

Outline

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Overview

From May 2009 through June 2011, in partnership with the Minnesota Pollution Control Agency (MPCA) and many local partners, the Cannon River Watershed Partnership (CRWP) developed the Cannon River Watershed Management Strategy. This watershed wide effort brings together what we know about the watershed's many lakes and rivers, and the existing plans and priorities of local government units and state agencies to create an overarching strategy for the entire watershed. The goal of this strategy is to prioritize and target conservation work to protect and restore the waters of the Cannon River Watershed to meet state water quality standards. In the face of finite staff and monetary resources available it is important that our resources are targeted to achieve measurable water quality improvements.

As part of developing the watershed strategy, CRWP looked back at the history of the watershed and what has been accomplished over the last fifty years. With assistance from the Waters Resources Center at Minnesota State University-Mankato (MSU), [Signs of Progress: The State of the Cannon and Straight Rivers](#) was created. The report highlights which streams and lakes are improving, which aren't, and other signs of progress across the Cannon River watershed in a style that's easily understandable for the average citizen. The Signs of Progress report is included as Appendix A.

Chapters two through five provide background information about the watershed, including a summary of water quality trends identified by MSU, the primary pollutants of concern and other stressors in the watershed, and an overview of management strategies presently used in the Cannon River watershed. Chapter six discusses the importance of Priority Management Zones (PMZs) in targeting conservation work and lists the PMZs for each watershed lobe, which are discussed in greater detail in Chapters eight through eleven. Chapter seven discusses the importance of civic engagement in watershed management. Chapters eight through eleven are the management strategies for the watershed's four areas, or lobes. Because of the large size of watershed (nearly one million acres) and the diversity of the landscapes in the watershed, to aid in management we divided the watershed into four lobes. They are the Upper Cannon River, the Straight River, the Middle Cannon River, and the Lower Cannon River. The geographic boundaries of the watershed lobes are shown in Figure 1. The Upper Cannon River is dominated by lakes. The Straight River is highly agricultural. The Middle Cannon River is the transition zone between the Upper and the Straight and has more urban land use. The Lower Cannon enters the driftless area with trout streams and more forested land.

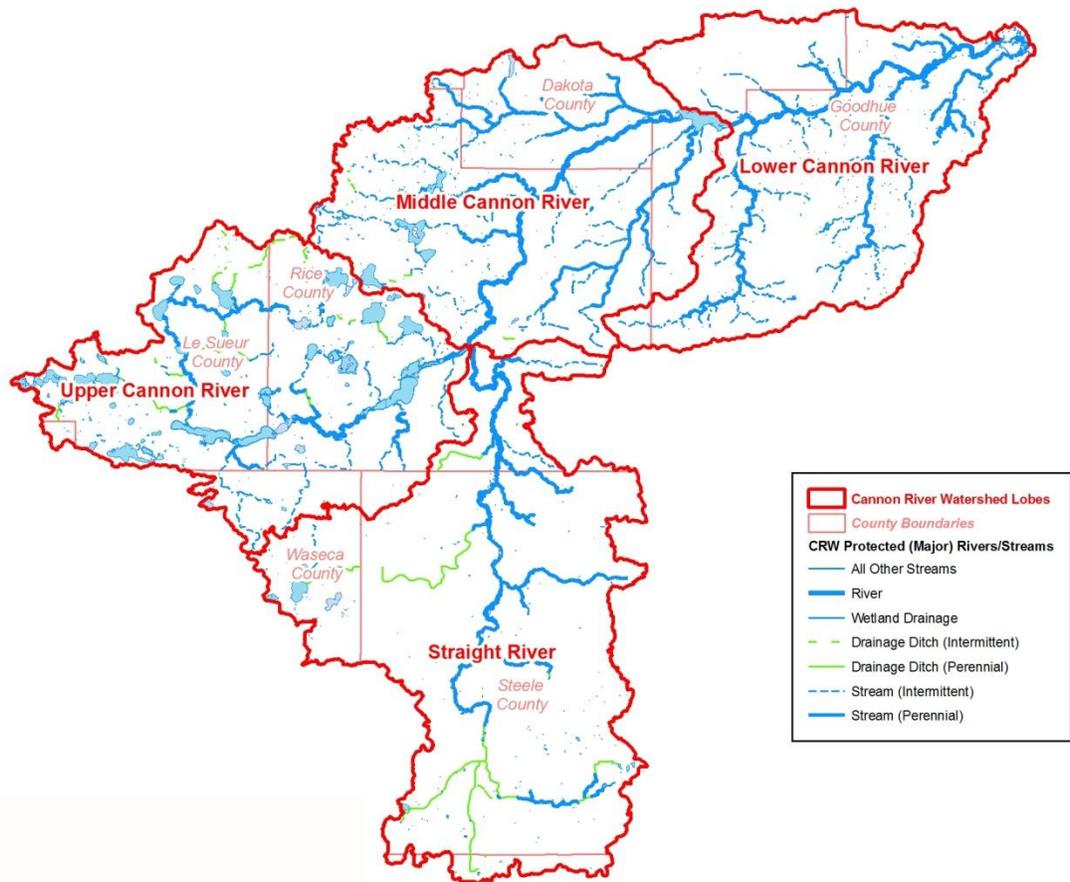


Figure 1. Cannon River watershed lobes. This figure shows the four watershed lobes and the counties within the Cannon River watershed.

This document is the first generation of the Cannon River Watershed Management Strategy. It will be updated in 2014 after the MPCA conducts its intensive watershed monitoring in 2011-12 and stressor identification in 2012-13. Figure 2 shows the timeline for the MPCA’s “Watershed Approach” for the Cannon River Watershed. More about the MPCA’s watershed approach can be found on page 1-3 and in Appendix B.

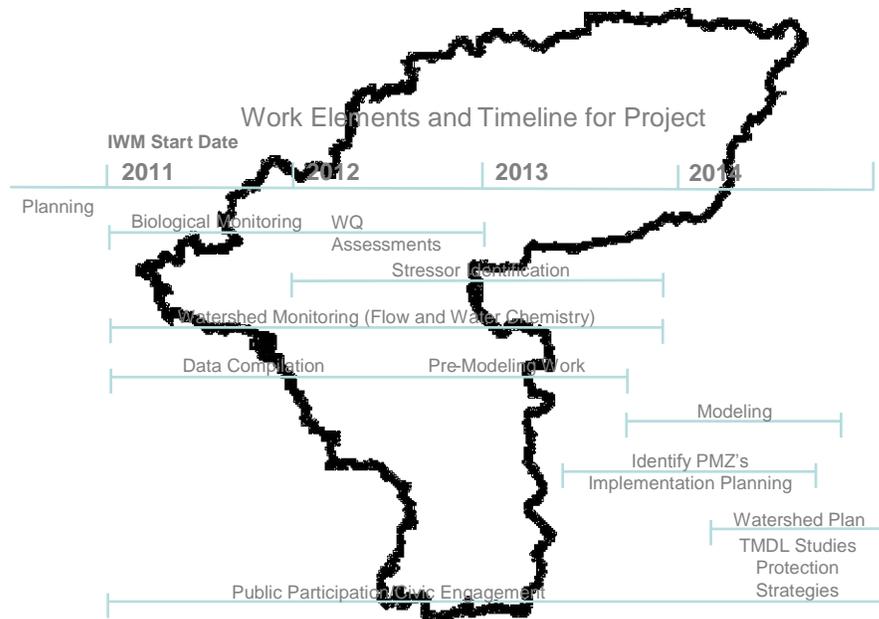


Figure 2. Watershed approach timeline. This figure shows the timeline for the MPCA’s Watershed Approach in the Cannon River watershed.

The following is a summary of how surface water is currently managed at the Federal, State, and Local levels.

Clean Water Act Framework

The Federal Clean Water Act governs the management of surface water in the Cannon River watershed. The Clean Water Act regulates pollution discharges into waterways, requires states to adopt water quality standards for rivers, lakes, and other waterbodies, and sets the overarching national goal of having fishable and swimmable water.

The Minnesota Pollution Control Agency (MPCA) is delegated by the United States Environmental Protection Agency (USEPA) as the state agency responsible for meeting Minnesota’s responsibilities under the Clean Water Act. The MPCA:

- Assigns designated beneficial uses to waters and develops water quality standards to protect those uses,
- Assesses the waters of the Cannon River watershed to determine if they are meeting water quality standards,
- Lists waters that do not meet standards on the 303(d) Impaired Waters List
- And then conducts Total Maximum Daily Load (TMDL) studies to set pollution reduction goals for listed waters.

Over the last thirteen years of assessing Minnesota’s waters and developing TMDLs, the MPCA has used a waterbody-by-waterbody and pollutant-by-pollutant approach. The MPCA is now transitioning to an intensive, comprehensive approach to assessing and studying streams, rivers and lakes in each major

watershed (e.g. Cannon, Root, Zumbro Rivers, etc.), called the “Watershed Approach.” A fact sheet on the Watershed Approach is included as Appendix B of this document. The Watershed Approach will be initiated in the Cannon River watershed in 2011.

TMDL Process Moving Forward

The first TMDL addressing waters in the Cannon River watershed was the Southeast Minnesota Fecal Coliform Bacteria TMDL, which was completed in 2002 and updated in 2006. The second TMDL, the Lower Cannon Turbidity TMDL, was completed in 2007. Currently, the Byllesby Reservoir Phosphorus TMDL, Straight River Turbidity TMDL, and Upper Cannon Lakes Phosphorus TMDL (for Lake Volney and Jefferson-German Chain of Lakes) are in progress. The convergence of these project timelines was set to generate multiple TMDL studies and corresponding implementation plans in the Cannon River watershed. It was generally acknowledged that a more desirable situation could be achieved by unifying these planning efforts and examining TMDL development going forward.

Thus, as part of the transition to a Watershed Approach, TMDL development in the Cannon River watershed should be revisited over the coming years. There is no prescriptive guidance or framework at this point, but the general direction should be toward applying TMDL rigor where it is most useful. That is: broad and sweeping TMDLs that address nonpoint source pollution issues are not particularly useful; rather, funds and time should be focused on research (including inventories, terrain analysis, etc.) and monitoring aimed at better understanding the pollutant’s sources and delivery mechanisms. A traditional definition of TMDL suggests that it would address this need, but application has thus far shown that nonpoint TMDL studies typically fall short regarding particularly new and useful information for landscape management. In contrast, in cases that involve significant point source components, the quantification and modeling provided by TMDLs are important and often times constitute the core information used to steer implementation and planning.

The Cannon River watershed includes 212 stream assessment units, and 100 lake assessment units. Computing TMDLs for multiple pollutants for all of these assessment units will not drive water quality improvement in the watershed. Rather, a thoughtful allocation of time, funding and focus is appropriate. Going forward, grouping of assessment units and the level of rigor applied in TMDL work in the Cannon River watershed should be determined according to (1) EPA requirements, (2) existing assets (completed TMDLs, models, etc.), and (3) consideration of how the output will be used in watershed management.

Existing Watershed Management in the Cannon River Watershed

Because so many government entities at both the state and local levels have watershed management programs, it is difficult to achieve a comprehensive management plan.

To illustrate, at the local level, six counties, six soil and water conservation districts, and the cities within the watershed have various water management plans, programs and activities. In addition, there are two government watershed management entities, the Belle Creek Watershed District in Goodhue County, which was formed primarily to deal with flooding, and the North Cannon Watershed Management Organization (WMO), which covers Dakota County’s portion of the Cannon River watershed. Because watershed management is so widely shared, communication between government entities and coordination of programs and projects is a key to improving water quality.

The counties and soil and water conservation districts that cover the Cannon River watershed set their water related priorities through county Local Water Management Plans. One exception is in Dakota County where the North Cannon WMO's Watershed Management Plan serves a similar purpose as the Local Water Management Plans in the other counties of the watershed. These plans identify potential and existing water resource related issues and how these resources can be protected, sustained, and enhanced. The priorities are set by a local water plan committee made up of county staff and interested citizens. These plans are reviewed by the public and are adopted by county and watershed boards.

While the local water plans are voluntary for each county, various state and federal grants require recipients to have an adopted local water management plan. The Minnesota Board of Water and Soil Resources (BWSR) has oversight responsibilities for local water plans to ensure that they are prepared and coordinated with existing local and state efforts and that they are implemented effectively. The expectation of BWSR, and its partnering state agencies, are that the strategies and conclusions derived from reviewing the data collected within the Cannon River watershed result in identifying activities and targeted landscapes that local communities and citizens believe will have the greatest impact for water quality improvements. By documenting these water quality priorities within a major watershed context and incorporating these priorities into local plans, the local governments responsible for on-the-ground implementation will be able to raise funds, undertake projects, enforce ordinances, assist landowners, and pursue outside competitive funding for implementation projects.

The cities of Northfield and Faribault set their water related priorities through Surface Water Management Plans. The other cities in the watershed do not have a specific plan. The municipal separate storm sewer system (MS4) communities of Waseca, Owatonna, Northfield, and Faribault are required to have Stormwater Pollution Prevention Plans (SWPPs) approved by the MPCA to manage their runoff.