
5. Goals, Policies, and Programs

5.1 Major Programs Affecting the District

This overview provides a summary of major programs and regulatory efforts which affect the SWWD or activities within its jurisdiction. It is not intended to be a comprehensive or exhaustive presentation, but rather a snapshot of programs that are relevant to and thus impact the District. Internet hyperlinks and references to more detailed information are provided.

5.1.1 Impaired Waters Program

Overview

Section 303(d) of the federal Clean Water Act requires states to identify waters that do not meet applicable water quality standards or do not fully support their designated uses. Waters failing to attain their designated use are defined as impaired. Each state determines the cause for impairment. Impaired waters are placed on a list and subject to completion of a Total Maximum Daily Load (TMDL) analysis. A TMDL analysis consists of many steps, but the process is intended to identify ways to restore impaired waters to their full beneficial uses. The implementation of load reduction efforts identified in a TMDL analysis may have future bearing on other activities of the SWWD.

There are three stream/river systems within the boundaries of the SWWD which are on the draft 2006 303(d) impaired waters list. This includes an unnamed creek and the Mississippi and St. Croix Rivers. Several lakes within the District are also identified on the 303(d) list, including Ravine, Markgrafs, Wilmes, and Colby. These water resources are listed on the next page in Table 5.1 and shown on Map 8.7.

Roles and Responsibilities

MPCA: Required to submit a prioritized list of impaired waters, known as the 303(d) list, to the U.S. Environmental Protection Agency for review and approval. The most recent list was approved in 2004 and a new list draft list is available for 2006 (and biannually thereafter). TMDL plans must be approved by the MPCA before the USEPA can provide final approval of the plan. The MPCA also provides financial assistance through Clean Water Partnership (CWP) and Clean Water Act Section 319 programs. These programs address nonpoint source pollution issues and are often used for TMDL projects.

SWWD: For impaired waters within the District boundary, the SWWD may choose to lead a TMDL analysis. The SWWD believes that performing load assessments, studies, or similar analyses is a key role of the District. Load allocations for lakes are included in this WMP and are intended to be refined by the SWWD through lake management plans. However,

participation at any level in a TMDL analysis is at the District's discretion. For waters with an approved TMDL plan to which the District drains, the District will likely have some expectations to assist with BMP implementation to reduce pollutant loads although implementation is primarily believed to be a role of member cities.

Table 5.1 – Impaired waters within the SWWD based on MPCA 303(d) list.

<i>Impaired Water</i>	<i>Year Listed</i>	<i>Assessment Unit ID</i>	<i>Affected use</i>	<i>Pollutant or stressor</i>	<i>TMDL Target start// completion</i>
Unnamed Creek; Headwaters to Mississippi River	2002	07010206-517	Aquatic life	Fish IBI	2008//2015
Mississippi River; Rock Island RR Bridge to Lock & Dam #2 (RM 830 to 815.2)	1998	07010206-502	Aquatic consumption; Aquatic life	Mercury Water Column; Mercury FCA; PCB FCA; Turbidity	1999//2011
St. Croix	2008	82-0001	Aquatic recreation	Excess nutrients; Biological indicators	2009/2010
Unnamed (Ravine)	2006*	82-0087	Aquatic recreation	Excess nutrients	2016//2019
Markgrafs	2006*	82-0089	Aquatic recreation	Excess nutrients	2014//2018
Wilmes	2006*	82-0090	Aquatic recreation	Excess nutrients	2014//2018
Colby	2006*	82-0094	Aquatic recreation	Excess nutrients	2014//2018

Cities and Townships: Cities or townships may choose to take initiative to lead a TMDL analysis for water bodies with drainage areas solely (or majorly) in their municipality. It is preferable that local government units and the SWWD coordinate so as not to perform duplicate TMDL analyses for the same receiving water. Local government units that are within drainage areas that have an approved TMDL plan will be required to comply with load reductions through the enforcement of various point source and non-point source permits.

Other entities: Other groups such as Counties or lake associations can take their own initiative to complete a TMDL analysis, undertake implementation of TMDL load reduction practices, or participate in the TMDL process as stakeholders.

More Information

<http://www.pca.state.mn.us/water/tmdl/index.html>

5.1.2 National Pollutant Discharge Elimination System Program

Overview

This program (abbreviated NPDES) is a nation-wide federal regulatory program stemming from the Clean Water Act. In Minnesota, this program is implemented by the MPCA. The NPDES program addresses point source discharges including stormwater and related pollution, from various sources. The first phase of stormwater NPDES program (Phase I) focused on controlling pollution from industrial activities, and included construction activities disturbing more than 5 acres, and municipal separate storm sewer systems (MS4s) with populations greater than 100,000.

The second phase (Phase II) of this program, preliminarily initiated by the MPCA in 2003, has been formalized in 2006. It builds on Phase I by lowering the threshold for requiring stormwater permits for construction and municipal activities. The basis of the program is for permittees to complete a Storm Water Pollution Prevention Program (SWPPP). In all cases, Best Management Practices (BMPs) are to be identified and implemented in order to minimize stormwater runoff impacts to receiving waters.

Roles and Responsibilities

The District is a regulated MS4 permittee even though they did not own or operate a separate storm sewer system at the time of permit implementation. Typically, the District is not a construction site Owner or Operator. However, the SWWD may choose to participate in these programs by assisting affecting parties.

MPCA: Administers all three components of NPDES Phase II.

SWWD: Must comply with the MS4 program because the District is identified under the auspices of the permit requirements. The District may also choose to support cities and other local government units in their MS4 compliance efforts by providing educational materials (considered a BMP) or otherwise partnering, such as with construction site erosion control inspections or establishing design guidance for stormwater management.

Cities and Townships: Cities and townships wholly or partially in the urbanized area which own or operate a municipal separate storm sewer system (MS4) are all mandatory permittees. This includes: Cottage Grove, Lake Elmo, Newport, Oakdale, St. Paul Park, and Woodbury.

Additionally, Cottage Grove and Woodbury must comply with the MS4 Permit's nondegradation rule. They must perform a loading assessment to evaluate nonpoint source impacts to receiving water since 1988. They must demonstrate on-going or new ways to reduce current and future loads and runoff volumes to 1988 levels.

Washington County: Will be obligated to meet the same general SWPPP requirements (excluding nondegradation).

Minnesota Department of Transportation: Will be obligated to meet the same general SWPPP requirements (excluding nondegradation).

More Information

<http://www.pca.state.mn.us/water/stormwater/index.html>

<http://www.pca.state.mn.us/publications/wq-strm1-02.pdf> (fact sheet)

5.1.3 Wetland Conservation Act

Overview

Minnesota's Wetland Conservation Act (WCA) was enacted in 1991. The overall goal of the WCA is no net loss of wetlands. Generally under WCA, activities such as draining, excavating, or filling of wetlands is regulated by law. WCA does not apply to public waters wetlands, which are regulated by the Minnesota Department of Natural Resources. The local government unit (LGU) has the primary responsibility for administering WCA and for making key determinations.

Roles and Responsibilities

BWSR: Administers the WCA through promulgation of rules and guiding the implementation.

SWWD: The District has not adopted LGU authority for wetlands within the District. However, the SWWD WMP establishes wetland classifications and management standards. The SWWD will consider, at the request of its member municipalities, adopting WCA LGU authority for wetlands within the District.

Cities and Townships: the cities of Afton, Cottage Grove, Newport, St. Paul Park, and Woodbury are LGU's for the WCA program. All cities within the watershed must conform to the wetland standards set forth by the SWWD (based on the draft Comprehensive Wetland Management Plan), or adopt more stringent standards.

County: Washington County is the WCA LGU for the cities of Lake Elmo, Oakdale, and Grey Cloud Island township.

MPCA: NPDES permits for discharges to wetlands must be submitted to MPCA. This agency is responsible for administering Minnesota Rule Chapter 7050 (water quality standards) which include wetlands as specified in Minnesota Rule 7050.0210, subpart 13a.

Army Corps of Engineers: Section 404 of the Clean Water Act gives USACE jurisdiction over regulating impacts to wetlands and navigable waters. The USACE issues federal permits for all proposed wetland disturbances.

Minnesota Department of Transportation: The Department of Transportation is the WCA LGU on its' projects.

There are various agencies involved in the permitting process for wetland disturbances. In Minnesota, a joint application process has been established to streamline the agency review and permitting process. Proposed activities which affect a wetland cannot begin until all agencies authorize a project. Often, Technical Evaluation Panels (TEP) are convened as a mechanism to resolve permitting issues relating to wetland impacts.

More Information

<http://www.bwsr.state.mn.us/wetlands/wca/>

<http://www.bwsr.state.mn.us/wetlands/wca/WCAfactsheet1.html> (fact sheet)

<http://www.mnwcd.org/sitebuildercontent/sitebuilderfiles/wetInd02.pdf> (fact sheet)

5.1.4 Surface Water Management Planning

Overview

The Metropolitan Surface Water Management (MSWM) Act was enacted in 1982 to require planning for surface water management throughout the seven-county metropolitan area. The MSWM Act is enforced by Minnesota Statutes 103B.201 to 103B.251 and later, Minnesota Rule 8410. Further, watershed districts are established and given authority under the Minnesota Watershed Act (Minnesota Statute 103D) and therefore must conform with the requirements therein. These rules provide the framework for governing surface water management (including wetlands) at the local and regional level.

Roles and Responsibilities

SWWD: The role, or focus, of each district in surface water management varies depending on the specific water issues. The SWWD is responsible for periodically updating their plan and complying with the regulations referenced above. This Watershed Management Plan, and its contents, is in compliance with the requirements.

BWSR: Responsible for reviewing and approving the watershed plan based on Minnesota Rule 8410.

Metropolitan Council: The Council reviews and comments on the watershed plan with respect to its consistency with state laws and rules relating to water and related land resources.

Cities and townships: Within two years of plan adoption by the District, local government units are required to adopt local plans which address the regulations and performance standards set forth in this plan. Local plans must be consistent with the District WMP covering the same area. (Local plans should address the expanded list of requirements under Minnesota Rule 8410 as set by the Metropolitan Council's "2030 Regional Development Framework.")

Watershed Districts: District policies and programs are to be consistent with the adjacent Watershed Districts of Valley Branch, Ramsey-Washington Vermillion River, and Lower St. Croix Watershed Districts and Water Management Organizations.

County, SWCD: Review and comment on the plan. The County has a Comprehensive Water Plan. By statute a copy of the plan must be submitted to the County Board. The county plan must be consistent with the District plan covering the same area.

State review agencies: Review and comment on plan. Involved state agencies include DNR, PCA, Department of Health, Department of Agriculture, and Department of Transportation.

More Information

<http://www.bwsr.state.mn.us/watermgmt/overview.html>

<http://www.metrocouncil.org/environment/Water/planning/index.htm>

5.1.5 Groundwater Planning

Overview

The U.S. Environmental Protection Agency (EPA) is responsible for federal activities relating to the quality of groundwater. EPA's groundwater protection activities are authorized by a number of federal laws which focus on controlling potential sources of groundwater impacts. Where federal laws have provided for general groundwater protection activities, the actual implementation of these programs is by the states in cooperation with local governments. In Minnesota, several state agencies are involved in administering programs which regulate water supply wells and monitoring of groundwater resources in order to maintain the quality of groundwater supplies for the benefit of the public and the environment. Groundwater planning done as part of water supply plans and wellhead protection plans is reviewed and approved by Minnesota regulatory agencies. States are also charged with preventing pollution of groundwater by establishing appropriate rules and issuing permits for waste treatment, storage, and disposal activities, as well as performing compliance reviews.

Roles and Responsibilities

SWWD: Actively supports groundwater management and protection efforts by partnering with other agencies. The District recognizes the important relationship between surface water and groundwater resources. The District can collaborate with the other units of government and may choose to help fund groundwater projects which have a connection to surface water issues. The SWWD is responsible for conforming with groundwater plans developed by Washington County.

Washington County: As directed by Minnesota Statute 103B.255, prepared the *2003 – 2013 Washington County Groundwater Plan*, which provides a county-wide framework for the protection and conservation of groundwater resources. The County also prepares an annual groundwater work plan.

Minnesota Department of Health (MDH): Primary role is maintaining a safe drinking water supply. The MDH issues permits for all new wells to be installed and oversees water quality monitoring for all public water supply systems. MDH administers the state wellhead protection program according to [Minnesota Rules \(Chapter 4720.5100 - 4720.5590\)](#), which sets standards for wellhead protection planning.

Minnesota Pollution Control Agency (MPCA): Responsible for establishing groundwater quality standards, usually based on health risk limits set by the MDH. Also responsible for working with the MDH and MDA to establish an ambient groundwater quality monitoring network in Minnesota.

Minnesota Department of Natural Resources (DNR): Issues water use permits for all water users in Minnesota withdrawing more than 10,000 gallons of water per day, from surface or groundwater, or 1 million gallons per year (Minnesota. Statute 103G.271).

Minnesota Department of Agriculture (MDA): is charged by law with regulating pesticides, including monitoring for them in the environment and preventing pesticides from getting into water.

Cities and Townships: Install water supply systems and are required to comply with the rules and regulations established by state agencies and county governments regarding groundwater protection and uses in compliance with the Safe Drinking Water Act. Responsible for developing wellhead protection plans pursuant to MDH rules.

More Information

http://www.co.washington.mn.us/info_for_residents/environment/groundwater/

<http://www.health.state.mn.us/divs/eh/wells/>

<http://www.pca.state.mn.us/water/groundwater/faq.html>

5.1.6 Matrix of Responsibilities

Sections 5.1.1 through 5.1.5 provide an overview of major programs that affect the SWWD. There are many other entities and programs (regulatory or otherwise) which may have relevance to District activities from time to time. A summary of agencies and programs relating to the District is presented in Table 5.2.

5.2 Principles, Goals and Policies

5.2.1 Guiding Principles

The SWWD Mission Statement is:

"To manage water and related resources of the South Washington Watershed District in cooperation with our citizens and communities."

The SWWD principles are intended to articulate the overarching viewpoints of how the District chooses to interface with the constituents and government units within the District. For this plan, principles are defined as the fundamental beliefs guiding the District's actions. The principles below express the District's current position for managing activities, efforts and programs in the District. These positions may be changed at the discretion of the Board of Managers in response to local watershed needs.

Permitting

The SWWD believes that the permitting process is best performed by cities. The District, through the promulgation of rules, will provide guidance to cities in managing growth.

Regional Water Planning

The SWWD believes in proactively coordinating with its constituents for long-term surface water planning and implementation of regional water capital improvement projects. Studies and associated surface water modeling activities are best initiated at the watershed level.

Land Use Management

The SWWD recognizes that the primary control and determination of appropriate land uses is the responsibility of the municipalities, except on parcels acquired and owned by the District to benefit water and related resources.

Balanced Approach

The SWWD believes in taking a balanced approach to managing resources, resolving issues, and implementing solutions. The District seeks the best outcome in the context of the entire watershed resources and constituents.

5.2.2 Goals and Policies

The SWWD goals, policies, and action items presented here address the requirements set forth in Minnesota Rule 8410.0080. They are intended to address the specific issues and problems outlined in Section 3 (Issues and Problems). The SWWD goals, policies and action items establish the direction of the SWWD and provide an indication of how projects, problems, and issues will be approached and resolved. The SWWD Rules embody these goals and objectives by creating enforceable requirements to achieve successful implementation.

The goals are organized broadly by management area. Management areas are numbered for clarity only, not to indicate any order of importance. However, the District recognizes that often one issue can affect several management areas (e.g., stormwater infiltration practices). In the context of this plan, goals, policies and actions are defined as follows:

Goal: Statement of what the District wants to accomplish for the planning period. Goals are strategic in that they reflect district-wide initiatives. Goals must be clear and achievable.

Policy: Describes how the District intends to carry out its goal. Policies set focused objectives for the District and form the basis for specific actions to be implemented by the District.

Actions: Specific, tactical steps needed to implement District policies, and ultimately the identified goal.

(1) Floodplain Management

Goal: Opportunistically manage floodplains for multiple, non-development uses.

Policy FM-1: Maintain requirements established (adopted) for floodplain management, (including floodplain alterations, development within floodplains, minimum building elevations).

Policy FM-2: Manage floodplains in a manner that reflects the rate and volume of runoff from ultimate development.

Action: Establish specific floodplain elevations at ultimate development conditions, and seek agreement from involved parties.

Action: Establish peak and base flow conditions for watershed streams.

Policy FM-3: Incorporate appropriate opportunities for multiple floodplain uses (e.g., greenspace, recreation and ecological enhancement).

(2) Stormwater Runoff Rate and Volume

Goal: Minimize existing and future potential damages to property, public safety, and water resources due to flood events.

Policy ST-1: Maintain the post-development 2-year, 10-year and 100-year peak rate of runoff at the pre-development level for the critical duration precipitation event, both on-site and at key regional locations identified by the District.

Action: Initiate hydrologic and hydraulic modeling to identify flood prone areas and assess potential damages.

Action: Analyze downstream effects of outletting landlocked basins in order to identify critical landlocked basins potentially affecting flow rates.

Policy ST-2: Reduce the probability of downstream flood damages through the use of maximum allowable inter-city / inter-jurisdictional peak discharges and runoff volumes.

Action: Initiate hydrologic and hydraulic modeling to identify maximum allowable discharges between cities and townships.

Action: Initiate hydrologic and hydraulic modeling to assess flows at critical regional crossings and locations.

Action: Complete hydrologic and hydraulic modeling to properly size an overflow for surface water to the Mississippi River.

Action: Design and construct a stormwater storage facility to relieve overflow of Clear Channel Pond and reduce flooding from inter-city / inter-jurisdictional flows.

Action: Prevent transfer of surface water runoff across established watershed and subwatershed divides without evaluation of hydrologic impacts and approval of the SWWD Board of Managers.

Policy ST-3: Use consistent design standards, evaluation tools and performance measures for managing runoff.

Action: Develop a stormwater policy manual to assist Cities with NPDES compliance.

Action: Develop a stormwater design standards manual to assist Cities with NPDES compliance.

Action: Promote the use of low impact development practices.

Policy ST-4: Minimize property damage and infrastructure loss associated with the overflow of the 100-year, critical duration event.

Action: Design and construction of a watershed overflow to the Mississippi River through the East Ravine subwatershed.

Action: Identify the overflow direction and maximum elevation on all development plans for the 100-year, critical duration event.

Action: Size stormwater conveyance and detention facilities in accordance with the need to protect infrastructure such as roads and utilities, and maximize safety.

Action: Identify and preserve critical areas necessary for the temporary storage of runoff.

Action: Identify and preserve critical areas necessary for the conveyance of stormwater runoff.

Action: Provide assistance (technical or other) for addressing deteriorating emergency flood control structures such as levees.

Policy ST-5: Protect natural waterways from channel instability induced by additional runoff.

Action: Develop a design method / standard which can be used to gage the response of natural waterways to the rate of runoff.

Action: Design and carry out stabilization of the Newport Ravine. Design and construct stormwater BMPs for rate and volume control above the ravine. Construction activities may include controls within the ravine in cooperation with the City of Newport, upon a request by the City of Newport.

Policy ST-6: Along with cities, incorporate Emergency Response Planning into the stormwater management program for flood-prone areas.

Action: Along with cities, develop an Emergency Response Plan.

Action: Set action triggers based on monitored lake water levels and Ordinary High Water Levels.

(3) Water Quality

Goal: Maintain, or where practical improve, the water quality of wetlands and water bodies within the District.

Policy WQ-1: Implement a biological, physical, and chemical monitoring program for surface waters.

Policy WQ-2: Manage lake water quality expectations consistent with a rapidly urbanizing landscape.

Action: Utilize monitoring data to establish an attainable range for lake water quality in District lakes.

Action: Establish numeric lake water quality goals and maximum allowable nutrient loading rates.

Action: Prepare lake-specific management plans and, where appropriate, for priority shallow basins. (Consider implementing an overall chain-of-lakes study approach to developing lake management plans.)

Policy WQ-3: Use design criteria and performance standards to ensure appropriate best management practices (BMP) for mitigating development impacts to surface and groundwater resources.

Action: Use National Urban Runoff Program water quality improvement practices as the minimum requirement.

Action: Establish additional measures necessary to protect unique or high quality water resources within the District.

Action: Establish collaborative efforts for addressing nonpoint source pollution with regulated NPDES Phase II MS4* communities, or communities with impaired waters.

Action: Evaluate issues associated with the nondegradation of receiving waters from stormwater runoff.

Action: Develop a BMP selection process to assist communities in choosing BMP tools to mitigate stormwater impacts.

Policy WQ-4: Use innovative methods and techniques to maintain and improve water quality when appropriate.

Action: Evaluate a process to utilize nutrient trading in new developments to achieve maximum benefit in addressing District-wide water quality.

Action: Develop a cost-sharing program to encourage the use of innovative or demonstration technologies.

Action: Develop a Stormwater Utility Fee credit program and credit manual to reduce downstream impacts from urbanization.

Action: Monitor and evaluate the effectiveness of innovative and demonstration technologies.

Action: Replace Grey Cloud Island earthen dam and culverts to restore flow through the Grey Cloud Slough and improve water quality.

Policy WQ-5: Recognize the inherent variability in water quality concentrations and loads when managing surface and groundwater resources.

Action: Use monitoring data to aid in establishing subwatershed annual load values reflective of variability in climate and land use.

Policy WQ-6: Promote the use of best management practices in areas of agriculture land use.

Action: Participate by cost-sharing of programs and projects to support Washington Conservation District.

Policy WQ-7: Promote improvements to existing snow management and deicing practices.

Action: Evaluate and if possible quantify the impacts to receiving waters (and groundwater) from sand, chloride and other compounds.

Policy WQ-8: Promote and support efforts to improve water quality of lakes and streams within the District.

Action: Participate in or lead efforts to develop Total Maximum Daily Load studies (TMDLs) or TMDL alternatives for impaired waters within the District.

Action: Support implementation of approved TMDLs or TMDL alternatives for impaired waters using existing District programs and authorities.

Action: Cooperate with river basin planning teams to improve the water quality of the St. Croix and Mississippi Rivers.

Action: Implement the Trout Brook Management Plan.

Action: Implement the O'Connors Creek and Lake Management Plan.

Action: Identify stream restoration opportunities.

(4) Wetlands

Goal: Manage the quantity and quality of wetlands within the watershed for their best function in a rapidly urbanizing environment.

Policy WT-1: Use a functional assessment approach to define a wetlands best value allowing for multiple or singular use.

Action: Establish a method and / or process for defining functional values.

Action: Inventory the wetland resource and analyze wetland functions and values.

Action: Develop a weighting system reflecting importance, based on the values of the District, for the managing wetlands.

Action: Periodically re-evaluate a subset of inventoried wetlands to assess for signs of impact to identified function and value.

Action: Inventory wetland functions and values in East Mississippi subwatershed in accordance with the draft Comprehensive Wetland Management Plan methods.

Action: Inventory wetlands in the former LSCWMO.

Policy WT-2: Maximize the preservation of wetlands providing critical flood control function.

Action: Use hydrologic modeling to identify those wetlands providing important peak flow reduction and needing preservation to maintain flood damage reduction function.

Action: Complete technical analysis to identify the volume of storage by subwatershed as needed for ultimate development conditions.

Action: Evaluate legal options for preserving critical wetland storage areas.

Policy WT-3: Preserve high priority wetlands.

Action: Identify functional values characteristic of high priority wetlands.

Action: Identify the locations of these wetlands within the District.

Action: Identify methods and processes for protecting and preserving high priority wetlands.

Policy WT-4: Participate in wetland permitting activities within the District, in support of the responsible local governmental unit (LGU).

Action: Recommend requirements for buffer strips, inundation duration and bounce, and nutrient pre-treatment based on the draft Comprehensive Wetland Management Plan.

Action: Minimize the presence of invasive plant species and maximize ecological diversity in replacement wetlands within the district.

Action: Where possible, maintain wetland connections with adjacent undisturbed areas to promote connectivity and linear corridors.

Policy WT-5: Promote the enhancement or restoration of wetland basins.

Action: Establish a priority ranking for potential wetland restoration sites identified in the draft Comprehensive Wetland Management Plan.

(5) Natural Resources and Recreation

Goal: Participate in conservation or creation of key natural areas with respect to habitat, wildlife, or recreation.

Policy NR-1: Promote and pursue land acquisition by the District for identified greenway corridors when the acquisition is also a component of runoff management or otherwise helps protect surface water resources.

Action: Define thresholds and boundaries for the District's role in greenway implementation.

Action: Identify lands necessary for managing runoff that may be incorporated into greenway.

Action: Establish criteria for establishing greenway, with special importance given to managing runoff.

Policy NR-2: Coordinate placement of stormwater management practices such as ponds to minimize potential negative impacts to greenways or open spaces due to seasonal aesthetic concerns, or to minimize potential functional (fragmentation) issues with the landscape.

Policy NR-3: Identify and protect key natural areas with multiple benefits including groundwater recharge.

Action: Integrate key natural areas into local plans for recreation or habitat improvement.

Action: Support efforts to prevent the loss of rare and unique species.

Policy NR-4: Manage land and water resources of the District to improve habitat for fish and wildlife.

Action: Promote the use of native vegetation.

Action: Promote the use of management tools such as buffers and setbacks to preserve the quality of natural resources.

(6) Groundwater

Goal: Pursue a sustainable balance between surface water management, land use activities, and groundwater integrity.

Policy GW-1: Promote the use of optimal infiltration areas which achieve reasonable reductions in surface water runoff volume which minimize risk to groundwater quality.

Action: Identify surface water resources which may be dependent on adequate groundwater flow or quantity.

Action: Develop performance specifications for identifying the risk of impacts or degradation of groundwater such as may arise from infiltration practices.

Action: Monitor groundwater quality and condition for potential impacts from stormwater runoff and management activities.

Policy GW-2: Manage groundwater using a regional and local approach.

Action: Coordinate with Washington County in managing groundwater in accordance with the County's 2003-2013 Groundwater Plan, including associated work plans and actions listed for watershed districts as team members or project partners.

Action: Collaborate on the development of existing and future groundwater studies, management plans, and wellhead protection plans and implement recommendations when applicable.

Action: Cooperate with Washington County in their efforts to mitigate for high nitrate concentrations present in the groundwater.

Action: Assess the cumulative impact to surface and groundwaters based on turf irrigation and similar practices.

Action: Evaluate the establishment of thresholds for groundwater depletion impacts above which the District will take action in surface water management.

Action: Quantify and manage road deicing impacts in regional groundwaters.

Action: Continue data collection to analyze groundwater levels as relates to surface water management such as infiltration practices.

Action: Implement the LSCWMO Karst Feature Inventory & Management Plan.

Policy GW-3: Increase awareness of karst features in South Washington County to help guide decisions for surface water management.

Action: Develop and provide maps which illustrate known karst features in the watershed.

Action: Assist in studies to understand karst features and dynamics in the watershed.

Action: Prevent active karst regions from contamination through rule development and education.

(7) Erosion and Sediment Control

Goal: Facilitate erosion control and reduce impacts to wetlands and water bodies from sedimentation.

Policy EC-1: Establish consistent methods, procedures and criteria for erosion and sediment control.

Action: Provide technical and / or financial support to Washington Conservation District or suitable entity to provide construction site inspections for erosion and sedimentation control practices.

Action: Establish a template for erosion and sediment control plans that assist cities with the NPDES permit process.

Action: Evaluate the need for more stringent requirements for areas that drain to landlocked or semi-landlocked depressions and those areas identified as regional infiltration areas.

Action: Create, or otherwise adopt, a SWPPP template as a tool for use by the development community.

Action: Establish sediment loads as a basis for evaluating the nondegradation of surface waters in accordance with the NPDES MS4 permit program.

Policy EC-2: Manage erosion and sediment delivery from agricultural lands in accordance with allowable levels.

Action: Coordinate and / or cost share with Washington Conservation District to pursue positive conservation measures for lands with traditional agricultural practices.

Action: Evaluate the sediment transport capability of natural channels and the delivery of sediment to these channels.

Action: Reasonably ensure the stability of natural waterways and drainageways.

Policy EC-3: Protect areas with high erosion potential or areas that are highly sensitive to erosion.

Action: Adopt rules requiring buffers along bluffs and ravines.

Action: Restore and manage currently eroding areas within the watershed, specifically streambank and channel erosion.

(8) Education

Goal: Heighten the awareness of key constituencies within the District, sufficient to modify behavior to improve the recognition and implementation of District policies, programs and activities.

Policy ED-1: Use emerging technologies and tools to inform target audiences of District activities and programs.

Action: Implement a web page that includes conveying educational materials.

Action: Complete and implement a stakeholder involvement program.

Action: Web-enable databases and information collected by the District.

Policy ED-2: Maximize the use of shared education resources and joint participation in educational activities.

Action: Provide funding to the Washington Conservation District or suitable entity to develop and implement education programs and materials to cities and Townships in the watershed.

Action: Initiate city collaboration regarding NPDES MS4 education requirements and use of Washington Conservation District resources.

Action: Pursue partnerships between public and private entities within the District, with an emphasis on schools, to implement educational programs and projects.

Policy ED-3: Structure education activities to mesh with defined target audience.

Action: Develop an education plan that defines the target audiences.

Action: Organize education outreach opportunities for target audiences.

Policy ED-4: Use existing facilities and natural resources to apply education programs.

Action: Elevate the public awareness of significant surface waters (e.g., Powers and Ravine lakes) and their habitat values.

Action: Identify high quality landscapes which may be used for education or interpretive activities.

Action: Pursue educational opportunities at stormwater demonstration sites or notable low impact development facilities in the District.

Policy ED-5: Continue water quality cost share program that encourages landowners in the District to implement management practices.

(9) Long Range Work Planning and Financing

Goal: Utilize District funds to initiate or support long range work plan projects which reduce flooding or otherwise benefit key District resources.

Policy WP-1: Proactively coordinate with cities and others to effectively synchronize long range work plan projects thereby best value to watershed constituents.

Action: Initiate contact and dialogue with affected parties to begin coordination efforts with city's Capital Improvement Plans.

Policy WP-2: Maintain a flexible approach to long range work planning.

Action: The District's long range work plan will be periodically reviewed and adjusted as new information, circumstances or resources arise.

Policy WP-3: Use Special Purpose Districts and Stormwater Utilities as funding mechanisms.

Action: Include East Mississippi subwatershed in the assessment of stormwater utility fees.

Policy WP-4: Identify key District resources.

Action: Specify criteria generally used to identify key District resources; either surface waters, natural communities, or others as determined.

Policy WP-5: Develop and execute an annual work plan.

(10) Data Management

Goal: Collect and manage data in a manner which maximizes the availability to and use by constituents of the District.

Policy DM-1: Maintain data in an electronic or other suitable format enhancing the ease of distribution to others.

Action: Post data in electronic format for downloading on the District web page.

Action: Require those providing services to the District to provide data and work products in an electronic format.

Action: Create an electronic bibliography of reports and other technical information pertinent to the District.

Action: Inventory, share and distribute computer models developed by the District.

Action: Serve as the source for FEMA boundary information and data. Policy DM-2: Encourage the development of hydrologic, hydraulic and water quality models within the District using consistent methods, input parameters and procedures.

Action: Establish modeling specifications for use by Cities and consultants working within the District.

Action: Define hydrologic parameter development methods.

Action: Collect data to characterize hydrology, waters, and regional assessment locations within the District.

Policy DM-3: Maintain the data collection program for District resources.

Action: Define goals, objectives, and protocols for the data collection program (Monitoring Program Plan/Manual).

Action: Evaluate the data collection network and revise program to fill gaps or streamline efforts.

Action: Recognize the efforts of volunteers in collecting lake quality data.

5.2.3 Measures of Success

The District will use several criteria to evaluate their level of success in attaining goals for each management category. This will provide both objective (quantitative) and subjective (qualitative) benchmarks for performance. Measuring success on an annual basis will provide feedback as to what adjustments the District may need to consider for improvement. A progress evaluation tool using a range of numerical values will enable the

district to “score” success. (While some level of bias may be introduced, flexibility is required in how the SWWD can score its performance due to the numerous management areas.) The progress evaluation tool is presented in Table 5.3.

Broadly, three levels of success are defined: less than 25% success (score 1-3), 25%-75% success (score 4-7), and greater than 75% success (score 8-10). For each criteria, specific illustrations and context are provided below in relation to the level of success. The illustrations are to provide guidance for evaluation and should not necessarily be rigidly applied.

5.2.3.1 Policy Implementation

This criterion focuses on the degree to which the District is implementing its policies as outlined in the preceding Section 5.2. It is also an evaluation of the level that cities within the watershed are incorporating the District’s policies.

Less than 25% success: Cities and other constituents may or may not be aware of the District’s policies. If cities are aware, they generally are not incorporating the policies. Also, the District may only minimally be implementing actions defined under the policies.

25%-75% success: Cities are all cognizant of the District policies. There is considerable evidence of policies being incorporated into city activities (establishing a case history). Formal adoption of policies may or may not be occurring. Also, the District may be moderately implementing actions defined under the policies.

Greater than 75%: Policies are formally being adopted and applied by cities. The District is consistently implementing actions defined under the policies.

5.2.3.2 Collaborative Efforts

This criterion is important because the District is dedicated to working with the cities and groups within the watershed to meet their goals in addressing surface water and related issues. The collaborative efforts within the watershed have been successful in addressing intercommunity flows. It is expected that the level of collaboration and number of joint projects should increase as cities within the watershed commit to the policies of the District.

Less than 25% success: Cities and others may only minimally be utilizing the SWWD as a resource for management areas such as for education. The District receives only a small number of requests for assistance or partnering. A high level of controversy is apparent.

25%-75% success: There are a number of groups working together to address several management areas outlined in Section 5.2. The district goals are moderately shared by cities.

Greater than 75%: There is a high use of the plan framework in decision making processes. Coordinated joint projects are typical versus stand-alone water resource projects done by a single entity. A low level of controversy is apparent.

5.2.3.3 Project Activity

This criterion focuses on how well the planned goals and policies translate into specific projects, whether structural improvements or non-structural undertakings. Non-structural undertakings may be education efforts, erosion and sediment control projects, or lake assessments. It is a measure of actions taken towards each management area.

Less than 25% success: There is minimal project activity or little or no action being pursued. Projects that are being done in the watershed are done by others but do not meet the district goals. If collaboration exists, efforts have not moved beyond a planning or discussion stage.

25%-75% success: Activity is occurring towards implementation in several management areas. Preliminary engineering reports are occurring. Permits and / or grant applications may be pending. Council-level resolutions may be in progress to authorize action.

Greater than 75%: Implementation activities are taking place frequently in many management areas. Construction documents are developed and issued for bidding. Lake management actions (or similar activities) are proceeding.

5.3 District Programs

5.3.1 Monitoring and Data Analysis

Water quantity and quality monitoring has been an on-going effort for the District since 1996. The District will continue this initiative and partner with suitable entities to maintain the automated monitoring stations. Monitoring and data analysis relating to surface water flows, key infiltration areas, groundwater, lake levels and precipitation are expected to remain part of the District's overall initiative. The District supports the CAMP program for collecting data on key lakes, and the District will work to collect more detailed data on critical lakes such as Powers Lake. The District will pursue opportunities to leverage the value of local monitoring activities by collaborating with other agencies such as the National Weather Service which can integrate the District's precipitation network into their near real-time modeling.

Originally, the overall goal of the monitoring program was to document the current status of the watersheds water quality and evaluate the effectiveness of City and SWWD's programs. Five specific goals were defined in the 1997 WMP. The District will develop a Monitoring Program Plan that will articulate specific goals and objectives for data collection. This will allow the District to set clear rationale for the placement or relocation of monitoring stations, define how the data will be used and shared, and provide flexibility to the District if it should need to change direction in its monitoring efforts. The Monitoring Program Plan will include a systematic plan (both temporally and spatially) to optimize value and avoid ad hoc monitoring efforts of limited benefit or insight.

5.3.2 Regional Assessment Locations

As discussed in Section 6.8, the District has designated regional assessment locations at critical crossings and checkpoints (see Map 6.3). The objective of the assessment locations is to establish a framework for characterizing and managing water resources at a

regional level rather than solely at a site-specific level. New regional assessment locations may be added during implementation of the WMP and work plan. Similarly, some assessment locations may be removed if deemed unnecessary.

The District's monitoring program (policy DM-3) is a primary implementation tool for developing data at the assessment locations. Monitoring equipment has been established at several of the designated assessment locations. It is expected that monitoring equipment will be gradually rotated throughout the watershed to characterize assessment locations. This approach will be detailed in the Monitoring Program Plan.

The hydrologic and hydraulic modeling program (action identified under policy ST-2) is another primary implementation tool for developing data at the assessment locations. Numerous assessment locations have been characterized through XP-SWMM modeling. The use of modeling will also enable identification of key areas that can impact regional assessment locations. This can include landlocked basins that may incorporate future outlets, or watershed areas that include critical storage and infiltration features.

The modeling and monitoring efforts have been—and will continue to be—integrated so that modeling closely reflects monitored conditions. Likewise, sustained monitoring will characterize a range of conditions and reflect changes from land development and other projects.

5.3.3 Groundwater Management

The SWWD intends to work with the general recommendations given in the Washington County Groundwater Plan. The Groundwater Plan sets forth a framework for managing different elements and areas influencing groundwater. The Plan is implementation oriented and established teams with designated leads for identified implementation actions. All watershed agencies within Washington County are designated as leads for several actions which generally involve education or policy development.

Impacts to groundwater from surface water management are a key concern for the SWWD. The District has developed maps to help guide the use of stormwater infiltration techniques to best protect groundwater (see Section 5.3.6). The District's groundwater management initiative consists of monitoring and data analysis as generally described in Section 5.3.1. The objective is to compile baseline data to characterize dynamics between stormwater and groundwater. (Generally, Washington County monitoring efforts are "special project" based rather than on-going efforts.) Outcomes of the groundwater management include setting or adjusting thresholds or standards to best address stormwater management and groundwater protection, and identifying potential groundwater resources trends in the context of stormwater management efforts.

5.3.4 Education and Outreach

The SWWD public education initiative is intended to raise the awareness of the citizens of the watershed about water quality and water quantity issues as well as natural and water resource management efforts. The program aims to inform residents about the direct and indirect impacts they have on the water quality of the watersheds waterbodies as well as on regional resources such as the Mississippi River. The initiative seeks to involve and support the cities in their efforts to raise awareness, particularly at a municipal staff level.

Water resource education is a central component of the NPDES Phase II MS4 program. It affects cities in the SWWD and across Washington County, as well as the District itself. To leverage existing resources and maximize educational opportunities, the SWWD will participate in a program to establish a shared water resource educator. The educator would be responsible for developing and implementing an MS4 education plan, conduct education events, coordinate programs and materials, and prepare annual education reports. An outcome of the education and outreach program will be the development of an Education Plan that is specific to the SWWD. This Plan will clearly identify the target audiences in the watershed and how the District will strive to change behavior in those groups in order to benefit water resources.

The SWWD website is a tool that the District will use to convey educational materials and information. Specific on-going actions for education and outreach are described in the District's NPDES Phase II MS4 Storm Water Pollution Prevention Plan. Broader project initiatives for the District includes coordinating with local schools to develop environmental and water quality education learning centers to enhance the experiential learning process for school children. The projects are intended to include outdoor settings for studying water and natural resources. The SWWD will take advantage of opportunities such as Washington County's new South Service Center in the East Ravine subwatershed to highlight and promote low-impact development techniques and applications.

5.3.5 Natural Resource Conservation

The District's initiative for natural resource conservation is based on the Greenway Corridor Management Plan. The draft Comprehensive Wetland Management Plan is a corollary document for natural resource protection. Brief summaries of these plans are included in Appendix B. The objective is to create a series of connected corridors and habitat areas which improve wildlife habitat, overall aesthetics, and benefit recreation.

Implementation of the natural resource preservation initiative is primarily during the land development review process. The District works with project agents to ensure that key areas identified in the aforementioned plans are preserved and protected. Similarly, working with project agents can establish site plans that minimize placement of undesirable project features near key natural resource areas.

As part of the natural resource preservation initiative the District also coordinates with regional agencies to meet common objectives and leverage resources to set-aside natural areas. Washington County's linear park system has many commonalities with the SWWD natural resource preservation initiative. The District also intends to purchase critical land areas which provide both surface water (including runoff) and natural resource benefit. Restoration of these areas to a native landscape condition may be pursued.

5.3.6 Erosion and Sediment Control

The erosion and sediment control needs of the watershed are primarily programmatic in nature. The existing policies and standards of the MPCA and the cities are generally adequate. The problem of implementation must be addressed.

The SWWD intends to participate in a collaborative effort to establish a construction site erosion and sediment control program. The anticipated partners include the City of Woodbury, the WCD, the SWWD, and Washington County. A compliance framework has been drafted that consists of the following actions:

- ❖ Inspections bi-weekly for priority sites, monthly for others;
- ❖ Reporting and compliance motivation; and
- ❖ Enforcement of local ordinances and MPCA rules.

The various partners would have different roles for the program. The lead technical resource would be the WCD and the SWWD would provide financial support for the program. The measure of success of the program will be that MPCA and local erosion and sediment control permits and policies are being implemented and are being enforced consistently across the watershed.

5.3.7 Watershed Source Control Program

Impacts to water and natural resources often manifest in observable symptoms such as nuisance algal blooms, slope destabilization or gully formation, or bank erosion. Although projects to treat the local symptoms can have short-term success, these symptoms are best addressed at the source of the problem within the watershed. The SWWD intends to use this program to undertake watershed-based studies which identify BMPs for either water quality or quantity source control efforts. Municipal assistance for appropriate and clearly identified source control implementation efforts may also be provided in this program. This assistance potentially may take the form of technical support, or cost-sharing for structural improvements (especially those which are innovative) or nonstructural activities. Through the watershed source control program the SWWD may also implement or sponsor effectiveness monitoring and educational signage.

5.3.8 Permitting and Development Review

As stated in Section 5.1.2, the District feels that permits are best administered at the local level where project implementation occurs. The District does have a review program whereby all proposed development projects must be submitted to the SWWD. The District reviews the proposed developments against the adopted watershed rules to ensure conformance is met with watershed rule. If communities fail to participate in the watershed's development review program, the SWWD may administer a permitting program whereby the District can approve or deny a proposed development plan.

After the WMP is approved and adopted and watershed rules are adjusted, but before the member cities local plans are approved and adopted, there will be an interim period when the SWWD's standards must be implemented by the watershed. The implementation of standards involves reviewing development plans to verify compliance with the SWWD's standards. The SWWD standards include water quantity, water quality, and wetland standards and are summarized in Section 6.3. The review of development plans will be coordinated to the extent possible with the cities normal review process.

5.3.9 Advisory Committees

The SWWD involved a citizen advisory committee to assist in drafting the 1997 WMP. This CAC continued to occasionally meet after completion of the 1997 but later ceased to convene due to a lack of interest.

Two stakeholder advisory groups were identified for this WMP, a Technical Advisory Committee and a Citizen Advisory Committee (CAC). The principal intent of involving

stakeholders during the project was to obtain input and build acceptance of this WMP document. Acceptance of this WMP is critical because the SWWD is focused on actively utilizing their Plan to implement projects and programs within the District.

The technical advisory committee consists of those parties which may be operationally affected by the contents of the plan or its implementation, or those parties which have authority and responsibility to review and approve the Plan Update. It is not expected to continue convening the TAC after approval of this WMP.

The CAC consists of local citizens representing a variety of interests. Several CAC participants are also members of the various planning commission and environmental management committees of cities and townships within the SWWD. The goal is to create a connection with dedicated, concerned citizens as well as planning commission members in the watershed to further the relationship between land use and water resources. Long term, the CAC will continue to meet to maintain contact with the planning commissions and residents of the watershed, however, meetings will occur on a less frequent basis. More information about the stakeholder involvement process is included in Appendix C.