRAPS and include such actions as increasing water storage and minimizing erosion.

Measurable goals were established for the Root River, using the goals from the Nitrogen Fertilizer Management Plan and Nutrient Reduction Strategy. Using the PTMapp, the benefits of the actions listed in the implementation plan can be compared to the measurable goals at one or more locations. The estimated benefits of the targeted implementation plan can then be compared to water quality goals from watershed, State, or regional strategies, such as those found in the State Nutrient Reduction Strategy or the Root River Watershed WRAPS.

The results of this detailed analysis, conducted by local governments, estimate that implementing the 100 most effective practices for both sediment and nutrients would provide a 21% of the reductions needed to reach the

sediment reduction goal for the South Fork Root River set by the Root River Watershed One Watershed, One Plan (**Table 1**).

During the development of the implementation plan, the local governments in the Root River Watershed used the targeting tool PTMapp to identify the 100 most effective practices in the subwatershed for both sediment and nutrients.

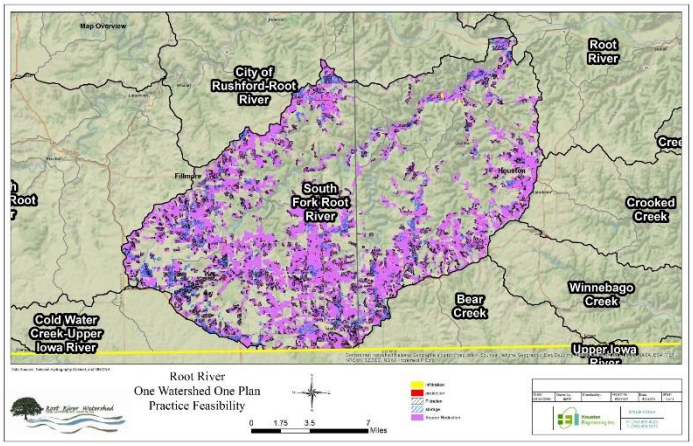
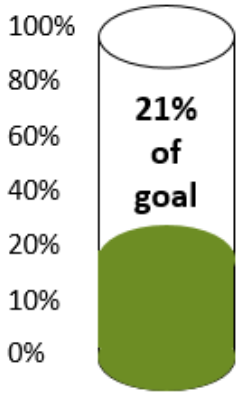


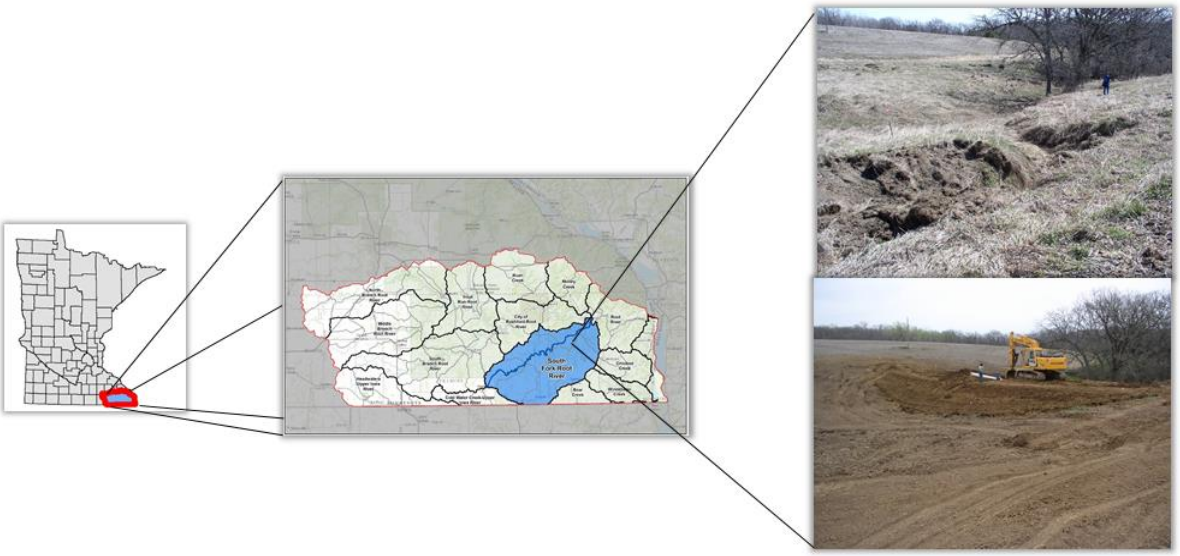
Table 1:

South Fork Root River	Sediment (tons/yr.)
Current Estimated Load	69,602
Goal (% reduction)	45
Goal Load Reduction (mass)	31,321
Estimated Load Reduction	6,440
Plan Percent of Goal	21

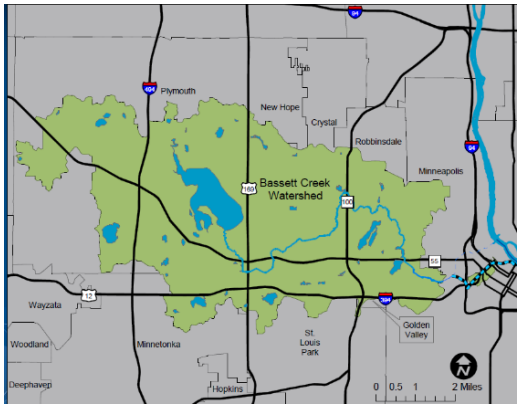


Biennial Budget Request

Reducing soil erosion through gully stabilization projects, like the one pictured below in the Root River, are one example of projects that are identified as a strategy in the WRAPS, an action item in the One Watershed, One Plan implementation plan, and then submitted as part of their BBR submittals.



Bassett Creek Watershed Management Commission



Bassett Creek is located in the north central metropolitan area of Hennepin County and is a tributary to the Mississippi River. The creek's headwaters are at Medicine Lake, the second largest lake in Hennepin County and a major recreational resource for the area that includes French Regional Park, public beaches, and a public boat landing.

The Bassett Creek Watershed Management Commission (BCWMC) has been working collaboratively with State and local stakeholders to improve the water quality of Medicine Lake and Bassett Creek for many years as part of its comprehensive watershed planning efforts.

Science-Based Watershed Assessment

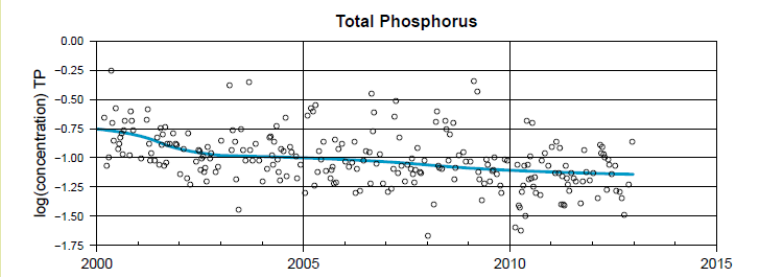
The BCWMC has been collecting monitoring information within the watershed since the 1970s and its partner, the Metropolitan Council, has collected water quality and continuous flow data at the watershed outlet since 2000; as part of the WOMPII monitoring program. Extensive monitoring data and computer models have been used to understand the relationship between pollutant sources and water quality within watershed. Based on this information, it was determined that Bassett Creek is impaired from Medicine Lake to the Mississippi River for aquatic life due to stressors affecting the fish community, excess chloride, and aquatic recreation due to high fecal coliform counts. In addition, Medicine Lake is impaired for excess nutrients. The vast majority of pollution reaching the BCWMC waters comes from nonpoint sources.

The BCWMC completed a Resource Management Plan in 2009 for water quality improvement projects within the watershed. In 2010, a Total Maximum Daily Load (TMDL) study was completed on Medicine Lake to determine the amount of reduction in phosphorus necessary to improve or maintain water transparency and reduce algal blooms.

Watershed Planning

The BCWMC has spent the past 10 years actively using their Capital Improvement Plan to improve water resources within the watershed. Many implementation actions have occurred, including the construction of water quality basins and innovative stormwater practices upstream of lakes and perform streambank restoration projects along Bassett Creek and its tributaries.

The Metropolitan Council analyzed monitoring data collected at the outlet of Bassett Creek over a 15-year period. This trend analysis indicates a downward trend in both sediment and phosphorus concentration since 2000 and thus improving water quality in the creek.



**Metropolitan Council. 2014. Bassett Creek. In Comprehensive water quality assessment of select metropolitan area streams. St. Paul: Metropolitan Council.*

Reduction Goals

The Medicine Lake TMDL identified the need for a 28% reduction in phosphorus (1,287 pounds per year) in order to restore the lake and meet water quality standards.

Strategies

The implementation strategy for the Medicine Lake TMDL describes actions necessary to achieve these reductions goals and include:

- Water quality retrofits to existing stormwater ponds;
- Construction of the West Medicine Lake water quality ponds;
- Reduction in impervious area;
- New wet pond at downstream end of each sub-watershed;
- Bioretention, rain gardens, soil restoration;
- Continued streambank stabilization efforts; and
- Continued shoreline restoration efforts.

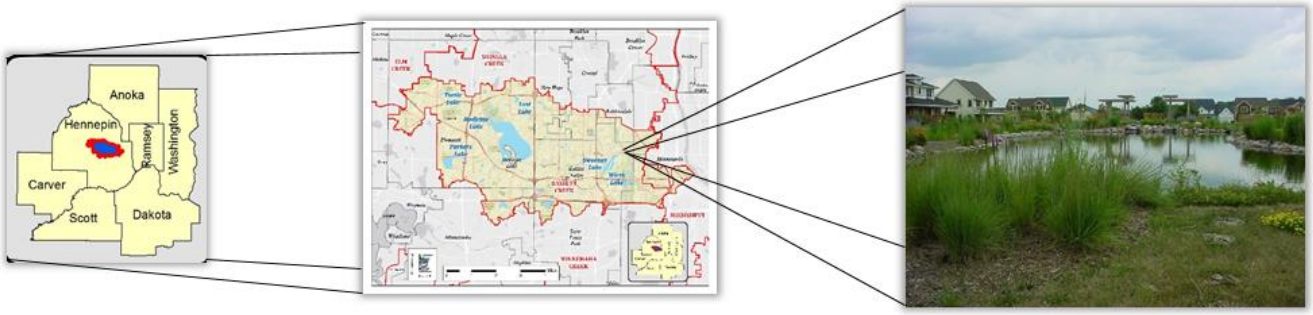
Comprehensive Watershed Management Plan

In 2015, the BCWMC updated their Watershed Management Plan (Plan). This Plan outlines applicable regulations, assesses watershed-wide and resource-specific issues, sets goals and policies for the BCWMC, and lists implementation tasks to achieve the goals. The Plan includes a comprehensive list of the projects and programs that comprise the implementation program. Specifically, the BCWMC identified strategic waterbodies, such as Medicine Lake, and associated implementation actions consistent with the TMDL.

Medicine Lake		
ML-12	Projects address phosphorus load reduction requirement in Medicine Lake TMDL	Medley Park Stormwater Treatment Facility
ML-14		Medicine Lake shoreland restoration
M-15		Wet pond (0.5 acre) at downstream end of each major subwatershed
ML-16		Water quality retrofits to existing ponds upstream of Medicine Lake
ML-17		In-lake alum treatment (Option 18 in Medicine Lake Plan)
ML-19		Chemical Treatment of inflow to Medicine Lake from watershed

Biennial Budget Request

Construction of a stormwater treatment pond in Medley Park is one example of a project that is identified as a strategy in the TMDL Implementation Plan, an action item in the comprehensive watershed management implementation plan, and then submitted as part of the 2018-2019 BBR submittal.

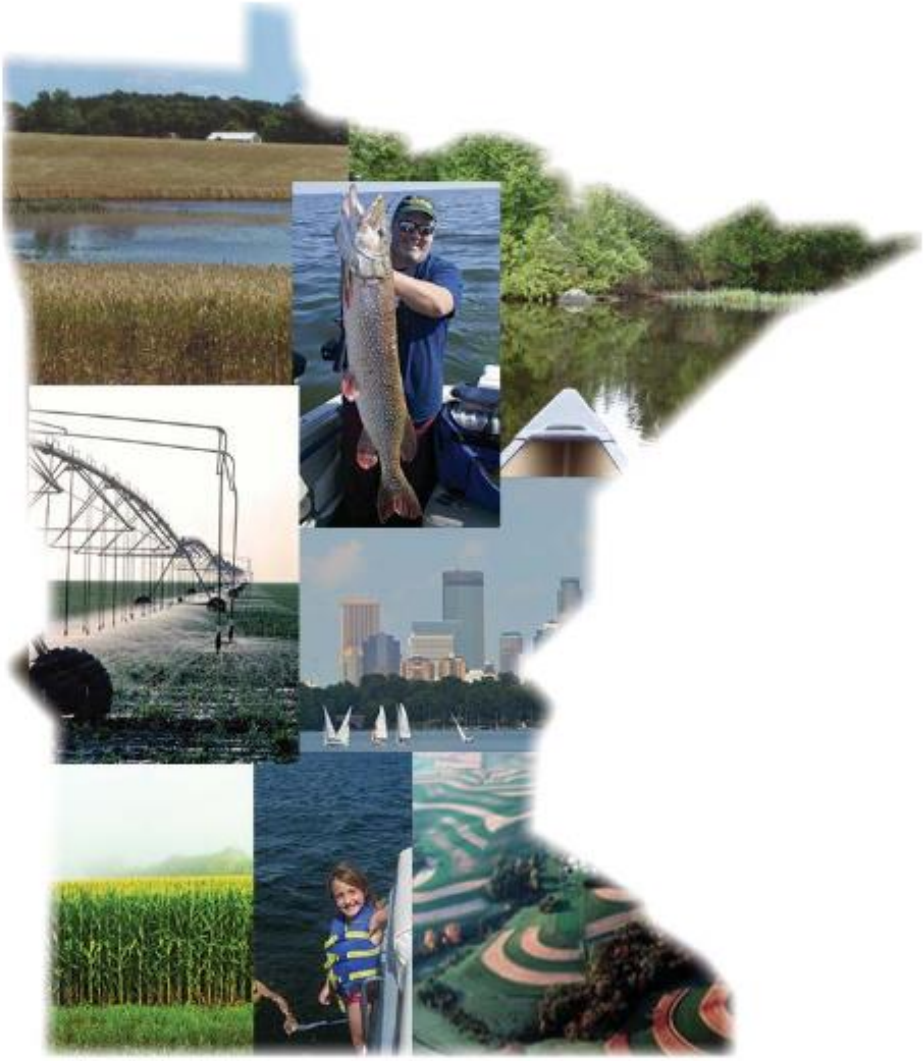


Appendix A: The Nonpoint Priority Funding Plan

Nonpoint Priority Funding Plan for Clean Water Implementation Funding

Version 1.0 (July 2014 – June 2016)

As required by the 2013 Clean Water Accountability Act



June 25, 2014

CLEAN WATER LAND & LEGACY AMENDMENT

The final version of this draft document is posted on BWSR's Nonpoint Priority Funding Plan web page at www.bwsr.state.mn.us/planning/npfp as of July 1, 2014.

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Executive Summary

In 2013 the Minnesota Legislature passed the Clean Water Accountability Act, an initiative that aimed to increase accountability for the public funds used to clean up our water. The Act places into law the MN Pollution Control Agency (MPCA)'s Watershed Restoration and Protection Strategy and requires the MN Board of Water and Soil Resources (BWSR) to prepare a Nonpoint Priority Funding Plan.

The Nonpoint Priority Funding Plan (NPFP) is a criteria-based process to prioritize Clean Water Fund investments. It provides state agencies with a coordinated, transparent and adaptive method to ensure that Clean Water Fund implementation allocations are targeted to cost-effective actions with measurable water quality results. The process may also help agencies identify gaps in programming to accelerate progress toward meeting water management goals.

Specifically, Version 1.0 of the NPFP sets forth:

- High-level state priorities for investing Clean Water Fund nonpoint implementation funding.
- High-level keys to implementation.
- Criteria for evaluating proposed activities for purposes of prioritizing nonpoint funding.
- Estimated costs for implementing nonpoint activities.

The NPFP also is meant to be adaptive. Future versions will benefit from advancements in the development of Watershed Restoration and Protection Strategies (WRAPS), watershed-based local water plans, and other water resource data. To facilitate this adaptation, BWSR will convene a task force to collaborate on communications, data and information gathering, and evaluating the plan.

High-Level State Priorities

State agencies have identified the following three high-level state priorities for investing Clean Water Fund nonpoint implementation money in FY 2016-2017, based on the principles of asset preservation and risk-opportunity assessment.

- Restore those impaired waters that are closest to meeting state water quality standards.
- Protect those high-quality unimpaired waters at greatest risk of becoming impaired.
- Restore and protect water resources for public use and public health, including drinking water.

Keys to Implementation

The successful achievement of clean water goals relies on a number of key actions in addition to strategic allocation of funding. A brief summary of these keys to implementation is below.

- **Accelerate Watershed-Scale Implementation**

  Implementation will be most effective when Clean Water Fund money for the highest-priority actions follows local government adoption of watershed-based local water plans. Accelerating the consolidation of WRAPS and Groundwater Restoration and Protection Strategies (GRAPS) into watershed-based local water plans that contain project implementation schedules will improve the ability to estimate needs and costs.

- **Prioritize and Target at the Watershed Scale**

  The key to developing watershed-based project implementation schedules and estimated costs is to first prioritize surface and groundwater strategies at the watershed scale and then target practices within subwatersheds or similar-scale units, using the best available science. A systematic, well-documented approach to prioritizing and targeting is also a key to transparency.

- **Measure Results at the Watershed Scale**

  Similar to prioritizing and targeting, measuring results is best achieved at the watershed scale. Watershed-based local water plans capable of producing measurable results are essential to adaptive management and accountability to the public.

  Also, mechanisms are needed to track the outcomes of voluntary actions. For the vast majority of lands that contribute to nonpoint source pollution, we rely on voluntary actions by private land owners and managers to keep water pollution in check. Effectively measuring the

outcomes of voluntary actions against established benchmarks is essential for supporting innovative nonregulatory approaches to nonpoint implementation.

- **Utilize Science-Based Information**

  A key to developing prioritized implementation schedules for projects with targeted actions, and measuring results of these actions, is to incorporate the wealth of science-based information, summarized in WRAPS, other technical reports and practice effectiveness research into local water planning and project development processes.

- **Build Local Capacity**

  The work of nonpoint implementation rests on the shoulders of local governments. As WRAPS proliferate and local water planning begins shifting to a watershed-based framework, success is dependent on highly capable local government staff to develop, prioritize and target projects at the local level.

  Timely investments in the local conservation delivery system are also key to helping local water management authorities use Clean Water Fund money to leverage other sources of nonpoint implementation funding, such as the federal Farm Bill conservation programs.

- **Maximize Existing Laws and Regulations**

  Customary approaches to nonpoint pollution implementation include regulation as well as financial incentives and education. A key to developing effective watershed restoration and protection strategies is to maximize the effectiveness of existing laws and regulations. A number of laws, rules and permits exist for specific types of nonpoint sources, such as drainage, shoreland, buffers, soil loss, municipal stormwater systems, subsurface sewage treatment systems, feedlots, new water supply wells and pesticide use. In addition, an evaluation of these existing laws, rules and permits may be needed to be more effective at accomplishing water quality goals.

- **Support Innovative Nonregulatory Approaches**

  One of several keys to leveraging Clean Water Fund implementation money is to support the development of market-driven and reward-driven approaches. Examples include point-nonpoint water quality trading; public water suppliers working with farmers in wellhead protection areas with elevated nitrate levels to accelerate implementation of nutrient management practices; and the Minnesota Agricultural Water Quality Certification Program. Investments in nonpoint implementation activities such as technical assistance, outreach and education can help catalyze these types of innovative nonregulatory approaches.

- **Integrate Hydrologic Management Systems into Watershed Plans**

  Much of Minnesota's natural hydrology has been altered for agricultural, forestry, urban/suburban and industrial development. Increased runoff volumes and rates – due to drainage, removal of perennial vegetation, surface water alterations and the addition of impervious surfaces – contribute significantly to water quality problems. Storing water on the land can help address runoff to surface waters in both urban and rural situations and is a necessary foundation to successfully address nonpoint source pollution. Wetland restoration and other practices that increase infiltration help control volume and enhance groundwater recharge. Additionally, drainage water management can help manage and treat runoff especially as old drainage systems are replaced by new stormsewer and subsurface tile drainage systems. Integrating hydrology management systems into watershed-based action plans will assure greater attention is given to downstream impacts and benefits.

Criteria for Evaluating Proposed Activities

State agencies will use nine NPFP criteria to evaluate proposed program or project activities:

- *Aligned with State Priorities:* Alignment of proposed activities with state priorities.
- *Locally Prioritized and Targeted:* Effective prioritization and targeting of proposed activities at the watershed scale.
- *Measurable Effects:* Capability of the proposed activities to produce measurable results at the watershed scale.
- *Multiple Benefits:* Secondary water quality or other environmental benefits of the proposed activities.

- *Longevity:* Expected lifespan of the proposed activities with proper maintenance or, for annual management practices, assurance that practices will be maintained for a specified period of time.
- *Capacity:* Readiness and ability of local water management authorities and partners to execute the proposed activities.
- *Leverage:* All non-Clean Water Fund dollars contributed for every dollar of Clean Water Fund money. Non-Clean Water Fund dollars include non-state dollars as well as state dollars from sources other than the Clean Water Fund.
- *Cost-Effectiveness:* Cost per unit of pollutant load reduced or prevented as compared against specific water quality goals – Clean Water Fund cost and total project cost.
- *Landowner Financial Need:* Increased financial assistance for low-income landowners.

Estimated Costs

The NPFP is required to estimate nonpoint implementation costs. The best available method of assessing local government water management resource needs and estimated costs at this time is the Biennial Budget Request (BBR). The BBR is a process BWSR uses to collect data voluntarily submitted by local governments about projects that are identified in local water plans as high priorities and that are shovel-ready for the upcoming biennium. For the FY 2016-2017 biennium, the BBR estimates a cost of $235.2 million ($117.6 million per year) to implement nonpoint activities eligible for funding through Clean Water Fund appropriations to BWSR and other state agencies.

Section 1:
Purpose, Scope and Context

1.1. Purpose

In 2013 the Minnesota Legislature passed the Clean Water Accountability Act, an initiative that aimed to increase accountability for the public funds used to clean up our water. The Act places into law the MN Pollution Control Agency (MPCA)'s Watershed Restoration and Protection Strategy and requires the MN Board of Water and Soil Resources (BWSR) to prepare a Nonpoint Priority Funding Plan (NPFP).

Version 1.0 of the NPFP sets forth:

- High-level state priorities for investing Clean Water Fund nonpoint implementation funding.
- High-level keys to implementation.
- Criteria for evaluating proposed activities for purposes of prioritizing nonpoint funding.
- Estimated costs for implementing nonpoint activities.

Legislative Charge

The Nonpoint Priority Funding Plan law amends Minnesota Statutes 2012, section 114D.50 to read:

Subd. 3a. Nonpoint Priority Funding Plan.

(a) Beginning July 1, 2014, and every other year thereafter, the Board of Water and Soil Resources shall prepare and post on its Web site a priority funding plan to prioritize potential nonpoint restoration and protection actions based on available WRAPS, TMDLs and local water plans. The plan must take into account the following factors: water quality outcomes, cost-effectiveness, landowner financial need, and leverage of nonstate funding sources. The plan shall include an estimated range of costs for the prioritized actions.

(b) Consistent with the priorities listed in section 114D.20, state agencies allocating money from the clean water fund for nonpoint restoration and protection strategies shall target the money according to the priorities identified on the nonpoint priority funding plan. The allocation of money from the clean water fund to projects eligible for financial assistance under section 116.182 is not governed by the nonpoint priority funding plan.

M.S. 2013, Chapter 137, Article 2, Section 14.

State Agency Allocation Process

The NPFP provides state agencies with a coordinated, transparent and adaptive process to assure that Clean Water Fund implementation allocations are targeted to cost-effective actions with measurable water quality results. The process may also help agencies identify gaps in programming to accelerate progress toward meeting water management goals.

Agencies will use a set of NPFP criteria (Sec. 3) to tie funding decisions to cost-effective water quality and water management outcomes. This will improve Clean Water Fund accountability. Over time, it may also provide local water management authorities with more predictability as they plan and seek funding for restoration and protection efforts.

The NPFP will rely on information in existing local water plans as well as Watershed Restoration and Protection Strategies (WRAPS) and watershed-based local water plans as they become available. Today, only one of the state's 81 major watersheds has a completed WRAPS and watershed-based local water planning pilot projects are just getting under way. However, the watershed approach to developing science-based restoration and protection strategies at the major watershed scale is well under way, with WRAPS reports anticipated for more than one-third of the 81 watersheds by December 2015.

1.2. Background

The Minnesota Clean Water Legacy Act

The 2006 Minnesota Clean Water Legacy Act (CWLA) launched Minnesota on an accelerated path to addressing impaired waters. The Act provided one-time increased funding for monitoring, assessment, Total Maximum Daily Loads (TMDLs) and restoration and protection projects. The CWLA includes policy requirements that affect the watershed approach as a whole and nonpoint implementation specifically.

The Clean Water Fund

In 2008, Minnesota voters passed the Clean Water, Land and Legacy Amendment (Legacy Amendment) to the Minnesota Constitution. The Legacy Amendment increased the state sales tax by three-eighths of one percent for a period of 25 years beginning July 2009 and ending June 2034. Revenue from the Legacy Amendment supplements other state funding for conservation and environmental projects, including bonding bills and approximately 1 percent of General Funds. The Legacy Amendment supports four separate funds: the Arts & Cultural Heritage Fund, Clean Water Fund, Outdoor Heritage Fund, and Parks & Trails Fund.

The Clean Water Fund receives 33 percent of the Legacy Amendment revenue. In its first five years, the Clean Water Fund provided an average of $85 million per year. By law, the money may only be spent *"to protect, enhance, and restore water quality in lakes, rivers and streams, and to protect groundwater from degradation. At least 5 percent must be spent to protect drinking water sources."*

The Legacy Amendment was a game-changer for water resource management in Minnesota. Funding, accountability and heightened public expectations drive the need to enhance collaboration and partnerships among the seven main water management agencies that allocate Clean Water Fund money:

- Metropolitan Council
- MN Board of Water and Soil Resources (BWSR)
- MN Department of Agriculture (MDA)
- MN Department of Health (MDH)
- MN Department of Natural Resources (DNR)
- MN Pollution Control Agency (MPCA)
- MN Public Facilities Authority (PFA)

The NPFP will further enhance interagency collaboration by providing the agencies with a common framework and process for prioritizing Clean Water Fund investments in nonpoint implementation.

The Clean Water Fund provides funding for both point and nonpoint source restoration and protection activities. The NPFP, however, as its name implies, governs funding for nonpoint restoration and protection only.

As significant as the Clean Water Fund is and will continue to be for the next 20 years, it is not the only major source of funding for nonpoint restoration and protection. The largest source in recent history has been the federal Farm Bill. Farm Bill conservation programs have brought up to $100 million per year to Minnesota to implement practices that primarily or secondarily enhance water quality.

Nonpoint Source Pollution

Nonpoint source pollution occurs when pollutants from diffuse sources are carried into rivers, streams, lakes, wetlands and groundwater via a variety of pathways and processes.

Nonpoint sources and pathways

Urban, rural and natural sources of nonpoint pollution are many and varied. Examples of common pathways that carry pollutants into streams, lakes and aquifers include soil erosion, overland runoff, gullying, leaching and altered hydrology. Below, in no particular order, are ***examples*** of common sources and some of the associated pollutants:

- Streambank and bluff erosion (sediment)
- Lakeshore development (phosphorus)
- Subsurface tile drainage (nitrogen)
- Runoff and/or leaching from farm fields, lawns, and construction sites (sediment, nutrients, pesticides)
- Urban and industrial stormwater (bacteria, chloride, phosphorus, sediment)
- Paved surfaces (chloride from road salts)
- Feedlots and land application of manure (bacteria, nutrients)
- Failing septic systems (bacteria)
- Old, abandoned or improperly built wells as a conduit to groundwater (bacteria, nitrogen)
- Atmospheric deposition (mercury, sediment)

Many of the same pollutants also come from point sources. Therefore, strategies to meet watershed-scale water quality goals typically involve a mix of point and nonpoint source strategies. While the NPFP is limited to nonpoint actions, it exists in this broader context.

For more information about nonpoint source pollution in Minnesota, see the 2013 Minnesota Nonpoint

Source Management Program Plan, a virtual encyclopedia of nonpoint source pollution sources, issues and strategies in Minnesota.

1.3. Scope

The NPFP is a criteria-based process to prioritize funding, not a pre-determined list of priority projects, watersheds or practices. State agencies will use NPFP criteria to prioritize proposed projects designed to implement strategies identified in TMDLs, WRAPS and local water plans. The NPFP does not include a single scoring system with weighted criteria. Rather, each agency will apply the NPFP criteria to applicable programs in ways that meet each program's strategic and legislative goals.

Nonpoint Implementation

The NPFP is limited to implementation strategies and actions that address nonpoint source pollution. It focuses on funding for nonpoint implementation actions eligible for Clean Water Funds. For NPFP purposes, nonpoint implementation means local and state actions to restore and protect surface and groundwater quality in settings (urban, agricultural, forested) where water quality problems or threats are due to nonpoint sources. This involves both regulatory and nonregulatory programs and activities.

Examples of Nonpoint Implementation

The Legislature appropriates money to state agencies from the Clean Water Fund at the start of each biennium. In FY 2014-2015 Clean Water Fund appropriations for programs and projects that fit the nonpoint implementation scope of the NPFP account for approximately 45 percent of the total Clean Water Fund budget.

Below are examples of and details about the types of programs, projects and activities that fit within the nonpoint implementation scope of the NPFP.

Programs

Within appropriation guidelines, state agencies allocate funds to new and existing programs or program areas to support the local conservation delivery system upon which nonpoint implementation efforts depend. The NPFP will help guide these state agency allocation decisions.

Examples of existing state nonpoint implementation programs with Clean Water Fund appropriations include but are not limited to:

- Competitive Grants for cost-share projects (BWSR)
- Reinvest in Minnesota (RIM) Riparian Buffer Easement Program (BWSR)
- RIM Wellhead Protection Buffer Easement Program (BWSR)
- Targeted Watershed Demonstration Program (BWSR)
- Clean Water Partnership (MPCA)
- Subsurface Sewer Treatment System – SSTS (MPCA)
- Source Water Protection Program (MDH)
- Well Sealing Cost-Share (MDH)
- MN Agricultural Water Quality Certification Program (MDA)
- AgBMP Loan Program (MDA)
- Programs that provide implementation-related technical assistance to local governments (BWSR, DNR, MDA, MDH)

Projects

A comprehensive list of Clean Water Fund projects is available on the Legislative Coordinating Committee's Clean Water Fund projects webpage. Project searches can be filtered by location, year and activity type.

One type of project the NPFP does not govern are *"projects eligible for financial assistance under section 116.182."* These are publicly owned wastewater and stormwater infrastructure projects (examples include treatment facilities and conveyance pipes) whose funding is governed by MPCA's Project Priority List, managed jointly with PFA. Some MS4 stormwater projects include public infrastructure components eligible for PFA funding and non-infrastructure components such as rain gardens on public or private property, which are eligible for Clean Water Fund nonpoint implementation funding.

Activities

Ongoing implementation includes not only putting practices on the land but also developing and administering implementation programs and projects, and coordinating and managing all of the activities essential for on-the-ground actions to succeed. Most

implementation projects involve a mix of the following activities:

- **Project Development**: Identifying practices, sites and willing landowners; tailoring practices as needed; recruiting project partners and leveraging funds.
- **Technical Assistance**: Helping landowners establish and maintain practices (including engineering and ecological assistance); conducting easement compliance reviews, quality assurance certifications and other technical assistance activities related to maintaining practices.
- **Targeted Outreach**: Engaging landowners in projects; developing and piloting outreach and educational programs to encourage adoption of priority practices; facilitating certification programs that confer public recognition for good stewardship or provide regulatory assurance; facilitating water quality trading agreements; helping to develop markets for the environmental benefits provided by nonpoint practices.
- **Enforcement**: Enforcing and enhancing state regulations and local ordinances (Sec. 2.8).
- **Project Evaluation:** Evaluating and reporting that includes identification and listing of appropriate metrics, measuring the effectiveness of practices installed and tracking and reporting project performance and outcome measures.

Practices

Table 2 and Table 3 include examples of nonpoint practices and strategies identified as priorities in existing state plans.

As a process-based approach to prioritization, the NPFP does not prescribe a list of nonpoint priority practices for the state. Rather, state agencies will use NPFP criteria to prioritize projects that identify and target practices or practice systems within priority subwatersheds, wellhead protection areas and similar-scale areas relative to the most significant problems and threats identified in WRAPS, TMDLs or local water plans. Tailoring practices to landowner needs and management goals is a key consideration in order to engage landowners in watershed-scale efforts.

1.4. The Watershed Approach

The NPFP builds on the systematic watershed approach to water management that is now well under way across Minnesota. The watershed approach is reflected in the MPCA-led WRAPS process, BWSR's One Watershed One Plan initiative and the interagency Minnesota Water Management Framework.

Minnesota Water Management Framework

In 2013, state agencies adopted a Minnesota Water Quality Framework and a companion Minnesota Groundwater Management Framework to enhance collaboration and clarify roles in a complex water governance structure. These are now jointly referred to as the Minnesota Water Management Framework (Appendix A).

The Framework identifies five major water management activities:

- Ongoing Local Implementation;
- Monitoring and Assessment;
- Water Resource Characterization and Problem Investigation;
- Restoration and Protection Strategy Development – including Watershed Restoration and Protection Strategies (WRAPS) as well as Groundwater Restoration and Protection Strategies (GRAPS) ; and
- Comprehensive Watershed Management Planning.

The Framework views each major activity as a step in a ten-year adaptive cycle (Fig. 1). A key objective is to

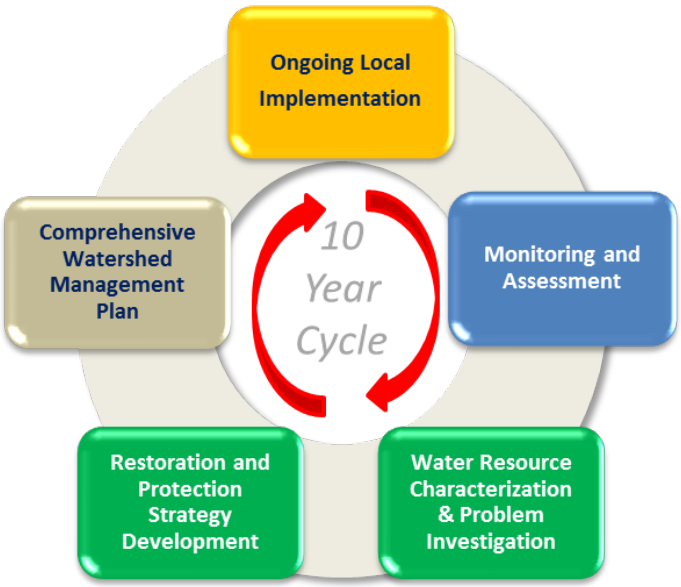


Figure 1. Minnesota Water Management Framework 10-year cycle, detailed in Appendix A.

clarify roles at each step. In a Plan-Do-Review approach to streamlining water management, state agencies deliver data, research and analysis to support and enhance locally led water planning and implementation (specific state agency roles are described on the second page of the Framework fact sheet in Appendix A). Clarifying roles helps state agencies work together and with local partners effectively and efficiently.

To enhance collaboration, state agencies have formed Interagency Core Teams in all major watersheds. Core Teams include a main contact for each state agency in every watershed. As the work in each watershed shifts to the locally led steps in the cycle, there will be an ongoing need for strong state-local partnership as well as interagency coordination among state agency field staff at the watershed scale.

Section 2:
Priorities for Nonpoint Implementation

The NPFP must *"prioritize potential nonpoint restoration and protection actions based on available WRAPS, TMDLs and local water plans."* This section of the NPFP describes these products and the types of nonpoint implementation strategies and priorities they contain.

This section also lays out high-level state water quality priorities to guide difficult choices about nonpoint implementation funding. These priorities are further embodied in the criteria state agencies will use to prioritize funding at the program and project level (Sec. 3).

2.1 WRAPS and TMDLs

Under the state's watershed approach, MPCA initiates a 10-year adaptive water management cycle in every major watershed. The cycle begins with a four-year Watershed Restoration and Protection Strategy (WRAPS) process that includes data collection, research and analysis, and culminates with the development of a WRAPS report. The remaining years of the ten-year cycle focus on implementation.

WRAPS development is intended to be a participatory process that engages communities. Local partners and state agencies active in the watershed play distinct and important roles in WRAPS development and the WRAPS-informed implementation phase that follows (Appendix A). Ten years after the start of the first round of intensive watershed monitoring, the cycle begins anew.

Pre-WRAPS Technical Reports

In the years leading up to the WRAPS, MPCA issues key scientific studies and reports, amounting to a powerful suite of detailed supporting technical information. For each watershed, these pre-WRAPS products include, but are not limited to:

- Monitoring and assessment report;
- Total Maximum Daily Load (TMDL) studies;
- Stressor identification report; and
- Modeling outputs.

Also, for the seven-county Twin Cities metropolitan area, a wealth of monitoring and assessment data and reports from metropolitan watershed districts and the Metropolitan Council are available to use in developing WRAPS in the metropolitan area.

The WRAPS report summarizes scientific watershed information at a high level and communicates science-based strategies for restoring impaired waters and protecting healthy (unimpaired) waters. The 2013 Clean Water Accountability Act requires WRAPS reports to include:

- A precise assessment of pollution sources and needed reductions, including those from nonpoint sources;
- Timelines and milestones for assessing progress;
- Strategies to put the money where it will have the best result; and,
- A plan for effective monitoring.

Similar to WRAPS, Groundwater Restoration and Protection Strategies (GRAPS) is a process for integrating groundwater restoration and protection strategies into the watershed approach and is still under development, with a pilot project currently underway. While the science of groundwater systems does not fit neatly within the boundaries of a surface watershed, it is possible to package current knowledge, protection priorities, and restoration needs for use by local governments. Understanding of groundwater and relevant geology varies widely across the state; where county geologic atlases and additional research exists more detailed recommendations can be made. Broad protection measures can be utilized for areas where more detailed information is lacking.

WRAPS Schedule

The first WRAPS in the state was completed in 2013 for the Pomme de Terre Watershed in west central Minnesota. MPCA estimates that WRAPS will be completed for 28 major watersheds, or nearly 35 percent of the state's 81 major watersheds, by December 2015. These include:

- 12 watersheds tentatively scheduled to have a completed WRAPS in calendar year 2014: Buffalo River, Chippewa River, Crow Wing River, Le Sueur River, Lower St. Croix River, Mississippi River (Lake Pepin), Mississippi River (St Cloud), Mississippi River (Twin Cities), North Fork Crow River, Sauk River, Shell Rock River, Snake River.
- 15 watersheds tentatively scheduled to have a completed WRAPS in calendar year 2015: Cannon River, Cedar River, Little Fork River, Long Prairie River, Minnesota River (Yellow Medicine River), Mississippi River (Winona), Mustinka River, Pine River, Red Lake River, Redeye River, Root River, Sandhill River, Tamarac River, Thief River, Upper Red River.

WRAPS are expected for all 81 major watersheds by 2023. A watershed look-up tool on MPCA's website provides quick access to all available WRAPS and pre-WRAPS reports for every major watershed.

TMDLs

The federal Clean Water Act requires TMDL studies for all impaired waters. The TMDL study typically identifies point and nonpoint sources of a single pollutant impacting a specific stream segment or lake, though some TMDLs address more than one waterbody or pollutant. The TMDL determines how much of a given pollutant the waterbody can accept (the total maximum daily load) without exceeding water quality standards.

Before the state's watershed approach took effect, each approved TMDL study was followed by a TMDL implementation plan. Now, under the watershed approach, previously completed TMDL studies and implementation plans are incorporated into the WRAPS process along with new TDML studies for the watershed. Individual TMDL implementation plans are no longer being developed. Instead, the WRAPS report will communicate restoration strategies for all impaired waters. Implementation plans and actions to restore impaired waters will be addressed in the local water planning and implementation steps respectively in the Minnesota Water Management Framework (Appendix A).

2.2 Existing Local Water Plans

In addition to available WRAPS and TMDLs, state agencies must prioritize potential nonpoint actions based on available *"local water plans."* For purposes of the NPFP, local water plans means any of several state-approved local water plan types, including:

- County Comprehensive Local Water Management Plans
- Watershed District Plans
- Metropolitan Surface Water Management Plans
- Metropolitan Groundwater Management Plans
- Soil and Water Conservation District Comprehensive Plans
- Comprehensive Watershed Management Plans to be piloted by the One Watershed One Plan Initiative starting in 2014
- Local Water Plans (for cities and townships in the seven county metropolitan area)
- Source Water Protection Plans, including:
  - Wellhead Protection Plans
  - Surface Water Intake Protection Plans

Altogether, there are approximately 700 local water plans in Minnesota, with significant geographic overlap. See Table 1 for more information about each plan type.

Water resources are prioritized locally through the local water planning process. Similar to the high-level water quality priorities identified in Sec 2.6, local water resource priorities are identified based on factors such as value (e.g., recreational or economic), current water quality conditions (e.g., impaired, healthy) and water quality trends over time (e.g., declining, improving or stable). Decisions about which waters to test and how often may reflect these local priorities. Local water resource priorities are reassessed consistent with the state's ten-year watershed approach.

Table 1. Existing state-approved local plan types that contain nonpoint implementation priorities.

State Oversight	Local Plan Type (Approx. # in June 2014)	General types of nonpoint priorities included	Responsible Local Water Mgmt. Authority	Statutory Reference
BWSR	County Comprehensive Local Water Mgmt. Plans (80)	Priority concerns, broadly defined as issues (such as drainage, stormwater, groundwater contamination) and related water resources and areas (specific subwatersheds lakes, streams, aquifers, demographic areas).	County (excluding the 7- county metro area) Often delegated to Soil and Water Conservation District	M.S. 103B.301 – 103B.355
BWSR	Watershed District Plans (32)	Priorities for acquiring, developing and operating public drainage systems and water supply systems. Priorities for land use planning and flood control projects with secondary water quality benefits and conservation projects focused on surface water quality.	Watershed District	M.S. 103D.401-103D.411
BWSR	Metropolitan Surface Water Management Plans (33)	Issues that impact or threaten surface and groundwater quality. Prevent erosion of soil into surface water. Uniform policies and official controls for surface and groundwater management.	Watershed Management Organizations (WMO) and Watershed Districts in the 7 county Metropolitan Area	M.S. 103B.205 – 103B.255
BWSR	Metropolitan Groundwater Management Plans (5)	Issues that impact or threaten groundwater quality including contamination hazards. Sensitive groundwater areas. Abandoned well inventories. Some include detailed implementation strategies and actions.	7 county Metropolitan Area	M.S. 103B.255
BWSR	Soil and Water Conservation District Comprehensive Plans (13)	A Soil and Water Conservation District may develop a comprehensive plan specifying practices to implement, soil types, identification of natural resource problem areas, and be consistent with the statewide plans.	Soil and Water Conservation District	M.S. 103C.331

State Oversight	Local Plan Type (Approx. # in June 2014)	General types of nonpoint priorities included	Responsible Local Water Mgmt. Authority	Statutory Reference
BWSR	Comprehensive Watershed Management Plans (0)	The BWSR Board is developing criteria to allow existing local plans to be replaced with a comprehensive watershed management plan that, to the extent practicable, incorporate a watershed approach for these plans. Currently the BWSR Board has authorized the One Watershed One Plan pilot initiative under this authority.	Local Governmental Units	M.S. 103B.101, Subd 14
Metropolitan Council	Local Water Plans (187)	Plans prepared as a part of the metro area comprehensive planning effort.	Cities and townships in the 7-county metro area	M.S. 103B.235
MDH	Wellhead Protection Plans (345)	Part 1 delineates the Wellhead Protection Area and associated Drinking Water Supply Management Area. Part 2 identifies management goals and objectives and a plan of action as well as a contingency plan and an evaluation program.	Cities and other public water suppliers that use groundwater wells	MN Rules Parts 4720.5100 to 4720.5590 Required for public water systems that use groundwater
MDH	Surface Water Intake Protection Plans (3)	Intake protection plans identify the priority areas for management and associated measures for managing or eliminating potential sources of contamination that could impact the drinking water source.	Cities and other public water suppliers	Voluntary but required for obtaining certain kinds of Source Water Protection grant funding.

2.3 Future Local Water Planning

During the first five years of the Clean Water Fund, strong state and local consensus emerged around a new watershed-based local water planning and implementation framework consistent with the state's watershed approach. The new framework is rooted in the work of the Minnesota Local Government Water Roundtable, an affiliation of the Association of Minnesota Counties, the Minnesota Association of Soil and Water Conservation Districts, and the Minnesota Association of Watershed Districts.

One Watershed One Plan

Local water management plans are recognized as a key component in the state's watershed approach connecting state strategies with local leadership. The importance of the connection between local water plans and the watershed approach was further recognized by the Minnesota Local Government Water Roundtable in their 2011 recommendation that local water management authorities organize and develop focused implementation plans on a watershed scale.

This recommendation was followed by 2012 legislation enabling BWSR to adopt methods to allow BWSR-approved plan types to be replaced with Comprehensive Watershed Management Plans (Table 1). The legislation was supported by MPCA's 2013 Water Governance Evaluation Report, as one of many recommendations for ways to streamline, strengthen and improve sustainable water management.

BWSR's vision for this legislation, now referred to as the One Watershed One Plan initiative, is to align local water planning with state strategies towards prioritized, targeted and measurable implementation plans. Comprehensive Watershed Management Plans will be developed on major watershed boundaries. The plans will build on and consolidate information in existing county local water plans, incorporating monitoring data, WRAPS, TMDLs and other information (Fig. 2).

Comprehensive Watershed Management Plans will also identify subwatersheds or similar-scale areas with the most significant water quality problems and threats, and target potential actions to sites within these subwatersheds where the actions will provide the greatest measurable effects relative to specific water quality goals. The prioritizing and targeting process will facilitate the development of focused

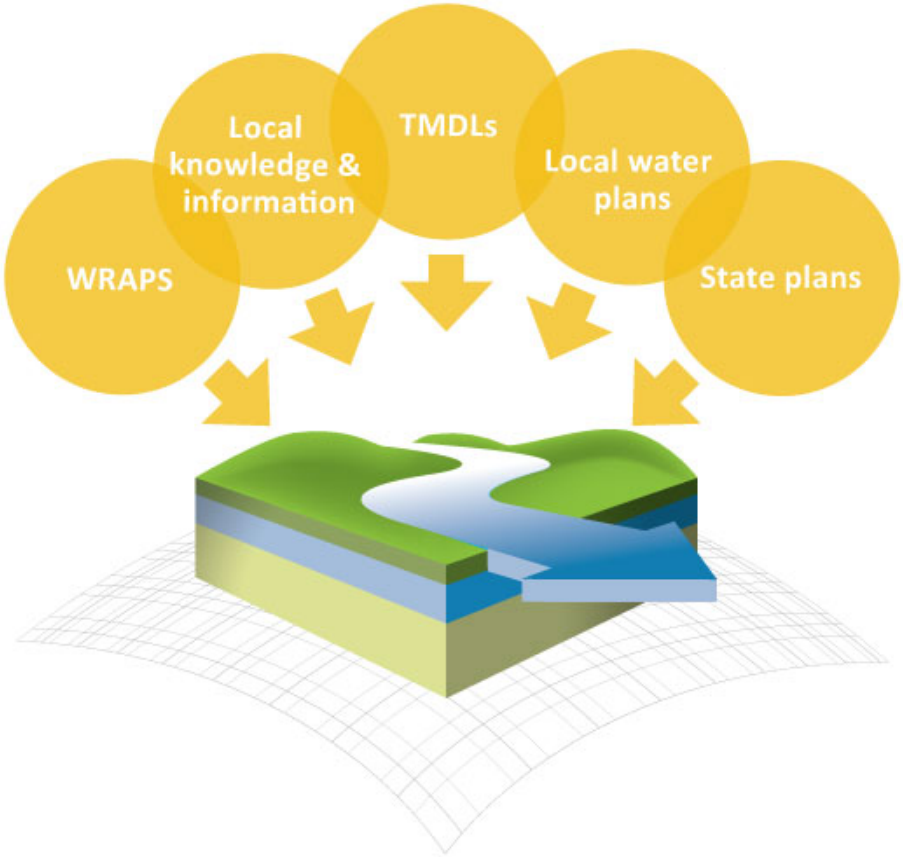


Figure 2. Types of information to be used in developing Comprehensive Watershed Management plans.

implementation plans and schedules on a watershed scale – in other words, watershed-scale priority project lists.

A statewide transition from county-based to watershed-based local water plans (starting in 2014) could occur as soon as 2023 if most local governments choose to adopt Comprehensive Watershed Management Plans. Even a partial transition would benefit the NPFP in at least three ways:

- Watershed-based local water plans would be available for many watersheds in time to guide ongoing implementation in the final decade of the Clean Water Fund.
- State agencies would have significantly fewer local water plans to consult when using NPFP criteria (Sec. 3.3) to evaluate proposed activities.
- Strategies and timelines in WRAPS will be enhanced in these new plans. This information will inform future versions of the NPFP (Sec. 3.4) and make priority funding decisions more consistent and predictable.

2.4 Prioritizing at Multiple Scales

As illustrated in Fig. 3, nonpoint restoration and protection goals and priorities are set at multiple geographic scales, from major river basins and groundwater provinces to major watersheds to subwatersheds and similar-scale planning and implementation units such as metropolitan watershed management organization boundaries and drinking water supply management areas (including wellhead protection areas and surface water intake protection areas). As such, it is neither practical nor desirable to prioritize at only one scale.

Nonpoint implementation projects are typically carried out at subwatershed or similar scales, focusing on specific water bodies, pollutants, practices and critical source areas or risk factors. Generally, smaller scale actions and strategies can contribute to larger scale goals.

2.5 Water Quality Goals Identified by the Clean Water Roadmap

The NPFP adds to an evolving portfolio of Clean Water Fund statewide guidance and evaluation documents that includes the biennial Clean Water Fund Performance Report and the 25-year Clean Water Roadmap. State agencies launched the Roadmap initiative in 2013 to identify and communicate the water resource outcomes we can expect to achieve after 25 years of Clean Water Fund investments and enable state agencies to assess progress overtime.

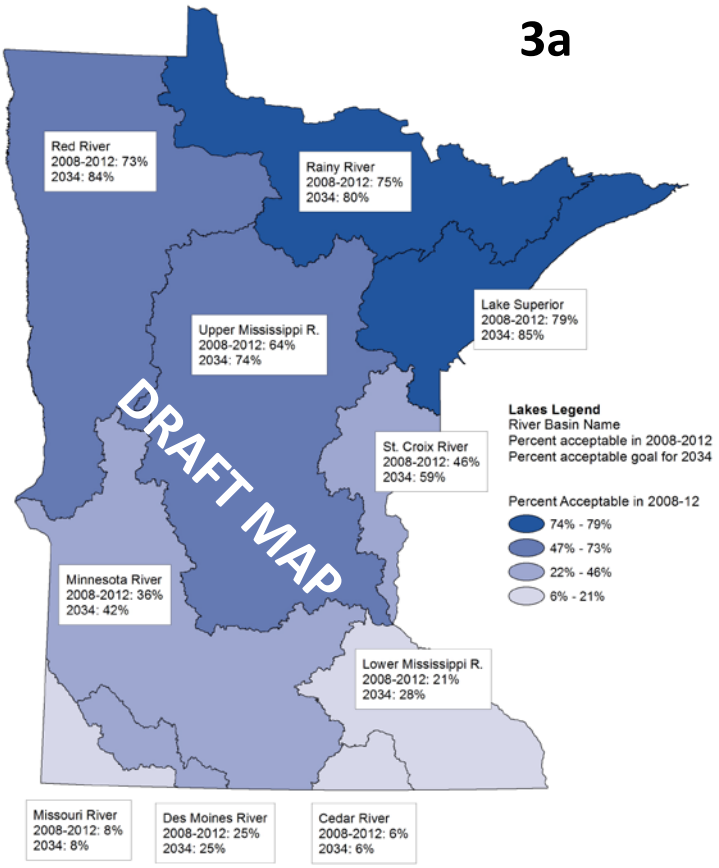
The first edition of the Roadmap lays out goals for four high-level indicators that describe surface water quality, groundwater quality, and groundwater quantity. These concrete measures mirror Minnesotans' desire for healthy lakes, rivers, streams and groundwater – water that is drinkable, swimmable and fishable.

The Roadmap will be revisited regularly and revised over time as new data and information are collected, including a thorough review at five-year intervals.

- **Lake water quality goal (Fig. 3a)**: Percent of lakes with good water quality in 2008 (the benchmark) and in 2034, by major river basin, as measured by the Trophic State Index;
- **River and stream water quality goal (Fig. 4)**: Percent of rivers and streams with healthy fish communities in 2008 (the benchmark) and in 2034, by major river basin, as measured by the Index of Biotic Integrity for fish;
- **Groundwater quality goal (Fig. 5)**: Percent of new water wells meeting standards for nitrate and arsenic currently (the benchmark) and in 2034 (the goal) by groundwater province; and
- **Groundwater quantity goal**: Changes over time in groundwater levels. Percent of groundwater monitoring sites affected by groundwater pumping will have either a steady or increasing trend. Water supply is outside the scope of the NPFP.

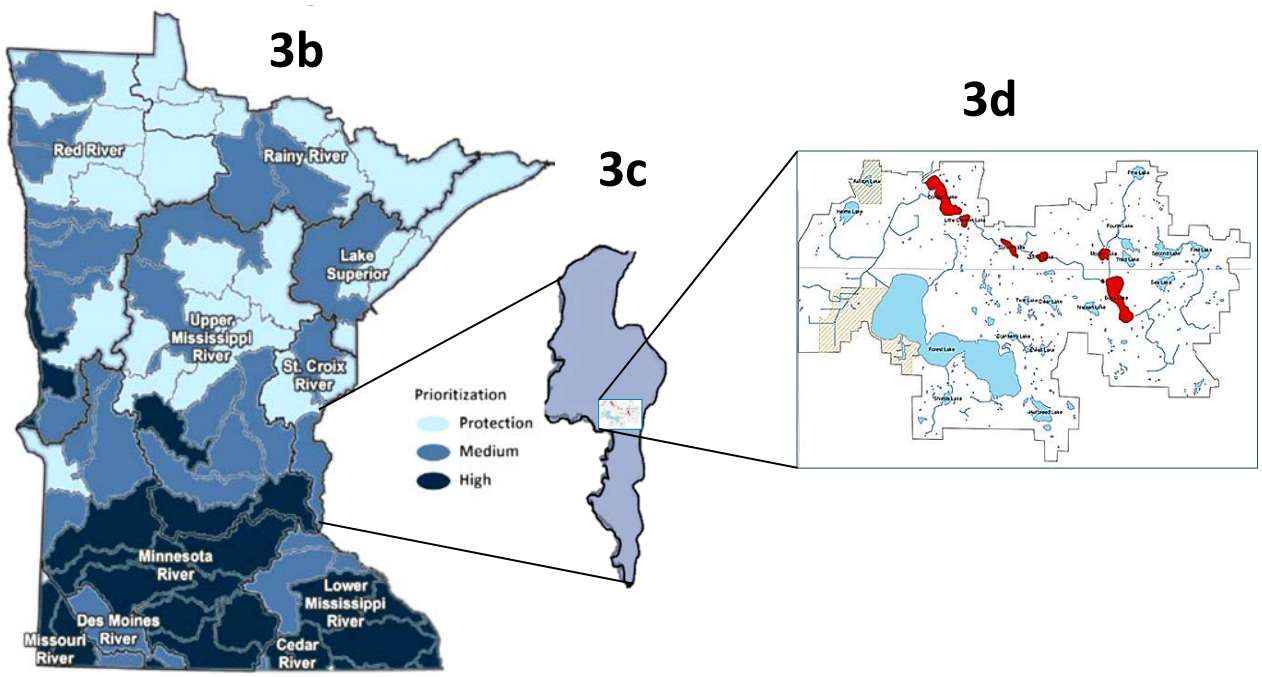
The numeric goals represent outcomes Minnesotans can reasonably expect to achieve by 2034. The NPFP provides high-level priorities for investing Clean Water Fund nonpoint implementation money in ways that achieve the greatest measurable progress.

Figure 3. Example of goal-setting and prioritization at multiple scales.



Example of Goal-Setting and Prioritization at Multiple Scales: From Statewide Goals to Subwatershed-Scale Actions

- Figure 3a shows **Clean Water Roadmap** goals for increasing the percentage of lakes with good water quality in each of Minnesota's major river basins by year 2034. Lakes with good water quality are those that meet state water quality standards for aquatic recreational use based on phosphorus levels, algae levels and clarity. For the **St. Croix River Basin** in east central MN, the goal is to increase the percentage of lakes with good water quality from 46% in 2008 to 59% in 2034.
- Figure 3b, from the **Draft Minnesota Nutrient Reduction Strategy**, shows a state-level perspective on priority major watersheds for the goal of reducing contributions to downstream phosphorus loads. Relative to that goal, reducing phosphorus contributed by the **Lower St. Croix River Watershed** (Figure 3c) is a medium priority compared to other major watersheds.
- Figure 3d depicts the **Comfort Lake-Forest Lake Watershed District (CLFLWD)** in the Lower St. Croix River Watershed, with Comfort Lake and other impaired lakes shown in red. Phosphorus levels in the lakes put them at high risk of eutrophication. The CLFLWD Six Lakes TMDL Implementation Plan and the CLFLWD 2012-2021 Watershed Management Plan, Volume I identify and provide estimated costs and a schedule for implementing specific actions to meet TMDL load reductions and restore lake water quality throughout the subwatershed.



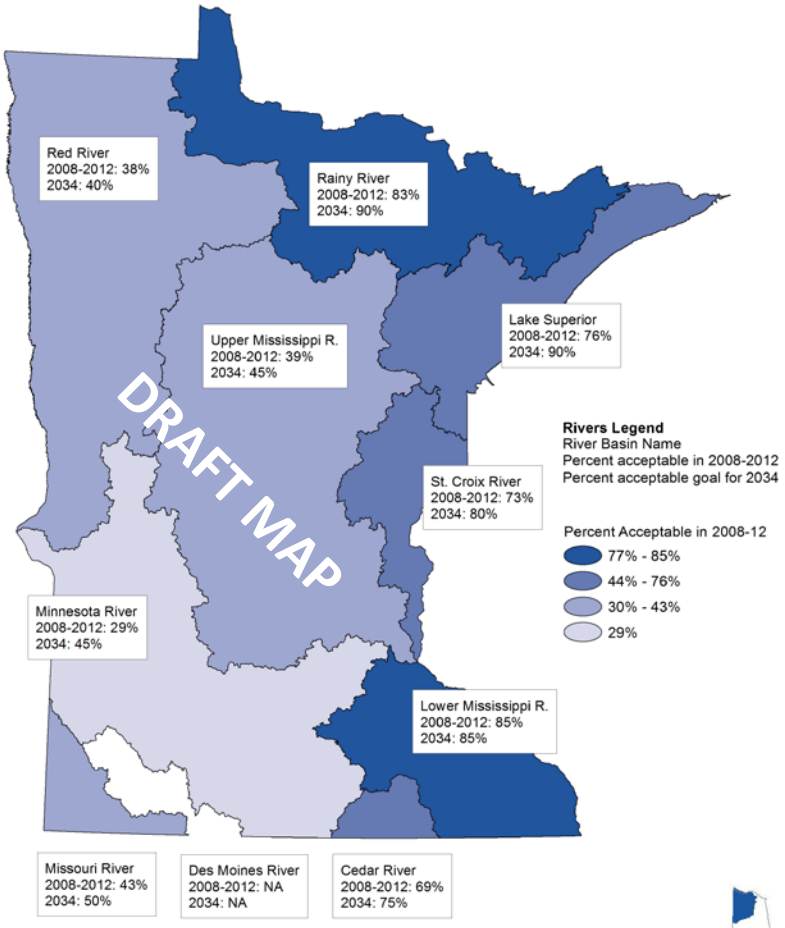


Figure 4. Clean Water Roadmap goals for river and stream water quality.

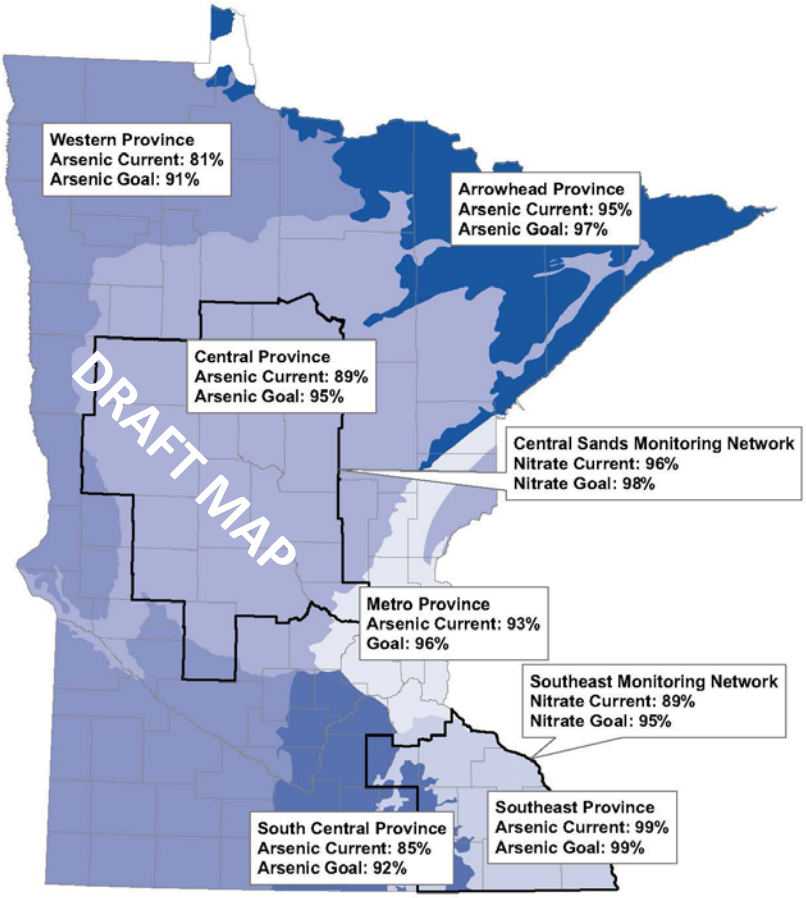


Figure 5. Clean Water Roadmap goals for groundwater quality.

2.6 High-Level State Priorities

State agencies have identified the following three high-level state priorities for investing Clean Water Fund nonpoint implementation money in FY 2016-2017, based on the principles of asset preservation and risk-opportunity assessment:

- **Restore those impaired waters that are closest to meeting state water quality standards.**
- **Protect those high-quality unimpaired waters at greatest risk of becoming impaired.**
- **Restore and protect water resources for public use and public health, including drinking water.**

These high-level priorities are informed by the factors below and embodied in the criteria in Sec. 3.

- Water quality conditions based on current monitoring data, indicating how close waters are to meeting or failing to meet state water quality standards. Waters that fail to meet standards are designated as impaired.
- Water quality trends based on monitoring data at multiple points in time, indicating whether water quality is improving, declining or stable.
- Natural susceptibility, sensitivity or vulnerability to nonpoint pollutants. For example, some aquifers are more vulnerable than others due to sandy soils, karst topography or aquifer depth.
- Rate and intensity of local land use or land management changes that impact water quality, such as urban development and altered hydrology.
- Nonpoint implementation priorities expressed in state plans and strategies.
- Nonpoint implementation priorities expressed in the 2013 Clean Water Legacy Act, Section 114D.20 Implementation; Coordination; Goals; Policies; and Priorities (M.S. 2013 114D.20).
- Contribution to watershed health based on modeling or the best available data.
- Recreational, aesthetic or economic value of a water resource to the local community and the general public.

2.7 Existing State Plans and Strategies

State programs governed by the NPFP may also be guided by existing state plans and strategies that identify specific pollutants, sources and pathways, geographic areas, landscape characteristics or practices as nonpoint implementation priorities.

Table 2 provides examples of nonpoint pollution priorities identified in selected recent state plans and strategies. Table 3 provides examples of state nonpoint implementation priorities by water resource type (stream, lake, groundwater) based on selected state plans and strategies.

Some state plans and strategies support regional, national or international goals. The draft Minnesota Nutrient Reduction Strategy, for example, supports goals related to the Mississippi River, the Gulf of Mexico, the Great Lakes and Lake Winnipeg.

Depending on the goals and priorities of these plans, agency Clean Water Fund funding decisions can be informed by as well as contribute to specific state plans and strategies.

Table 2. Examples of priority nonpoint implementation issues and approaches in selected recent state plans and laws.

State Plan	Priority Nonpoint Issues and Approach
Nonpoint Source Management Program Plan (MPCA, 2013)	Includes a comprehensive inventory of nonpoint issues affecting rivers, streams, lakes, groundwater and wetlands, with high-level priority strategies for each, often including specific practices.
Draft Nutrient Reduction Strategy (MPCA, 2013)	Identifies phosphorus and nitrogen load reductions, including loads to downstream watersheds within and beyond Minnesota impacting Lake Superior, Lake Winnipeg and the Gulf of Mexico hypoxia zone. Includes agricultural management practices that: • Account for natural levels and historical buildup of phosphorus in the soil • Keep soil erosion in check • Reduce nitrogen application rates • Increase vegetative cover during spring and fall months through perennials and cover crops • Trap and treat tile water on site to reduce the amount of nitrogen transported offsite
Draft Sediment Reduction Strategy for the Minnesota River Basin and South Metro Mississippi River (MPCA, 2014)	Includes strategies for achieving major reductions in sediment loading from the Minnesota River Basin and significant reductions from the South Metro Mississippi Watershed to meet TMDLs, including interim reduction goals for the next 15 years. Land use changes recommended practices that reduce sediment.
Draft Nitrogen Fertilizer Management Plan (MDA, 2013)	Highlights preventing and mitigating groundwater contamination from nitrogen fertilizer. Statewide and regional nitrogen fertilizer best management practices focusing on the type of nitrogen fertilizer and the rate, timing and method of application to cropland.
Fish Habitat Plan (DNR, 2013)	Describes principles of protecting and restoring water quality to provide habitat necessary for biological communities. Identifies focal areas of the state for implementing water quality focused habitat protection.
Groundwater Management Program Draft Strategic Plan (DNR, 2013)	Ensures that permitted groundwater appropriations do not adversely impact aquifer water quality or threaten trout streams, calcareous fens and other groundwater-dependent biological communities.
Water Governance Evaluation Report (MPCA, 2012 and updates)	Recommends to streamline, strengthen and improve sustainable water management in Minnesota. Relevant to the NPFP, these recommendations include: full-scale adoption by state agencies and local water management authorities of the watershed approach MPCA initiated in 2008; development of a system or framework for coordinating state agency water management responsibilities; and watershed-based local water planning.

State Plan	Priority Nonpoint Issues and Approach
Minnesota Drainage Law Analysis and Evaluation (Louis N. Smith and Charles B. Holtman, 2011)	Recommends to better integrate the effects of drainage on wetlands and water quality into drainage authority decisions about drainage system work; recommends to give drainage authorities more tools and resources for watershed-based planning and implementation of projects that integrate drainage, flood control, conservation and water quality benefits.
Minnesota Water Plan (Minnesota Environmental Quality Board, 2010)	Defines a vision for Minnesota's water resources that ensures healthy ecosystems and meets the needs of future generations. Defines a broad framework that can be adapted and applied to specific land and water activities. Strategies identify critical activities that state agencies have set out to accomplish by 2020 and beyond. Provides implementation principles including how state agencies should partner with local and federal agencies to ensure effective progress.
Minnesota Statewide Conservation and Preservation Plan (University of Minnesota, 2008)	Identifies the need for protection of critical shorelands of streams and lakes.
Minnesota Clean Water Legacy Act (Minnesota Legislature, 2006)	Launched Minnesota on an accelerated path to addressing impaired waters. Increased funding was provided for monitoring, assessment, TMDL studies and restoration and protection projects. Includes policy requirements that affect the watershed approach as a whole and nonpoint implementation specifically.
Metropolitan Council Water Resources Policy Plan (Metropolitan Council, 2005 and updates)	Includes policies and strategies for surface water management, water supply, wastewater and the wastewater system plan. Specific to surface water management, the WRPP includes policies and strategies aimed at protecting and restoring regional water quality using a watershed approach. Promotes use of best management practices for nutrient and sediment reduction such as the use of Minimum Impact Design Standards (MIDS) and other low impact development tools in developing and redeveloping areas to protect and restore the resources of the region. Includes monitoring and assessment information for the region's lakes, rivers and streams.

Table 3. Examples of priority nonpoint components by water resource type.

Component	Examples for Streams	Examples for Lakes	Examples for Groundwater
Priority Nonpoint Pollutants	• Nitrogen • Phosphorus • Sediment	• Phosphorus • Sediment	• Nitrogen
Priority Waters to Restore/Protect	• High-quality rivers and streams • Trout streams • Impaired reaches with high potential for recovery • Significant recreational value waters	• High-quality lakes • Cisco Lakes • Eutrophic lakes listed as impaired • Significant recreational value waters	• Vulnerable groundwater drinking water supplies
High-Level Strategies	• Leverage money from the federal Environmental Quality Incentives Program (EQIP) • Develop Step Up plans for state programs that provide incentives for practices that reduce, treat or trap nutrients and sediment before the pollutants enter rivers, streams, lakes and groundwater. The goal of the Step Up plans is to accelerate and advance nutrient reductions starting with existing program policy frameworks, but also working with stakeholders to determine what additional policies, funding, support, partnerships. etc., will be necessary to accomplish the levels of BMP adoption needed to achieve the milestones and goals. (Draft Minnesota Nutrient Reduction Strategy, MPCA, 2013)		
	• Target nutrient reduction projects to watersheds and subwatersheds with the greatest downstream impact • Target easement programs to buffers • Coordinate the design and siting of water storage and treatment in public drainage ditch systems • Protect trout streams from the potential impacts of groundwater withdrawals	• Target protection efforts to shoreland, critical source areas in the lakeshed and high-contributing upstream waters where applicable	• Target technical assistance for Wellhead Protection Area planning to public water suppliers in vulnerable groundwater areas • Target easement and BMP cost-share programs to land in vulnerable drinking water supply management areas • Protect sensitive aquifers from the potential water quality impacts of groundwater withdrawals

Component	Examples for Streams	Examples for Lakes	Examples for Groundwater
Technical Guidance for Identifying Local Nonpoint Implementation Priorities	• WRAPS and pre-WRAPS technical reports • Clean Water Partnership and other local diagnostic studies • Subwatershed spatial analysis with high-resolution LiDAR data to identify critical source areas	• WRAPS and pre-WRAPS technical reports • *Lakes in WRAPS* guidance for analysis of factors such as lake depth and lake-to-watershed size ratio • Risk assessment and analysis, such as Crow Wing County's 2013 Water Plan	• Source water protection planning process • WRAPS information on interactions between surface and groundwater
Nonpoint Implementation Activities	• BMP demonstration programs • Industry-led outreach programs • Point-nonpoint nutrient credit trading • Technical assistance	• Shoreland zoning • Technical assistance to local governments • Lake management association programs • Acquiring conservation easements	• Nutrient management demonstration programs • Markets for perennials • Technical assistance in implementing BMPs
	• Protecting natural vegetation cover and soils • Enforcement of existing laws and regulations		
Nonpoint Practices or Practice Categories	• Nutrient management • Drainage water storage, treatment • Stormwater BMPs • Riparian buffers • Cover crops • Erosion control	• Lakescaping • Stormwater BMPs • Feedlot runoff controls and surface applied manure management	• Perennial vegetation • Cover crops • Irrigation water management • Nitrogen BMPs for regions with sensitive aquifers
	• Minimal Impact Design Standards and Minnesota's Stormwater Manual efforts		

2.8 Keys to Implementation

The successful achievement of clean water goals relies on a number of key actions in addition to strategic allocation of funding. A brief summary of these keys to implementation is below.

Accelerate Watershed-Scale Implementation

Implementation will be most effective when Clean Water Fund money for the highest-priority actions follows local government adoption of watershed-based local water plans. Accelerating the consolidation of WRAPS and GRAPS into watershed-based local water plans that contain project implementation schedules will improve the ability to estimate needs and costs.

Prioritize and Target at the Watershed Scale

The key to developing watershed-based project implementation schedules and estimated costs is to first prioritize surface and groundwater strategies at the watershed scale and then target practices within subwatersheds or similar-scale units, using the best available science. A systematic, well documented approach to prioritizing and targeting is also a key to transparency.

Measure Results at the Watershed Scale

Similar to prioritizing and targeting, measuring results is best achieved at the watershed scale. Watershed-based local water plans capable of producing measurable results are essential to adaptive management and accountability to the public.

Also, mechanisms are needed to track the outcomes of voluntary actions since, for the vast majority of lands that contribute to nonpoint source pollution, we rely on voluntary actions by private land owners and managers to keep water pollution in check. Effectively measuring the outcomes against established benchmarks of voluntary actions is essential for supporting innovative nonregulatory approaches to nonpoint implementation (see “Support Innovative Nonregulatory Approaches” below).

Utilize Science-Based Information

A key to developing prioritized implementation schedules for projects with targeted actions, and measuring results of these actions, is to incorporate the wealth of science-based information, summarized in WRAPS, other technical reports and practice effectiveness research into local water planning and project development processes.

Build Local Capacity

The work of nonpoint implementation (including all of the Activities listed in Sec. 1.3) rests on the shoulders of local governments. As WRAPS proliferate (Sec. 2.1) and local water planning begins shifting to a watershed-based framework (Sec. 2.3) success is dependent on highly capable local government staff to develop, prioritize and target projects at the local level.

Timely investments in the local conservation delivery system are also key to helping local water management authorities use Clean Water Fund money to leverage other sources of nonpoint implementation funding, such as the federal Farm Bill conservation programs.

Maximize Existing Laws and Regulations

Customary approaches to nonpoint pollution implementation include regulation as well as financial incentives and education. A key to developing effective watershed restoration and protection strategies is to maximize the effectiveness of existing laws and regulations. A number of laws, rules and permits exist for nonpoint implementation, such as drainage, shoreland, buffers, soil loss, municipal stormwater systems, subsurface sewage treatment systems, feedlots, new water supply wells and pesticide use. In addition, an evaluation of these existing laws, rules and permits may be needed to be more effective at accomplishing water quality goals.

Support Innovative Nonregulatory Approaches

One of several keys to leveraging Clean Water Fund implementation money is to support the development of market-driven and reward-driven approaches. Examples include point-nonpoint water quality trading; public water suppliers working with farmers in wellhead protection areas with elevated nitrate levels to accelerate implementation of nutrient management practices; and the Minnesota Agricultural Water Quality Certification Program. Investments in nonpoint implementation activities such as technical assistance, outreach and education can help catalyze these types of innovative nonregulatory approaches.

Integrate Hydrologic Management Systems into Watershed Plans

Much of Minnesota’s natural hydrology has been altered for agricultural, forestry, urban/suburban and

industrial development. Increased runoff volumes and rates – due to drainage, removal of perennial vegetation, surface water alterations and the addition of impervious surfaces – contribute significantly to water quality problems. Storing water on the land can help address runoff to surface waters in both urban and rural situations and is a necessary foundation to successfully address nonpoint source pollution. Wetland restoration and other practices that increase infiltration help control volume and enhance groundwater recharge. Additionally, drainage water management can help manage and treat runoff especially as old drainage systems are replaced by new stormsewer and subsurface tile drainage systems. Integrating hydrology management systems into watershed-based action plans will assure greater attention is given to downstream impacts and benefits.

Section 3:
Process for Prioritizing Nonpoint Funding

This section describes the coordinated, transparent process state agencies will use to prioritize funding for potential nonpoint implementation actions based on available WRAPS, TMDLs and local water plans.

3.1 Criteria-Based Process

The NPFP is a criteria-based process that embodies the high-level state priorities identified in Section 2.6; is *"consistent with the priorities listed in section 114D.20,"* takes into account *"water quality outcomes, cost-effectiveness, landowner financial need, and leverage of nonstate funding sources"* and focuses on prioritized, targeted and measurable actions.

By design, the process is flexible to facilitate its utilization across diverse agencies and programs (Sec. 1.2 to 1.3). The process is also adaptive so agencies can assimilate important new information as it becomes available (Sec. 3.4).

3.2 Using Version 1.0

State Agency Responsibilities

State agencies allocating money from the Clean Water Fund for nonpoint implementation in FY 2016-2017 will:

- Determine which of their FY 2016-2017 Clean Water Fund appropriations fit or partially fit the NPFP's nonpoint implementation scope (Sec. 1.3).
- Apply the NPFP criteria to each applicable Clean Water Fund appropriation, consistent with strategic and legislative goals:
  - To determine the eligibility of a program, project or activity for funding from the appropriation;
  - To score or rank projects for potential funding from the appropriation; and/or,
  - To sort projects or activities into funding pools or quotas within the appropriation.
- Document how the agency is applying the criteria to each appropriation. If a criterion cannot be applied, provide an explanation.
- Participate in an NPFP Task Force, to be formed in 2014.
- Participate in evaluating Version 1.0.

NPFP Task Force

After posting Version 1.0, BWSR will convene a Task Force with state agency and local government representatives. The Task Force will collaborate on activities such as:

- Communicating the NPFP to local water management authorities and agency field staff.
- Gathering additional feedback from local water management authorities and other stakeholders.
- Conducting program-specific exercises to compare FY 2014-2015 funding decisions with hypothetical decisions under the NPFP.
- Identifying the best available data, tools and approaches to applying the NPFP criteria.
- Exploring opportunities to coordinate nonpoint implementation funding sources.
- Developing an approach for evaluating the NPFP every two years.

3.3 Criteria for Evaluating Proposed Activities

State agencies will use nine NPFP criteria to evaluate proposed program or project activities:

- Aligned with State Priorities
- Locally Prioritized and Targeted
- Measurable Effects
- Multiple Benefits
- Longevity
- Capacity
- Leverage
- Cost-Effectiveness
- Landowner Financial Need

Criterion: Alignment with State Priorities

Alignment of proposed activities with state priorities.

- High-level water resource priorities established by the NPFP (Sec. 2.6); and
- Nonpoint priorities identified in existing state plans and strategies mainly related to nutrients and sediment (Sec. 2.7).

Criterion: Locally Prioritized & Targeted

Effective prioritization and targeting of proposed activities at the watershed scale.

- *"Water quality outcomes"* is one of the four factors the NPFP is required to take into account.

This criterion addresses water quality outcomes by promoting systematic science-based processes at the local level to winnow down many potential sites and activities to those that will be most effective. These prioritization and targeting processes facilitate the development of prioritized project implementation schedules.

Questions to consider in evaluating proposed activities include but are not limited to:

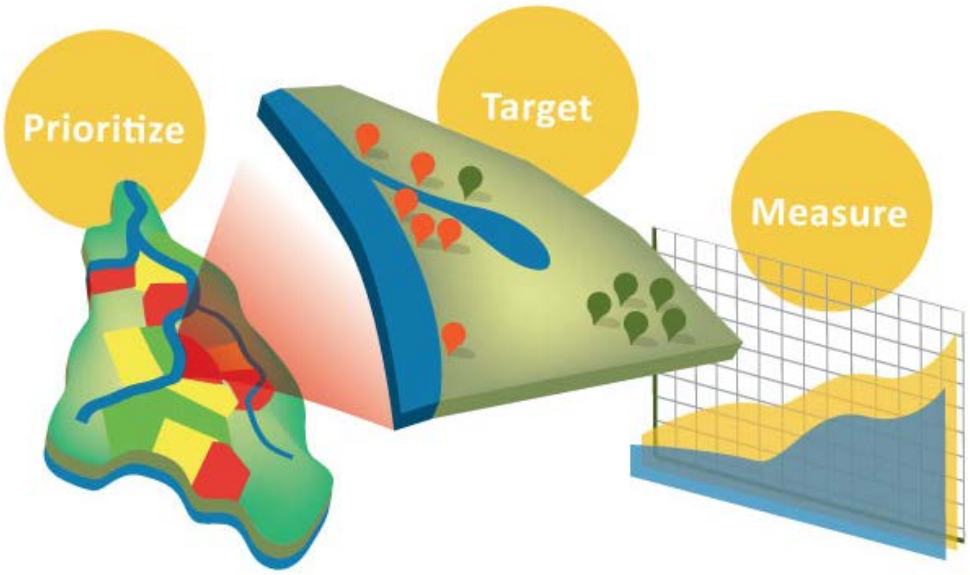
- Is the water resource to be restored or protected identified as a high priority in a WRAPS, TMDL or local water plan?
- Will the activities take place in priority subwatersheds identified using the best available models, decision support tools and data related to the most significant water quality problems or threats in the major watershed?
- Do the activities target priority practices to environmentally sensitive lands and critical nonpoint source areas to avoid, control or trap pollutants before they reach the water?
- How will landowners at high-priority sites be identified and encouraged to participate?

Watershed-based plans – especially Comprehensive Watershed Management Plans (Sec. 2.3) – that contain

Prioritized, Targeted, Measurable Actions

Prioritizing and targeting nonpoint implementation actions in order to develop projects capable of producing measurable results is an iterative and scale-dependent process. Several rounds of prioritization and targeting at multiple scales may be needed to narrow many options to a list of the highest-priority areas, sites and projects (Sec. 2.4 and Fig. 3).

In this context, prioritizing generally refers to ranking (for example, a project implementation schedule), while targeting generally refers to spatial analysis to identify locations on the landscape at subwatershed or similar scales. Targeting also involves identifying practices to maintain or adopt at these locations in order to meet specific water quality goals.



prioritized project implementation schedules will simplify the task of evaluating the NPFP Locally Prioritized and Targeted criterion.

Criterion: Measurable Effects

Capability of the proposed activities to produce measurable results at the watershed scale.

- *"Water quality outcomes"* is one of four factors the NPFP is required to take into account. This criterion is one of several ways water quality outcomes are addressed in the NPFP.

Questions to consider in evaluating this criterion include but are not limited to:

- Are predicted outcomes based on established methods and the best available data?
- Will actual outcomes be measured, and at what scale?
- Do benchmark and trend data exist against which to measure progress toward watershed goals?

Examples of methods, tools and data helpful in meeting this criteria include but are not limited to:

- Monitoring data and statistical assessments to quantify before/after implementation effects.
- Pollution reduction calculators to predict estimated reductions in nitrogen, phosphorus or sediment when certain practices are in place.
- Edge-of-field monitoring.
- Watershed and groundwater modeling to predict and compare the potential of different practices and practice systems to meet water quality goals.
- Empirical research on the water quality effectiveness of specific practices such as that presented in MDA's AgBMP Handbook and MPCA's Minnesota Stormwater Manual.

Key challenges to meeting this criteria include lag times between implementation and attributable water quality improvements, external drivers, the lack of watershed-scale numeric water quality goals and benchmark data in many watersheds, and limitations inherent in tools such as pollution reduction calculators.

Criterion: Multiple Benefits

Secondary water quality or other environmental benefits of the proposed activities.

- Consistent with M.S. 2013 114D.20, which suggests prioritizing projects with *"a high potential for long-term water quality **and related** conservation benefits."*

For example, in selecting between two otherwise comparable practices or sites to address the primary water quality issue, the one that provides additional public benefits would be the priority. Examples of additional, secondary benefits include but are not limited to wildlife habitat restoration, pollinator friendly practices, flood reduction, water re-use, forest stewardship and soil health.

Projects with additional, secondary water quality or other environmental benefits may attract additional partners and funding sources.

Criterion: Longevity

Expected lifespan of the proposed activities with proper maintenance or, for annual management practices, assurance that practices will be maintained for a specified period of time.

- Consistent with M.S. 2013 114D.20, which suggests prioritizing projects with *"a high potential for **long-term** water quality and related conservation benefits."*
- Indirectly addresses both *"cost-effectiveness"* and *"water quality outcomes"*, two of the factors the NPFP is required to take into account.

Criterion: Capacity

Readiness and ability of local water management authorities and partners to execute the proposed activities.

- Consistent with M.S. 2013, 114D.20 which states, *"where other public agencies and participating organizations and individuals, especially local, basin wide, watershed, or regional agencies or organizations, have demonstrated readiness"*

An important predictor of whether a project will meet proposed goals or objectives as projects often build on and benefit from the knowledge, skills and experience gained from previous efforts, including past partnerships.

The NPFP has potential to help more local governments become top performers to the extent that project development activities (Sec. 1.3) become a larger focus of state clean water investments. Also, state agencies could develop a coordinated system for providing qualitative feedback to local governments about proposed activities that are not selected as priorities for funding.

Criterion: Leverage

All non-Clean Water Fund dollars contributed for every dollar of Clean Water Fund money. Non-Clean Water Fund dollars include non-state dollars as well as state dollars from sources other than the Clean Water Fund.

- *"Non-state leverage"* is one of four factors the NPFP is required to take into account.

M.S. 2013 114D.20 calls for prioritizing projects that *"most effectively leverage other sources of restoration funding including federal, **state**, local, and private sources."*

Leveraging other funding sources maximizes the amount of restoration and protection work that can be implemented through the Clean Water Fund. Historically, key sources of leverage have included:

- Federal Farm Bill conservation programs;
- Federal 319 program;
- State sources, especially the Outdoor Heritage Fund, the Environmental and Natural Resources Trust Fund, and bonding bills;
- Local government sources;
- Nonprofit organizations;
- Landowners, who pay part of the cost to implement and maintain practices as a condition of participating in cost-share programs.

Criterion: Cost-Effectiveness

Cost per unit of pollutant load reduced or prevented as compared against specific water quality goals – Clean Water Fund cost and total project cost.

- *"Cost-effectiveness"* is one of four factors the NPFP is required to take into consideration.

Cost-effectiveness is a key factor in the high-level state priorities identified in Sec. 2.6. Two of the priorities focus on waters where water quality standards can be met or maintained with less effort as compared to other waters.

Using models and effectiveness monitoring to compare the cost-effectiveness of different scenarios for meeting water quality standards is a helpful approach to meeting this criterion.

Criterion: Landowner Financial Need

Increased financial assistance for low-income landowners.

- *"Landowner financial need"* is one of four factors the NPFP is required to take into account.

The following approach is designed to help rather than hinder progress toward water goals. Landowners participating in programs governed by the NPFP would have the opportunity to voluntarily apply for increased financial assistance on the basis of low income. Those who meet the designated low-income threshold would qualify for the increased financial assistance.

The type and amount of increased assistance could vary by program. For example, BWSR's state cost-share program payment rate is 75%; using the NPFP approach described above, BWSR would provide a higher rate, such as 90%, to landowners who apply for and qualify for the higher rate.

3.4 Adapting Future Versions

Version 1.0 of the NPFP provides a foundation to build on as new information becomes available. Future versions will benefit from several types of new information, as it becomes available:

- Additional WRAPS;
- Additional watershed-based local water plans;
- Additional GRAPS;
- Updated cost estimates (Sec. 4);
- Evaluations of the previous version of the NPFP; and
- Improved models and methods of measuring practice effectiveness and cost-effectiveness.

Section 4:
Estimated Costs

The NPFP law states *"the plan shall include an estimated range of costs for the prioritized actions."* Meeting this requirement will be a challenge until the state is blanketed by watershed-based local water plans that incorporate the best available WRAPS and pre-WRAPS information and contain project implementation schedules with estimated costs.

BWSR's Biennial Budget Request

Presently the best source of data for estimating nonpoint implementation costs for the state is BWSR's Biennial Budget Request (BBR). The BBR is a process for collecting data voluntarily submitted by local governments based on local water plans. BWSR debuted the BBR in 2012 in order to collect information on local government conservation and water management resource needs and estimated costs for FY 2014-15. To be included in the estimate, projects had to directly address water quality priorities or strategies identified in local water plans, TMDL studies and implementation plans, surface water intake plans, or wellhead management plans and had to be shovel ready.

The BBR was repeated in 2014 to collect information for projects to be implemented in the FY 2016-2017 biennium. This time, in addition to data about activities eligible for funding from BWSR, the BBR also collected data about activities eligible for funding from other state agencies. For the FY 2016-2017 biennium, the estimated statewide cost to implement a wide range of high-priority, shovel-ready nonpoint activities eligible for funding through Clean Water Fund appropriations to BWSR and other state agencies is $235.2 million or $117.6 million per year (Fig. 6).

Based on BBR data for the overall period of FY 2014 through FY 2017, Clean Water Fund needs for BWSR programs alone average more than $100 million per year – nearly three times more than historically appropriated.

Other Cost Estimates

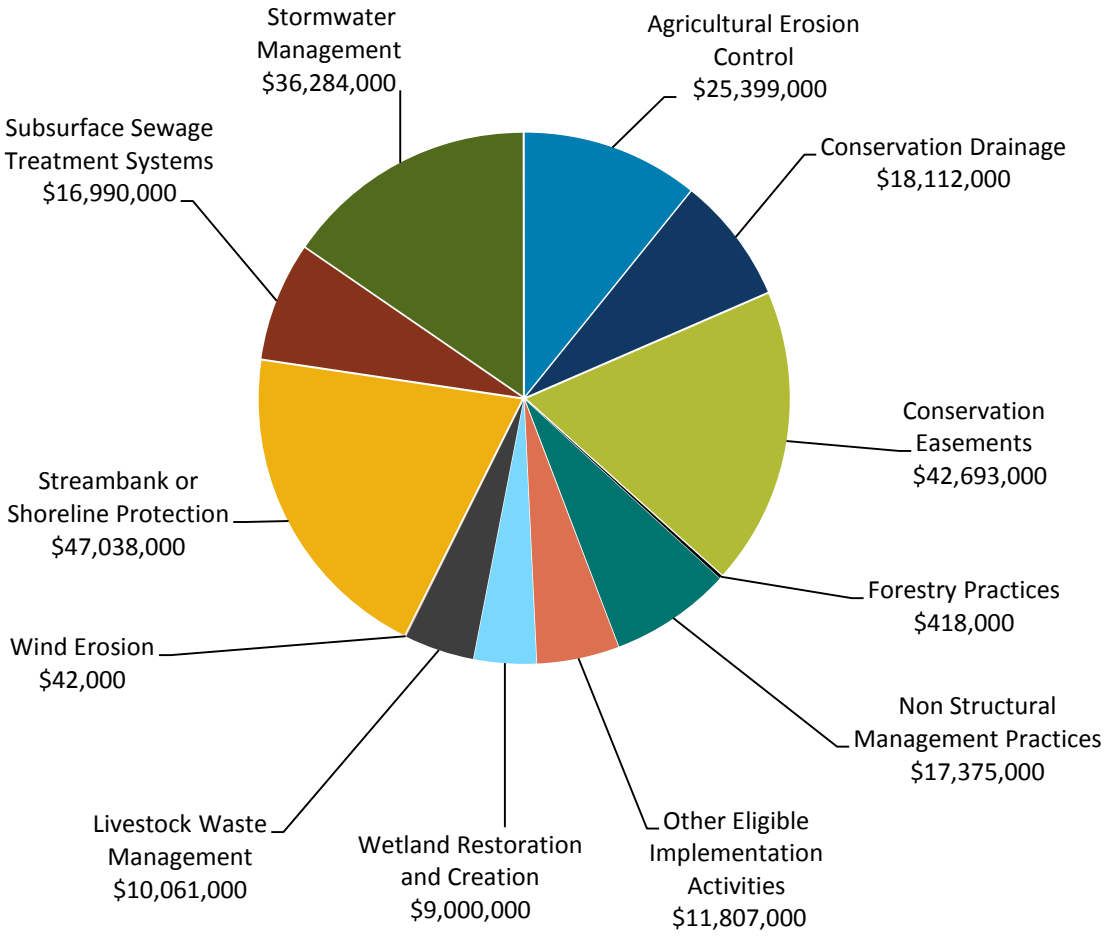
The BBR is the only summarized source of nonpoint implementation cost estimates that are statewide, biennial and comprehensive in terms of nonpoint activities. Examples of other sources of cost estimates are briefly described below. A subset of much of the information in these other sources is captured and summarized in the BBR.

- Draft Minnesota Nutrient Reduction Strategy: MPCA is working with federal, state and local partners to compile a statewide estimated range of costs for actions to reduce nutrient loading. The estimate will be available in FY 2015. These estimates will vary from the BBR in geographic scale, time (representing longer-term milestones), scope (only nutrient reduction strategies) and project readiness (represents all of the strategies to achieve the goals, not shovel-ready actions).
- Existing local water plans throughout the state include cost estimates for the strategies and actions identified in the plan, generally on a ten year timeframe. The BBR captures a subset of these planned actions and summarizes the information statewide.
- TMDL studies and implementation plans include actions to restore the given impaired water. Some include detailed cost estimates and others are high-level. The BBR captures a subset of the identified actions that are ready to implement and summarizes the information statewide.
- WRAPS reports summarize restoration and protection strategies and provide estimates of interim ten-year milestones. This information is not detailed enough to develop cost estimates. Comprehensive Watershed Management Plans that utilize WRAPS will provide these details.

Future Cost Estimates

Comprehensive Watershed Management Plans will build on and consolidate priorities outlined in existing local water plans, incorporating WRAPS, TMDLs and other information. The watershed-scale project implementation schedules in these plans will result in more consistent and comprehensive cost estimates for prioritized actions. Information from the individual plans will be collected and summarized through the BBR.

Figure 6. Statewide estimated costs to implement various Clean Water Fund eligible nonpoint activities during the FY 2016-2017 biennium. *All of the activities are identified in state-approved, locally adopted water management plans and each activity type has historically been eligible for money from one or more Clean Water Fund appropriations to BWSR or other state agencies.*



Appendices

Appendix A: The Minnesota Water Management Framework

The Minnesota Water Management Framework

A high-level, multi-agency, collaborative perspective on managing Minnesota's water resources

CLEAN WATER LAND & LEGACY AMENDMENT

The passage of the Clean Water, Land, and Legacy Amendment is a **game-changer** for water resource management in Minnesota. Increased funding and public expectations have driven the need **for more and better coordination** among the state's main water management agencies.

The **MN Water Quality Framework** and the companion **MN Groundwater Management Framework** were developed by the agencies to enhance collaboration and clarify roles in an integrated water governance structure, so that it's **clear to everyone who is responsible** at each stage in the process, making it **easier and more efficient** for state and local partners to work together.

Goals: cleaner water via comprehensive watershed management; ensure that groundwater is protected and managed sustainably.

The red arrow emphasizes the important connection between state water programs and local water management. Local partners are involved - and often lead - in each stage in this framework.

Building on a classic "plan - do - check" adaptive management approach, the framework uses 5 "boxes" to outline the steps Minnesota's agencies are taking toward our goals of clean and sustainable water. The agencies aim to streamline water management by systematically and predictably delivering data, research, and analysis and empowering local action.

Ongoing Local Implementation is at the heart of the state's overall strategy for clean water. Actions must be prioritized, targeted, and measurable in order to ensure limited resources are spent where they are needed most. The rest of the cycle supports effective implementation.

Monitoring and Assessment determines the condition of the state's ground and surface waters and informs future implementation actions. The state's "watershed approach" systematically assesses the condition of lakes and streams on a 10-year cycle. Groundwater monitoring and assessment is more varied in space and time.

Water Resource Characterization and Problem Investigation delves into the science to analyze and synthesize data so that key interactions, stressors, and threats are understood. In this step, watershed and groundwater models and maps are developed to help inform strategies.

Watershed Restoration and Protection Strategies (WRAPS) and Groundwater Restoration and Protection Strategies includes the development of strategies and high level plans, "packaged" at the 8-digit HUC scale (81 major watersheds in Minnesota). These strategies identify priorities in each major watershed and inform local planning.

The **Comprehensive Watershed Management Plan** is where information comes together in a local commitment for prioritized, targeted, and measurable action. Local priorities and knowledge are used to refine the broad-scale WRAPS and other assessments into locally based strategies for clean and sustainable water.

MN Department of Natural Resources • MN Department of Health • MN Pollution Control Agency • MN Board of Water and Soil Resources
MN Department of Agriculture • MN Public Facilities Authority • Metropolitan Council

Page 2

	Ongoing Implementation	Monitoring and Assessment	Watershed Characterization & Problem Investigation	Restoration and Protection Strategy Development	Comprehensive Watershed Management Plan
Minnesota Board of Water & Soil Resources	Funding and technical assistance for locally implemented watershed restoration and protection projects	Monitor progress of local implementation goals	Conservation targeting tools (e.g.,. Environmental Benefits Index) BMP guidance (e.g., drainage water management)	Participate on interagency watershed teams developing WRAPS (with all agencies)	Comprehensive Watershed Management Planning (One Watershed, One Plan) Local water and watershed plans
Minnesota Department of Natural Resources	Appropriations and Public Waters Permitting Shoreland and floodplain management Technical assistance for projects	Stream flow Fish and plants (lakes) Mercury in fish tissue Aquifer levels (with Met Council)	Stream hydrology and geomorphology (support MPCA) Small scale watershed modeling and groundwater level modeling County Geologic Atlas	Advise on conservation actions based on holistic view of watershed health (hydrology, geomorphology, connectivity, biology, water quality)	Input on local conservation actions informed by statewide plans for prairies, forests, etc. Water supply planning and groundwater management areas (with Met Council)
Minnesota Department of Health	Funding for source water protection, contaminants of emerging concern Well sealing cost share	Source water and finished drinking water Bacteria monitoring on Lake Superior beaches	Guidance for contaminants of emerging concern Data analysis and modeling to support WHPA delineation and vulnerability assessments for public water supplies	Source water protection planning (identification of problems, issues, and opportunities) Well construction management	Guidance for infiltration in DWSMAs Source water protection planning (local measures and strategies)
Minnesota Pollution Control Agency	NPDES permit programs, SSTS compliance Grants for Clean Water Partnership, Great Lakes Restoration, stormwater and wastewater treatment (PFA)	Water chemistry (surface and groundwater) Fish and macroinvertebrates (streams) Surface water assessment grants	Stressor Identification for biological impairments Watershed Modeling (8-HUC) TMDLs Civic engagement	Stakeholder agreement on broad watershed restoration and protection strategies (WRAPS) WRAPS report – includes implementation table TMDLs to EPA	Provide WRAPS for incorporation into local plans Input on management strategies informed by statewide nutrient plan
Minnesota Department of Agriculture	Ag BMP loans MN Agricultural Water Quality Certification Program Implement Nitrogen Fertilizer Management Plan (NFMP)	Pesticides (surface and groundwater) Nitrate (private wells)	Academic Research/evaluation Technical assistance to transfer Ag technologies and support TMDL process	Ag Best Management Practices, nitrogen fertilizer and pesticide management	Input on management strategies informed by statewide nitrogen fertilizer plan
Metropolitan Council	Technical assistance and demonstration projects	Lake, stream, river monitoring: flow, chemistry, biology Effluent monitoring (WWTPs) Impervious surface and land cover assessments	Modeling and trend assessments (surface water) Pollutant load calculations Groundwater mapping and characterization	Participate in WRAPS and local water planning teams Master water supply plan Groundwater management areas (with DNR)	Participate in review of local water and watershed plans (metro area); local water supply plans; and comprehensive land use plans (metro area)

Appendix B: Nonpoint Priority Funding Plan Stakeholder Process

In 2013, the Minnesota Legislature charged the Board of Water and Soil Resources (BWSR) with developing a Nonpoint Priority Funding Plan (NPFP) for use by state agencies allocating money from the Clean Water Fund for nonpoint restoration and protection strategies. BWSR and other Minnesota agencies affected by the legislation concluded that the NPFP should be a multi-agency plan.

In addition to BWSR, the other Minnesota agencies affected are: Metropolitan Council, Department of Agriculture (MDA), Department of Health (MDH), Department of Natural Resources (DNR), Pollution Control Agency (MPCA), and Public Facilities Administration (PFA). These agencies were actively involved in developing the NPFP.

- The Clean Water Fund Interagency Coordination Team (ICT) provided high level guidance to ensure agency coordination and buy-in.
- The Clean Water Fund Interagency Watershed Restoration and Protection Strategy/Implementation Team (WRAPS/Implementation Team) served in an advisory capacity at their monthly meetings for ten months.

Local government representatives were also involved through meetings, one-on-one discussions and written comments, with emphasis on how the NPFP will impact local water management authorities.

The stakeholder process used to gather input and feedback on Version 1.0 of the NPFP is outlined below.

Stakeholder Input and Data Gathering Phase (Fall-Winter 2013)

- Initial Input Meeting
  - Initial meeting with the Minnesota Environmental Partnership (MEP) Water Cluster, who worked with legislators to have the NPFP legislation enacted.
- Scoping Questions and Meetings – BWSR developed questions to gather information and perspectives on NPFP roles, ideas, issues, concerns and opportunities. Meetings to discuss diverse perspectives were held with:
  - Each of the state agencies listed above;
  - Local government association leaders;
  - MEP Water Cluster members;
  - Agricultural organization leaders;
  - Clean Water Council members; and
  - BWSR Board members.
- Tenets, Fact Sheet and Webpage
  - BWSR developed a tenets document and an NPFP fact sheet to provide more information on the process. The tenets were adjusted based on feedback solicited and received from the stakeholders listed above. A webpage was created on BWSR's website to provide access to these documents (and later the draft plan).

First NPFP Draft (April 2014)

The first draft was posted on the BWSR website and a request for comments was sent to all who responded to the original scoping questions. Over 400 individual comments were received and all were considered in developing the NPFP May 30th final draft document. Comments were solicited and received in several ways:

- Online Survey: A feedback form on the BWSR website was completed by the following:
  - Soil and Water Conservation District supervisor (1)

- MN Environmental Partnership (MEP) Water Cluster members (1)
- Agricultural organization/interest group (2)
- Metro Watershed Management Organization (1)
- MN Forest Resource Council (1)
- Watershed District (1)
- Citizen Member of the BWSR Board (1)

- Written comments were received from the following:

- MN Environmental Partnership (MEP) Water Cluster members (3)
- Agricultural organization/interest group (1)
- Soil and Water Conservation District (1)
- BWSR staff (6)
- State agencies (6)

- Meetings were conducted to gather input and review feedback from those who requested it as well as with the Clean Water Fund Interagency Coordination Team.
- BWSR Board Workshop – a three-hour workshop, including a presentation and open discussion, was conducted with all members of the Board.
- WRAPS/Implementation Team – a three-hour workshop, including a presentation and open discussion, was conducted with the entire team.
- BWSR Grants program and Reinvest in Minnesota (RIM) Reserve easement program staff each participated in meetings to discuss how the NPFP relates to these programs.

Final Draft (June 2014)

- Review and approval by the seven state agencies (see above) through the WRAPS/Implementation Team and the ICT – the NPFP was accepted at the June 12th ICT meeting.
- The May 30th draft was presented to the Clean Water Council at the Council's request and the Council provided feedback.
- BWSR RIM Reserve & Soil Conservation and Grants Program & Policy Committees – a joint meeting of these two BWSR Board Committees was conducted to review the May 30th draft, and then they recommended acceptance to the full Board.
- BWSR Board Acceptance – the NPFP was accepted at the June 25th BWSR Board meeting.

Final Document (July 2014)

- NPFP was posted on the BWSR website as required by the NPFP legislation.

Appendix C: References

All links current as of June 10, 2014.

Comfort Lake Forest Lake Watershed District (CLFLWD) 2012-2021 Watershed Management Plan, Volume I http://www.clflwd.org/documents/CLFLWDWMPVolumeIGoalsandImplementation_000.pdf
Comfort Lake Forest Lake Watershed District (CLFLWD) Six Lakes TMDL Implementation Plan http://www.pca.state.mn.us/index.php/view-document.html?gid=13956
Crow Wing County 2013 Water Protection Report http://mn-crowwingcounty.civicplus.com/DocumentCenter/Home/View/2297
Federal Clean Water Act http://www2.epa.gov/laws-regulations/summary-clean-water-act
Federal Farm Bill http://www.gpo.gov/fdsys/pkg/BILLS-113hr2642enr/pdf/BILLS-113hr2642enr.pdf
Index of Biotic Integrity http://files.dnr.state.mn.us/eii/factsheets/fish_ibi.pdf
Lakes in WRAPS Guidance http://www.pca.state.mn.us/index.php/view-document.html?gid=20531
Metropolitan Council Water Resources Policy Plan webpage http://www.metrocouncil.org/Wastewater-Water/Planning/Water-Resources-Management.aspx
Minnesota Agricultural BMP Handbook http://www.mda.state.mn.us/protecting/cleanwaterfund/research/agbmphandbook.aspx
Minnesota Agricultural Water Quality Certification Program http://www.mda.state.mn.us/protecting/waterprotection/awqcprogram.aspx
Minnesota Clean Water Accountability Act http://www.pca.state.mn.us/index.php/about-mpca/mpca-news/featured-stories/new-law-aims-to-increase-accountability-for-clean-water.html
Minnesota Clean Water Fund Performance Report http://legacy.leg.mn/sites/default/files/resources/2014_CleanWaterFund_Performance_Report.pdf
Minnesota Clean Water, Land and Legacy Amendment https://www.revisor.leg.state.mn.us/laws/?key=56967
Minnesota Clean Water Legacy Act http://www.cwc.state.mn.us/documents/CWLA%20fact%20sheet%208-14-06aa.pdf

Minnesota Clean Water Roadmap http://www.environmental-initiative.org/projects/clean-water-roadmap
Minnesota DNR Groundwater Management Program Draft Strategic Plan http://www.dnr.state.mn.us/gwmp/planning.html
Minnesota Drainage Law Analysis and Evaluation http://www.bwsr.state.mn.us/drainage/Drainage_Law_Eval_Smith_Partners_LCCMR_Final_Report_08-15-11.pdf
Minnesota Fish Habitat Plan – A Strategic Guidance Document http://files.dnr.state.mn.us/fish_wildlife/fisheries/habitat/2013_fishhabitatplan.pdf
Minnesota Legislative Coordinating Committee's Clean Water Fund projects webpage www.legacy.leg.mn/projects/project/10
Minnesota Nitrogen Fertilizer Management Plan (DRAFT) http://www.mda.state.mn.us/chemicals/fertilizers/nutrient-mgmt/nitrogenplan/draftplan.aspx
Minnesota Nonpoint Source Management Program Plan http://www.pca.state.mn.us/index.php/view-document.html?gid=19810
Minnesota Nutrient Reduction Strategy (DRAFT) http://www.pca.state.mn.us/index.php/view-document.html?gid=20213
Minnesota Statewide Conservation and Preservation Plan http://www.lccmr.leg.mn/documents/scpp/final_plan/scpp_final_report.pdf
Minnesota Statutes 2013, Chapter 137, Article 2, Section 14, 114D.20 https://www.revisor.mn.gov/statutes/?id=114D.20
Minnesota Statutes 2013, Chapter 137, Article 2, Section 14, 114D.50, subdivision 3a (Nonpoint Priority Funding Plan legislation) https://www.revisor.mn.gov/laws/?id=137&doctype=Chapter&year=2013&type=0
Minnesota Water Governance Evaluation: Recommendations to streamline, strengthen, and improve sustainable water management http://www.pca.state.mn.us/index.php/view-document.html?gid=18927
Minnesota Water Plan http://www.eqb.state.mn.us/documents/2010_Minnesota_Water_Plan.pdf
MPCA Project Priority List http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/wastewater-financial-assistance/wastewater-and-stormwater-financial-assistance.html

MPA watershed look-up tool www.pca.state.mn.us/index.php/water/water-types-and-programs/watersheds
Sediment Reduction Strategy for the Minnesota River Basin and South Metro Mississippi River (DRAFT) http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/special-projects/sediment-reduction-strategy-for-the-minnesota-river-basin-and-south-metro-mississippi-river.html
Trophic State Index http://aslo.org/lo/toc/vol_22/issue_2/0361.pdf
US EPA Clean Water Revolving Fund (319, CWP, AgBMP Loans) http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm

Appendix D: Glossary

BBR: Biennial Budget Request – BWSR's process of collecting data from local governments on priority projects ready to implement in the next biennium.

BMP: Best management practice.

BWSR: Minnesota Board of Water and Soil Resources.

Clean Water Fund: One of four funds that is part of the Minnesota Clean Water Land & Legacy Amendment passed by voters in 2008.

DNR: Minnesota Department of Natural Resources.

FY: Fiscal Year. The State of Minnesota fiscal year runs July 1 through June 30.

GRAPS: Groundwater Restoration and Protection Strategies – A process for integrating groundwater restoration and protection strategies into the watershed approach. The process is still under development, with a pilot project currently under way. While the science of groundwater systems does not fit neatly within the boundaries of a surface watershed, it is possible to package current knowledge, protection priorities, and restoration needs for use by local governments. Understanding of groundwater and relevant geology varies widely across the state; where county geologic atlases and additional research exists more detailed recommendations can be made. Broad protection measures can be utilized for areas where more detailed information is lacking.

Impaired water: A water body that does not meet US Environmental Protection Agency (EPA) water quality standards and does not support designated uses such as drinking, swimming or trout habitat. MPCA maintains a statewide list of impaired waters and its watershed look-up tool (see References) provides easy access to a list of impaired waters for any given major watershed.

Implementation: For NPFP purposes, this is defined as ongoing work primarily at the subwatershed or similar scale to not only put practices on land, but also to develop and administer programs and projects and coordinate and manage all of the activities essential for on-the-ground actions to succeed. Most implementation programs and projects involve a mix of activities such as: Project development (including project-level targeting of practices and sites, encouraging landowner participation, recruiting project partners and leveraging funds); Technical assistance to help landowners adopt and maintain practices; Targeted outreach; Enforcement and enhancement of existing laws and regulations; and Project evaluation activities.

Interagency Core Teams: Teams of state agency field staff involved in WRAPS planning and implementation activities in each major watershed, including a main point of contact for each state agency in each major watershed.

Karst topography: A landscape that forms on soluble rocks such as limestone, characterized by caves, sinkholes and other features. In Minnesota, karst is generally found in the southeastern area and in Pine County.

Local Government Water Roundtable: A group developed by the Association of Minnesota Counties (AMC), the Minnesota Association of Soil and Water Conservation Districts (MASWCD) and the Minnesota Association of Watershed Districts (MAWD) with BWSR serving in an advisory capacity. The group provides recommendations to their members and state policy makers on how to deliver water management in Minnesota more efficiently and effectively in accordance with economic realities and accompanying pressures on state and local resources.

Local water management authorities: Local government units that coordinate planning under Minnesota Statutes 103B.301 to 103B.335 and, for purposes of the NPFP, other government units required or authorized to develop other types of local water plans.

Local water plans: In the NPFP, this term refers collectively to nearly 700 plans developed by different local governments to address different types of water management issues and concerns, as required or authorized by a number of different statutes.

Major river basin: A watershed boundary similar to US Geological Survey 6-digit Hydrologic Unit Code (HUC6) areas, modified to fit within Minnesota's state boundaries. This is the scale at which the Clean Water Roadmap establishes water quality goals. Examples of major river basins in Minnesota include but are not limited to the Red River Basin and the Minnesota River Basin.

Major watershed: US Geological Survey 8-digit Hydrologic Unit Code (HUC8) areas nested within major river basin boundaries. There are 81 major watersheds in Minnesota.

MDA: Minnesota Department of Agriculture.

MDH: Minnesota Department of Health.

Metropolitan Council: The regional policy-making body, planning agency and provider of essential services for the Twin Cities metropolitan region.

MIDS: Minimal Impact Design Standards – A set of standards developed and used to manage stormwater in ways that improve water quality. It focuses on keeping the raindrop where it falls and mimicking natural hydrology in order to minimize the amount of pollution reaching lakes, rivers and streams and groundwater, and to recharge aquifers. The standards create consistency in the design and performance of stormwater management practices.

MPCA: Minnesota Pollution Control Agency.

Nonpoint implementation: For NPFP purposes, this is defined as local-level actions to restore and protect surface and ground water quality in urban, agricultural and forested landscape or anywhere water quality problems or threats are due to nonpoint sources.

Nonpoint sources: Diffuse sources of pollution that are carried into rivers, streams, lakes, wetlands and groundwater.

Nonpoint pathways: The routes or ways in which nonpoint source pollutants enter rivers, streams, lakes, wetlands and groundwater.

NPFP: Nonpoint Priority Funding Plan.

One Watershed One Plan: A BWSR comprehensive watershed planning initiative to pilot the voluntary transition from county-based to watershed-based local water planning.

Outdoor Heritage Fund: One of four funds that is part of the Minnesota Clean Water Land & Legacy Amendment passed by voters in 2008.

PFA: Minnesota Public Facilities Authority, an agency that administers loan and grant programs to help local governments finance water infrastructure projects – including Clean Water Fund programs administered in conjunction with the MPCA for wastewater and stormwater projects.

Plan-Do-Review: An adaptive management cycle in which implementation activities are preceded by planning activities and followed by evaluation and review activities. The evaluation and review process is used to improve the next round of planning and implementation.

Point-nonpoint water quality trading: A voluntary exchange of pollutant reduction credits between a regulated point-source facility and a nonpoint source in the same watershed undertaken voluntarily to reduce the facility's cost of regulatory compliance. For example, a processing facility with a permit limiting phosphorus discharges into a river may be able to comply with the permit by paying farmers in the watershed to use cover crops or other practices that reduce phosphorus loading.

Pollution reduction calculators: Model-based formulas for estimating pollutant load reductions by entering information such as the number of acres across which specific practices are implemented.

Pre-WRAPS reports: Technical reports completed for a major watershed in the four or so years leading up to the development of a WRAPS report. These include but are not necessarily limited to monitoring and assessment

reports, stressor identification reports, TMDL studies and HSPF modeling outputs. (HSPF stands for Hydrologic Simulation Program Fortran – a US EPA model that simulates watershed hydrology and water quality conditions.)

Project Priority List (PPL): A prioritized list of proposed wastewater and stormwater infrastructure projects throughout Minnesota for which local governments are seeking state funding. Projects are ranked based on environmental criteria established in MPCA rules.

RIM: Reinvest in Minnesota Reserve – an easement program administered by BWSR with multiple sources of funding, including the Clean Water Fund.

Water quality standards: The foundation of the water quality-based pollution control program mandated by the federal Clean Water Act. Water quality standards define the water quality goals for a water body by designating uses, setting criteria to protect those uses and establishing provisions such as anti-degradation policies to protect water bodies from pollutants.

Groundwater provinces: Six geographic regions designated by the State of Minnesota based on similarities in groundwater sources and availability for drinking water, industrial and agricultural uses.

Stressor identification: In recent years the MPCA has substantially increased the use of biological monitoring and assessment to determine and report river and stream conditions. The basic approach is to examine fish and aquatic macroinvertebrate communities and related habitat conditions at multiple sites throughout a major watershed. From these data, an Index of Biological Integrity (IBI) score is developed, which provides a measure of the overall health of the biological community. If biological impairments are found, stressors to the aquatic community are then identified.

Subwatersheds: Watersheds smaller than (and nested within) major watersheds – generally equivalent to US Geological Survey 10-digit, 12-digit, 14-digit or 16-digit Hydrologic Unit Code areas.

SWCD: Soil and Water Conservation District – a local government unit tasked with soil and water conservation planning and implementation activities. There are 90 SWCDs in Minnesota.

TMDL: Total Maximum Daily Load – the maximum amount of a pollutant a water body can receive while still meeting water quality standards.

Watershed District (WD): A local unit of government whose boundaries follow those of a natural watershed. WDs in Minnesota are governed by a board of managers appointed by commissioners of counties that have land within the district's boundaries. Each district is required to have a citizen advisory committee to provide input to district managers on projects and activities.

Watershed Management Organization (WMO): A watershed district located wholly within the metropolitan area (or a joint powers entity established wholly or partly within the metropolitan area by special law or agreement). WMOs perform some or all of the functions of a watershed district and have the characteristics and authorities specified under Minnesota Statute 103B.211.

WRAPS: Watershed Restoration and Protection Strategies – reports being developed for each of Minnesota's 81 major watersheds as part of the state's watershed approach. The purpose is to help local working groups (local water management authorities and community partners) develop scientifically supported restoration and protection strategies using technical reports completed for the watershed in the years leading up to the WRAPS report (see Pre-WRAPS reports in this glossary). The 2013 Clean Water Accountability Act specifies certain content that WRAPS reports must include.

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