

Section 6

Management Framework

INTRODUCTION

Minnesota Rules Chapter 8410 requires watershed management plans to address eight management areas and to include specific goals and policies for each. Strategies and policies for each goal were developed to serve as a management framework and are discussed in detail in this section. To implement these goals, policies, and strategies, the Commissions have developed the Capital Improvement Program and Work Plan discussed in detail in Section 7 and the Rules and Standards set forth in Appendix B. Member cities supplement and complement these goals and standards with additional policies and programs tailored to their unique priorities and needs.

COMMON GOALS AND STANDARDS

The philosophy of the Joint Powers Agreement and this document is that the management plan establishes certain common goals and standards for water resources management in the watersheds, agreed to by the ten cities having land in the watersheds, and implemented by those cities by activities at both the Commission and local levels. Successful completion of the goals in this Plan is dependent on those member cities and their dedication to this effort.

EVALUATING PROGRESS TOWARD GOALS

The Commissions will evaluate progress toward meeting the goals and policies outlined in this Plan in the Annual Report. Success will be measured by completion of policies and strategies, or progress toward completion of policies and strategies. The Annual Report will then be presented to the public at the Commissions' annual public meeting. The findings of the Annual Report and the comments received from the member cities and the public will then be used to formulate the work plan, budget, CIP and specific measurable goals and objectives for the coming year as well as to propose modifications or additions to the management goals, policies, and strategies.

COMBINATION OF COMMISSIONS

Combination of the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission into a single board administering both watersheds was identified early in the development of the Second Generation Plan for exploration during the Second Generation Plan process. Such a combination was discussed during the initial organization of the Commissions in the 1980's but was rejected because one

city was not in favor of the combination. Champlin, the only city in West Mississippi that is not also in Shingle Creek, was reluctant to combine the two since at the time it was much less developed than the other cities. During the Second Generation Plan process it was the consensus of Commissioners, city staffs, regulatory agency staffs, and public comment that the two Commissions should improve administrative efficiency by combining the administration of the two watersheds under a single Commission. If the combination is approved by member City Councils, the Joint Powers Agreements would be amended to implement this combination.

MANAGEMENT AREA: WATER QUANTITY

Each plan must outline goals and policies describing how stormwater runoff will be managed. The maximum allowable peak runoff must be established for appropriate subwatersheds to the extent necessary to assure the goals and policies of the organization will be met.

First Generation Goals and Existing Management Efforts

The First Generation management plan was concerned mainly with controlling the quantity and flow of stormwater. Much of this was accomplished by requiring the construction of stormwater detention and treatment ponds for all development and certain sizes of redevelopment and by protecting stormwater storage sites.

The Shingle Creek Commission has completed a hydrologic model of the watershed and has established several monitoring stations along Shingle Creek. Few significant flooding problems have been identified although there are some localized issues of concern to member cities. First Generation policies appear to have successfully managed the increase in runoff generated by development in the northern and western parts of the watersheds.

Second Generation Goals and Management Strategies

Goal 1. Maintain the existing 100-year flood profile throughout the watersheds

In the Second Generation Plan the Commissions' goal is primarily to maintain the existing system by continuing the policies requiring control of discharge rates, protection of storage areas, construction of detention facilities, and adherence to approved local plans. A new policy adopted in the Rules and Standards (See Appendix B) would require infiltration of a portion of the runoff generated by a development or redevelopment. Approved stormwater discharge rates are presented in Section 3. Management standards implementing these strategies and policies are found in Appendix B.

Policy 1.1 The Commissions will regulate stormwater discharge rates at member city boundaries.

Strategy 1.1.1 The Commissions will maintain a calibrated hydraulic model of the watersheds.

Strategy 1.1.2 Local plans must demonstrate that the member cities do not exceed the discharge rates established by the watershed plan.

Strategy 1.1.3 The Commissions will maintain management standards for new development, redevelopment, or additions to existing developments.

Strategy 1.1.4 Member cities may not make land use amendments to their Comprehensive Plan that would result in development that is inconsistent with the Second Generation Plan and the member city's approved Local Plan without first advising the Commission and soliciting comments from the Commission as to the effect said land use amendment would have on the management of stormwater within the city, the watershed management sector, and the watershed.

Policy 1.2 Sufficient flood storage and channel capacity will be maintained.

Strategy 1.2.1 Local plans must demonstrate that member cities have identified key flood storage areas and developed measures to be employed to protect wetlands, ditches, drainageways, and stormwater storage areas.

Strategy 1.2.2 The Commissions discourage the diversion of water from natural drainage areas. When such diversion is requested and becomes necessary the downstream impacts on water quantity and quality need to be addressed. The Commissions will review these on a case-by-case basis and will establish conditions to meet the goals of the management plan, promote water quality, and regulate the control of water quantity to protect the public safety and welfare.

Policy 1.3 The Commissions expect member cities will periodically inspect and maintain their existing stormwater management system with periodic review by the Commissions.

Strategy 1.3.1 The Commissions will periodically conduct site surveys of BMPs approved in project reviews to determine if they have been constructed in accordance with the approved plan and are functioning as required. Member cities notified by the Commissions that an improvement was not constructed or is not functioning in accordance with the approved plan must take corrective action and report back to the Commissions as to the outcome.

Strategy 1.3.2 Member cities are expected to follow good asset management practices and periodically inspect and repair as necessary the various components of their storm drainage systems.

Strategy 1.3.3 Member cities doing required maintenance in public easements within the 100-year floodplain do not require Commission review, however,

member cities are required to take protective measures to minimize impacts to the floodplain while carrying out their maintenance responsibilities.

Policy 1.4 Public easements or other methods of control are required to preserve wetlands, drainageways, floodplains and open waterbodies used for stormwater storage.

Policy 1.5 The Commissions will maintain a watershed monitoring system to record stream flow and precipitation.

Policy 1.6 Member cities shall adopt floodplain management ordinances that require as a minimum one foot of freeboard above the 100-year profile.

Strategy 1.6.1 Questions of citizens or consultants to the Commissions' engineer regarding location of property within 100-year floodplains are to be referred to the member cities' engineering department, who shall respond to these questions.

Strategy 1.6.2 The Commissions will consider FIS Map Revisions on a case-by-case basis.

MANAGEMENT AREA: WATER QUALITY

Each plan must outline specific water quality goals and policies for natural surface water storage and retention systems. The goals and policies should be developed to strive for compliance with applicable water quality standards and be suitable for the intended uses of natural surface water storage and retention systems.

First Generation Goals and Existing Management Efforts

Water quality was a lower priority during the development of the first plan than it is today. That plan promoted generally the reduction in pollutants with special concern for protection of wetlands and groundwater recharge areas and established a monitoring program.

Pollution prevention has primarily been achieved through the construction of stormwater detention and treatment facilities and controlling discharge into wetlands. Some monitoring has been accomplished in the watersheds over the past several years -- in most of the lakes (through the Citizen Assisted Lake Monitoring Program [CAMP] program and special studies) and in Shingle Creek (through the Commission's regular monitoring program, the River Watch program, and special studies). In general, the monitoring has found that the lakes range in quality from good to poor and that Shingle Creek is typical of urban streams in that it also ranges in quality from good to poor.

In 1998, Shingle Creek was listed on the Federal Clean Water Act's 303(d) list of impaired waters for chloride levels. Also in 1998, Shingle Creek was placed on the Minnesota Pollution Control Agency's (MPCA) list of waters requiring a Total Maximum Daily Load (TMDL) study for chloride levels. The SCWMC began a two-year TMDL study in Spring 2002 to better define the problem and propose solutions. Completion of the study is expected in fall 2004. A reduction goal and an implementation strategy of Best Management Practices (BMPs) will be the final outcome of the project. The Shingle Creek Commission was the recipient of a MetroEnvironmental Partnership Grant promoting water quality best management practices on residential property in the Twin Lakes subwatershed. The Twin Lakes Homeowner Education Project began in Spring 2002 to provide information to property owners about ways to improve water quality, to help them assess their current practices, and to adopt practices that are more water quality friendly.

Second Generation Goal and Management Strategies

Goal 2. Protect and improve water quality based on practical use

The focus of the Second Generation Plan is on maintaining and improving water quality in the ten-city area. The Plan calls for the Commissions to be more active managers of water quality. This would be accomplished by:

- Developing water resource management plans by working together with cities, residents, and agencies to identify practical use, and recreation and fish and wildlife needs, and to develop specific water quality numerical goals;
- Increasing water quality monitoring by monitoring watershed-significant lakes every year instead of every three years;
- Improving education of property owners to reduce or eliminate sources of pollution such as fertilizers, pesticides, and waste; and
- Constructing capital projects intended to reduce or eliminate point and nonpoint sources of pollution.

It is important to note that one of the strategies implementing this goal is to identify the *practical use* for each water resource. This identification would take into account specific data on the physical, chemical and biological characteristics of the water resource, the nature of the surrounding watershed, and local desires to establish *numerical standards and uses that are reasonably achievable and practical*.

The final 303(d) report submitted by the MPCA to the EPA in October 2002 listed ten lakes in the Shingle Creek watershed as impaired due to excess nutrients. Bass Creek was also listed a result of impaired biota. TMDLs will be required on those water resources. The Commission intends to complete the lake TMDLs as a part of the development of lake management plans.

Numerical Goals. Some member cities have, through an extensive public input process, developed numerical standards for their lakes. Through the lake management plan and TMDL process the Shingle Creek Commission will establish numerical goals for all the lakes in the watershed and strategies for achieving the goals. Until that time, the Commission adopts the goals member cities have developed for those lakes that have been designated Metropolitan Council Priority Lakes: Bass, Eagle, and Twin Lakes, as shown in Section 3.

Water quality data is summarized in Section 3; “lake report cards” are included in Appendix D. Management standards implementing these strategies and policies are found in Appendix B.

Policy 2.1 Through the development of lake and resource management plans the Commissions will refine their rules and standards for new development to prevent further degradation of water quality.

Policy 2.2 The Commissions will evaluate existing water quality and monitor future water quality.

Strategy 2.2.1 A water quality monitoring program will be maintained to identify existing and changing conditions and potential problems. The program will include volunteer monitoring such as CAMP as well as Commission monitoring.

Strategy 2.2.2 Data collection and analysis will be coordinated with agencies involved in water quality monitoring.

Strategy 2.2.3 The Shingle Creek Commission will complete a TMDL study of chloride levels in Shingle Creek and develop an implementation strategy in cooperation with other agencies

Strategy 2.2.4 The Shingle Creek Commission will complete other TMDLs as required by the MPCA.

Policy 2.3 The Commissions will determine cost-effective long-term practical use of lakes and streams by preparing use attainability-type studies.

Policy 2.4 Individual water resources will be classified or prioritized.

Strategy 2.4.1 The Commissions will classify and prioritize water resources based on watershed significance

Policy 2.5 The Commissions will establish short term and long term water quality goals for each water resource based on its short and long term practical use.

Strategy 2.5.1 Until such time as the Commission reviews and establishes water quality goals, the Commission adopts water quality goals established by the member cities.

Policy 2.6 The Commissions' public information and education program will include components specifically focused on maintaining and improving water quality

Policy 2.7 The Commissions will maintain regulations regarding the treatment of stormwater discharges.

Strategy 2.7.1 The Commissions will maintain management standards for new development, redevelopment, or additions to existing developments.

Strategy 2.7.2 Alternative BMPs may be considered in lieu of treatment ponds. Alternative treatment devices may be considered acceptable if the applicant provides information acceptable to the Commission's engineer as to: 1) pollutant removal effectiveness through the use of a Commission-approved water quality model, 2) treatment removal technology, 3) history of device, 4) predicted performance, 5) comparison to ponding, 6) effect on flooding and surrounding properties, 7) likelihood of failure, 8) consequences of failure, 9) alternatives in the event of a failure, 10) operation and maintenance (O&M) costs, 11) financial or administrative burden to City or Commission, 12) procedures for monitoring and O&M, and 13) performance and financial guarantees.

Strategy 2.7.3 Groundwater remediation projects involving withdrawal and treatment of contaminated groundwater with discharge to storm sewer or other receiving waterbodies shall be reviewed by the Commission. Discharge of the treated groundwater to the sanitary sewer system does not require Commission approval.

Policy 2.8 The Commissions encourage member cities to adopt innovative and sustainable strategies for maintenance and improvement of water quality within their local codes and policies.

Strategy 2.8.1 Member cities shall adopt a shoreland management ordinance in accordance with DNR requirements and timeline.

Strategy 2.8.2 The Commissions encourage member cities to consider development, maintenance, and improvement strategies that minimize impacts on water quality.

MANAGEMENT AREA: RECREATION, FISH, AND WILDLIFE

Each plan must outline how water resource-based recreational activities and wildlife interests will be protected or improved. The plan must also determine whether there is a need to classify or prioritize individual water resources for management purposes.

First Generation Goals and Existing Management Efforts

Protection of habitat was an objective of the original plan, but the Commissions have not in the past taken active roles in protecting and promoting recreational, fish, and wildlife uses of water resources; it was primarily to be accomplished through the protection of water quality.

The Shingle Creek Commission, as a partner with the Minneapolis Park Board, was selected for a Metro Greenways Planning Grant. This project, that was completed in 2002, developed a comprehensive natural resources plan along Shingle Creek from the Mississippi River north to 53rd Avenue North. The project identified potential native planting and habitat restoration opportunities and projects.

Second Generation Goal and Management Strategies

Goal 3. Strive to provide water quality that supports recreation, fish, and wildlife based on practical use

The Plan calls for the Commissions to be more active managers of habitat and water resources. Long-term practical use would be determined for each water resource and a plan developed suggesting how it would be protected or improved. Greenway corridors would be promoted and habitat areas would be identified and protected or improved. Member cities along the Mississippi River would be encouraged to achieve the Mississippi National River and Recreation Area (MNRAA) Tier II voluntary management standards to preserve and improve recreation and natural resources.

Policy 3.1 Water resource management plans and studies prepared for water quality management will also include evaluations of recreation, fish and wildlife impacts.

Policy 3.2 In establishing wetland and water quality management standards and strategies, the Commissions will take into account impacts on recreation, fish and wildlife

Policy 3.3 Member cities shall establish a policy to protect threatened or endangered species or areas of significant natural communities as identified by the DNR.

Policy 3.4 The Commissions encourage member cities to adopt management practices that promote and encourage the use of streams and rivers as wildlife corridors.

Strategy 3.4.1 The Commissions encourage member cities to promote and pursue development of the Shingle Creek corridor as a greenway.

Strategy 3.4.2 The Commissions encourage member cities to strive to achieve the Mississippi National River and Recreation Area (MNRAA) Tier II voluntary management standards to preserve and improve recreation and natural resources along the Mississippi River corridor.

MANAGEMENT AREA: PUBLIC PARTICIPATION, INFORMATION AND EDUCATION

Each plan must outline goals and policies describing who will participate and when public participation will be encouraged.

First Generation Goals and Existing Management Efforts

Aside from publishing their annual reports, the Commissions have not in the past had an active public participation, information, and education management component. Individual cities have provided some information and education materials to their residents; Plymouth has a significant public education program with a coordinator, newsletter, and annual activities.

Starting in 1997 the Commissions added an educational outreach component by working together with the Hennepin Conservation District and middle and high school students to conduct macroinvertebrate studies at several locations in the watersheds. In recent years the Commission has established a web site; begun participating in the “WaterShed Partners” group; prepared a history of the organization and summary of recent activities and distributed it to elected officials; and started raising its profile. In 2002 it sponsored the first annual Great Shingle Creek Watershed Cleanup, working with Adopt-A-Park cleanups in several cities and focusing on educating participants about the link between the land and water quality. The Commissions have also initiated a pilot Water Quality Education Grants program for K-12 educators to financially assist them in providing water quality education and projects for students. Grants will be available starting in fall 2002.

The Commissions enjoy a good working relationship with each of the member cities as well as the various other agencies that oversee water resources activities.

Second Generation Goal and Management Strategies

Goal 4. Establish an education and public outreach program

The Plan calls for the Commissions to conduct a more extensive outreach effort, for example: actively providing educational materials to cities for use in their publications; promoting activities such as the Great Shingle Creek Watershed Cleanup; maintaining a web site; expanding the Water Quality Education Grant program; and holding an annual evening meeting to review progress towards their goals with the public and to obtain public input. This Education and Public Outreach Plan is detailed in Appendix F.

Policy 4.1 The Commissions will annually review their activities with the public and obtain public input on past, current, and upcoming activities.

Strategy 4.1.1 The Commissions will conduct an evening annual meeting and Open House to review past year activities and solicit comment on upcoming activities.

Policy 4.2 The Commissions will develop and administer an education and public outreach program on issues relevant to their goals and policies.

Strategy 4.2.1 The Commissions will maintain a Web site that will communicate the education and public outreach program as well as other information such as summaries of management standards and strategies and information regarding upcoming project reviews.

Strategy 4.2.2 The Commissions will establish a standing Education and Public Outreach Committee from member city representatives and other interested parties to advise the Commission and implement the education and outreach program.

Strategy 4.2.3 The Commissions will coordinate with and participate in organizations such as WaterShed Partners as well as other standing or ad hoc organizations to obtain and disseminate information on general or specific topics of interest.

Policy 4.3 The Commissions will establish ad hoc advisory committees as necessary regarding specific topics of interest.

Policy 4.4 The Commissions encourage member cities to charge a standing citizens advisory committee to, on a continuing basis, monitor watershed activities, goals and policies.

Policy 4.5 The Commissions will publish an annual report that contains information required by law as well as a review of progress towards meeting goals and objectives.

Policy 4.6 The Commissions will develop and administer an education and public outreach program that fulfills NPDES Phase II requirements, and encourage member cities to adopt this program as one part of their NPDES Phase II permit requirements.

Strategy 4.6.1 The Commissions' education and public outreach program will address all six NPDES Phase II minimum measures as well as components specifically focused on maintaining and improving water quality

MANAGEMENT AREA: DITCHES

The plan shall by policy define the Commissions’ relationship to the ditch authority of any public ditch systems and recommend whether or not there are advantages to managing the ditch systems.

First Generation Goals and Existing Management Efforts

The Shingle Creek Commission has not undertaken any management efforts regarding Hennepin County Ditch #13. Some discussions have been held regarding the possibility of taking over management of the ditch but no consensus has been reached.

Second Generation Goal and Management Strategies

Goal 5. *Develop an appropriate management strategy for Hennepin County Ditch #13.*

MANAGEMENT AREA: GROUNDWATER

The Commissions shall assess the need and degree of their involvement in groundwater management given the status of the county groundwater plan and establish appropriate goals and policies.

First Generation Goals and Existing Management Efforts

Several of the member cities rely on groundwater for their drinking water. The first management plan promoted the concept of groundwater recharge and suggested the member cities protect groundwater recharge areas. Maple Grove has constructed a number of groundwater recharge basins in its Arbor Lakes development area. Some of the member cities have completed wellhead protection plans; those are summarized in Section 3.

Second Generation Goal and Management Strategies

Goal 6. Protect and improve groundwater quality and promote groundwater recharge

The Second Generation Plan would continue groundwater protection and recharge efforts, in cooperation with Hennepin County and its efforts to protect groundwater. The Plan includes a new a requirement that developments and redevelopments large enough to require a project review infiltrate part of the stormwater generated on site. That requirement is detailed in the Rules and Standards presented in Appendix B. The Commissions would also encourage and promote management and development strategies that promote infiltration and sustainable development.

Many of the member cities have completed or are in the process of completing a wellhead protection plan. The Commissions will also monitor member cities' wellhead protection plans to ensure that watershed infiltration requirements are consistent with those plans.

Policy 6.1 The Commissions will maintain regulations regarding groundwater recharge by infiltration.

Strategy 6.1.1 The Commissions will maintain management strategies for infiltration based on soil type.

Policy 6.2 The Commissions encourage member cities to consider development strategies that minimize impervious surface, disconnect impervious surface, and encourage infiltration.

MANAGEMENT AREA: WETLANDS

The plan must outline specific goals and policies regarding the management of wetlands within the watersheds and identify high priority areas for wetland preservation, restoration, and establishment. Wetland management goals and policies should address utilization, protection and preservation, and the enhancement or restoration of wetlands identified in the organization. The plan must also evaluate the need to establish a wetland banking system.

First Generation Goals and Existing Management Efforts

The first management plan promoted the protection of wetlands generally. Since that time, member cities and the Commission adopted Interim Rules and then final rules under the Wetland Conservation Act (WCA) for the management of development affecting wetlands. The Commissions act as LGU for those member cities that have delegated that authority to them -- about half the cities. Some member cities have completed wetland functions and values analyses on specific priority wetlands.

Second Generation Goal and Management Strategies

Goal 7. Protect and improve wetlands

The Second Generation Plan proposes to manage wetlands more actively by:

- Identifying priority wetlands for preservation and improvement;
- Requiring buffer strips between wetlands and new development; and
- Undertaking more systematic functions and values analyses on high priority wetlands.

Policy 7.1 Where the Commissions are the LGU, the Commissions will administer Wetland Conservation Act (WCA) rules.

Policy 7.2 The Commissions will identify high priority areas for wetland preservation, restoration, and establishment.

- Strategy 7.2.1* A functions and values analysis will be completed for wetlands identified by the Commissions as high priority, according to the schedule identified by the Commissions at the time of prioritization. All other wetlands will be evaluated as opportunities arise.
- Strategy 7.2.2* The Commissions will conduct functions and values analyses at the member city's cost where the member city has designated the Commission to act as the LGU, and will expect cities that are the LGU to conduct their own functions and values analyses. All functions and values analyses conducted after adoption of this Plan shall use MnRAM version 2.0 or higher.
- Strategy 7.2.3* The Commissions will identify high priority areas and establish management strategies and priorities for wetlands based on watershed significance.
- Policy 7.3* The Commissions will evaluate the need for wetland banking within one year of adoption of the Second Generation Plan.

MANAGEMENT AREA: EROSION/SEDIMENTATION

Each plan must identify specific goals and policies consistent with goals and policies in statute and administrative rule that will control soil erosion.

First Generation Goals and Existing Management Efforts

The first plan required erosion control measures for all projects requiring project reviews. Those requirements have been enforced with every project review, with approval withheld until an acceptable erosion control plan was submitted. Inspection is the responsibility of the member city. The plan also encouraged member cities to adopt shoreland management ordinances.

The SCWMC has periodically surveyed Shingle Creek to identify areas of potential erosion that might require streambank stabilization. Maple Grove and Plymouth are collaborating on a project to provide stabilization and restoration of the Pike Creek Channel. Brooklyn Center and the Army Corps of Engineers are collaborating on a project to stabilize an eroding Mississippi River embankment in the vicinity of a sanitary sewer interceptor.

Second Generation Goal and Management Strategies

Goal 8. Reduce erosion and sedimentation

The Second Generation Plan continues the requirement that project reviews include an erosion control plan, as indicated in the Rules and Standards in Appendix B. The Plan also promotes shoreland management, streambank restoration, and lakescaping as means to reduce erosion and sedimentation.

Policy 8.1 Member cities shall adopt an erosion control ordinance as required by the Metropolitan Council within one year of adoption of the Second Generation Plan.

Policy 8.2 Member cities with priority lakes shall adopt a shoreland management ordinance as required by the Department of Natural Resources within one year of adoption of the Second Generation plan.

Policy 8.3 The Commissions will maintain management standards for the control of erosion for new development, redevelopment, or additions to existing developments.

Strategy 8.3.1 Project reviews within the Mississippi River Critical Area shall be coordinated with Critical Area requirements.

Policy 8.4 Streambank stabilization, lakescaping, and shoreland management will be promoted as methods to reduce erosion and sedimentation in surface waters.