Mississippi Headwaters – Lake Itasca, Itasca State Park, Minnesota, circa 1900
Photo courtesy of Minnesota Historical Society

Section 1 – Executive Summary: The Upper Mississippi River Basin Water Quality Plan

Like the Mississippi River itself, the Upper Mississippi River Basin Water Quality Plan (UMRB Plan) is the sum of many parts. The Plan can be used for local watershed efforts by individuals, associations, and watershed groups, and at the same time forms the backbone of water quality management efforts in the Basin as a whole. This Basin Water Quality Plan document is intended to serve as a "blueprint" for water quality management efforts in the Upper Mississippi River "headwaters region," from its tributaries and watersheds in Itasca State Park to near Anoka, Minnesota. (A second planning document on the Mississippi River – Twin Cities watershed segment is scheduled to be completed in the near future.)

The purpose of the UMRB Plan is to use the needs identified for the Basin to coordinate the work of the Minnesota Pollution Control Agency (MPCA) and others in protecting and restoring the water resources within the MPCA's authorizing legislation and abilities. As presented, this Plan serves as a strategic direction for the water quality efforts in the Upper Mississippi River Basin. Future plans, studies, and efforts will refine this Plan's goals and strategies to establish specific targets, better fit local considerations, or establish a foundation or framework of action.

While the UMRB Plan emphasizes the MPCA authorities and activities, it is not only the MPCA's plan. The other groups and agencies who participated in the development of the Plan, will undertake activities individually to meet the Plan, and in some cases, develop more stringent goals or recommendations based on the Plan. The efforts may focus on MPCA programs and activities, but it will take the efforts of many groups to be successful in the implementation of the plan.

Upper Mississippi River Basin: Needs Assessment

The UMRB Plan lays out Basin needs identified through several public input meetings and a basin-wide MPCA survey on water quality issues in the Upper Mississippi River Basin. Based on this work, the MPCA identified the following general categories of Basin needs:

1. An inventory and classification of the existing water quality of the Basin's lakes, rivers and streams and ground water.
2. Additional monitoring and data collection of the rivers, streams, lakes and ground water quality.
3. Better understanding and control of the impacts of phosphorus, nitrogen, sediment, bacteria, and other pollutants on the Basin's water quality.
4. Better storm water management in the urbanizing areas of the Upper Mississippi River Basin.
5. Adequate wastewater treatment to protect water quality in the Upper Mississippi River Basin.
6. Proper management of our ground water and source water resources, particularly the Mississippi River as a source of water for the cities of St. Cloud, St. Paul and Minneapolis (approximately 1 million people; 20 percent of the State's residents).
7. Better feedlot management and the implementation of the rules and regulations for feedlots.
8. Adequate response to the emerging issues impacting water quality, such as hypoxia in the Gulf of Mexico.

Upper Mississippi River Basin Plan Goals

The eight needs served as the framework for developing Basin goals, objectives, strategies and milestones in the UMRB Plan. Based on work with the various stakeholder groups, the MPCA developed the following goals within each category of the needs identified:

Inventory and Classification of the Water Quality Resource Goals:

- Protect all Outstanding Resource Value Waters (ORVW) to ensure the unique characteristics are maintained.
- Initiate efforts to restore impaired waters to meet water quality standards resulting in the removal from the impaired waters designation.
- Implement efforts to identify and classify surface waters requiring additional protection as well as waters requiring attention to reverse a trend toward impairment designation.

Monitoring and Data Collection Goals:

- Establish a long-term Basin Monitoring Program to provide water quality data on the streams, rivers, lakes and ground water.
- Establish a web-based data access and retrieval system (Environmental Data Access Initiative) to provide access to water quality data on the streams, rivers, lakes and ground water.
- Quantify the loadings of nutrients and other typical water quality parameters.
- Establish a coordinated monitoring network between federal, state, local units of government and local environmental groups to collect the water quality data and information necessary to make informed management decisions.

Nutrient Management and Other Water Quality Impact Goals:

- Nutrient values (phosphorus and nitrogen) for streams, rivers, and lakes are within appropriate Ecoregion values.
- Turbidity and sediment levels in the water bodies in the Basin are within Minnesota Rules Chapter 7050 classification use standards.
- Water bodies in the Basin met Minnesota Rules Chapter 7050 classifications for dissolved oxygen levels to fully support recreational and aquatic life goals.
- Bacterial levels (including fecal coliform, e coli, and viral pathogens) are at appropriate levels under the Minnesota Rules Chapter 7050 classifications to prevent or reduce the potential for water-borne diseases and maintain recreational uses.
- Protect human health from the impacts of bioaccumulative toxics, mercury and polychlorinated biphenyls (PCBs).

Storm Water Management Goals:

- Minimize impacts of storm water from existing and future storm water discharge areas on the waters of the Upper Mississippi River Basin by implementing the storm water best management practices and the Phase II Storm Water Program. Contribute proportionally to the 1.2 million ton per year statewide storm water management reduction in sediment goal from construction sites.

Wastewater Management Goals:

- Provide adequate wastewater treatment to the residents of the Basin to protect their health and safety, while at the same time minimizing the impacts of wastewater treatment system discharge on water quality and the environment.
- Minimize the impacts of Individual Sewage Treatment Systems (ISTS) on surface and ground water quality in the Basin.

Feedlot Management Goals:

- Minimize the impacts of feedlot and animal waste on water quality in the Basin.

Source Water and Ground Water Goals:

- Protect, restore and manage the quality of the ground water (wellhead) and surface water (source water) used for drinking water in the Basin.
- Protect, restore and manage the quality of ground water in the sand plains, recharge zones, and other locally identified sensitive areas.

Emerging Issues Goals:

- Protect, restore and manage water leaving Minnesota to ensure that nitrate and nutrient impacts to the Gulf of Mexico hypoxic zone are limited.
- Protect, restore and manage water to prevent impacts from emerging issues such as pharmaceuticals, hormonal compounds, and endocrine disruptors on the health and safety of residents in the Basin.

For each of the goals, the MPCA and stakeholders developed specific objectives, strategies/activities, and milestones, which can be found in Section 4. Implementation plans for the strategies/activities are listed by watershed planning unit in Section 5.