Chapter VI

LEGAL STRUCTURES AFFECTING THE REGIONAL WATER QUALITY MANAGEMENT PLAN UPDATE

INTRODUCTION

In any sound planning effort, it is necessary to investigate the legal as well as the physical and economic factors affecting the problems under consideration. In developing water quality management plans on a watershed basis, the law can be as important as the benefits and costs of proposed water quality control facilities in determining the ultimate feasibility of a given watershed plan. If the legal constraints bearing on the planning problem are ignored during plan formulation, serious obstacles may be encountered during plan implementation. The regional water quality management plan update is intended to focus on water quality issues and problems and on the recommended water use objectives and standards for the greater Milwaukee watersheds (the Kinnickinnic, Menomonee, Milwaukee, and Root River watersheds and the Oak Creek watershed), the Milwaukee Harbor Estuary, and nearshore Lake Michigan areas comprising the study area. Thus, the focus of this chapter is on the legal structure relating to water quality. However, because of the importance of hydrologic and habitat conditions in watershed planning and their interrelationship with water quality, the chapter also describes legal structures related to water quantity and habitat conditions, including shoreland and wetland regulations.

Water constitutes one of the most important natural resources. It is essential not only to many of the primary economic activities of man but also to life itself. The available quantity and quality of this important resource are of concern to agricultural, commercial, manufacturing, conservation, and government interests. The rights to the availability and use of water are, accordingly, of vital concern to a host of public-interest and private-interest groups; the body of law regulating these rights is far from simple or static. Moreover, changes in this complex, dynamic body of law may be expected to take place even more rapidly as pressure on regional, State, and National water resources becomes more intense. For example, the Wisconsin Supreme Court has expressly overruled the historic common law doctrine on both groundwater\(^1\) and diffuse surface water law,\(^2\) finding the historic doctrines in these areas not to be applicable to modern water resource problems and conflicts.

In this chapter attention is focused first on those aspects of water law generally pertinent to the planning and management of the water resources of any watershed in Wisconsin. Included in this section are a discussion of the machinery for water quality management of the Federal, State, and local levels of government. Finally, more

\(^1\) State v. Michels Pipeline Construction, Inc., 63 Wis. 2d 278 (1974).

\(^2\) State v. Deetz, 66 Wis. 2d 1, 224 N.W. 2d 407 (1974).
detailed consideration is given to those aspects of water law that relate more specifically to the problems of the regional water quality management plan update study area, including inventory findings on State water pollution abatement orders and permits.

**WATER QUALITY MANAGEMENT**

Because the regional water quality management plan update study is intended to deal primarily with problems of water quality and to recommend water use objectives and water quality standards for the greater Milwaukee watersheds, the Milwaukee Harbor Estuary, and nearshore Lake Michigan areas that comprise the study area, it is necessary to examine the existing and potential legal machinery through which attainment of water quality goals may be sought at various levels of government and through private action.

**Federal Water Quality Management**

The Federal government has long been involved in water quality management efforts, although it is only in recent years that the U.S. Congress has acted to secure the establishment of water use objectives and supporting standards for navigable waters. The 1899 Refuse Act prohibited the discharge of refuse matter of any kind, other than that flowing from streets and sewers, into any navigable waters of the United States or tributaries thereto without first obtaining a permit from the Secretary of the Army. The Secretary was directed to make a specific finding that the discharge of any refuse matter would not adversely affect anchorage and navigation; no finding on water quality was, however, required. This Act and the permits issued thereunder were largely ignored until enactment of the National Environmental Policy Act of 1969 (NEPA), which required all Federal agencies to consider environmental impact in the administration of all public laws, and the Water Quality Improvement Act of 1970, which required applicants for Federal permits to file a certification from the appropriate state that the proposed discharge would not violate any applicable state-adopted water quality standard.

A broader Federal approach to water quality management began with the passage of the Federal Water Pollution Control Act on June 30, 1948. With the passage of this Act, the Federal government began to take effective steps toward controlling and preventing pollution of the navigable waters of the United States. Initially, the Act was primarily directed at establishing a Federal grant-in-aid program for the construction of publicly owned waste treatment facilities. In the mid-1960s, requirements were added relating to the establishment of interstate water quality standards. The Act was substantially revised by the amendments of 1972, 1977, and 1987. The name of the statute was changed from the Federal Water Pollution Control Act to the Federal Clean Water Act at the time of the 1977 amendment. In general, the Act, as amended in 1972 and 1977, called for: 1) an increased emphasis on enhancing the quality of all of the navigable waters of the United States, whether interstate or intrastate, 2) an increased emphasis on planning and on examining alternative courses of action to meet stated water use objectives and supporting water quality standards, 3) waters of the United States to be made to the extent practicable “fishable and swimmable,” 4) the provision of substantial Federal financial assistance to construct publicly owned waste treatment works, and 5) the development and implementation of areawide waste treatment management planning processes to assure adequate control of sources of pollutants within each state. The requirements of the Act, as amended in 1972 and 1977, may be categorized under the following headings: water quality standards and effluent limitations, pollutant discharge permit system, continuing statewide water quality management planning processes, areawide waste treatment planning and management, and waste treatment works construction. The 1987 amendment to the Act called for 1) the development of control strategies for waters polluted by toxic substances, 2) a permitting program for stormwater discharges from municipalities of a certain size, certain industries, and construction sites, and 3) the establishment of a program ultimately to replace the Federal program of construction grants for sewage treatment facilities with revolving funds run by the states. In the following sections, attention is focused on the most relevant portions of the Federal Clean Water Act, as well as on the requirements of the NEPA of 1969.
Since 1965, the Federal Water Pollution Control Act, and, later, the Clean Water Act, have required states to adopt water use objectives and supporting water quality standards, or criteria, for all interstate waters. The Act, as amended in 1972, incorporates by reference all existing interstate water quality standards and, for the first time, requires the adoption of intrastate water use objectives and supporting water quality standards, or criteria, and submittal of those objectives and standards for approval by the U.S. Environmental Protection Agency (USEPA). Wisconsin, through the Natural Resources Board and the Wisconsin Department of Natural Resources (WDNR), has adopted the required interstate and intrastate water use objectives and supporting water quality standards. These objectives and standards as related to streams and watercourses in the regional water quality management plan update study area are discussed in a subsequent section of this chapter.

In addition to water use objectives and standards, the Act requires the establishment of specific effluent limitations for all point sources of water pollution. Such limitations require the application of the best practicable water pollution control technology currently available, as defined by the USEPA Administrator. Also, any waste source which discharges into a publicly owned treatment works must comply with applicable pretreatment requirements, also established by the USEPA Administrator. The Act requires publicly owned treatment works to meet effluent limitations based upon a secondary level of treatment and through application of the best applicable waste treatment technology. In addition to these uniform or National effluent limitations, the Act provides that any waste source must meet any more stringent effluent limitations as required to implement any applicable water use objective and supporting standard established pursuant to any State law or regulation or any other Federal law or regulation.

Pollutant Discharge Permit System
The Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES). Under this system the USEPA Administrator or a state, upon approval of the USEPA Administrator, may issue permits for the discharge of any pollutant or combination of pollutants upon the condition that the discharge will meet all applicable effluent limitations or upon such additional conditions as are necessary to carry out the provision of the Act. All such permits must contain conditions to assure compliance with all of the requirements of the Act, including conditions relating to data collection and reporting. In essence, the Act stipulates that all discharges to navigable waters must obtain a Federal permit or, where a state is authorized to issue permits, a state permit. The intent of the permit system is to include in the permit, where appropriate, a schedule of compliance which will set forth the dates by which various stages of the requirements imposed in the permit shall be achieved. As set forth below, Wisconsin has an approved permit system operating under the NPDES.

The 1987 amendments to the Clean Water Act established Phase I of a Federal program for permitting of stormwater discharges from municipalities and specific industries. The Phase I program applies to the specified industries and to municipalities with populations of 100,000 or more. The stormwater discharge permitting program is administered by the USEPA and calls for the issuance of NPDES permits. Pollution from stormwater runoff is commonly characterized as diffuse, or nonpoint source, pollution. The Clean Water Act specifically exempts such pollution sources from the requirements of the NPDES program. However, because most urban stormwater runoff is discharged to receiving streams through storm sewers or other facilities which concentrate flows, the 1987 amendments designated urban stormwater pollution as a point source which could be regulated under the NPDES program. The Federal stormwater discharge permitting program requires: 1) control of industrial discharges utilizing the best available technology economically achievable, 2) control of construction site discharges using best management practices, and 3) municipal system controls to reduce the discharge of pollutants to the maximum extent practicable. As described in a later section of this report, the USEPA has delegated the administration of the stormwater discharge permitting program in the State of Wisconsin to the WDNR.

3 Water quality criteria are continually being proposed and promulgated by the USEPA. Thus, the criteria set forth in this report can be expected to evolve over time.
In October of 1999, the USEPA expanded the coverage of the stormwater discharge permitting regulations when it issued Phase II stormwater rules that apply to urbanized areas with populations between 50,000 and 100,000 persons and to construction sites that disturb from one to five acres. The Phase II program requires that regulated municipalities reduce nonpoint source pollution to the “maximum extent practicable” through implementations of a set of minimum control measures, including:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and limitation
- Construction site stormwater runoff control
- Post-construction stormwater management for new development and redevelopment
- Pollution prevention and good housekeeping for municipal operations.

Ultimately, every separate municipal stormwater management system will be required to obtain a permit, regardless of the size of the municipality.

**Continuing Statewide Water Quality Management Planning Processes**

The Clean Water Act stipulates that each state must have a continuing planning process consistent with the objectives of the Act. States are required to submit a proposed continuing planning process to the USEPA Administrator for approval. The Administrator is prohibited from approving any state discharge permit program under the pollutant discharge elimination system if that state does not have an approved continuing planning program. The state continuing planning process must result in water quality management plans for the navigable waters within the state. Such plans must include at least the following items: effluent limitations and schedules of compliance to meet water use objectives and supporting water quality standards; the elements of any areawide wastewater management plan prepared for metropolitan areas; the total maximum daily pollutant load to all waters identified by the state for which the uniform or national effluent limitations are not stringent enough to implement the water use objectives and supporting water quality standards; adequate procedures for the revision of plans; adequate authority for intergovernmental cooperation; adequate steps for implementation, including schedules of compliance with any water use objectives and supporting water quality standards; adequate control over the disposition of all residual waste from any water treatment processing; and an inventory and ranking in order of priority needs for the construction of waste treatment works within the state. In effect, a state’s planning process is designed to result in the preparation of comprehensive water quality management plans for natural drainage basins or watersheds. The Southeastern Wisconsin Regional Planning Commission and the Wisconsin Department of Natural Resources have cooperatively conducted a continuing water quality management planning program for the Southeastern Wisconsin Region since completion of the initial regional water quality management plan in 1979.

**Areawide (Regional) Waste Treatment Planning and Management**

Section 208 of the Clean Water Act provides for the development and implementation of areawide waste treatment management plans. The Act envisions that the Section 208 planning process would be most appropriately applied in the nation’s metropolitan areas which, as a result of urban and industrial concentrations and other development factors, have substantial water quality control problems. Accordingly, the Act envisions the formal designation of a Section 208 planning agency for substate areas that are largely metropolitan in nature and the preparation of the required areawide water quality management plan by that agency.

Any areawide plan prepared under the Section 208 planning process must include the identification of both point and nonpoint sources of water pollution and the identification of cost-effective measures which will abate the
pollution from those sources. The plans must also identify the appropriate management agency responsibilities for implementation.

On September 27, 1974, the seven-county Southeastern Wisconsin Region and the Southeastern Wisconsin Regional Planning Commission were formally designated as a Section 208 planning area and planning agency pursuant to the terms of the Clean Water Act. Following preparation of a detailed study design and after receiving a planning grant from the USEPA, the Commission started the planning program in July 1975. The program was continued through July 12, 1979, the date of formal adoption of the plan by the Commission. The plan adoption followed a series of public meetings and hearings and is fully documented in SEWRPC Planning Report No. 30, *A Regional Water Quality Management for Southeastern Wisconsin*, Volume One, *Inventory Findings*, Volume Two, *Alternative Plans*, and Volume Three, *Recommended Plan*. The plan was approved by the Wisconsin Natural Resources Board on July 25, 1979; by the Governor on December 3, 1979; and by the USEPA on April 30, 1980.

The original regional water quality management plan has been updated over time through an amendment and revision process. A status report on the plan as amended through 1993 is presented in SEWRPC Memorandum Report No. 93, *A Regional Water Quality Management Plan for Southeastern Wisconsin: An Update and Status Report*, March 1995. That report also identifies issues which remain to be addressed in the continuing planning process.

The planning program documented in this report is intended to represent a formal update and amendment to the adopted regional water quality management plan.

**Waste Treatment Works Construction**

Prior to the 1987 amendments, one of the basic goals of the Clean Water Act was to provide for Federal funding of publicly owned waste treatment works. Such funding was based upon an approved areawide water quality management plan designed to provide for control of both point and nonpoint sources of pollution in a cost-effective manner. As noted above, the 1987 amendments to the Act revised this funding program by establishing the current program, which provides for revolving loan funds operated by the states.

**National Environmental Policy Act**

The National Environmental Policy Act (NEPA) of 1969 broadly declares that it is national policy to encourage a productive and enjoyable relationship between man and his environment, to promote efforts which will prevent or eliminate damage to the environment, and to enrich the understanding of the ecological systems and natural resources important to the nation. This Act has broad application to all projects in any way related to Federal action. The mechanism for carrying out the intent of the NEPA of 1969 is the preparation of an environmental assessment for each project. This document must include an exposition of the potential environmental impacts of the proposed project, any adverse environmental effects which cannot be avoided should the project be constructed, any alternative to the proposed project, the relationship between the local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments or resources which would be involved in the proposed action if it is implemented. As described below, Wisconsin has a similar environmental policy accompanying State governmental action of all kinds within the State, whether or not such action is federally aided.

**U.S. Environmental Protection Agency Watershed Initiative**

**Watershed Planning**

Since the early 1990s, the USEPA has encouraged watershed management approaches that address water quality problems. While such an approach has not yet been widely applied nationally as a planning tool, the Regional Planning Commission has long-practiced watershed planning approaches in its environmental planning work. As envisioned by the USEPA under its Watershed Initiative, the watershed management approach is directed toward attaining and maintaining state water quality standards. The watershed planning approach as put forth by the
USEPA\textsuperscript{4} includes the following components, which are consistent with the regional water quality management planning process documented in this report:

- Identification of impaired waters and causes and sources of impairment,
- Identification of threats to other waters,
- Identification of point source and nonpoint source controls needed to attain and maintain water quality standards,
- Estimation of pollutant load reductions that will be achieved,
- Provision of an implementation program that identifies parties responsible for implementation of various plan components, an implementation schedule, and costs and funding sources,
- Identification of technical assistance and education needs, and
- Establishment of a monitoring plan.

The watershed approach to water quality management planning can employ several mechanisms related to plan implementation, including watershed-based permitting, establishment of total maximum daily load analysis, and water quality trading. Those are described below.

\textit{Watershed-Based Permitting}

A January 2003 policy statement by the USEPA endorsed watershed-based National Pollutant Discharge Elimination System permitting, and implementation guidance for such permits was issued by the USEPA in December 2003.\textsuperscript{5,6} The USEPA has identified the following types of watershed permits, although they note that other mechanisms may also be used:

- \textbf{Watershed-based General Permit - Common Sources.} A permitting authority “would develop and issue this type of general permit to a category of point sources within a watershed, such as all publicly owned treatment works (POTWs) or all confined animal feeding operations (CAFOs) or all storm water discharges from municipal separate storm sewer systems. This is similar to current general permits, except that the geographic area covered by the permit would correspond to the watershed boundary. The most significant difference between a traditional general permit and the watershed-based general permit for common sources would be permit requirements that reflect watershed-specific water quality standards.”

- \textbf{“Watershed-based General Permit - Collective Sources.} Unlike the watershed based general permit described above, this type of permit would address all point sources within the watershed or alternatively, several subcategories of point sources within the watershed. This type of permit would be similar to the multi-sector general permit for storm water discharges associated with industrial activity with requirements being tied to categories and subcategories of discharges. Again, the

\textsuperscript{4}USEPA, EPA’s Commitment to the Watershed Management Approach, \textit{presentation at the Water Environment Federation Annual Technical Exhibition and Conference (WEFTEC), October 14, 2003.}


distinguishing feature of this type of permit would be geographic coverage based on the watershed-boundaries and the permit requirements reflecting watershed-specific water quality standards.”

- **“Watershed-based Individual Permit - Multiple Permittees.** Similar to the approach used for Phase I MS4s (municipal separate storm sewer systems) with multiple permittees, this type of permit would allow several point sources within a watershed to apply for and obtain permit coverage under an individual permit.”

- **“Integrated Municipal NPDES Permit.** This type of permit would bundle all NPDES permit requirements for a municipality (e.g., storm water, combined sewer overflows, biosolids, pretreatment, etc.) into a single municipal permit. While this type of permit would focus on municipal boundaries rather than watershed boundaries, the analysis in developing permit requirements would reflect watershed-specific water quality standards.”

The watershed-based permitting approach may be a useful tool in implementation of the recommendations of a watershed-based water quality management plan such as the regional update documented herein. Because the WDNR administers the pollutant discharge elimination system permitting program in Wisconsin, any watershed-based permits would be issued under the WPDES program. To the extent that nonpoint source of water pollution are regulated under WPDES stormwater discharge permits, it should be possible to consider such sources in developing watershed-based permits. New, innovative administrative and permitting frameworks may have to be developed to address nonpoint sources of pollution that are not currently covered by WPDES permits.

**Total Maximum Daily Loads (TMDLs)**
Under the Clean Water Act, Total Maximum Daily Loads (TMDLs) are to be established for waters that are not meeting their designated water quality standards and are, therefore, listed as impaired waters by the State under Section 303(d) of the Clean Water Act. The TMDLs are to be designed “to establish the ‘total maximum daily load’ of a pollutant that the waterbody can assimilate and still achieve water quality standards.”

Mathematical water quality simulation models such as those used for this regional water quality management plan update (see descriptions in Chapter V of this report) may be useful in establishing TMDLs that consider point and nonpoint sources of pollution.

**Water Quality Trading**
The concept of water quality trading is based on the premise that the cost of controlling a given water pollutant may vary greatly, depending on the source of that pollutant. Thus, facilities with higher costs to meet the level of control required under their discharge permits may be able to purchase pollution reductions from other entities from which the control of the pollutant may be achieved at a lesser cost. A typical example of this approach would be trading of reductions in a point pollution source for comparable, or greater, reductions in a nonpoint source.

In order for water quality trading to be possible, there must be a framework in place to enable evaluation of the effects on quality of the “trade.” Such a framework could be a watershedwide water quality model, such as was developed for the regional water quality management plan update, or a TMDL, which may be based on such a model. The application of trading would be constrained or not feasible in watersheds where water quality standards cannot be met without controlling all pollution sources to the greatest degree practicable.

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8 *U.S. Environmental Protection Agency*, www.epa.gov/OWOW/watershed/trading.htm
Combined Sewer Overflow (CSO) Policy
The USEPA CSO Control Policy is intended to provide a consistent approach to controlling CSOs through the National Pollutant Discharge Elimination System (NPDES) permitting program. The CSO Control Policy is comprised of four key principles that were implemented to meet the objectives of the Clean Water Act. These key principles are:

- Clear levels of control to meet health and environmental objectives,
- Flexibility to consider the site-specific nature of CSOs and find the most cost-effective way to control them,
- Phased implementation of CSO controls to accommodate a community's financial capability, and
- Review and revision of water quality standards during the development of CSO control plans to reflect the site-specific wet weather impacts of CSOs.

There are two other major components of the CSO Control Policy. The first is the implementation of minimum technology-based controls. These controls are referred to as the “nine minimum controls” and are defined as “measures that can reduce the prevalence and impacts of CSOs and that are not expected to require significant engineering studies or major construction.”

The nine minimum controls are as follows:

- Proper operation and regular maintenance programs for the sewer system and the CSOs
- Maximum use of the collection system for storage
- Review and modification of pretreatment requirements to assure CSO impacts are minimized
- Maximization of flow to the publicly owned treatment works for treatment
- Prohibition of CSOs during dry weather
- Control of solid and floatable materials in CSOs
- Pollution prevention
- Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts
- Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

The CSO control measures implemented by MMSD as part of the Water Pollution Abatement Program essentially meet the nine minimum controls. This is documented in a report entitled Documentation of the Implementation of the Nine Minimum Combined Sewer Overflow Controls, which was submitted to the WDNR in September 2004. The other major component of the CSO Control Policy is the development of long-term CSO control plans (LTCP), which are to include the following elements:

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• Characterization, monitoring, and modeling of the combined sewer system
• Public participation
• Consideration of sensitive areas
• Evaluation of alternatives to meet CWA requirements using either the “presumptive approach” or the “demonstration approach”
• Cost/performance considerations
• An operational plan
• Maximizing treatment at the existing Publicly Owned Treatment Works plant
• An implementation schedule
• A post-construction compliance monitoring program

All communities with combined sewer systems are expected to develop and implement LTCPs that will eventually afford full compliance with the Clean Water Act. The USEPA National CSO Control Policy calls for LTCPs to adopt one of the following approaches to CSO control:

“1) The ‘presumptive approach’ is a program that meets any of the criteria listed below and is presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA:

• No more than an average of four overflow events per year, provided that the permitting authority may allow up to two additional overflow events per year. …; or

• The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the Combined Sewer Service Area during precipitation events on a systemwide annual average basis; or

• The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under the immediately preceding paragraph.

2) The ‘demonstrative approach’ allows a permittee to demonstrate that a selected control program is adequate to meet the water quality-based requirements of the CWA including attainment of water quality standards.”

As a result of the construction of the Inline Storage System (ISS) under the Water Pollution Abatement Program (WPAP), MMSD has met the required LTCP control level under the presumptive approach. However, the MMSD is now documenting its LTCP and integrating the development of its long-term CSO control plan document with the 2020 Facilities Planning process.

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Sanitary Sewer Overflow Policy

There is little definitive Federal guidance on SSOs beyond the Clean Water Act, which prohibits SSOs except under certain extreme conditions. Many State regulatory agencies have recognized that absolute prohibition of SSOs under any hydrologic conditions is impossible to achieve. This has led to the industry practice of sizing facilities for a defined level of protection against SSOs. The level of protection is typically defined in terms of a recurrence interval for a design rainfall event or a wastewater flow event recurrence interval.

Several years ago, the USEPA drafted a Sanitary Sewer Overflow Rule\textsuperscript{12} that established requirements for standard permit conditions to be included in NPDES permits for POTWs and municipal sanitary sewer collection systems. The draft SSO rule provided guidance for sanitary sewer collection system capacity assessments and management practices, but no definitive guidance on facility sizing. The draft rule also provided a framework for regulating municipal satellite collection systems (collection systems that discharge to another collection system for eventual treatment) under the NPDES permit program. This draft rule was withdrawn from the rulemaking process some time ago and it is uncertain whether USEPA will resubmit it for consideration, or develop other guidance. Nevertheless, the draft rule has served as guidance for state regulatory agencies that are developing their own SSO rules, including the WDNR.

In the absence of definitive Federal or State criteria for sizing sanitary sewer systems, the regional water quality management plan update and the MMSD 2020 Facilities Plan approach sizing of sanitary sewer system facilities by evaluating wastewater facility needs over a range of levels of protection against sanitary sewer overflows from MMSD facilities. The level of protection to be used for sizing facilities will be determined in conjunction with the alternatives evaluation process. This process is intended to be carried out and determination of the level of protection will be based on water quality, cost, public goals and objectives, and other evaluation factors, in collaboration with the Wisconsin Department of Natural Resources.

Proposed Wet-Weather Policy

On December 19, 2005, the USEPA issued a draft memorandum regarding NPDES permit requirements for peak wet weather flow from POTW plants serving separate sanitary sewer systems.\textsuperscript{13} The memorandum specifically notes that it does not apply to POTW plants serving combined sewer systems. The memo states that “EPA recognizes that peak wet weather flow diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer conveyance systems may be necessary in some circumstances to prevent temporary loss of function of secondary treatment units.” However, it also notes concerns that such diversions could have negative effects on the environment and public health. The memo indicates that peak wet weather diversions around secondary treatment units that are recombined with flows that have received secondary treatment, a procedure that is called “blending,” can be approved subject to meeting specific criteria set forth in 40 CFR 112.41(m)(4)(i)(A)-(C). If, based on a comprehensive analysis process specified in the memo, a POTW operator demonstrates that under certain conditions there would be no feasible alternative to such peak wet weather flow diversions, such diversions may be approved by the USEPA.

Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000

This Act (Public Law 106-284) is intended to protect public health at beaches. The Act amends the Federal Water Pollution Control Act to require that by April 10, 2004, states with coastal or Great Lakes recreation waters establish water quality criteria and standards for pathogens and pathogen indicators that are at least as stringent as


\textsuperscript{13}U.S. Environmental Protection Agency, Draft Memorandum, National Pollutant Discharge Elimination System Permit Requirements for Peak Wet Weather Discharges from Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems, December 19, 2005.
those set forth in the January 1986 USEPA report titled, *Ambient Water Quality Criteria for Bacteria-1986*. If a state did not adopt sufficiently restrictive standards and criteria by the 2004 deadline, the BEACH Act authorizes the USEPA to propose regulations for pathogens and pathogen indicators. The State of Wisconsin is in the process of adopting criteria, but had not adopted such criteria by the deadline. Thus, the USEPA has promulgated criteria for Wisconsin that call for an *Escherichia coli* (*E. coli*) geometric mean standard of 126 counts per 100 milliliters and single sample maxima ranging from 235 counts per 100 ml to 575 counts per 100 ml, depending on the frequency of use of the recreational waters. Also, an enterococci geometric mean standard of 33 counts per 100 ml and single sample maxima ranging from 61 to 151 counts per 100 ml were established. Within the study area for the current regional water quality management plan update, these USEPA standards only apply to Lake Michigan and recreational waters which are considered to be the open water Lake Michigan areas and the Milwaukee outer harbor.

The BEACH Act also requires states to develop and implement programs for water quality monitoring and public notification at coastal and great lakes recreational beaches. The State of Wisconsin has been implementing such a program since 2003.

**State Water Quality Management**

Responsibility for water quality management in Wisconsin is centered in the WDNR. Pursuant to the State Water Resources Act of 1965, the WDNR acts as the central unit of State government to protect, maintain, and improve the quality and management of the groundwater and surface waters of the State. The only substantive areas of water quality management authority not located in the WDNR, or shared with other agencies, are: 1) the authority to regulate private sanitary sewer systems, private septic tank sewage disposal systems, and construction site erosion control for single- and two-family residential building sites and commercial sites, which are the responsibility of the Wisconsin Department of Commerce, 2) the establishment of groundwater standards under Chapter NR 140 of the *Administrative Code*, which is shared with the Wisconsin Department of Health and Social Services, 3) the development by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) of a model shoreland management ordinance and of regulations for drainage districts and county land and water resource management plans, and 4) the authority to regulate highway construction site erosion control for projects administered by the Wisconsin Department of Transportation (WisDOT), which is the responsibility of WisDOT. Attention in this section of the chapter will be focused on those specific functions of the WDNR which bear directly upon water quality management.

**Water Resources Planning**

Section 281.12(1) of the *Wisconsin Statutes* requires that the WDNR formulate a long-range comprehensive State water resources plan for each region in the State. The seven-county Southeastern Wisconsin Planning Region lies entirely within the eight-county Southeast Region of the Department. This section of the *Statutes* also stipulates that the Department should formulate plans and programs for the prevention and abatement of water pollution and for the maintenance and improvement of water quality. In addition, Section 281.13 of the *Wisconsin Statutes* authorizes the Department to conduct drainage basin surveys. This statutory authority enables the Department to conduct the continuing State water quality management planning process required by the Clean Water Act.

**Water Use Objectives and Water Quality Standards/Criteria**

Section 281.15(1) of the *Wisconsin Statutes* requires that the WDNR prepare and adopt water use objectives and supporting water quality standards, or criteria, that apply to all surface waters of the State. Such authority is essential if the State is to meet the requirements of the Clean Water Act. Water use objectives and supporting water quality standards were initially adopted for interstate waters in Wisconsin on June 1, 1967, and for intrastate waters on September 1, 1968. *Administrative Code* Chapters NR 102 through NR 105 comprise the water quality standards for the surface waters of the State. On October 1, 1973, the Wisconsin Natural Resources Board adopted revised water use objectives and supporting water quality standards which were set forth in *Wisconsin Administrative Code* Chapters NR 102 and 104. On October 1, 1976, *Administrative Code* Chapter NR 104 was repealed and a new chapter was created. Chapter NR 105, which establishes surface water quality criteria for toxic substances, took effect on March 1, 1989. Chapter NR 106, which also took effect on March 1, 1989, establishes procedures for calculating water quality-based effluent limitations for toxic and organoleptic substances.
discharged to surface waters. Such effluent limitations are essential to assure that the water quality standards set forth in Chapters NR 102 through NR 105 are attained. Chapter NR 103, which establishes water quality standards for wetlands, took effect on August 1, 1991.

Water quality standards, or criteria, have been promulgated by the Department for the following major water uses in Southeastern Wisconsin:

1. **Great Lakes Communities**: Streams classified under this category are those waters which drain to Lake Michigan and its bays, arms, and inlets, which serve as spawning areas for anadromous fishes.

2. **Coldwater Biological Communities**: Streams classified under this category are capable of supporting a community of coldwater fish and other aquatic life or serve as spawning areas for coldwater sport fish species. This category includes, but is not restricted to, surface waters identified as trout waters by the WDNR. Also included in this classification are coldwater streams which, although too small to support sport fish, are capable of supporting an abundant and diverse population of forage fish and macroinvertebrates which are intolerant of pollution.

3. **Warmwater Sport Fish Communities**: Streams placed under this classification are capable of supporting a warmwater sport fishery or they serve as spawning areas for warmwater sport fish species such as walleyed pike, bluegill, largemouth bass, and smallmouth bass. Also present are aquatic macroinvertebrates which are relatively intolerant of pollution.

4. **Warmwater Forage Fish Communities**: This category includes surface waters with natural water quality and habitat capable of supporting an abundant, usually diverse, community of forage fish (shiners, minnows) or aquatic macroinvertebrates (insects, clams, crayfish) which are relatively intolerant of pollution. These streams are generally too small to support sport fish species. Streams capable of supporting valuable populations of pollution-tolerant forage fish are also included in this classification.

5. **Limited Forage Fish Communities (Intermediate Surface Waters)**: Streams within this classification are of limited capacity, naturally poor water quality, and deficient habitat. These intermediate surface waters are capable of supporting only a limited community of pollution-tolerant forage fish and aquatic macroinvertebrates.

6. **Limited Aquatic Life (Marginal Surface Waters)**: Streams with this classification have a severely limited capacity, naturally poor water quality, and deficient habitat. These marginal surface waters are only capable of supporting a limited community of aquatic life.

As set forth in the following section, there are also minimum standards which apply to all waters. The existing water use objectives for all stream channels studied within the regional water quality management plan update study area, as adopted by the WDNR, are shown on Maps 51 through 56 in Chapter VII of this report, and applicable water quality standards for all water uses designated in Southeastern Wisconsin are set forth in Table 67.14

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14 The water quality standards adopted by the Wisconsin Department of Natural Resources are used for regulatory purposes. Additional standards adopted by the Regional Planning Commission for planning purposes are set forth in Chapter IV of SEWRPC Technical Report No. 39 (TR No. 39), “Water Quality Conditions and Sources of Pollution in the Greater Milwaukee Watersheds.” The Commission standards differ somewhat from the Department standards because of their application for planning, rather than regulatory, purposes. Chapter IV of TR No. 39 also presents human threshold and human cancer water quality criteria for public health and welfare, threshold concentrations for public health and welfare for substances causing taste and odor in water, wildlife criteria for surface water quality, acute and chronic toxicity criteria for aquatic life, and groundwater quality standards for substances of public health concern and public welfare.
### Table 67

**APPLICABLE REGULATORY WATER USE OBJECTIVES AND WATER QUALITY STANDARDS, OR CRITERIA, FOR LAKES AND STREAMS WITHIN THE REGIONAL WATER QUALITY MANAGEMENT PLAN UPDATE STUDY AREA**

<table>
<thead>
<tr>
<th>Water Quality Parameter</th>
<th>Coldwater Community</th>
<th>Warmwater Sportfish and Forage Fish Communities</th>
<th>Limited Forage Fish Community (variance category)</th>
<th>Limited Aquatic Life (variance category)</th>
<th>Special Variance Category A&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Special Variance Category B&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recreational use</strong></td>
<td>Full</td>
<td>Full</td>
<td>Full</td>
<td>Full</td>
<td>Limited</td>
<td>Limited</td>
<td>- -</td>
</tr>
<tr>
<td><strong>Maximum Temperature (°F)&lt;sup&gt;d&lt;/sup&gt;</strong></td>
<td>Background</td>
<td>89.0</td>
<td>89.0</td>
<td>-</td>
<td>89.0&lt;sup&gt;e&lt;/sup&gt;</td>
<td>89.0</td>
<td>NR 102.04 (4)</td>
</tr>
<tr>
<td><strong>Dissolved Oxygen (mg/l)&lt;sup&gt;d&lt;/sup&gt;</strong></td>
<td>6.0 minimum</td>
<td>5.0 minimum</td>
<td>3.0 minimum</td>
<td>1.0 minimum</td>
<td>2.0 minimum</td>
<td>2.0 minimum</td>
<td>NR 102.04 (4)</td>
</tr>
<tr>
<td></td>
<td>7.0 minimum during spawning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NR 104.02 (3)</td>
</tr>
<tr>
<td><strong>pH Range (S.U.)</strong></td>
<td>6.0-9.0</td>
<td>6.0-9.0</td>
<td>6.0-9.0</td>
<td>6.0-9.0&lt;sup&gt;e&lt;/sup&gt;</td>
<td>6.0-9.0&lt;sup&gt;e&lt;/sup&gt;</td>
<td>NR 102.04 (4)</td>
<td>NR 104.02 (3)</td>
</tr>
<tr>
<td><strong>Fecal Coliform (MFFCC)&lt;sup&gt;h&lt;/sup&gt;</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NR 102.04 (5)</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>1,000</td>
<td>1,000</td>
<td>NR 104.08 (2)</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>2,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2c and 4b</td>
</tr>
</tbody>
</table>

<sup>a</sup>NR 102.04(1) All waters shall meet the following minimum standards at all times and under all flow conditions: substances that will cause objectionable deposits on the shore or in the bed of a body of water, floating or submerged debris, oil, scum, or other material, and material producing color, odor, taste, or unsightliness shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant, or aquatic life.

<sup>b</sup>As set forth in Chapter NR 104.06(2)(a) of the Wisconsin Administrative Code.

<sup>c</sup>As set forth in Chapter NR 104.06(2)(b) of the Wisconsin Administrative Code.

<sup>d</sup>Dissolved oxygen and temperature standards apply to continuous streams and the upper layers of stratified lakes and to unstratified lakes; the dissolved oxygen standard does not apply to the hypolimnion of stratified inland lakes. However, trends in the period of anaerobic conditions in the hypolimnion of deep inland lakes should be considered important to the maintenance of their natural water quality.

<sup>e</sup>Not specifically addressed within the Wisconsin Administrative Code. For planning purposes only, these values are considered to apply.

<sup>f</sup>NR 102.04(4) There shall be no temperature changes that may adversely affect aquatic life. Natural daily and seasonal temperature fluctuations shall be maintained. The maximum temperature rise at the edge of the mixing zone above the natural temperature shall not exceed 8°F for streams. There shall be no significant artificial increases in temperature where natural trout reproduction is to be maintained.

<sup>g</sup>The pH shall be within the stated range with no change greater than 0.5 unit outside the estimated natural seasonal maximum and minimum.

<sup>h</sup>NR 102.04(5)(a) The membrane filter fecal coliform count may not exceed 200 per 100 ml as a geometric mean based on not less than five samples per month, nor exceed 400 per 100 ml in more than ten percent of all samples during any month.

<sup>i</sup>Not specifically addressed within the Wisconsin Administrative Code. For planning purposes only, these values are considered to apply.

The water quality standards, or criteria, are statements of the physical, chemical, and biological characteristics of the water that must be maintained if the water is to be suitable for the specified uses. Chapter 281 of the *Wisconsin Statutes* recognizes that different standards may be required for different waters or portions thereof. According to the Chapter, in all cases the “standards of quality shall be such as to protect the public interest, which includes the protection of the public health and welfare and the present and prospective future use of such waters for public and private water supplies; propagation of fish and aquatic life and wildlife; domestic and recreational purposes; and agricultural, commercial, industrial and other legitimate uses.”

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15. Wisconsin Statute Section 281.15(1).
Chapter IV of SEWRPC Technical Report No. 39 lists additional water quality criteria for the following categories as set forth in the *Wisconsin Administrative Code* or the Code of Federal Regulations:

- Human threshold and human cancer water quality criteria for public health and welfare,
- Threshold concentrations for public health and welfare for substances causing taste and odor in water,
- Wildlife criteria for surface water quality,
- Acute and chronic toxicity criteria for aquatic life,
- The methodology for establishing preventive action limits for indicator parameters for groundwater quality,
- Groundwater quality standards for substances of public health concern, and
- Groundwater quality standards for substances of public welfare.

**Minimum Standards, or Criteria**

All surface waters must meet certain conditions at all times and under all flow conditions. Chapter NR 102 of the *Wisconsin Administrative Code* states that:

“Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and the effluent channel meet the following conditions at all times and under all flow conditions:

“(a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water shall not be present in such amounts as to interfere with public rights in the waters of the State.

“(b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in the waters of the State.

“(c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in the waters of the State.

“(d) Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.”

**Recreational Use**

Waters to be used for recreational purposes should be aesthetically attractive, free of substances that are toxic upon ingestion or irritating to the skin upon contact, and void of pathogenic organisms. The first two conditions are satisfied if the water meets the minimum standards for all waters as previously described, whereas the third condition requires that a standard be set to ensure the safety of water from the standpoint of health. The concentration of fecal bacteria is the indicator now used by the Wisconsin Department of Natural Resources for this purpose. Since the fecal coliform count is only an indicator of a potential public health hazard, the Wisconsin

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17Wisconsin Administrative Code Chapter NR 102.04.
standards specify that a thorough sanitary survey to assure protection from fecal contamination be the chief

criterion for determining recreational suitability.

Fish and Aquatic Life
The limited forage fish and limited aquatic life categories may be applied to streams with restricted use
downstream from an area of intense urban development or where wastewater has a predominant influence, or they
may be applied to streams with adequate water quality, but restrictions based on stream size and/or flow
characteristics.

Application of the Water Use Objectives to the Regional Water Quality Management Plan Update Study Area
The application of the basic categories of water use objectives require specification of a design low flow at, or
above, which the water quality standards commensurate with each water use objective are to be met. The water
use objectives state that compliance with the supporting standards is to be evaluated on the basis of streamflow as
low as the seven-day, 10-year low flow, which is defined as the minimum seven-day mean low flow expected to
occur once on the average of every 10 years. That is, for a given water use objective, the stream water quality is to
be such as to satisfy the supporting standards for all streamflow conditions at or above the seven-day, 10-year low
flow. Based on changes in the quality of discharges to streams in the watershed, either from the addition or
subtraction of point discharges (through the construction or abandonment of sewage treatment plants) and on
selected specific stream evaluations, the WDNR has proposed revisions to the State-adopted water use objectives.
Some of these proposed changes are documented in various WDNR “State of the Basin” reports. The proposed
revisions are listed in Table 70 in Chapter VII of this report. The water use objectives that are considered under
this regional water quality management plan are consistent with the revisions proposed by the WDNR.

Water Pollution Abatement Programs
Section 281.58 of the Wisconsin Statutes authorizes the WDNR to provide financial assistance through the Clean
Water Fund Loan Program for the construction of point source pollution abatement facilities necessary for the
protection of State waters. The rules governing the Clean Water Fund small loan interest rate subsidy program are
set forth in Chapter NR 165 of the Wisconsin Administrative Code. Under this program, communities proposing
eligible projects may receive loans at or below market interest rates. The program establishes three tiers of
projects which may be eligible for loan interest rates ranging from 55 to 100 percent of the market rate.

Chapter Comm 87, which was created on February 1, 1999, pursuant to Section 145.245 of the Wisconsin
Statutes, sets forth rules for the implementation and administration of the State financial assistance program for
the replacement or rehabilitation of failing private sewage treatment systems. In order for residences or small
commercial establishments to be eligible for State grants, the county, or in the case of Milwaukee County, the city
or village, where the grant applicants are located must be designated as a participating governmental unit, as
specified in Section 145.245. Dodge, Fond du Lac, Kenosha, Ozaukee, Racine, Sheboygan, Washington, and
Waukesha Counties and the City of Franklin in Milwaukee County are participating governmental units in the
regional water quality management plan update study area.

The Code identifies the following three categories of failing private systems:

Category 1: Private systems, the failure of which results in the discharge of sewage in surface water or
groundwater; the introduction of sewage into saturation zones; or the discharge of sewage to
a drain tile or into bedrock zones.

Category 2: Private systems discharging sewage to the ground surface.

Category 3: Private systems which fail to accept discharges of sewage, resulting in the backup of sewage
into the structure served by the system.

Only principal residences or small commercial establishments constructed prior to July 1, 1978, are eligible for
financial assistance for replacement or rehabilitation of failing systems. In addition, eligible principal residences
must have annual family incomes of $45,000 or less, and eligible small commercial establishments must have annual gross revenues of $362,500 or less.

**Effluent Reporting and Monitoring System**

Section 299.15 of the *Wisconsin Statutes* directs the WDNR to require by rule that persons discharging industrial wastes, toxic and hazardous substances, or air contaminants submit a report on such discharges to the Department. The law further establishes an annual monitoring fee to provide for the cost of administering the program. In response to this statutory mandate, the Department prepared and adopted Chapter NR 101 of the *Wisconsin Administrative Code*, setting forth specific rules by which the reporting and monitoring program is to be conducted.

**Pollutant Discharge Permit System**

Sections 283.31(1) and 283.33 of the *Wisconsin Statutes* require a permit for the legal discharge of any pollutant into the waters of the State, including groundwaters. This State pollutant discharge permit system was established by the Wisconsin Legislature in direct response to the requirements of the Clean Water Act. While the Federal law envisioned requiring a permit only for the discharge of pollutants into navigable waters, in Wisconsin, permits are required for discharges from point sources of pollution to all surface waters of the State and, additionally, to land areas where pollutants may percolate or seep to, or be leached to, groundwater. The Wisconsin Pollutant Discharge Elimination System (WPDES) permitting program provides a major vehicle for achievement of the basic goal of meeting the water use objectives for the receiving waters to the extent that the permits are consistent with the water quality management plans prepared pursuant to the terms of the Clean Water Act.

Rules relating to the WPDES are initially set forth in Chapter NR 200 of the *Wisconsin Administrative Code*, the current version of which became effective on June 1, 1985 and has a most recent revision date of January 2000. The following types of discharges require permits under Chapter NR 200:

1. The direct discharge of any pollutant to any surface water.

2. The discharge of any pollutant, including cooling waters, to any surface water through any storm sewer system not discharging to publicly owned treatment works.

3. The discharge of pollutants other than from agricultural uses for the purpose of disposal, treatment, or containment on land areas, including land disposal systems such as ridge and furrow, irrigation, and ponding systems.

4. Discharge from an animal feeding operation where the operation causes the discharge of a significant amount of pollutants to waters of the State and the owner or operator of the operation does not implement remedial measures as required under a notice of discharge issued by the WDNR under Chapter NR 243, which deals with animal waste management.

Certain discharges are exempt from the permit system, as set forth under Chapter NR 200, including discharges to publicly owned sewerage works, discharges from vessels and properly functioning marine engines, and discharges of domestic sewage to septic tanks and drain fields, which are regulated under another chapter of the *Wisconsin Administrative Code*. Also exempted are the disposal of septic tank pumpage and other domestic waste, also regulated by another chapter of the *Wisconsin Administrative Code*; the disposal of solid wastes, including wet or semi-liquid wastes, when disposed of at a site licensed pursuant to another chapter of the *Wisconsin Administrative Code*; discharges from private alcohol fuel production systems; and discharges included under a general permit. The WPDES enables the accumulation of data concerning point sources of pollution and requires a listing of the treatment requirements and a schedule of compliance setting forth dates by which various stages of the requirements imposed by the permit shall be achieved.

As noted earlier in this chapter, the 1987 amendments to the Federal Clean Water Act established a Federal program for permitting stormwater discharges. The State of Wisconsin obtained certification from the USEPA
which enabled the State to administer the stormwater discharge permitting program as an extension of the existing WPDES program. Section 283.33 of the Statutes, which provides authority for the issuance of stormwater discharge permits by the State, was enacted in 1993. The administrative rules for the State stormwater discharge permit program are set forth in Chapter NR 216 of the Administrative Code, which took effect on November 1, 1994, and was most recently repealed and replaced effective August 1, 2004.

In general, the following entities are required to obtain discharge permits under Chapter NR 216:

1. An owner or operator of a municipal separate storm sewer system serving an incorporated area with a population of 100,000 or more.

2. An owner or operator of a municipal separate storm sewer system notified by WDNR prior to August 1, 2004, that they must obtain a permit.

3. An owner or operator of a municipal separate storm sewer system located within an urbanized area as defined by the U.S. Bureau of the Census.

4. An owner or operator of a municipal separate storm sewer system serving a population of 10,000 or more in a municipality with a population density of 1,000 persons or more per square mile as determined by the U.S. Bureau of the Census.

5. Industries identified in Section NR 216.21.\(^1^8\)

6. Construction sites, except those associated with agricultural land uses, those for commercial buildings regulated by Chapters Comm 50 through 64 of the Wisconsin Administrative Code,\(^1^9,2^0\) and Wisconsin Department of Transportation projects which are subject to the liaison cooperative agreement between the WDNR and WisDOT.

On January 19, 2006, the WDNR issued a general stormwater discharge permit\(^2^1\) applicable to municipal separate storm sewer systems for areas that do not have individual permits and that are either:

- An urbanized area with a minimum population of 50,000 people as determined by the U.S. Bureau of the Census, or

- A municipality with a population of 10,000 or more and a population density of 1,000 persons or more per square mile, or

\(^1^8\)Depending on the type of industry, a statewide general permit or an individual permit may be issued. A holder of a general or an individual permit must prepare and implement a stormwater pollution prevention plan. The requirements for such a plan are set forth in Section NR 216.27.

\(^1^9\)Comm 50.115 describes procedures to be followed regarding filing a notice of intent for coverage under a WPDES General Permit for stormwater discharges associated with construction activities.

\(^2^0\)Construction of one- and two-family dwellings is generally regulated by the Wisconsin Department of Commerce. Comm 21.125 sets forth erosion control procedures for construction of one- and two-family dwellings. Owners of properties on which such dwellings are to be constructed would only have to apply for a permit under Chapter NR 216 if the land disturbing activities associated with the development involved the disturbance of one or more acres.

\(^2^1\)General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System, WPDES Permit No. WI-S050075-1, January 19, 2006.
• An area that drains to a municipal separate storm sewer system that is designated for permit coverage.

The general permit “specifies conditions under which stormwater may be discharged to waters of the state for the purpose of achieving water quality standards.” It establishes conditions for discharges to State-designated outstanding or exceptional resources waters. When a municipal separate storm sewer system discharges to an impaired waterbody listed in Section 303(d) of the Clean Water Act, the following conditions must be met:

• The permittee’s written stormwater management program must specifically identify control measures and practices that are to be applied in an attempt to reduce, with the goal of eliminating, the discharge of pollutants of concern that contribute to the impairment of the receiving water.

• The permittee may not initiate a new discharge of a pollutant of concern to an impaired waterbody, or increase the discharge of such a pollutant to an impaired waterbody unless receiving water quality standards will be met or WDNR has approved a total maximum daily load (TMDL) for the impaired waterbody.

• For discharges to a waterbody for which a TMDL has been established, the permittee must determine if additional stormwater runoff controls are required to meet the TMDL wasteload allocation.

The general stormwater discharge permit establishes requirements for:

• Public education and outreach,

• Public involvement and participation,

• Illicit discharge detection and elimination,

• Construction site pollutant control,

• Post-construction stormwater management, and a pollution prevention program.

The construction site pollutant control requirements and the post-construction control requirements are based on the standards for new development, redevelopment, and transportation facilities as set forth in Chapters NR 151 and NR 216.

State Performance Standards for Control of Nonpoint Source Pollution
Through 1997 Wisconsin Act 27, the State Legislature required the WDNR and DATCP to develop performance standards for controlling nonpoint source pollution from agricultural and nonagricultural land and from transportation facilities. The performance standards are set forth in Chapter NR 151, “Runoff Management,” of the Wisconsin Administrative Code, which became effective on October 1, 2002 and was revised in July 2004.

**Agricultural Performance Standards**

Agricultural performance standards cover the following areas:

- Cropland sheet, rill, and wind erosion control,
- Manure storage,
- Clean water diversions, and
- Nutrient management.

The following manure management prohibitions are set forth in Section NR 151.08.

A livestock operation:

- Shall have no overflow of manure storage facilities,
- Shall have no unconfined manure pile in a water quality management area, \(^{23}\)
- Shall have no direct runoff from a feedlot or stored manure into the waters of the State, and
- May not allow unlimited access by livestock to waters of the State in a location where high concentrations of animals prevent the maintenance of adequate sod or self-sustaining vegetative cover. \(^{24}\)

For existing land that does not meet the NR 151 standards and that was cropped or enrolled in the U.S. Department of Agriculture Conservation Reserve or Conservation Reserve Enhancement Programs as of October 1, 2002, agricultural performance standards are only required to be met if cost-sharing funds are available or if the best management practices and other corrective measures needed to meet the performance standards do not involve eligible costs. Existing cropland that met the standards as of October 1, 2002, must continue to meet the standards. New cropland must meet the standards, regardless of whether cost-share funds are available.

For existing livestock facilities that do not meet the NR 151 standards or prohibitions, the performance standards or prohibitions are only required to be met if cost-sharing funds are available or if the best management practices and other corrective measures needed to meet the performance standards or prohibitions do not involve eligible costs. Existing livestock facilities that met the standards as of October 1, 2002, must continue to meet the standards. New livestock facilities must meet the standards, regardless of whether cost-share funds are available.

**Nonagricultural (urban) Performance Standards**

The nonagricultural performance standards set forth in Chapter NR 151 encompass two major types of land management. The first includes standards for areas of new development and redevelopment and the second includes standards for developed urban areas. The performance standards address the following areas:

\(^{23}\) A water quality management area is defined in Section NR 151.015(24) as “the area within 1,000 feet from the ordinary high water mark of navigable waters that consist of a lake, pond, or flowage, except that, for a navigable water that is a glacial pothole lake, the term means the area within 1,000 feet from the high water mark of the lake; the area within 300 feet from the ordinary high water mark of navigable waters that consist of a river or stream; and a site that is susceptible to groundwater contamination, or that has the potential to be a direct conduit for contamination to reach groundwater.”

\(^{24}\) This prohibition does not apply to properly designed, installed, and maintained livestock or farm equipment crossings.
• Construction sites for new development and redevelopment,
• Post construction phase for new development and redevelopment,
• Developed urban areas, and
• Nonmunicipal property fertilizing.

Chapter NR 151 requires that municipalities with WPDES stormwater discharge permits reduce the amount of total suspended solids in stormwater runoff from areas of existing development that is in place as of October 2004 to the maximum extent practicable, according to the following standards:

• By March 10, 2008, the NR 151 standards call for a 20 percent reduction, and
• By October 1, 2013, the standards call for a 40 percent reduction.

Also, permitted municipalities must implement 1) public information and education programs relative to specific aspects of nonpoint source pollution control; 2) municipal programs for collection and management of leaf and grass clippings; and 3) site-specific programs for application of lawn and garden fertilizers on municipally controlled properties with over five acres of pervious surface. Under the requirements of Chapter NR 151, by March 10, 2008, incorporated municipalities with average population densities of 1,000 people or more per square mile that are not required to obtain municipal stormwater discharge permits must implement those same three programs.

In addition, regardless of whether a municipality is required to have a stormwater discharge permit under Chapter NR 216, Chapter NR 151 requires that all construction sites that have one acre or more of land disturbance must achieve an 80 percent reduction in the sediment load generated by the site. With certain limited exceptions, those sites required to have construction erosion control permits must also have post-development stormwater management practices to reduce the total suspended solids load from the site by 80 percent for new development, 40 percent for redevelopment, and 40 percent for infill development occurring prior to October 1, 2012. After October 1, 2012, infill development will be required to achieve an 80 percent reduction. If it can be demonstrated that the solids reduction standard cannot be met for a specific site, total suspended solids must be controlled to the maximum extent practicable.

Section NR 151.12 of the Wisconsin Administrative Code requires infiltration of post-development runoff from areas developed on or after October 1, 2004, subject to specific exclusions and exemptions as set forth in Sections 151.12(5)(c)5 and 151.12(5)(c)6, respectively. In residential areas, either 90 percent of the annual predevelopment infiltration volume or 25 percent of the post-development runoff volume from a two-year recurrence interval, 24-hour storm, is required to be infiltrated. However, no more than 1 percent of the area of the project site is required to be used as effective infiltration area. In commercial, industrial and institutional areas, 60 percent of the annual predevelopment infiltration volume or 10 percent of the post-development runoff volume from a two-year recurrence interval, 24-hour storm, is required to be infiltrated. In this case, no more than 2 percent of the rooftop and parking lot areas are required to be used as effective infiltration area.

Section NR 151.12 also generally requires impervious area setbacks of 50 feet from streams, lakes, and wetlands. This setback distance is increased to 75 feet around Chapter NR 102-designated Outstanding or Exceptional Resource Waters or Chapter NR 103-designated wetlands of special natural resource interest. Reduced setbacks from less susceptible wetlands and drainage channels of not less than 10 feet may be allowed.

Transportation Facility Performance Standards
Transportation facility performance standards that are set forth in Chapter NR 151 and in Chapter TRANS 401, “Construction Site Erosion Control and Storm Water Management Procedures for Department Actions,” of the Wisconsin Administrative Code cover the following areas:
The standards of TRANS 401 are applicable to Wisconsin Department of Transportation projects.

**Soil and Water Resource Management Program**
The current version of Chapter ATCP 50, “Soil and Water Resource Management Program,” of the *Wisconsin Administrative Code* became effective on October 1, 2002, and was most recently revised in October 2004. The administrative rule relates specifically to agricultural programs and it establishes requirements and/or standards for:

- Soil and water conservation on farms,
- County soil and water programs, including land and water resource management plans,
- Grants to counties,
- Cost-share grants to landowners,
- Design certifications by soil and water professionals,
- Local regulations and ordinances, and
- Cost-share practice eligibility and design, construction, and maintenance.

**Animal Feeding Operations**
Chapter NR 243, “Animal Feeding Operations,” of the *Wisconsin Administrative Code* sets forth rules for concentrated animal feeding operations and other animal feeding operations for the purpose of controlling the discharge of pollutants to waters of the State. Concentrated animal feeding operations are defined as livestock and poultry operations with more than 1,000 animal units. Animal units are calculated for each different type and size class of livestock and poultry. For example, facilities with 1,000 beef cattle, 700 milking cows, or 200,000 chickens each would be considered to have the equivalent of 1,000 animal units. All concentrated animal feeding operations and certain types of other animal feeding operations must obtain WPDES permits. In general, animal feeding operations are defined as feedlots or facilities, other than pastures, where animals are fed for a total of 45 days in any 12-month period.

**Sanitary Sewerage System Plans**
Under Wisconsin law and administrative rules, the State of Wisconsin is required to review and take action to approve or reject plans for proposed sewerage facilities. The review and action is guided by the adopted areawide water quality management plan. Under Chapter 281 of the *Wisconsin Statutes*, the State must find certain actions to be in accordance with the adopted and endorsed plan. These actions by the State include, among others, approval of locally proposed sanitary sewer extensions. In addition, the water quality management plan recommends that important natural resources, including surface waters and associated floodlands and shorelands, wetlands, woodlands, wildlife habitat, and areas of steep slope and rough topography, be preserved in natural, open uses.

Chapters NR 110 and Comm 82 of the *Wisconsin Administrative Code* require that the WDNR, with respect to public sanitary sewers, and the Wisconsin Department of Commerce, with respect to private sanitary sewers, make a finding that all proposed sanitary sewer extensions be in conformance with adopted areawide water quality management plans. These Departments, in carrying out their responsibilities, require that the Southeastern
Wisconsin Regional Planning Commission, as the designated areawide water quality management planning agency for the Southeastern Wisconsin Region, review and comment on each proposed sewer extension as to its relationship to the approved water quality management plan.

More specifically, with respect to the granting of a public sanitary sewer service extension permit, under Sections NR 110.08(4) and NR 121.05, the WDNR must make a finding that the area proposed to be served is located 1) within an approved sewer service area, and 2) outside of areas having physical or environmental constraints which, if developed, would have adverse water quality impacts. Areas having such physical or environmental constraints may include wetlands, shorelands, floodways and floodplains, steep slopes, highly erodible soils and other limiting soil types, and groundwater recharge areas.

With respect to the granting of a private sewer connection permit, under Section Comm 82.20(4), the Wisconsin Department of Commerce, like the WDNR as described above, must make a finding that the buildings proposed to be served through a private sewer connection are located 1) within an approved sewer service area and 2) outside of areas having physical or environmental constraints which, if developed, would have adverse water quality impacts.

In order to properly reflect local, as well as areawide, planning concerns in the execution of this review responsibility, the Regional Planning Commission, in adopting the original areawide water quality management plan, recommended that steps be taken to refine and detail each of the sanitary sewer service areas delineated in the plan. The preparation of refined sanitary sewer service area plans and sewerage facilities plans is intended to provide the means to adjust the recommended sewer service areas to meet local needs and objectives within the framework of the regional plans.

**Private Sewage System Regulation**

The Wisconsin Department of Commerce is charged with the responsibility of regulating the installation of private sewage systems, including septic tank, mound, aerobic, and sand filter sewage disposal systems. Such systems often contribute to the pollution of surface water and groundwater. Pursuant to Chapter 236 of the *Wisconsin Statutes*, the Department of Commerce reviews plats of all land subdivisions not served by public sanitary sewerage systems and may object to such plats if sanitary waste disposal facilities are not properly provided for in the plat layout. Basic regulations governing the installation of private sewage systems are set forth in Chapter Comm 83 of the *Wisconsin Administrative Code*, dated January 2004.

Section NR 113.07 (1)(e) of the *Wisconsin Administrative Code* requires that large commercial, industrial, or residential development sewage holding tank systems that singly, in combination, or as increased by successive additions, generate 3,000 gallons of holding tank waste per day or more must have a contract with a public wastewater treatment facility for the treatment of the waste. The sewer service area attendant to the wastewater treatment facility must include the commercial, industrial, recreational, or residential development. The WDNR may not indicate sufficient disposal capacity to the Department of Commerce until the needed sewer service area adjustments have been completed and approved.

**Wisconsin Environmental Policy Act**

In April 1972, the Wisconsin Legislature created Section 1.11 of the *Wisconsin Statutes* concerning governmental consideration of environmental impact. In many ways, the State legislation parallels the NEPA of 1969 discussed earlier in this chapter. Under this legislation, all agencies of the State must include an environmental assessment in every recommendation or report on proposals for legislation or other major actions which would significantly affect the quality of the human environment. The required contents of this assessment parallel the contents required in the Federal environmental assessments. The effect of the State legislation is, therefore, to extend the environmental assessment concept to all State action not already covered under the Federal action.

The Act requires that an assessment be prepared on: 1) the environmental impact of a proposed action, 2) any adverse environmental effects which cannot be avoided should a proposal be implemented, 3) alternatives to a proposed action, 4) the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, 5) any irreversible and irretreivable commitments of resources which
would be involved in a proposed action should it be implemented, and 6) the details of the beneficial aspects of a proposed project, both short-term and long-term, and the economic advantages of the proposal. As such, the Wisconsin Environmental Policy Act has been designed to encourage more environmentally sensitive decisions by State agencies and to encourage a broader citizen participation in the decision-making process.

Chapter NR 150 of the Wisconsin Administrative Code sets forth the general policy concerning actions by State agencies and the effects of these actions on the environment, sets forth the criteria for determining whether an environmental assessment or impact statement must be prepared, and establishes guidelines for the preparation and review of any required environmental evaluation of State actions.

Under Chapter NR 150, the WDNR specifies its intention to encourage productive and enjoyable harmony among people and their environment, to promote efforts that minimize harm to the environment, and to promote the understanding of the important ecological systems and natural resources of the State. The Department also recognizes its responsibilities as the State environmental agency for evaluating, coordinating, and communicating information on all actions by State and Federal agencies which may affect natural resources and overall environment for life in the State.

Under Chapter NR 150, the Department identifies potential actions by State and Federal agencies and establishes categories for those actions, importantly including regulatory actions, for which environmental impact evaluations would be required.

Type I actions are “major” actions which would significantly affect the quality of the human environment. The preparation of an environmental impact statement is required for any Type I action by a State or Federal agency. Examples of Type I actions include establishment of land acquisition projects over 1,000 acres in size involving a proposed change in land use, State regulatory action involving a new hazardous waste disposal facility over 80 acres in size, and State regulatory action involving new large electric generating facilities.

Type II actions are actions which have the potential to have significant environmental effects and may involve unresolved conflicts in the use of available resources. The preparation of an environmental assessment is generally required for Type II actions. Examples of Type II actions include approvals to change the course of more than 500 feet of stream; permits to divert water for nonagricultural purposes; permits to enclose navigable waterways; establishment of land acquisition projects less than 1,000 acres in size or those acquisition projects larger than 1,000 acres in size not resulting in a land use change; habitat management activities involving filling or draining of wetlands; draining or filling affecting wetlands greater than five acres in size; acquisition of parcels located outside of established project boundaries where the total area planned for acquisition exceeds 160 acres; and stocking or introduction of fish or wildlife species that are not native to, or established in, the State.

Type III actions are actions which normally do not have the potential to have significant environmental effects, normally do not significantly affect energy usage, and normally do not involve unresolved conflicts in the use of available resources. Type III actions generally require the issuance of a news release and may require the preparation of an environmental impact report providing information on the proposed action. Examples of Type III actions include approvals to change the course of 500 feet or less of a stream, draining or filling affecting wetlands less than five acres in size, permits to divert water for agricultural and irrigation purposes, acquisition and development of public sites for access to public waters, acquisition of parcels less than 160 acres in size.

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26 Section NR 150.02 defines “action” as “any final decision by the Department to commence, engage in, fund, approve, disapprove, conditionally approve, or otherwise carry out any activity, pursuit, or procedure, including proposals for legislation, which may affect the quality of the human environment.”
located outside of established project boundaries, prescribed burning affecting less than 60 acres within State property, and silvicultural harvesting involving less than 160 acres within State property during a calendar year.

Type IV actions include enforcement activities; emergency activities to protect public health, safety, and welfare; and other actions which do not significantly affect the quality of the human environment, do not significantly affect energy usage, and do not involve unresolved conflicts in the use of available resources. Type IV actions generally do not require an environmental impact statement, an environmental assessment, or a news release, and are generally exempt from requirements under Chapter NR 150. Examples of Type IV actions include authority to construct bridges and roadway culverts across navigable waterways, approval of priority watershed plans, approval of floodplain zoning ordinances and amendments, nonpoint source pollution abatement grants, acquisition of parcels within established project boundaries, lake and stream habitat improvement, and trail construction for wildlife management purposes.

Under Chapter NR 150, guidelines for issue identification are set forth; the required contents of environmental impact statements, assessments, and reports are identified; procedures for statement, assessment, and report review are established; and public review and comment procedures are set forth.

Certain actions recommended in the regional water quality management plan update could be classified as actions for which an environmental assessment or environmental impact report must be prepared.

**Statewide Strategy for Separate Sewer Overflows and Combined Sewer Overflows**

The Wisconsin statewide strategy for separate sewer overflows (SSOs) and combined sewer overflows (CSOs) was set forth in a 2001 report from the WDNR staff to the Natural Resources Board. In that report the WDNR identified the following components of the statewide strategy:

- Upgrading the reporting system for identification and inventory of all SSOs,
- Reissuance of the general permit for SSOs from sewage collection systems,
- Consideration of issuance of system-specific permits to municipalities with frequently occurring SSOs,
- Review and revision of existing SSO enforcement guidance,
- Communication and outreach activities by WDNR staff to inform municipalities regarding SSO requirements in permits,
- Continued monitoring by MMSD of water quality conditions in area waterways,
- Completion by MMSD of an investigation of microbial pathogens in the Milwaukee River and environs.

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27 *Wisconsin Department of Natural Resources, 2001, op. cit.*

28 *This permit was reissued on March 1, 2006. WPDES Permit No. WI-0047341-04-0, State of Wisconsin Department of Natural Resources General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System-Sanitary Sewer Overflows (SSO) from Sewage Collection Systems.*

29 *Such an investigation has been completed and is documented in a draft bacterial fate and transport study prepared by MMSD.*
• Evaluation of applying a watershed approach to managing CSOs, SSOs, stormwater runoff, and other sources of impairment to water quality.\textsuperscript{30}

• Incorporation of USEPA regulatory requirements regarding SSOs into State rules.\textsuperscript{31}

• Creation of a single rule, or cross referenced set of rules regarding separate sanitary sewer overflows, integrating the requirements of Chapters NR 110, NR 205, NR 208, and NR 210 of the Wisconsin Administrative Code.\textsuperscript{32}

• Expansion of the NR 208 compliance maintenance program requiring owners of publicly owned treatment systems to annually evaluate whether their operation and maintenance avoids degradation of water quality and prevents WPDES permit violations, and

• Incorporation of the Federal Compliance, Management, Operation and Maintenance (CMOM) concept into the State program.

The statewide strategy also sets forth recommendations regarding specific system operational adjustments and upgrades, including consideration of infiltration and inflow, to be undertaken by MMSD and the communities it serves to establish the feasibility of reducing the frequency and volume of SSOs and CSOs.\textsuperscript{33}

**Local Water Quality Management**

All towns, villages, and cities in Wisconsin have, as part of the broad grant of authority by which they exist, sufficient police power to regulate by ordinance any condition or set of circumstances bearing upon the health, safety, and welfare of the community. Presumably, the water quality of a receiving stream or the polluting capability of effluent generated within the municipal unit would fall within the regulative sphere by virtue of its potential danger to health and welfare. Such local ordinances could not, however, conflict with Federal and State legislation.

**Special Units of Government**

In addition to providing broad grant of authority to general-purpose units of local government, the Wisconsin Statutes currently provide for the creation of six types of special-purpose units of government through which water pollution can be abated and water quality protected. These are: 1) metropolitan sewerage districts, 2) utility districts, 3) inland lake protection and rehabilitation districts, 4) town sanitary districts, 5) joint sewerage systems, and 6) cooperative action by contract.

\textsuperscript{30}The regional water quality management plan update for the Greater Milwaukee Watersheds and the MMSD 2020 Facilities Plan are applying a watershed approach.

\textsuperscript{31}As noted above in the section on Federal water quality management, a USEPA draft SSO rule was issued in 2001 and later withdrawn from the rulemaking process. At this time, it is uncertain whether USEPA will resubmit it for consideration, or develop other guidance. To date, the draft rule has served as guidance for state regulatory agencies that are developing their own SSO rules, including the WDNR.

\textsuperscript{32}In 2003, the WDNR formed a technical advisory committee to draft revisions to Chapters NR 110, 205, and 210. The revisions are narrowly targeted to address SSO permitting requirements and design issues related to SSOs and bypasses. It is anticipated that the rulemaking process will be completed in 2009.

\textsuperscript{33}On its own initiative, and in response to the WDNR infiltration and inflow recommendations, the MMSD is in the process of adopting a policy related to development of a wet weather peak flow management program as documented in the MMSD report entitled Wet Weather Peak Flow Management Program: Strategic Plan.
Metropolitan Sewerage Districts

The Milwaukee Metropolitan Sewerage District (MMSD) is a special-purpose unit of government directed by an appointed Commission. Sections 200.21 through 200.65 of the *Wisconsin Statutes* set forth the enabling legislation for the establishment of metropolitan sewerage districts which include first-class cities. The only such district in the regional water quality management plan update study area is the MMSD. The MMSD includes all municipalities in Milwaukee County, except for portions of the City of Franklin and all of the City of South Milwaukee. The District also provides sewage conveyance, storage, and treatment services for portions of Ozaukee, Milwaukee, Racine, and Washington Counties. Contract services are provided to the following municipalities or special units of government outside Milwaukee County:

- Ozaukee County: City of Mequon, Village of Thiensville
- Racine County: Caddy Vista Sanitary District
- Washington County: Village of Germantown
- Waukesha County: Villages of Butler, Elm Grove, and Menomonee Falls and Cities of Brookfield, Muskego, and New Berlin

The 11-member Metropolitan Sewerage Commission of the MMSD was created in 1982 through reorganization of the Metropolitan Sewerage District of the County of Milwaukee and the City of Milwaukee Sewerage Commission. Seven members of the MMSD Commission are appointed by the Mayor of the City of Milwaukee and four members are appointed by an executive council consisting of the chief elected official of each city and village in Milwaukee County (except the Cities of Milwaukee and South Milwaukee). The District has the authority to levy taxes to fund its capital improvement programs and operation and maintenance of its facilities.

The District has a number of important responsibilities in the area of water resources management, including the provision of floodland management programs for most of the major streams within the District and the collection, transmission, storage, and treatment of domestic, industrial, and other sanitary sewage generated in the District and its contract service areas.

The District’s Milwaukee Water Pollution Abatement Program (MWPAP) was begun in 1977. Under that program, a master facilities plan was prepared, adopted by the MMSD Commission in 1980, and approved by the WDNR and the USEPA in 1981. Construction of the wastewater conveyance, storage, and treatment facilities called for under the MWPAP was completed in 1996. Following completion of the MWPAP, the District issued its 2010 facilities plan in 1998. The 2020 District Facilities Plan was prepared in coordination with the regional water quality management plan for the greater Milwaukee watersheds that is documented in this report.

Sections 200.01 through 200.15 of the *Wisconsin Statutes* set forth the enabling legislation for the creation of metropolitan sewerage districts which do not include first class cities. These sections of the Statute only apply to those portions of the study area outside the MMSD. This legislation stipulates that proceedings to create a metropolitan sewerage district may be initiated by resolution of the governmental body of any municipality. Such resolution, which is submitted to the WDNR, must set forth a description of the territory proposed to be included in the district and a description of the functions proposed to be performed by the district. Upon receipt of the resolution, the Department is required to schedule a public hearing for the purpose of permitting any persons to present information relating to the matter of the proposed metropolitan sewerage district. Within 90 days of the hearing, the Department must either order or deny the formation of the proposed district. The Department must order the formation of the district if it finds that the district consists of at least one municipality in its entirety and all or part of other municipalities; if the district is determined to be conducive to management of a unified system of sewage collection and treatment; if the formation of the district will promote sound sewerage management policies and operation and is consistent with adopted plans of municipal, regional, and State agencies; and if the formation of the district will promote the public health and welfare and effect efficiency and economy in sewerage management. No territory of a city or village jointly or separately owning or operating a sewage
collection or disposal system may be included in the district, however, unless it has filed with the WDNR a certified copy of a resolution of its governing body consenting to the inclusion of its territory within the proposed district. As of 2006, there were no metropolitan sewerage districts in the regional water quality management plan study area outside of the MMSD.

Utility Districts
Section 66.0827 of the Wisconsin Statutes permits towns, villages, and cities of the third and fourth class to establish utility districts for a number of municipal improvement functions, including the provision of sanitary sewer service. Funds for the provision of services within the district which are not paid for through special assessments are provided by levying a tax upon all property within the district. The establishment of utility districts requires a majority vote in towns and a three-fourths vote in cities and villages. Prior to establishing such a district, the local governing bodies are required to hold a formal public hearing.

The Caledonia East and West Utility Districts, Mt. Pleasant Sewer Utility District No. 1, and Town of Yorkville Utility District No. 1 are the only utility districts which provide sanitary sewer service within the regional water quality management plan update study area.  

Inland Lake Protection and Rehabilitation Districts
Inland lake protection and rehabilitation districts are special-purpose units of government created pursuant to Chapter 33 of the Wisconsin Statutes. There are three such districts in the study area, all of which are located in the Milwaukee River watershed in Washington County. They include the Big Cedar Lake District, the Little Cedar Lake District, and the Silver Lake District.

Town Sanitary Districts
Town sanitary districts may be created, pursuant to Section 60.70 of the Wisconsin Statutes, to plan, construct, and maintain sanitary and storm sewers and sewage treatment and sewage disposal systems. A town sanitary district may offer its services outside its jurisdictional area on a reimbursable basis. In addition, Section 60.71(5) of the Wisconsin Statutes, indicates that town sanitary districts may be created to provide auxiliary sewer construction in unincorporated areas of metropolitan sewerage districts. Town sanitary districts are usually created by the town board upon petition of 51 percent of the property owners or the owners of 51 percent of the property within the proposed district. The WDNR may, however, upon finding that private sewage disposal or water supply systems constitute a public health menace and that there is no local action evident to correct the situation, order the creation of such districts. Town board members may serve as sanitary district commissioners, the commissioners may be appointed by a town board, the commissioners may be elected by the residents of the district, or, if the town board does not take timely action to appoint or provide for the election of commissioners, the WDNR may appoint commissioners.

There are five sanitary districts in the regional water quality management plan study area. These are the Waubeka Area Sanitary District in Ozaukee County, the Lake Ellen Sanitary District and Town of Scott Sanitary District

34 Following incorporation of the Town of Caledonia as the Village of Caledonia, the former Caddy Vista Sanitary District and Caledonia Utility District No. 1 were combined into the Caledonia West Utility District and the former Crestview Sanitary District and the former North Park Sanitary District were combined into the Caledonia East Utility District.

35 In addition to the inland lake protection and rehabilitation districts listed there are other lake-related organizations in the study area, including the Church Lake Citizens League and the Crystal Springs Park Association in the Milwaukee River watershed in Ozaukee County; the Silver Lake Sanitary District, the Wallace Lake Sanitary District, the Big Cedar Lake Property Owners Association, the Green Lake Property Owners Association of Washington County, and the Silver Lake Protective Association, all in the Milwaukee River watershed in Washington County; and the Kelly Lake Association, Inc. in the Root River watershed in Milwaukee and Waukesha Counties.
No. 1 in Sheboygan County, and the Wallace Lake Sanitary District and Silver Lake Sanitary District, both in Washington County. As noted above in the Utility Districts subsection of this report, upon incorporation of Caledonia as a Village, the Caddy Vista Sanitary District was dissolved and brought under the jurisdiction of the Caledonia West Utility District. The Crestview Sanitary District and the North Park Sanitary District were combined into the Caledonia East Utility District.

Joint Sewerage Systems
Section 281.43 of the Wisconsin Statutes provides the authority for a group of governmental units, including cities, villages, and town sanitary or utility districts, to construct and operate a joint sewerage system following a hearing and approval by the WDNR. The Statute stipulates that when one governmental unit renders such service as sewage conveyance and treatment to another unit under this section, reasonable compensation is to be paid. Such reasonable charges are to be determined by the governmental unit furnishing the service. If the governmental unit receiving this service deems the charge unreasonable, the Statutes provide for either binding arbitration by a panel of three reputable and experienced engineers or judicial review in the circuit court of the county of the governmental unit furnishing the service. As an alternative, the jointly acting governmental units may create a sewerage commission to plan, construct, and maintain in the area sewerage facilities for the collection, transmission, and treatment of sewage. Such a commission becomes a municipal corporation and has all the powers of a common council and board of public works in carrying out its duties. However, all bond issues and appropriations made by such a commission are subject to approval by the governing bodies of the units of government which initially formed the commission. The Statutes stipulate that each governmental unit must pay its proportionate share of constructing, operating, and maintaining the joint sewerage system. Grievances concerning the same may be taken to the circuit court of the county in which the aggrieved governmental unit is located. There are two joint sewerage systems which provide sewage service to a portion of the regional water quality management plan update study area. One sewerage system is the Onion River Sewerage Commission which serves the Village of Adell, which lies within the study area. The Commission also serves the Hingham Sanitary District which is located outside the study area. The treatment plant serving both sewer systems is located outside the study area. The other joint sewerage system is the Underwood Creek interceptor which is jointly operated by the City of Brookfield and the Village of Elm Grove.

Cooperative Action by Contract
Section 66.0301 of the Wisconsin Statutes permits the joint exercise by municipalities, broadly defined to include the State or any department or agency thereof or numerous other units of government, including, but not limited to, any city, village, town, county, public inland lake protection and rehabilitation district, sanitary district, farm drainage district, metropolitan sewerage district, sewer utility district, water utility district, or regional planning commission, of any power or duty required of, or authorized to, individual municipalities by Statute. To exercise any such power jointly, such as the transmission, treatment, and disposal of sanitary sewage, municipalities would have to create a commission by contract.

Farm Drainage Districts
Pursuant to Sections 88.11 and 93.07(1) of the Wisconsin Statutes, the Department of Agriculture, Trade and Consumer Protection promulgated rules regarding farm drainage districts under Chapter ATCP 48 of the Wisconsin Administrative Code on July 1, 1995. Those rules were amended effective September 1, 1999. The rules establish procedures for assessing drainage district costs and benefits, inspecting drainage districts, construction and maintenance projects, landowner actions affecting drainage districts, drainage district records, and enforcement and variances.

Stormwater Drainage Districts
Wisconsin Act 53, which was enacted on December 19, 1997, amended and expanded Section 66.0821 of the Wisconsin Statutes to specifically grant municipalities the legal authority to assess service charges to users of a stormwater and surface water sewerage system. This legislation granted municipalities essential authorities for the establishment of stormwater utilities.
Regulation of Private Onsite Wastewater Treatment Systems

Sections 59.70 and 145.01(5) of the Wisconsin Statutes require that all Wisconsin counties, except counties with a population of 500,000 or more, adopt and administer an ordinance regulating private onsite wastewater treatment systems (POWTS) within the County. In accordance with Chapters 59 and 145 of the State statutes, all counties in the regional water quality management plan study area, with the exception of Milwaukee County which is excluded from this requirement, have enacted regulations applying to POWTS. The codes regulate the location, construction, installation, design, use, and maintenance of POWTS in the Counties. Regulations in the ordinance pertaining to POWTS apply throughout each County, including cities and villages as well as unincorporated areas. The County sanitary codes establish site requirements for soil absorption sewage disposal systems, including percolation rates and minimum allowable depth to groundwater and bedrock, and other POWTS that may be permitted under Chapter Comm 83 of the Wisconsin Administrative Code.

Shoreland Regulation

The State Water Resources Act of 1965 provides for the regulation of shoreland uses along navigable waters to assist in water quality protection and pollution abatement and prevention. In Section 59.692(1) of the Wisconsin Statutes, the Legislature defines shorelands as the area lying within the following distances from the ordinary high water mark of all natural lakes and of all streams, ponds, sloughs, flowages, and other waters which are navigable under the laws of the State of Wisconsin: 1,000 feet from a lake, pond, flowage, or glacial pothole lake, and 300 feet from a stream or to the landward side of the floodplain, whichever is greater.36

Section 281.31 of the Wisconsin Statutes specifically authorizes municipal zoning regulations for shorelands. This Statute defines municipality as a county, city, or village. The shoreland regulations authorized by this Statute have been defined by the WDNR to include land subdivision controls and sanitary regulations. The purposes of zoning, land subdivision, and sanitary regulations in shoreland areas include the maintenance of safe and healthful conditions in riverine areas; the prevention and control of water pollution; the protection of spawning grounds, fish, and aquatic life; the control of building sites, placement of structures, and land use; and the preservation of shore cover and natural beauty.

The standards and criteria for county shoreland ordinances are set forth in Chapter NR 115 of the Wisconsin Administrative Code. Chapter NR 117 of the Wisconsin Administrative Code sets forth rules regarding shoreland-wetland zoning for cities and villages. The WDNR retains oversight responsibility for the implementation and enforcement of Chapters NR 115 and NR 117. In addition, the Department must review and approve all shoreland and shoreland-wetland zoning ordinances, determine compliance, and monitor the rule.

County General and Floodland-Shoreland Zoning Ordinances

Zoning ordinances represent one of the most important means available to county and local units of government for managing land use in the public interest. In Wisconsin, counties, in cooperation with the towns, may enact a general, or comprehensive, zoning ordinance applicable to all unincorporated areas of the county. Such a general county zoning ordinance, however, becomes effective only in those towns which act to ratify the county ordinance.

In addition to the general zoning ordinance, counties are required, under the State Water Resources Act of 1965 and Section 59.692 of the Wisconsin Statutes, to adopt a shoreland zoning ordinance and Section 87.30 requires the adoption of a floodland zoning ordinance. These ordinances are intended to promote public safety and health by discouraging the location of flood-damage-prone land uses in areas subject to flood hazard and help preserve important natural resources in the floodland-shoreland area, thereby protecting and enhancing water quality. Town ratification of floodland and shoreland ordinances is not required and, indeed, towns have no zoning jurisdiction in shoreland areas.

36Definitive determination of navigability and location of the ordinary high water mark on a case-by-case basis is the responsibility of the Wisconsin Department of Natural Resources.
The standards and criteria for county shoreland ordinances as set forth in Chapter NR 115 of the Wisconsin Administrative Code include restrictions on lot sizes, including a minimum average width of 65 feet and minimum area of 10,000 square feet for lots served by public sanitary sewer and a minimum average width of 100 feet and a minimum area of 20,000 square feet for lots not served by public sanitary sewer; on building setbacks, including a typical minimum setback of 75 feet from the ordinary high water mark of any surface waterbody; on the cutting of trees and shrubbery; and on filling, grading, and dredging.

Under Chapter NR 115, counties are also required to place all wetlands as shown on the final Wisconsin Wetland Inventory Maps and located in the statutory shoreland zoning jurisdictional area into a shoreland-wetland zoning district, to establish land division regulations, and to establish sanitary regulations under a County private sewage system ordinance.

Permitted uses within the shoreland-wetland zoning district include hiking, fishing, hunting, trapping, harvest of wild crops, silviculture, pasturing of livestock, cultivation of crops provided that such “cultivation can be accomplished without filling, flooding, or artificial drainage of the wetland,” repair of existing drainage systems, construction of certain utility lines, and construction and maintenance of duck blinds, piers, docks and walkways “provided that no filling, flooding, dredging, draining, ditching, tiling, or excavating is done.”

Counties are required to keep their regulations current and effective in order to remain in compliance with the statutes and minimum standards established by the WDNR. Chapter NR 115 of the Administrative Code requires that any rezoning of wetlands within the shoreland area meets specific criteria. A rezoning, as well as a conditional use or variance, may not take place if the development permitted by the proposed rezoning would result in a significant adverse impact upon any of the following characteristics of the shoreland area:

1. Stormwater and floodwater storage capacity;
2. Maintenance of dry season streamflow, the discharge of groundwater to a wetland, the recharge of groundwater from a wetland to another area, or the flow of groundwater through a wetland;
3. Filtering or storage of sediments, nutrients, heavy metals, or organic compounds that would otherwise drain into navigable waters;
4. Shoreline protection against soil erosion;
5. Fish spawning, breeding, nursery, or feeding grounds;
6. Wildlife habitat; or
7. Areas of special recreational, scenic, or scientific interest, including scarce wetland types.

The county zoning agency must notify the WDNR of the proposed rezoning, hold a public hearing, and submit findings and recommendations to the county board. The Department must review and approve any proposed amendment of the zoning ordinance text or district map. If the county board approves the proposed zoning amendment and the Department determines, after review against the criteria set forth above, that the proposed rezoning would no longer comply with State requirements, the WDNR, after notice and hearing, must act to adopt a complying ordinance for the county.

Regulations related to floodland zoning for counties, cities, and villages are set forth in Chapter NR 116 of the Wisconsin Administrative Code. Those regulations are described in more detail in a subsequent section of this chapter.

See Chapter NR 115.05 (2)(c) Wisconsin Administrative Code.
City and Village Shoreland-Wetland Zoning
Shoreland-wetland zoning is also required by State law for cities and villages. The two sections of the Wisconsin Statutes applying to shoreland-wetlands in incorporated territory are 62.231 for cities and 61.351 for villages. Both sections require cities and villages to zone protectively those wetlands shown on the Wisconsin Wetland Inventory maps that are five acres or larger in size and located within the shoreland zone.

Chapter NR 117 of the State Administrative Code sets forth rules regarding shoreland-wetland zoning for cities and villages. The criteria concerning permitted uses, functional values and uses, and State review and oversight are, for the most part, the same as for county shoreland-wetland zoning, although cities and villages may be more restrictive than State requirements with regard to the uses they allow in shoreland-wetlands. However, the rules regarding minimum lots sizes, building setbacks, and cutting of trees and shrubbery established in Chapter NR 115 for counties do not apply to cities and villages.

Shoreland Zoning Regulations in Annexed Lands
According to Section 59.692(7)(a) of the Wisconsin Statutes, county shoreland zoning regulations remain in effect in areas which are annexed by a city or village after May 7, 1982, or for a town which incorporates as a city or village after April 30, 1994, unless the ordinance requirements of the annexing or incorporating city or village are at least as stringent as those of the county. The only exception to this condition is if, after annexation, the annexing municipality requests the county to amend the county ordinance to delete or modify provisions that establish specified land uses or requirements associated with those uses. In such a situation, stipulations regarding land uses or requirements may be amended only if the amendment does not provide less protection to navigable waters than was provided prior to the amendment.

Wisconsin Wetland Inventory
To facilitate the protection of shoreland wetlands, the State Legislature in 1978 mandated the mapping of all wetlands in the State. The wetlands mapping program, officially known as the Wisconsin Wetland Inventory, resulted in the preparation by the Regional Planning Commission for the WDNR of wetland maps covering each U.S. Public Land Survey township in the seven-county Region. The Wisconsin Department of Natural Resources prepared these maps in Dodge, Fond du Lac, and Sheboygan Counties. The maps enable identification of the general location of wetlands; however, the determination of actual wetland boundaries related to activities which are to be located or conducted in the vicinity of wetlands requires a field identification and survey.

The Wisconsin Wetland Inventory maps serve as the basis for the identification of those wetlands to be regulated under Chapters NR 115 and NR 117. Under the procedures established by the WDNR to implement provisions of Chapters NR 115 and NR 117, preliminary wetland maps for each survey township within each respective county and for the affected cities and villages are provided by the State to the county zoning administrator or the appropriate city or village officials for review. Chapter NR 115 also requires that the county zoning committee hold a public hearing to receive comments on the accuracy and completeness of the preliminary maps, that hearing notices be mailed to all town clerks, and that hearing notices be published as class one notices. Chapter NR 117 allows for a similar hearing and notice procedure with the exception that the public hearing is not mandatory. Under both Chapters NR 115 and NR 117, following the review period and hearing, the final wetland maps are prepared and each county is required to amend, within six months of receiving the final maps, its shoreland-wetland zoning ordinance to protect all mapped wetlands within the shoreland areas.

State and County Land and Water Conservation Programs
Chapter 92 of the Wisconsin Statutes designates the Department of Agriculture, Trade and Consumer Protection as the State agency responsible for “setting and implementing Statewide soil and water conservation policies and administering the State’s soil and water conservation program.” Chapter 92 also provides the authority for the

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38 The Regional Planning Commission is updating wetland delineations for the entire seven-county Region in cooperation with the WDNR. That inventory is expected to be completed in early 2008, and it will be available for use in updating local shoreland wetland zoning maps.
establishment of the State Land and Water Conservation Board and requires the establishment of County Land Conservation Committees. The county committees carry out programs to control erosion, sedimentation, and nonpoint source water pollution. Those programs include the distribution of Federal, State, and county funds for soil and water conservation programs; the construction of facilities for flood control and water conservation, development, and utilization; the preparation and administration of a county erosion control plan; the monitoring of farmland preservation agreements to ensure that such agreements include soil and water conservation plans; the establishment of soil and water conservation standards; the enactment of ordinances to promote soil and water conservation and the abatement of nonpoint source pollution; and the establishment of a soil and water resource management program.

As a result of passage of Wisconsin Act 27 in 1997, Chapter 92 was revised, leading to the requirement that each county in Wisconsin develop a land and water resource management plan to address both rural and urban nonpoint source problems. All of the Counties in the study area completed their land and water resource management plans, as required under Chapter ATCP 50 of the Wisconsin Administrative Code. In addition, Fond du Lac, Sheboygan, Washington, and Waukesha Counties have adopted stormwater management and construction erosion control ordinances and Dodge County has adopted a construction erosion control ordinance.

Private Steps for Water Pollution Control

The foregoing discussion deals exclusively with the water pollution control and water quality preservation regulations available to units and agencies of government. However, direct action may also be taken by private individuals or organizations effectively to abate water pollution. There are two legal categories of private individuals who can seek direct action for water pollution control: riparians, or owners of land along a natural body of water, and nonriparians.

Riparians

It is not enough for a riparian proprietor seeking an injunction to show simply that an upstream riparian is polluting the stream and thus he, the downstream riparian, is being damaged. Courts will often inquire as to the nature and the extent of the defendant’s activity; its worth to the community; its suitability to the area; and its present attempts, if any, to treat wastes. The utility of the defendant’s activity is weighed against the extent of the plaintiff’s damage within the framework of reasonable alternatives open to both. On the plaintiff’s side, the court may inquire into the size and scope of his operations, the degree of water purity that he actually requires, and the extent of his actual damages. This approach may cause the court to conclude that the plaintiff is entitled to a judicial remedy. Whether this remedy will be an injunction or merely an award of damages depends on the balance which the court strikes after reviewing all the evidence. For example, where a municipal treatment plant or industry is involved, the court, recognizing equities on both sides, might not grant an injunction stopping the defendant’s activity but might compensate the plaintiff in damages. In addition, the court may order the defendant to install certain equipment or to take certain measures designed to minimize the future polluting effects of his waste disposal.

This balancing is not simply a test of economic strengths. If it were, the rights of small riparians would never receive protection. The balance that is struck is one of reasonable action under the circumstances; small riparians can be, and have been, adequately protected by the courts. Riparians along waterbodies in the Southwestern Wisconsin Region are not prevented by Federal, State, or local pollution control efforts from attempting to assert their common law rights in courts. The court may ask the WDNR to act as its master in chancery, especially where unbiased technical evidence is necessary to determine the rights of litigants. A master in chancery or a “master in litigation” is a person or agency brought into court as a technical expert to supply expertise on a particular issue or topic. The important point, however, is that nothing in the Wisconsin Statutes can be found which expressly states that, in an effort to control pollution, all administrative remedies must first be exhausted before an appeal to the courts may be had or that any derogation of common law judicial remedies is intended. Thus, the courts are not prevented from entertaining an original action brought by a riparian owner to abate pollution.
Nonriparians
The rights of nonriparians to take direct action through the courts are less well defined than the rights of riparians. The Wisconsin Supreme Court set forth a potentially far-reaching conclusion in *Muench v. Public Service Commission* when it concluded that:

“The rights of the citizens of the State to enjoy our navigable streams for recreational purposes, including the enjoyment of scenic beauty, is a legal right that is entitled to all the protection which is given financial rights.”

This language, however, was somewhat broader than necessary to meet the particular situation at hand, since the case involved an appeal of a State agency ruling. The more traditional view would be that a nonriparian citizen must show special damages in a suit to enforce his public rights.

It should be noted that Section 299.91 of the *Wisconsin Statutes* enables six or more citizens, whether riparian or not, to file a complaint leading to a full-scale public hearing by the WDNR on alleged or potential acts of pollution. The Clean Water Act also provides for citizen suits. Under this law, any citizen, meaning a person or persons having an interest which is, or may be, adversely affected, may commence a civil action on his or her own behalf against any person, including any governmental agency, alleged to be in violation of any effluent standard, limitation, or prohibition of any pollution discharge permit or condition thereof, or against the USEPA Administrator when there is alleged failure by the Administrator to duly carry out any nondiscretionary duty or to act under the Clean Water Act. Prior to bringing such action, however, the citizen commencing the action must give notice to the alleged violator. When issuing final orders in any action under this section, the courts may award the costs of litigation to any party.

STATE LAWS AND REGULATIONS RELATED TO NAVIGABLE WATERS

The Public Trust Doctrine and Public Waters
Wisconsin’s “public trust doctrine” is based upon an original concept of English common law under which the Crown held tidal waters in trust for the public. This concept was advanced in the Northwest Ordinance of 1787, under Article IV, where it was held that “the navigable waters leading into the Mississippi and St. Lawrence [Rivers], and the carrying places between the same shall be common highways, and forever free . . . .” The Wisconsin Enabling Act of 1836 admitted Wisconsin as a territory. That Act, under Section 3, incorporated the Northwest Ordinance language concerning navigable waters. Later, in 1848, the Territorial Convention acted to adopt the Wisconsin Constitution. The public trust with respect to navigable waters was carried forward under Section 1, titled “Jurisdiction on Rivers and Lakes; Navigable Waters,” of Article IX, “Eminent Domain and Property of the State,” of the Wisconsin Constitution. Section 1 states that “the state shall have concurrent jurisdiction on all rivers and lakes bordering on this state . . . and the navigable waters leading into the Mississippi [River] and St. Lawrence [River] and the carrying places between the same, shall be common highways and forever free . . . .”

The Wisconsin courts have construed the public trust doctrine liberally and noted in *Diana Shooting Club v. Husting* (1914) that the “wisdom of the policy which steadfastly and carefully preserved to the people the full and free use of public waters cannot be questioned. Nor should it be limited by narrow constructions.” This ruling further affirmed the State as “. . . a trustee of the people charged with the faithful execution of the trust created for their benefit.”

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39 261 Wis. 492, 53 N.W. 2d 514 (1952).

40 *Diana Shooting Club v. Husting*, 156 Wis. 261 (1914).
The Wisconsin courts have also expanded the public trust doctrine in recognition of changes in public needs and uses. For example, the court held, in *Muench v. Public Service Commission* (1952),\(^{41}\) that the enjoyment of scenic beauty is a public right. Later, in *Claflin v. Department of Natural Resources* (1973),\(^{42}\) the State Supreme Court upheld an order for the removal of a boathouse based upon its adverse aesthetic impacts. The Court stated that “... the natural beauty of our northern lakes is one of the most precious heritages Wisconsin citizens enjoy.”

The ownership of navigable waters and their beds have been established under case law. *Diedrich v. Northwestern Union Railroad Co.* (1877)\(^{43}\) established that the beds of navigable lakes are owned by the State, while *Munninghoff v. Wisconsin Conservation Commission* (1949)\(^{44}\) established that the beds of navigable streams are owned by the riparian owner. Noted, however, was the concept that the water over the streambed was held in the public trust. The navigable waters of Wisconsin include the entire area of the lakes and ponds that are located below the ordinary high water mark of such waterbodies.\(^{45}\) In addition, such waters must have a well-defined bed and banks.

Several court cases have addressed what, in effect, amounts to a definition of a lake and pond. In *Ne-pee-nauk Club v. Wilson* (1897), *Ne-pee-nauk Club v. Wilson*, 96 Wisc 290 (1897),\(^{46}\) the Court distinguished between a lake and stream, stating that a stream has natural motion, a current, while a lake, in its natural state, is substantially at rest. The Court went on to state that the difference between lakes and streams is independent of the size of the waterbody. The Court further recognized that navigable lakes could be properly called a marsh or swamp as a result of low water conditions in which large expanses of mud or vegetation are exposed. This latter condition was further supported in *Illinois Steel Co. v. Bilot*,\(^{47}\) in which the Court declared:

> “The mere fact that the water was very shallow, so that marsh grass appeared above the surface, that it was called a marsh, and that the water was not deep enough to admit navigation, or that the surface was not at all times wholly submerged, does not preclude its being, in fact, a lake.”

This fact was further supported in *State v. Trudeau*,\(^{48}\) in which the Court held that a lakebed need not be navigable in fact: “If land is part of a navigable lake, then the fact that the specific area cannot be navigated is irrelevant.”\(^{49}\)

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\(^{42}\) *Claflin v. DNR*, 58 Wisc. 2D 182 (1973).

\(^{43}\) *Diedrich v. Northwestern Union Railroad Co.*, 42 Wis 248 (1877).

\(^{44}\) *Munninghoff v. Wisconsin Conservation Commission*, 255 Wis 252 (1949).

\(^{45}\) *Navigable waters of the State are defined in s.144.26(2)(d). Also, the ordinary high water mark was defined in Diana Shooting Club v. Hustig, 156 Wis. 261 (1914).*

\(^{46}\) *Ne-pee-nauk Club v. Wilson*, 96 Wisc 290 (1897).


\(^{49}\) *Cain, Michael, and Roberta Borchardt*, Topical List of Water Law Cases, Madison, Wis., Wisconsin Department of Natural Resources, 1992.
Navigable waters in Wisconsin also include streams and flowages. Specifically, navigable streams have clearly
been defined in case law. DeGaynor and Company, Inc., v. Department of Natural Resources (1975)\(^{50}\) expanded
the definition of navigability from the old saw log test (see Olson v. Merrill [1877]\(^{51}\)) to:

“any stream is 'navigable in fact' which is capable of floating any boat, skiff, or canoe, of the shallowest
draft used for recreational purposes . . . .”

“. . . [further] the test [for navigability] is whether the stream has periods of navigable capacity which
ordinarily recur from year to year, e.g. spring freshets, or has continued navigability long enough to make it
useful as a highway for recreation or commerce.”

In addition, a navigable stream must have a bed and banks, as well as a direction of flow.

**Chapter 30, Navigable Waters, Harbors, and Navigation**
Under Chapter 30 of the Wisconsin Statutes, the WDNR has the authority to regulate the deposition of materials
upon the bed of any navigable body of water, the straightening or altering of the courses of a stream, the dredging
of material from the bed of a lake or river, the enlargement of any navigable waterway, and diversions from any
body of water. Navigable waters include those wetland areas below the ordinary high water mark of an adjacent
navigable lake or stream. The issuance of a Chapter 30 permit for any of the abovementioned activities in
navigable waters would be subject to the policies and standards stipulated in Chapters NR 1.95 and NR 103 of the
Wisconsin Administrative Code and to the provisions of the Wisconsin Environmental Policy Act.

One of the initial steps in the issuance of any Chapter 30 permit is the determination of navigability of
the affected surface waterbody or adjacent wetland. Section 30.10 of the Wisconsin Statutes indicates that “all
lakes . . . which are navigable in fact are declared to be navigable and public waters . . . .” Section 30.10 also
indicates that “all streams, sloughs, bayous, and marsh outlets, which are navigable in fact for any purpose
whatsoever, are declared navigable . . . .” The Wisconsin Supreme Court, in its decision on Muench v. Public
Service Commission in 1952, pointed out that, in Wisconsin since 1911, navigable waters had been defined as
those which are navigable in fact for any purpose whatsoever. In addition, as noted above, the Court, in its
decision on DeGayner and Company, Inc., v. Department of Natural Resources in 1975, indicated that this test of
navigability does not require that the surface waters be capable of floating a recreational boat or canoe on every
day of the year or for every rod of its length or surface area. If it is determined that a surface waterbody is not
navigable, the State may not have jurisdiction over the surface waterbody.

The determination of navigability is made on a case-by-case basis by the staff of the WDNR. Because of
budgetary constraints, no jurisdictional maps of the navigable waters of the State have been prepared. The navigability or nonnavigability of a surface waterbody may change over the years as urban development;
agricultural practices, including conversion of agricultural lands to natural open use; or other natural causes affect
the amount of water flowing through the surface water system. Under Section 30.10(4)(c) of the Wisconsin
Statutes, “farm drainage ditches are not navigable . . . unless it is shown that the ditches were navigable streams
before ditching.”

**Chapter 31, Regulation of Dams and Bridges Affecting Navigable Waters**
Dams have a significant impact on water quality, wildlife, public safety, water rights issues, and land use in
Wisconsin. Under Chapter 31 of the Wisconsin Statutes, which was created in 1917 under the Water Power Law,
the WDNR has authority to regulate the location, construction, permitting, safety, operation, and maintenance of
dams and bridges affecting a navigable body of water. Chapter 31 also addresses alteration or repair of dams, dam
transfer and removal, and water level and flow control.

\(^{50}\)DeGaynor and Co., Inc. v. DNR, 70 Wisc 2d 936, 236 N. W. 2d 217 (1975).

\(^{51}\)Olson v. Merrill, 42 Wis. 203 (1877).
Administrative rules governing dam design and construction standards are set forth in Chapter NR 333 of the Wisconsin Administrative Code. Chapter NR 335 covers the administration of the Municipal Dam Repair and Removal Grant Program and Chapter NR 330 provides standards for warning signs and portages for dams.

The issuance of a Chapter 31 permit would be subject to the policies stipulated in Chapter NR 1.95 and the standards set forth in Chapter NR 103 of the Wisconsin Administrative Code and to the provisions of the Wisconsin Environmental Policy Act. Section 31.19 of the Wisconsin Statutes requires that the WDNR perform safety inspections of large dams on navigable waterways once every 10 years. In general, the Department does not inspect dams that are regulated by a Federal agency.

FLOODLAND REGULATION AND CONSTRUCTION OF FLOOD CONTROL FACILITIES

While water quality improvement is not the primary purpose of flood control facilities, the planning and design of such facilities will often include features that directly affect water quality and terrestrial and aquatic habitat, and certain facilities may be designed to meet multiple objectives including flood control, stream rehabilitation/restoration, habitat improvement, and water quality improvement. Also, such facilities must be constructed within the regulatory framework described above. Floodland regulations and zoning can be useful tools in preserving riparian lands in open space uses and in moderating streamflows with an attendant benefit for stream channel morphology. Thus, it is appropriate to include information on floodland regulations and flood control facilities in the water quality management plan update.

Effective abatement of flooding can be achieved only through a comprehensive approach to the problem. That approach ideally strikes a balance between preserving existing undeveloped floodlands in open space uses; providing physical protection from flood hazards in areas of existing or committed development through the construction of dams, flood control reservoirs, levees, channel modifications, and other water control facilities; and implementing nonstructural flood control measures where such measures are feasible. As urbanization proceeds within a watershed, it becomes increasingly necessary to develop an integrated program of land use regulation of the floodlands within the entire watershed to supplement required water control facilities if efforts to provide such facilities are not to be self-defeating.

Definition of Floodlands and Description of Floodplain Components

The precise delineation of floodlands is essential to the sound, effective, and legal administration of floodland regulation. This is particularly true in such rapidly urbanizing areas as portions of the regional water quality management plan update study area. Chapter NR 116 of the Wisconsin Administrative Code defines the floodplain as “that land which has been or may be covered by flood water during the regional flood.”

In planning for the proper use of floodlands, it is useful to subdivide the total floodland area on the basis of the hydraulic or hydrologic functions which the various subareas perform, as well as on the basis of the differing degrees of flood hazard that may be present in those subareas. Floodlands may be considered as consisting of two components: 1) a floodway, which effectively conveys the 100-year recurrence interval flood discharge, and 2) a floodplain fringe, which does not effectively convey flow, but which is inundated during floods and which temporarily stores floodwaters.

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52 A large dam is defined as having a structural height of over six feet and impounding 50 acre-feet or more, or having a structural height of 25 feet or more and impounding more than 15 acre-feet.

53 The regional flood is defined as the 100-year recurrence interval flood, or that flood which has a 1 percent probability of occurring in any given year.

54 This definition is consistent with the definition of a floodplain which has been applied by the Regional Planning Commission in its comprehensive watershed plans and other floodland management efforts.
Under ideal conditions, the entire natural floodplain would be maintained in an open, essentially natural state, and, therefore, would not be filled and utilized for incompatible, intensive urban land uses. Conditions permitting an ideal approach to floodland regulation, however, generally occur only in rural areas. In areas which have already been developed for intensive urban use without proper recognition of the flood hazard, a practical regulatory approach may have to incorporate the concept of a floodway. Land use controls applied to the floodway should recognize that the designated floodway area is not suited for human habitation and should essentially prohibit all fill, structures, and other development that would impair floodwater conveyance by adversely increasing flood stages or velocities. Normally, filling and urban development may be permitted in the floodplain fringe, subject to restrictions which will minimize flood damages, including the provision of compensatory floodwater storage. Under actual conditions, the floodplain fringe may include buildings constructed in natural floodlands prior to the advent of sound floodland regulations. The delineation of the limits of the floodland regulatory area should be based upon careful hydrologic and hydraulic studies such as have been conducted for major portions of the watercourse system of the study area under SEWRPC watershed studies, Federal flood insurance studies, studies by communities, and studies associated with private developments.

**Land Use Regulations in Floodlands**
The following section summarizes the various land use regulatory powers available to State, county, and local units of government for use in regulating floodland development.

**Channel Regulation**
Sections 30.11, 30.12, and 30.16 of the Wisconsin Statutes establish rules for the placement of material and structures on the bed of any navigable water and for the removal of material and structures illegally placed on such beds. With the approval of the WDNR, pursuant to Section 30.11 of the Wisconsin Statutes, any town, village, city, or county may establish bulkhead lines along any section of the shore of any navigable water within its boundaries. Where a bulkhead line has been properly established, material may be deposited and structures built out to the line, consistent with the appropriate floodway zoning ordinance. A WDNR permit is required for the deposit of material or the erection of a structure beyond the bulkhead line. Where no bulkhead line has been established, it is unlawful to deposit any material or build any structure upon the bed of any navigable water unless a WDNR permit has first been obtained.

**Regulation of Floodway and Floodplain Fringe**
The regulation of floodlands in Wisconsin is governed primarily by the rules and regulations adopted by the WDNR pursuant to Section 87.30 of the Wisconsin Statutes. In addition, the enactment of floodland regulation in Wisconsin is further governed by rules promulgated by the Federal Emergency Management Agency (FEMA). In essence, floodland regulation in Wisconsin is a partnership between the local, State, and Federal levels of government.

**State Floodplain Management Program**
The Wisconsin Legislature long ago recognized that the regulation of stream channel encroachments was an areawide problem transcending county and municipal boundaries and, therefore, provided for State regulation. However, it was not until passage of the State Water Resources Act in August 1966 that a similar need was recognized for floodway and floodplain-fringe regulation. In that Act, the Legislature created Section 87.30 of the Wisconsin Statutes. This section authorizes and directs the WDNR to enact floodland zoning regulations where it finds that a county, city, or village has not adopted reasonable and effective floodland regulations. The cost of the necessary floodplain determination and ordinance promulgation and enforcement by the State must, under the Statute, be assessed and collected as taxes by the State from the county, city, or village.

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55 Section 87.30(1m) of the Wisconsin Statutes stipulates that “a floodplain zoning ordinance. . .does not apply to lands adjacent to farm drainage ditches if: 1) such lands are not within the floodplain of a natural navigable stream or river, 2) those parts of the drainage ditches adjacent to these lands were nonnavigable streams before ditching, and 3) such lands are maintained in nonstructural agricultural use.”
Chapter NR 116 of the *Wisconsin Administrative Code* sets forth the general criteria for counties, cities, and villages to follow in enacting reasonable and effective floodland regulations. The current version of that chapter of the *State Administrative Code* took effect on March 1, 1986 and was most-recently revised in August 2004. The version of the Code now in effect establishes stringent requirements regarding the permissible increase in the 100-year recurrence interval flood stage resulting from activities in the floodplain and sets forth criteria for regulating floodplains in reaches downstream from dams.

**State Agency Coordination**

On November 26, 1973, Governor’s Executive Order No. 67 was issued. It was designed to promote a unified State policy of comprehensive floodplain and shoreland management. The key provisions of the executive order are as follows:

1. State agencies are required to consider flooding and erosion dangers in the administration of grant, loan, mortgage insurance, and other financing programs.

2. All State agencies involved in land use planning are required to consider flooding and erosion hazards when preparing and evaluating plans. In addition, all State agencies directly responsible for new construction of State facilities, including buildings, roads, and other facilities, are required to evaluate existing and potential flood hazards associated with such construction activities.

3. All State agencies that are responsible for the review and approval of subdivision plats, buildings, structures, roads, and other facilities are required to evaluate the existing or potential flood hazards associated with such construction activities.

The provisions of this executive order are important in that they require all State agencies to utilize the flood-hazard data that have been, and are being, developed. Thus, the provisions assist in assuring that State-aided action, such as highway construction, will not contribute to increasing flooding and erosion hazards or to changing the character of the flooding. The order also assures that State agency actions will be consistent with local floodland regulations.

**State and Federal Policies Relating to Floodland Management and to the Construction of Flood Control Facilities**

Sound physical planning principles dictate that a watershed be studied in its entirety if practical solutions are to be found to water-related problems and that plans and plan implementation programs, possibly including the construction of flood control facilities, be formulated to deal with the interrelated problems of the watershed as a whole. A watershed, however, typically is divided in an irregular fashion by a complex of man-made political boundaries: county, city, village, town, and special-district. When such public works projects as flood control works, covering and serving an entire watershed, are required, these artificial demarcations become important because they limit the jurisdiction, the physical area, within which any one particular arm of county or local government may act.

This limitation may be overcome by delegation of the planning tasks to a regional planning agency and attendant designation of the plan implementation tasks to various existing units of government.

Historic channel modification projects in the study area, including channel deepening, widening, and straightening, have generally been carried out by legally constituted farm drainage districts or riparian landowners for the purpose of improving agricultural drainage, by municipalities or the Milwaukee Metropolitan Sewerage District to resolve flooding or erosion problems, or by the Wisconsin Department of Transportation in conjunction with highway construction projects. Specific information on the physical characteristics of stream channels is set forth in Chapter V through IX of SEWRPC Technical Report No. 39.56

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**State of Wisconsin Guidelines Regarding Channel Modifications**

In November 1987, the Secretary of the Wisconsin Department of Natural Resources established a policy on the regulation of stream channelization projects for urban flood control. The policy enumerated Department concerns regarding channel modification as follows:

1. Loss of aquatic habitat.
2. Adverse impacts on public rights and interests, including boating, fishing, swimming, maintenance of environmental quality, and enjoyment of scenic beauty.
3. Loss of floodplain storage volume and decrease in the time for runoff to travel through the channelized reaches, with attendant increases in downstream flood flows and flood stages. The Department policy recognizes, however, that such problems are attributable to the implementation of channel modification without an areawide systems approach which deals with a watershed as a whole.
4. Creation of safety problems due to increases in flow velocities, particularly when the modified channel is lined with concrete.
5. The implementation of single-purpose channel modification projects for flood control in cases where multiple objective projects utilizing detention storage for the control of both water quantity and quality could be used.

In light of the Department concerns listed, the 1987 policy document calls upon Department staff involved in the review of channel modification projects to:

1. Presume that stream channelization is not the best overall solution to flooding or stormwater runoff problems.
2. Require consideration of alternative approaches, including stormwater management practices and nonstructural flood control measures.
3. Issue permits only for, or recommend not opposing, channelization projects when there are no other reasonable alternatives to solving a recognized flooding problem, the adverse impacts of channelization have been minimized to the extent practicable, and the project meets all other legal requirements.

**INTERBASIN WATER DIVERSION**

The traditional common-law riparian doctrine forbade the transfer of water between watersheds. However, states by legislative action, can create, and have created, exceptions to this general doctrine. In contemplating a stream diversion, two major groups of individuals may be in a position, depending upon the quantity of water involved and the duration of the diversion, to assert their private property rights against the private or municipal agencies carrying out the diversion. The first group consists of those riparians along the stream from which the diversion is made. The reasonableness of the diversion, the “taking” of private property involved, and the issue of compensation are all legal factors to be considered. The second group of individuals who may be in a position to assert legal rights are those whose lands abut the streams or lakeshore into which the diversion is made. Again, the diverter is liable to these riparians for land taken or damages caused as a consequence of the unnaturally increased flow.

*Wisconsin Statutes* Section 30.18, dealing with water diversions, stipulates that “... no water shall be so diverted to the injury of public rights in the streams . . . .” The Statute also states that only “surplus water,” i.e., any water of a stream which is not being beneficially used, can be diverted and such diversions can be made only for the purpose of maintaining normal stream or lake levels in other watercourses. The only apparent exception to this section applies to agricultural and irrigation purposes, for which water other than “surplus water” may be
diverted, but only with the consent of all of the riparians who would be injured by the diversion. To effect even these limited types of diversions, hearings would have to be held and permits issued by the WDNR. The Wisconsin Supreme Court case of *Omernik v. State*⁵⁷ stated that Section 30.18 applied to nonnavigable streams from which water was diverted as well as to navigable streams. If the anticipated use of diverted water is other than for one of the categories stipulated under Section 30.18 of the *Wisconsin Statutes*, then the common-law test of reasonableness will be invoked.

The Great Lakes–St. Lawrence River Basin Water Resources Compact is an agreement among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania. The Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement is an agreement among those States and the Canadian Provinces of Ontario and Quebec. Those documents, which are collectively referred to as “Annex 2001” and were signed by the Great Lakes Governors and Premiers on December 13, 2005, are intended to protect, conserve, restore, improve, and manage the waters of the Great Lakes basin.⁵⁸

The agreements are intended to accomplish the following:

- With limited exceptions, ban new or increased diversions of water to areas outside the Great Lakes-St. Lawrence River Basin,
- Establish a new standard for the States and Provinces to apply in reviewing proposed uses of Great Lakes water,
- Improve the collection and distribution of technical data between the States and Provinces, and
- Require the implementation of water conservation programs.

Key provisions of the agreements include:

- In general, new or increased diversions of water from the Basin are prohibited.
- **Exception for Straddling Communities**: An exception to the prohibition on diversion may be granted for transfers of water from the Basin to areas of any city, village, or, town that is located partially within and partially outside the Basin (straddling community) if the diverted water is used for public water supply purposes, is returned to the Basin less an allowance for consumptive uses, and is managed and regulated by the State in which the community is located. Additional requirements set forth under an “Exception Standard” must be met if the new or increased withdrawal consists of an average of 100,000 gallons per day or more over any 90-day period. Regional review by the State and Provinces is not required, unless the proposal calls for a new or increased average consumptive use of five million gallons per day or more.
- **Exception for Communities in Straddling Counties**: An exception to the prohibition on diversion may be granted for transfers of water from the Basin to areas of any city, village, or, town that is located in a county that is partially within and partially outside the Basin (straddling county) if: the diverted water is used for public water supply purposes; meets the Exception Standard and maximizes the portion of the water returned to the source watershed; there is no reasonable water supply alternative within the basin in which the community is located; the diversion will not endanger the Basin ecosystem; the diversion is managed and regulated by the State in which the community is located, the proposal undergoes Regional Review by the States and Provinces; and the proposal is approved by the Great Lakes-St. Lawrence River Basin Water Resources Council, consisting of the Governors of the States.

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⁵⁷64 Wis. 2d 6, 218 N.W. 2d 734 (1974).

⁵⁸*Full implementation of Annex 2001 will require further legislative action at the State and Federal levels.*
Annex 2001 also sets forth requirements for intra-basin transfers from the watershed of one Great Lake into the watershed of another Great Lake.

Diversion of water across the subcontinental divide between the Lake Michigan and Upper Mississippi River Basins is an issue that can be related to the provision of sanitary sewerage facilities and water supply facilities to certain municipalities. However, given that the entire study area is in the Lake Michigan drainage basin, these issues are not expected to be of specific concern in this planning effort.

RELATIONSHIP BETWEEN FEDERAL, STATE, AND LOCAL REGULATORY PROGRAMS FOR WETLANDS

The wetland water quality standards which are set forth in Chapter NR 103 of the Wisconsin Administrative Code are related primarily to the shoreland-wetland regulations in Chapters NR 115 and 117 of the Wisconsin Administrative Code; Chapters 30, 31, 281, 283, and 299 of the State Statutes; and Sections 401 and 404 of the Federal Clean Water Act.

The determination of permissible, or potentially permissible, activities in wetlands within the study area may involve shoreland-wetland regulations as administered by the counties, cities, and villages, all under the oversight of the WDNR; wetland water quality standards set forth by the WDNR in Chapter NR 103 of the Wisconsin Administrative Code; and regulations administered by the U.S. Army Corps of Engineers (USCOE) under Section 404 of the Federal Clean Water Act regarding the discharge of dredged or fill materials to wetlands. U.S. Department of Agriculture (USDA) policies and programs regarding benefits to farmers may also be of concern.

Federal Wetland Regulatory Program

The U.S. Congress has provided for the regulation of certain wetlands of the Nation. Section 404 of the Clean Water Act, as amended, provides the principal Federal authority in the regulation of wetland use. That statute requires the U.S. Department of the Army Corps of Engineers (USCOE), working in cooperation with the USEPA, to regulate the discharge of dredged and fill materials into waters of the United States, including lakes, rivers, and wetlands. All interstate wetlands, regardless of size, are regulated under the provisions of the Statutes. The USEPA maintains a permit veto and enforcement authority under the Act should a particular application be judged to have adverse environmental consequences.

In carrying out this regulatory responsibility, the USCOE identifies interstate waters of the United States, including wetlands, and determines when permits are required for the discharge of dredged and fill materials. The USCOE may permit a project either through the issuance of a general permit, letter of permission, or through a specific individual permit, depending upon the scope and potential consequences of the project. For example, wetland fill or excavation projects which involve more than two acres of a wetland would typically require an individual permit. Similar projects involving filling or excavating of less than two acres of a wetland would require notification to the USCOE, and would be handled under the general permit or letter of permission procedure (GP/LOP). There are four categories to the GP/LOP, which include the following:

- General Permitting–Non Reporting;
- General Permitting–Provisional;
- Letter of Permission–Provisional; and
- General Permitting–Programmatic.

59The GP/LOP permitting process replaced the nationwide permit in Wisconsin in April of 2000.
The nonreporting option of the general permit is for very small scale projects that are anticipated to have a negligible effect on the resource and include practices such as streambank stabilization and boat ramp construction. Projects that fall under the nonreporting option do not require notification to the USCOE. It is the landowner or project manager’s responsibility to ensure that the USCOE criteria are satisfied. The provisional option of the general report is suited for projects that primarily involve discharges into Federal waters which could be related to utility lines, bridge construction, or hydropower plants, or other discharges into wetlands or Federal waters that involve less than up to one-tenth of an acre. The letter of permission is issued for larger projects that impact between one-tenth and two acres of wetlands, or up to five acres for projects administered by the Wisconsin Department of Transportation (WisDOT) that are subject to the WDNR/WisDOT cooperative agreement. Finally, the programmatic option of the general permit is also for larger projects that impact up to two acres, and for projects that are not covered by one of the previous options. The USCOE maintains a discretionary authority under which it may override any permit on a case-by-case basis, as it deems appropriate.

Silvicultural and agricultural activities in waters of the United States and adjacent wetlands are exempt from the permitting process provided that they do not cause a release of toxic contaminants and do not change the use of the waters. Certain minor activities, such as sand blankets, boat ramp construction, and shore stabilization activities, may be undertaken under a nonreporting general permit.

The USCOE has limited jurisdiction for areas of isolated wetlands. In a case that was decided by the Supreme Court on January 9, 2001, “Solid Waste Association of Northern Cook County v. U.S. Army Corps of Engineers,” the Court ruled that the USCOE has no jurisdiction over nonnavigable (i.e., not connected to Federal waters), isolated, intrastate waters. The USCOE determines whether or not an isolated wetland is ultimately connected to Federal waters. This ruling removed significant areas of wetland from regulation, and it prompted the State of Wisconsin to pass legislation extending State authority over isolated wetlands, as described below.

Under the provisions of Section 401 of the Clean Water Act, the issuance of Federal permits must be consistent with State water quality policies and standards. The State of Wisconsin has established procedures to review all activities which may involve the discharge of dredged or fill material into the waters of the State, including wetlands. The procedures for the review of Federal permits are set forth in Chapter NR 299 of the Wisconsin Administrative Code, which requires the WDNR to deny certification for any discharge which does not meet the guidelines set forth in Chapters 30, 31, and 281 of the State statutes, to grant certification if such guidelines are met, or to waive certification if such guidelines do not apply. In cases where State certification is denied, the U.S. Department of the Army permit would also be denied.

State of Wisconsin Wetland Regulatory Program Related to Wetlands

The Wisconsin wetlands preservation, protection, and management policies are set forth generally in Section NR 1.95 of Chapter NR 1 of the Wisconsin Administrative Code (most recently revised in November 2005); the Wisconsin water quality standards for shoreland and nonshoreland wetlands, prepared pursuant to Chapter 281 of the State statutes, are set forth in Chapter NR 103 of the Wisconsin Administrative Code (most recently revised in March 2005). Chapters NR 1 and 103 were both updated in 2002 to provide for the administration of a compensatory wetland mitigation program.

Section NR 1.95 establishes the policy by which the WDNR administers its regulatory and management authorities regarding wetlands. Such policy require the Department to evaluate all reasonable alternatives, including the alternative of no action, in making regulatory decisions concerning such processes requiring permits as sanitary sewer extensions, dredging and filling, the construction of dams and bridges, and streamcourse alterations where adverse impacts to wetlands may occur as a result of such activities. In addition, Section NR 1.95 indicates that State land acquisition programs should emphasize acquisition of high-value wetlands; that State enforcement activities regarding unlawfully altered wetlands should, to the extent practicable, require restoration; and that the avoidance or minimal use of wetlands should be advocated in liaison activities with Federal, State, and local units and agencies of government. Under Section NR 1.95, administrative rules and legislation aimed at protecting and enhancing wetland values and ecology, and at providing education about wetlands, may be promulgated by the Department.
Prior to the January 2001, Supreme Court ruling, “Solid Waste Association of Northern Cook County v. U.S. Army Corps of Engineers,” the Department had limited jurisdictional authority regarding isolated nonshoreland wetlands. Since that ruling, the Wisconsin Legislature passed Wisconsin Act 6, which became effective on May 8, 2001. Wisconsin Act 6 amends Chapter 23 and more significantly Chapter 281 of the Wisconsin Statutes. The Department now has the jurisdictional authority to regulate fill placement into nonfederal wetlands. Fill placement into a nonfederal wetland requires water quality certification under Chapter NR 299 of the Wisconsin Administrative Code. There are some exemptions to Wisconsin Act 6, which primarily involve silvicultural and agricultural activities.

Wisconsin Act 6 provides for the issuance of general water quality certifications for types of discharges, instead of individual certifications, subject to a Department finding of minimal individual and cumulative adverse environmental effects.

Chapter NR 103 establishes water quality standards for wetlands. These standards, like the more general policies set forth for wetlands protection under Section NR 1.95, are applied by the WDNR in the exercise of State authority and in State review of applications for permits under Section 404 of the Federal Clean Water Act. Chapter NR 103 applies to all wetlands and these standards are applied when a State permit or State water quality certification is required. The water quality standards for wetlands are intended to provide protection of all waters of the State, including wetlands, for all present and potential future uses, such as for public and private water supply; for use by fish and other aquatic life, as well as wild and domestic animals; for preservation of natural flora and fauna; for domestic and recreational uses; and for agricultural, commercial, industrial, and other uses.

Under Chapter NR 103, the WDNR is responsible for the protection of the functions of wetlands. The functional values of wetlands include stormwater and floodwater storage and retention and the moderation of water level fluctuation extremes; hydrologic functional values, such as maintenance of dry season streamflow, the discharging and recharging of groundwater and maintenance of groundwater flow; filtration or storage of sediments, nutrients, or toxic substances which might otherwise adversely affect other waters of the State; shoreline protection against erosion; habitat for aquatic organisms; habitat for resident and transient wildlife; and all other recreational, cultural, educational, scientific, aesthetic, and natural values.

The rules set forth in Chapter NR 103 consist of two parts: 1) alternatives analysis, and 2) a set of standards intended to protect the functional values of wetlands.

A project would not be in compliance with the provisions of Chapter NR 103 if it is not a wetland dependent use, meaning that it does not necessarily require location in or adjacent to wetlands to fulfill its basic purpose, and if a practicable alternative to the project exists that does not involve the filling of wetlands. Under a practicable alternatives analysis, the proposed project would be compared to other alternatives considering relative monetary costs, logistical limitations, technological limitations, and other pertinent positive or negative aspects. If there is an alternative to the project which is practicable, will not adversely impact wetlands, and will not have other significant adverse environmental consequences, that alternative may be selected.

If, following the analysis of practicable alternatives, no suitable alternative is identified, an assessment of the potential significant impacts of the project on the functional values of the wetland must be made. Those impacts would then be considered by the Department in making a determination whether the basic requirements of Chapter NR 103 are satisfied.

Considerations Related to Federal and State Approval of Urban and Agricultural Drainage Projects Involving Wetlands

Installation of agricultural drain tiles, sanitary sewers, or urban storm sewers, and construction of urban or agricultural drainage channels through wetlands could involve the temporary discharge of fill material and would, therefore, require a Federal Section 404 permit and/or water quality certification by the State of Wisconsin under Chapter NR 103. In considering a permit application to discharge dredged or fill material to wetlands, the USCOE and/or the WDNR may also consider other impacts (secondary impacts) of the proposed project, such
as whether the project would result in draining of wetlands. As part of the permit issuance, the use of special construction techniques may be required. Such requirements may include providing for agricultural drain tiles or storm sewer pipes to be sealed so that the wetland would not be drained, covering the trench with six inches of native soil, and restoring the original grade and vegetation. Thus, such agricultural drain tile lines could, under such a conditional permit, be used only for improving drainage from upstream areas, not for restoring drainage to the areas which have reverted to wetlands.

**U.S. Natural Resources Conservation Service Involvement in Wetland Issues**

Involvement in wetland matters by the Natural Resources Conservation Service (NRCS), formerly the U.S. Soil Conservation Service, is primarily related to the administration of programs distributing USDA benefits as mandated under the Federal Food, Agriculture, Conservation and Trade Act of 1990, commonly referred to as the 1990 Farm Bill.60

**Land Classifications**

The NRCS has established four land classification categories which relate to the status of agricultural lands as wetland or cropland. These classifications are defined as follows:

1. **Prior Converted Cropland**: Land that may contain wetlands that were cleared, drained, filled, or otherwise manipulated to make them cropable prior to December 23, 1985. These lands are flooded for no more than 14 consecutive days during the growing season. If prior converted cropland is not cropped, managed, or maintained for agricultural production for five consecutive years and the land reverts to wetland, the land would be regulated by the USCOE under Section 404. Reversion to wetland requires that the land exhibit the three mandatory wetlands criteria set forth under the USCOE and USEPA wetland definition: hydric soils, wetland vegetation, and hydrologic characteristics associated with wetlands. Also, prior converted cropland that is located in a shoreland jurisdictional zone, as designated in Chapters NR 115 or 117 of the Wisconsin Administrative Code, is regulated as a shoreland wetland.

2. **Farmed Wetland**: Land that was cleared or drained or filled and cropped prior to December 23, 1985, and, in many years, still floods or ponds in the spring or fall. These lands are flooded for 15 or more consecutive days during the growing season or for 10 percent of the length of the growing season, whichever time is shorter. These wetlands are regulated under Section 404, but normal farming of these lands is allowed.

3. **Wetland**: Land that has wet, saturated soils and would support wetland vegetation if not tilled or mowed.

4. **Not Inventoried**: Land that may contain wetlands but has not been designated, either because the existing vegetation makes wetland designation difficult or because the area has low potential for use as cropland.

The NRCS periodically obtains aerial photographs at a scale of one inch equals 660 feet and those photographs are used to identify saturated soils and to document land use practices, including determinations of the number of consecutive years for which land has not been cropped. Conversions of wetlands which occur after December 23, 1985, can affect the eligibility of landowners to receive U.S. Department of Agriculture subsidies. If a drainage

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60The Wisconsin Wetland Inventory maps are described in Chapter III of this report. The U.S. Natural Resources Conservation Service has also prepared wetland maps on one inch equals 660 foot scale and on one inch equals 1,000 foot scale aerial photographs. Those maps are used by the NRCS in administering programs mandated under the Food, Agriculture, Conservation and Trade Act of 1990, commonly referred to as the 1990 Farm Bill. The NRCS wetland maps and the Wisconsin Wetland Inventory maps are used by the USCOE in administering its regulatory program for wetlands.
district converts wetland to cropland, the landowner of the converted wetland who is assessed by the drainage
district and who uses the conversion to increase agricultural production could lose his rights to Federal subsidies.
If a drainage district implements measures which convert wetland areas after November 28, 1990, and the
conversion is beyond the control of the landowner of the property containing the wetland, Federal subsidies would
not be lost if no agricultural commodities are planted or if no hay or forage crops are harvested.

If a wetland conversion began prior to December 23, 1985, and attempts to improve drainage have occurred since
1985, the project may be classified as a commenced conversion and the landowner or farmer may be able to
produce an agricultural commodity on the land without losing Federal subsidies. When a drainage district is
involved in a conversion, it is necessary that: 1) a detailed drainage plan was officially adopted, 2) the installation
of drainage measures began before December 23, 1985, or that contracts were executed before December 23,
1985, for the purchase of materials for the conversion of the wetlands, and 3) the landowner or farmer was
assessed for the project or legally obligated to pay such an assessment before December 23, 1985.

Decisions by an NRCS field office regarding the wetland status of a particular parcel of land may be appealed by
the landowner. The initial appeal would be made to the field office, the staff of which would make a field
determination in response to the appeal. Further appeals would be made to the NRCS area, State, and Washington,
D.C., offices.

DIFFUSED WATER LAW

This area of the law relates to what is commonly termed stormwater, which consists of runoff from rain,
snowmelt, and springs prior to collection in a watercourse or lake. Under the “common enemy” doctrine which
was enforced in the State of Wisconsin until 1974, “a landowner could drain diffused surface water onto another’s
property regardless of the harm caused.”

In 1974, the “common enemy” doctrine was replaced by the “reasonable use” rule as a result of the findings of the
Wisconsin Supreme Court in the case of State v. Deetz. This rule permits the reasonable discharge of diffused
surface water. An unreasonable discharge is defined as one which results in an intentional invasion of another’s
land and either: “1) the gravity of the harm caused by the discharge outweighs the utility of the conduct of the
discharge or 2) the harm caused by the discharge is substantial and the financial burden of compensating for the
harm does not render the conduct causing the discharge infeasible.”

An example of the application of the “reasonable use” rule is the case of Crest Chevrolet v. Willemsen. In this
case the court applied the reasonable use rule and ruled in favor of the plaintiff, who claimed that the raising of
the grade of the defendant’s property obstructed the discharge of runoff from the plaintiff’s property, flooding the
plaintiff’s parking lot.

61 University of Wisconsin-Extension Environmental Resources Center and the University of Wisconsin Law
62 State v. Deetz, 66 Wis. 2d 1, 224 N.W. 2d 407 (1974).
63 Ibid.
64 Crest Chevrolet v. Willemsen, 129 Wis. 2d 129, 144-45, 384 N.W. 2d 692 (1986).
SPECIFIC LEGAL CONSIDERATIONS AND INVENTORY FINDINGS IN THE REGIONAL WATER QUALITY MANAGEMENT PLAN UPDATE STUDY AREA

Inventories were conducted of State water pollution abatement orders and permits and other applicable local water-related regulatory matters. A discussion of these legal considerations and how they apply to the regional water quality management plan update study area is presented below.

State Water Pollution Abatement Permits
As noted earlier in this chapter, the Wisconsin Pollutant Discharge Elimination System permit structure was established by the WDNR pursuant to Chapter 283 of the \textit{Wisconsin Statutes}. A permit is required for all industrial and municipal wastewater discharges and for certain specified municipal and industrial stormwater discharges. The inventory conducted for the regional water quality management plan update identified the industrial wastewater and stormwater discharge permits that were issued through February 2003. Those permits are listed in Chapters V through IX and Appendix G of SEWRPC Technical Report No. 39. An inventory of WPDES permit information for public and private sewage treatment facilities in the study area, including effluent limits, is set forth in Table 68.

Current MMSD WPDES Permit Requirements
The MMSD 2003 WPDES Permit (Permit) lists the requirements that MMSD must adhere to in order to remain in compliance with WDNR and USEPA regulations. Sections 3 and 4 of the Permit focus on CSO and SSO requirements. In addition, there are certain elements of the Schedules of Compliance, Permit Section 8, that also address CSO and SSO requirements.

Under Section 3 of the Permit, a CSO LTCP must be developed and submitted to WDNR for approval in accordance with the terms of the Compliance Schedule. MMSD may not discharge from CSO points during dry weather and must provide records to verify that no discharges are occurring from outfalls where the gate to the corresponding dropshaft is open, unless the capacity of the near surface collector associated with the dropshaft has been exceeded.

Wet-weather discharges are not permitted except to prevent the ISS capacity from being exceeded or to relieve the associated near surface collector sewers when their capacities have been exceeded.

The ISS must be operated and maintained to meet \textit{either} of the following two presumptive approach performance standards relative to CSOs:

- No more than six combined sewer overflow discharge events per year; \textbf{or}
- The capture and delivery of no less than 85 percent by volume of the combined sewage collected in the combined sewer system resulting from precipitation events on a systemwide annual average basis to either the Jones Island or South Shore wastewater treatment plants.

MMSD must notify, by telephone, the WDNR Southeast Regional Office of a CSO occurrence and its anticipated duration within 24 hours of initiating discharge from listed CSO outfalls. A written report including the following information must be submitted to the Southeast Regional Office within five days of initiating discharge from listed CSO outfalls:

- Estimated duration
- Estimated volume
- Reason for discharge
- Operational actions taken to maximize capture and treatment
- Measures being taken to prevent another discharge
## Table 68

WPDES PERMIT INFORMATION FOR PUBLIC AND PRIVATE SEWAGE TREATMENT FACILITIES

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>WPDES Permit Number</th>
<th>Effective Date</th>
<th>Expiration Date</th>
<th>BOD₅ Average Weekly</th>
<th>CBOD₅ Average Monthly</th>
<th>Total Suspended Solids Average Monthly</th>
<th>Total Phosphorus Average Monthly</th>
<th>Ammonia Nitrogen Average Monthly</th>
<th>Total Chlorine Residual Average Monthly</th>
<th>Geo Mean</th>
<th>Fecal Coliform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Facilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Milwaukee Metropolitan Sewerage District Jones Island Treatment Plant</td>
<td>- -</td>
<td>04/01/03</td>
<td>3/31/08</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>1.0 mg/l</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Milwaukee Metropolitan Sewerage District South Shore Treatment Plant</td>
<td>- -</td>
<td>04/01/03</td>
<td>3/31/08</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>1.0 mg/l</td>
<td>- -</td>
<td>Variable</td>
<td>- -</td>
</tr>
<tr>
<td>City of Cedarburg</td>
<td>0020222</td>
<td>07/01/03</td>
<td>06/30/08</td>
<td>10 mg/l (229 lbs/day), 15 mg/l²</td>
<td>10 mg/l (344 lbs/day)</td>
<td>15 mg/l</td>
<td>15 mg/l</td>
<td>1.0 mg/l</td>
<td>- -</td>
<td>2.0 mg/l, 4.0 mg/l²</td>
<td>- -</td>
</tr>
<tr>
<td>City of Racine</td>
<td>0025194</td>
<td>04/01/03</td>
<td>03/31/08</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>1.0 mg/l</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>City of South Milwaukee</td>
<td>0028619</td>
<td>01/01/06</td>
<td>12/31/10</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>45 mg/l</td>
<td>30 mg/l</td>
<td>1.0 mg/l</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>City of West Bend</td>
<td>0025783</td>
<td>10/01/05</td>
<td>06/30/10</td>
<td>10 mg/l</td>
<td>10 mg/l</td>
<td>10 mg/l</td>
<td>10 mg/l</td>
<td>1.0 mg/l</td>
<td>9.4 mg/l</td>
<td>4.6 mg/l, 3.6 mg/l³, 6.9 mg/l, 11.1 mg/l³</td>
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<td>0020818</td>
<td>07/01/02</td>
<td>06/03/07</td>
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<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>10 mg/l</td>
<td>- -</td>
<td>- -</td>
<td>0.77 mg/l, 4.0 mg/l³</td>
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<tr>
<td>Village of Cascade</td>
<td>0031372</td>
<td>10/01/05</td>
<td>09/30/10</td>
<td>45 mg/l</td>
<td>30 mg/l³</td>
<td>40 mg/l²</td>
<td>25 mg/l³</td>
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<td>60 mg/l</td>
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<td>12/31/09</td>
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<td>- -</td>
<td>40 mg/l</td>
<td>25 mg/l</td>
<td>45 mg/l</td>
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<tr>
<td>Village of Grafton</td>
<td>0020184</td>
<td>07/01/02</td>
<td>06/03/07</td>
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<td>30 mg/l</td>
<td>- -</td>
<td>- -</td>
<td>35 mg/l</td>
<td>45 mg/l²</td>
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<td>1.0 mg/l</td>
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<tr>
<td>Village of Jackson</td>
<td>0021806</td>
<td>10/01/05</td>
<td>09/30/10</td>
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<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>12 mg/l</td>
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</tr>
<tr>
<td>Village of Kewaskum</td>
<td>0021733</td>
<td>01/01/05</td>
<td>12/31/09</td>
<td>10 mg/l (63 lbs/day), 18 mg/l (113 lbs/day)</td>
<td>10 mg/l (63 lbs/day), 18 mg/l (113 lbs/day)</td>
<td>10 mg/l</td>
<td>10 mg/l</td>
<td>1.0 mg/l</td>
<td>24 mg/l</td>
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<td>09/30/07</td>
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<td>30 mg/l</td>
<td>- -</td>
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³ lbs/day
² lbs/day²
² lbs/day²
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<th>Facility Name</th>
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<th>Expiration Date</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
<th>Weekly Average</th>
<th>Monthly Maximum</th>
<th>Daily Average</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
<th>Daily Maximum</th>
<th>Weekly Average</th>
<th>Geo Mean</th>
<th>Fecal Coliform</th>
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<td>Public Facilities (continued)</td>
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<td>Village of Random Lake</td>
<td>0021415</td>
<td>12/29/95</td>
<td>12/31/00</td>
<td>30 mg/l</td>
<td>15 mg/l</td>
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<td>30 mg/l</td>
<td>20 mg/l</td>
<td>1.0 mg/l</td>
<td>-</td>
<td>3.0 mg/l</td>
<td>6.0 mg/l</td>
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<td>37 µg/l</td>
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<tr>
<td>Village of Saukville</td>
<td>0021555</td>
<td>01/01/04</td>
<td>12/31/08</td>
<td>35 mg/l</td>
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<td>15 mg/l</td>
<td>-</td>
<td>-</td>
<td>35 mg/l</td>
<td>20 mg/l</td>
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<td>18 mg/l (242 lbs/day), 4.7 mg/l (63 lbs/day), 8.1 mg/l (109 lbs/day)</td>
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<td>Village of Union Grove</td>
<td>0028291</td>
<td>01/01/04</td>
<td>12/31/09</td>
<td>30 mg/l</td>
<td>15 mg/l</td>
<td>-</td>
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<td>30 mg/l</td>
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<td>1.0 mg/l</td>
<td>11.4 mg/l</td>
<td>31 mg/l (470 lbs/day), 5.6 mg/l (70 lbs/day), 12.5 mg/l (90 lbs/day)</td>
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<td>Town of Scott</td>
<td>0036684</td>
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<td>06/30/08</td>
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<td>12/31/09</td>
<td>30 mg/l</td>
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<td>-</td>
<td>30 mg/l</td>
<td>20 mg/l</td>
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<tr>
<td>Fonks Mobile Home Park</td>
<td>0026689</td>
<td>01/01/06</td>
<td>12/31/10</td>
<td>30 mg/l</td>
<td>20 mg/l</td>
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<td>20 mg/l</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td></td>
</tr>
<tr>
<td>Kettle Moraine Correctional Institution</td>
<td>0060721</td>
<td>07/01/03</td>
<td>06/30/08</td>
<td>-</td>
<td>-</td>
<td>50 mg/l</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td></td>
</tr>
<tr>
<td>Long Lake Recreation Area</td>
<td>0060356</td>
<td>04/01/06</td>
<td>03/31/11</td>
<td>-</td>
<td>-</td>
<td>50 mg/l</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,000,000 MPN/g TSS</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

a Carbonaceous biochemical oxygen demand.
bWeekly limitations on total ammonia nitrogen in mg/l at the MMSD South Shore Treatment Plant are as follows:

<table>
<thead>
<tr>
<th>Month</th>
<th>pH 7.0</th>
<th>pH 7.1</th>
<th>pH 7.2</th>
<th>pH 7.3</th>
<th>pH 7.4</th>
<th>pH 7.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>16.7</td>
<td>16.7</td>
<td>13.1</td>
<td>13.1</td>
<td>13.1</td>
<td>13.1</td>
</tr>
<tr>
<td>July</td>
<td>11.3</td>
<td>8.6</td>
<td>8.8</td>
<td>8.8</td>
<td>6.8</td>
<td>6.8</td>
</tr>
<tr>
<td>August</td>
<td>11.1</td>
<td>8.7</td>
<td>8.7</td>
<td>6.7</td>
<td>6.7</td>
<td>6.7</td>
</tr>
<tr>
<td>September</td>
<td>12.7</td>
<td>12.7</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

cMay-October, November-April.
dMay-September only.
eApril-May.
fJune-September.
gOctober.
hNovember-March.
iMay-October.
jNovember-April.
kEffective through December 2009.
lEffective January 1, 2010.
Table 68 Footnotes (continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Preventative Action Limit</th>
<th>Enforcement Standard</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen, Nitrite + Nitrate (as N) Dissolved</td>
<td>mg/l</td>
<td>3.4</td>
<td>10</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Chloride Dissolved</td>
<td>mg/l</td>
<td>125.0</td>
<td>250</td>
<td>Quarterly</td>
</tr>
<tr>
<td>pH (Lab and Field)</td>
<td>Standard Units (su)</td>
<td>8.2</td>
<td>N/A</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Nitrogen, Ammonia Dissolved</td>
<td>mg/l</td>
<td>2.1</td>
<td>N/A</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Nitrogen, Organic Dissolved</td>
<td>mg/l</td>
<td>2.2</td>
<td>N/A</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Solids, Total Dissolved</td>
<td>mg/l</td>
<td>568.0</td>
<td>N/A</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>

Monitor only during operating season, May 1st-October 31st.

Source: Wisconsin Department of Natural Resources and SEWRPC.
A quarterly report must be submitted detailing all discharges that took place that quarter. Technology-based requirements for CSOs are also listed in Section 3.2.6 of the Permit; these requirements are identical to the Nine Minimum Controls set out in the USEPA National CSO Control Policy.

MMSD is required to provide a quarterly bypass report for the SSOs listed in the WPDES permit. Quarterly reports must be filed within 45 days from the calendar quarter end and must describe the bypass events for that quarter, including all sanitary sewer overflows and bypasses, and the listed SSO discharge points. All discharges reported for each quarter must be accompanied by a description including the following information:

- Approximate duration
- Estimated volume per incident
- The reason for the discharge

**WPDES Permit Requirements Regarding Sanitary Sewer Overflows**

The Wisconsin Pollutant Discharge Elimination System (WPDES) permit for MMSD sewerage system and wastewater treatment facilities specifically states that, “Bypasses and overflows of wastewater from the permittee’s sanitary sewerage system are prohibited and are not authorized by this permit, the Department may initiate legal action regarding such occurrences as authorized by § 283.89, Wis. Stats.”

The WPDES permit for each municipal wastewater treatment facility in the study area, including the MMSD system, has an “Unscheduled Bypassing” subsection that lists the following conditions regarding enforcement actions related to sanitary sewer overflows:

“Any unscheduled bypass or overflow of wastewater at the treatment works or from the collection system is prohibited, and the Department may take enforcement action against a permittee for such occurrences under § 283.89, Wis. Stats., unless:

- The bypass was unavoidable to prevent loss of life, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- The permittee notified the Department as required in this Section (of the discharge permit).

**WPDES Stormwater Discharge Permits**

The communities in the study area that currently have obtained, or have applied for, a stormwater discharge permit under Chapter NR 216 are listed in Table 19 in Chapter II of this report. According to Section NR 216.02(3), all counties within the study area, except for Dodge County, and the cities, villages, and towns listed in Table 69 have been identified as being in urbanized areas that will be required to obtain stormwater discharge permits unless they receive exemptions.

**WPDES Permits for Concentrated Animal Feeding Operations**

There are six concentrated animal feeding operations (CAFO) in the regional water quality management plan update study area, five in the Milwaukee River watershed and one in the Root River watershed. The CAFOs in the Milwaukee River watershed include the Abel Dairy in the Town of Eden, which rears about 1,700 cattle and calves; the Clover Hill Dairy in the Town of Ashford, which rears about 850 cattle and calves; the Opitz Dairy Farm in the Town of Saukville, which rears about 1,800 cattle and calves; the R&J Partnership in the Town of...
### Table 69

**COUNTIES AND COMMUNITIES IN THE REGIONAL WATER QUALITY MANAGEMENT PLAN UPDATE**

**STUDY AREA WITH MUNICIPAL SEPARATE STORM SEWER SYSTEMS IN URBANIZED AREAS: 2004**

<table>
<thead>
<tr>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fond du Lac</td>
</tr>
<tr>
<td>Kenosha</td>
</tr>
<tr>
<td>Milwaukee</td>
</tr>
<tr>
<td>Ozaukee</td>
</tr>
<tr>
<td>Racine</td>
</tr>
<tr>
<td>Sheboygan</td>
</tr>
<tr>
<td>Washington</td>
</tr>
<tr>
<td>Waukesha</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brookfield</td>
</tr>
<tr>
<td>Cedarburg</td>
</tr>
<tr>
<td>Cudahy</td>
</tr>
<tr>
<td>Franklin</td>
</tr>
<tr>
<td>Glendale</td>
</tr>
<tr>
<td>Greenfield</td>
</tr>
<tr>
<td>Mequon</td>
</tr>
<tr>
<td>Milwaukee</td>
</tr>
<tr>
<td>Muskego</td>
</tr>
<tr>
<td>New Berlin</td>
</tr>
<tr>
<td>Oak Creek</td>
</tr>
<tr>
<td>Port Washington</td>
</tr>
<tr>
<td>Racine</td>
</tr>
<tr>
<td>South Milwaukee</td>
</tr>
<tr>
<td>St. Francis</td>
</tr>
<tr>
<td>Wauwatosa</td>
</tr>
<tr>
<td>West Allis</td>
</tr>
<tr>
<td>West Bend</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
</tr>
<tr>
<td>Brown Deer</td>
</tr>
<tr>
<td>Butler</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Villages (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caledonia</td>
</tr>
<tr>
<td>Elm Grove</td>
</tr>
<tr>
<td>Fox Point</td>
</tr>
<tr>
<td>Germantown</td>
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<tr>
<td>Grafton</td>
</tr>
<tr>
<td>Greendale</td>
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<tr>
<td>Hales Corners</td>
</tr>
<tr>
<td>Menomonee Falls</td>
</tr>
<tr>
<td>Mt. Pleasant</td>
</tr>
<tr>
<td>North Bay</td>
</tr>
<tr>
<td>River Hills</td>
</tr>
<tr>
<td>Saukville</td>
</tr>
<tr>
<td>Shorewood</td>
</tr>
<tr>
<td>Sturtevant</td>
</tr>
<tr>
<td>Thiensville</td>
</tr>
<tr>
<td>West Milwaukee</td>
</tr>
<tr>
<td>Whitefish Bay</td>
</tr>
<tr>
<td>Wind Point</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Towns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brookfield</td>
</tr>
<tr>
<td>Cedarburg</td>
</tr>
<tr>
<td>Empire</td>
</tr>
<tr>
<td>Germantown</td>
</tr>
<tr>
<td>Grafton</td>
</tr>
<tr>
<td>Holland</td>
</tr>
<tr>
<td>Lisbon</td>
</tr>
<tr>
<td>Richfield</td>
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<tr>
<td>Saukville</td>
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<tr>
<td>Scott</td>
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<table>
<thead>
<tr>
<th>Special Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast Wisconsin Professional Baseball Park District</td>
</tr>
</tbody>
</table>

---

*These counties and communities are listed in Section NR 216.02(3) and they have obtained, or will be required to obtain, WPDES permits, unless they receive exemptions.*

**Source:** Wisconsin Department of Natural Resources and SEWRPC.

Kewaskum, which rears up to 400,000 chickens; and Vorpahl Farms in the Town of Sherman, which rears about 2,050 cattle and calves. The CAFO in the Root river watershed is Maple Leaf Farms in the Town of Yorkville, which rears about 500,000 ducks.

### Local Water-Related Regulatory Matters

Authority to enact construction site erosion control and stormwater management ordinances are granted to counties, cities, villages, and towns under Sections 59.693, 62.234, 61.354, and 60.627, respectively, of the *Wisconsin Statutes*.\(^65\) Selected information on construction erosion control and stormwater management ordinances in the study area are listed in Chapters V through IX of SEWRPC Technical Report No. 39.

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\(^65\) Sections 101.65 and 101.653 of the Wisconsin Statutes establish the authority for county, city, village, or town regulation of construction site erosion for single- and two-family residential construction. Such programs are generally administered by local building inspectors, with review of each local program by the Wisconsin Department of Commerce.