

**SOUTHEASTERN WISCONSIN
FOX RIVER COMMISSION
WATER RESOURCES
IMPLEMENTATION PLAN**

MARCH 1998

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**SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION
WATER RESOURCES IMPLEMENTATION PLAN**

REPRESENTED UNITS OF GOVERNMENTS AND AGENCIES

Village of Big Bend
Town of Mukwonago
Village of Mukwonago
Racine County
Town Vernon
Town of Waterford
Village of Waterford
Town of Waukesha
City of Waukesha
Waukesha County
Southeastern Wisconsin Regional Planning Commission
Wisconsin Department of Natural Resources

March 1998

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SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION WATER RESOURCES IMPLEMENTATION PLAN

INTRODUCTION AND BACKGROUND

The Southeastern Wisconsin Fox River Commission was created in 1997 by Wisconsin Act 27 (1997-1999 Budget Bill) in response to citizen and community concerns over water resources problems in the Fox River system. Currently, there are severe restrictions in navigation, water use conflicts, water quality problems, and flooding and drainage problems along the Fox River mainstem and its impoundments. These problems have been a concern of the communities and residents within the Middle and Upper Fox River watershed for a number of years. Public perception and documentation has indicated these problems have been increasing over the past 25 years. The identified problems have been highlighted by testimony of citizens at the initial meetings of the Southeastern Wisconsin Fox River Commission and public meetings held by the local communities in 1994 through 1997.

The legislation creating the Southeastern Wisconsin Fox River Commission is attached hereto as Appendix A. The following are the major provisions of the legislation:

The membership of the Board of Commissioners of the Commission shall include:

- Village presidents of Big Bend, Mukwonago, and Waterford or their designees
- Town chairpersons of Waterford, Vernon, Waukesha, and Mukwonago or designee
- Mayor of the City of Waukesha or designee
- Two residents each of the Towns of Waterford and Vernon (appointed by Town Board)
- One resident of the Village of Big Bend (appointed by Village Board)
- Racine and Waukesha County Executives or designee
- One SEWRPC representative (nonvoting—advisory member)
- One DNR representative (nonvoting—advisory member)

The legislation provided that the terms of elected officials run concurrently with their terms in office and that the terms of residents be two years.

The duties of the Board of Commissioners as set forth in the enabling legislation shall include:

- Initiate and coordinate surveys and research projects to gather data relating to the surface waters and groundwaters of the Illinois Fox River basin that are located in a river municipality,
- Maintain a liaison with Federal, State, and local agencies and other organizations involved in protecting, rehabilitating, and managing water resources,
- Develop a public informational and educational program on issues related to the surface waters and groundwaters of the Illinois Fox River basin that are located in a river municipality, and

- Utilize the Wisconsin Conservation Corps and volunteers to the greatest extent practicable for appropriate projects.

The Board of Commissioners Commission may also include:

- Develop and implement plans or projects to:
 - Improve water quality and the scenic, economic and environmental value of the surface waters and groundwaters of the Illinois Fox River basin that are located in a river municipality,
 - Protect or enhance the recreational use of the navigable waters of the Illinois Fox River basin, and
 - Coordinate and integrate county programs or projects for the Illinois Fox River basin surface and groundwater of the county.
- Develop and propose programs or projects to make improvements to the navigable waters of the Illinois Fox River basin located in a river municipality.
- Create advisory committees as it considers necessary.
- Promulgate rules necessary to implement the duties and powers granted to the Board of Commissioners.

BACKGROUND

The water resources problems of the Fox River watershed have been documented and studied dating back to the comprehensive plan for the Fox River watershed¹ in 1974. Planning programs have since been carried out which have built upon and refined the earlier studies.² In addition, selected management measures have been carried out, such as a shoreline erosion control project for a portion of the Waterford impoundment carried out by the Town of Waterford and the affected residents; and construction erosion control ordinance development and enforcement, streambank erosion control projects, and other nonpoint source control projects carried out under the Upper Fox River nonpoint sources pollution abatement plan implementation. Most recently, a water level control plan was prepared for the portion of the Fox River between IH 43 in the Town of Vernon and the dam located in the Village of Waterford.³

Based upon review of these previous planning programs and the testimony of citizens and local officials, the water resource problems on the Fox River of most concern are:

- Navigation impairments in the river system and the impoundments due to limited depth and accumulated sediments and to obstructions caused by fallen trees and other debris.

¹SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed, Volume One, Inventory Findings and Forecasts, April 1969, and Volume Two, Alternative Plans and Recommended Plan, February 1970; and SEWRPC Community Assistance Planning Report No. 5, Drainage and Water Level Control Plan for the Waterford-Rochester-Wind Lake Area of the Lower Fox River Watershed, May 1975.

²SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings, September 1978, Volume Two, Alternative Plans, February 1979, Volume Three, Recommended Plan, June 1979; and Wisconsin Department of Natural Resources, A Nonpoint Source Pollution Control Plan for the Upper Fox River Priority Watershed Project, November 1993.

³SEWRPC Memorandum Report No. 102, Water Level Control Plan for the Waterford-Vernon Area of the Middle Fox River Watershed, Racine and Waukesha Counties, Wisconsin, March 1995.

- Flooding and drainage problems on agricultural and selected urban lands during moderately high water levels.
- Aesthetic and potential water quality problems along the River due to accumulating sediments.
- Recreational use problems due to limited depth water levels and to increasing competing recreational uses of the river system.

IMPLEMENTATION PLANNING AREA

As shown on Map 1, the planning area consists of the tributary drainage area to the 36.5-mile-long reach of the Fox River between the Village of Waterford dam in Racine County and the northern limits of the City of Waukesha north of Moreland Boulevard. The tributary drainage area for the study reach ranges from about 119 square miles at the upper end of the study area to about 312 square miles at IH 43 and to about 364 square miles at the Waterford dam.

During the March 16, 1998, public hearing on the Southeastern Wisconsin Fox River Commission Implementation Plan, recommendations were made by two participants that consideration be given to expanding the planning area. More specifically, it was recommended that the area be expanded to include the downstream reaches of the Fox River in the Village and Town of Rochester and to include the Towns of Genesee and Pewaukee, including the Pebble Creek subwatershed.

In considering these recommendations, the Board of Commissioners noted the specific planning area designation in the enabling legislation. However, it was agreed that this issue would be considered further as work elements are undertaken. As the need and desirability to consider other areas becomes evident, consideration will be given to requesting a change in the planning area or to cooperatively developing and coordinating programs with appropriate municipalities outside the planning area.

OVERALL OBJECTIVES AND GOALS

The focus of this plan is on the implementation of action measures which will positively impact the river system, recreational uses, and environmental conditions. The technical analyses and planning programs which are documented in the previous section establish a framework for plan implementation measures. Thus, significant additional new planning activities are not initially envisioned as being needed. Rather, the Commission proposes to pursue the implementation of water resources management measures, as well as carry out the preparation of surveys, coordination with other agencies and organizations, and public information activities as envisioned in the enabling legislation.

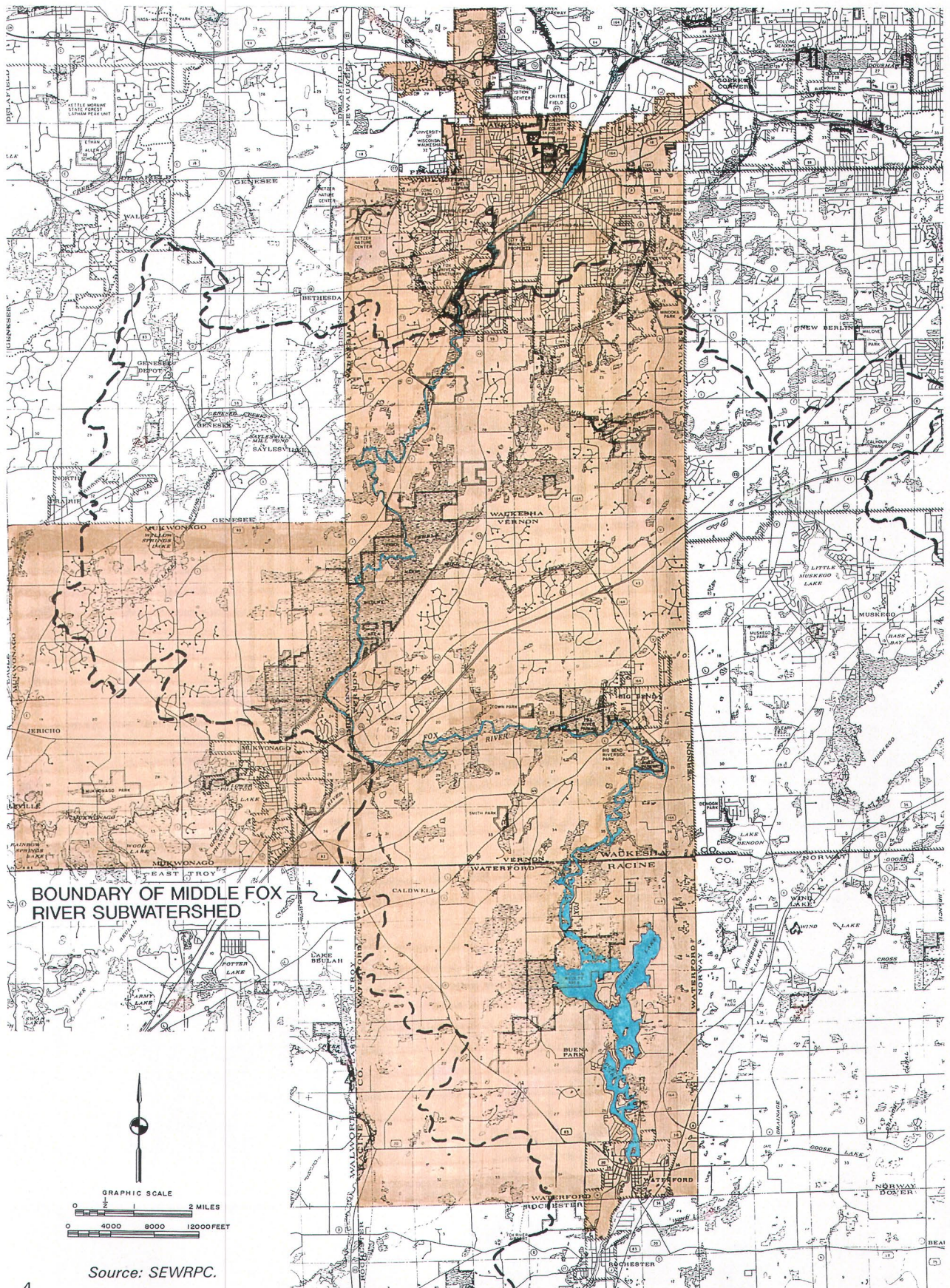
The specific recommendations in this *Implementation Plan* express the Commission's general strategy for improving water resources of the Fox River. The Commission's implementation plan is based on three strategic concepts:

1. The water resources problems of the Fox River developed over many decades and the problems cannot be solved in a few months or years. Large biological systems change very slowly, so the River and its impoundments will not improve overnight. As a result, the Commission's implementation strategy must focus on long-term improvement. Long-term improvement requires the abatement of sedimentation from nonpoint source pollution, the type of pollution that comes from the actions of many thousands of individuals in both urban and rural areas. Since the actions of many thousands of people must change in order to improve water resources in the long-term, education and broad public support are absolutely essential.

Given the foregoing, a critical part of the Commission's strategy is information, education, and programs to involve as many people as possible in grassroots efforts to improve water resources.

Map 1

SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION PLANNING AREA



2. Even though the solutions to water resources problems are long-term, there is a need to improve our water resources in the short-term for the immediate enjoyment of people. Therefore, the Commission supports activities which can have a direct positive impact, such as regulation of boating activities, streambank stabilization, removal of fallen trees and other obstructions, and navigational channel dredging. These activities enable people to enjoy the water resources, even though these activities will not, in and of themselves, solve the long-term water resources problems.
3. While this plan addresses technical and regulatory recommendations to improve water resources, it is important to view the watershed as an overall ecosystem. This means pursuing resource management and protection, recognizing that land and natural resources perform critical environmental and pollution prevention functions, such as groundwater recharge and discharge, water quality improvement, erosion control, floodwater storage, wildlife habitat, and scenic beauty. The primary technical and regulatory aspects of this plan complement other regional and county programs to manage and protect natural resources.

Certain implementation actions set forth in this plan are regulatory in nature and provide long-term benefits. Other recommendations will bring short-term improvements. Thus, the *Implementation Plan* strikes a balance between long-term and short-term programs, between regulation, physical projects, and public information and education.

The goals of the Commission are as follows:

- Protect and rehabilitate the water quality of the surface waters and the groundwater of the Illinois Fox River basin that are located in a river municipality;
- Protect and enhance the recreational use of the navigable waters of the Illinois Fox River basin that are located in a river municipality; and
- Increase water and boating safety on the navigable waters of the Illinois Fox River basin that are located in a river municipality.

PLAN STATUTORY REQUIREMENTS

In addition to providing for the Commission's composition, duties, powers, and organization, the 1997 Wisconsin Act 27 directed the Commission to develop an *Implementation Plan* by April 1, 1998, and to annually prepare a budget. The enabling legislation directs the Commission to include in the *Implementation Plan* all of the following plan elements:

- Appropriation and designation, including method of payment for, an engineering study to determine areas for selective dredging, including selective shallow areas of the impoundment area in Waterford;
- Clearing channel of fallen trees and similar debris;
- Development of a water use plan;
- Operating the Waterford dam with a winter drawdown level;
- Streambank erosion protection;
- Possible automation of the Waterford dam with upstream sensors;
- Maintenance, protection, and improvement of shorelines, banks, and beds of navigable waters;
- Access to shoreline recreational areas and facilities; and

- Water safety, navigational, and boating regulations.

The Board of Commissioners is to submit the *Implementation Plan* to the Department of Natural Resources, the designated planning agencies that cover each county, the chairperson of the county boards, and the county executives. Within three months following submittal of the implementation plan, the Department and the designated planning agencies that cover each county shall evaluate the implementation plan to determine whether it is consistent with the criteria for water quality planning and whether the plan is adequate to meet the goals of the Commission.

In developing the *Implementation Plan*, the Board of Commissioners held four public meetings which included solicitation of public input. Public informational meetings were also held in conjunction with the aforementioned 1995 water level control plan which includes most of the same basic plan elements. In addition, a public informational meeting was held on March 16, 1998, to solicit information from the public on the draft implementation plan. A summary of the public comments received and reactions to those comments is included in Appendix B.

IMPLEMENTATION PLAN ELEMENTS

INTRODUCTION

Under 1997 Wisconsin Act 27, the Southeastern Wisconsin Fox River Commission has been given the authority to carry out a number of programs and measures designed to improve water resource conditions in the Fox River system within the identified planning area described in the previous section. In addition, a specific set of nine management measures and activities or work elements are directed to be included in the *Implementation Plan* to be developed by the Commission. The plan elements specifically cited include: 1) appropriation and designation of an engineering study, including method of payment, to determine areas for selective dredging of shallow areas, including dredging of selected shallow areas of the impoundment area in Waterford; 2) clearing channel of fallen trees and similar debris; 3) operating the dam with a winter drawdown level; 4) streambank erosion protection; 5) possible automation of the Waterford dam with upstream sensors; 6) access to shoreline recreational areas and facilities; 7) water safety, navigational, and boating regulations; 8) development of a water use plan; and 9) maintenance, protection, and improvement of shorelines, banks, and beds of navigable waters. These measures and activities, as well as other selected recommended miscellaneous measures, are described in more detail in the subsequent paragraphs.

It should be recognized that the implementation plan is meant to be an evolving document to be used to guide the Commission activities. As such, the plan is intended to be formally amended over time to reflect project implementation and to incorporate new management activities as determined to be appropriate within the context of the Commission's enabling legislation authority and its intended purpose. Thus, this *Implementation Plan* is intended to form the initial framework for the Commission's activities, but is expected to be refined over time in order to be timely, up-to-date, and effective in achieving the Commission's statutory objectives.

Certain elements of the *Implementation Plan* may require permits from the Wisconsin Department of Natural Resources, the U.S. Army Corps of Engineers, and local zoning authorities. Permit application may require additional detailed plans outlining the scope of proposed activities, the preparation of an environmental analysis, and public notice/hearings. Early planning and submission of permit applications is crucial to securing approvals in a reasonable time frame.

1. SELECTED DREDGING

River System

Overview

Boating activity on the Fox River is severely restricted due to sedimentation and accumulation of fallen trees and debris. As noted earlier, reports from landowners, other citizens, and local officials indicate that the degree of sedimentation in the Fox River mainstem channel has increased significantly over the past 25 years.

A detailed description of the sedimentation problems in the reach of the Fox River from the Waterford dam to IH 43 is presented in the aforereferenced 1995 water level control plan.⁴ It is expected that similar conditions may exist in selected reaches of the upstream reaches of the River. That report also included data on surveyed river channel cross-sections and on sediment quality. The 1995 report also evaluated three alternative levels of dredging in the Fox River mainstem. These alternatives included a major dredging option of about 11.6 miles of channel, including removal of about 350,000 cubic yards of material and two lesser dredging alternatives providing for selected spot dredging of from 6,400 cubic yard to 39,000 cubic yards. The alternative plans were evaluated in terms of cost, environmental impacts, and potential implementability. The limited dredging alternative providing for selected removal of the most significant sediment deposits was recommended.

⁴SEWRPC Memorandum Report No. 102, Water Level Control Plan for the Waterford-Vernon Area of the Middle Fox River Watershed, Racine and Waukesha Counties, Wisconsin, March 1995.

Recommendation

It is recommended that navigability along the River be established through the removal of selected accumulations of sediment. In addition, it is recommended that trees and other debris be removed, as discussed in the subsequent section. The scope of the dredging would be similar to that envisioned in the 1995 water level control plan study for the reach between the Waterford impoundment and IH 43, as shown on Map 2. This would result in the removal of less than 10,000 cubic yards of sediment. These sediment accumulations currently restrict the passage of small motor boats at times through this reach. Their removal, however, would not result in the full recreational use of this reach for high-speed boating activity. This project is intended to provide for the removal of selected sediment deposits that are the most severe impediment to navigation. Once the navigability of the channel is established, it is recommended that a routine schedule of maintenance be carried out. Because of the character of the river system, including channel slopes, it is expected that there may be limited additional areas where sediment deposits which impede navigation will exist in the other reaches of the Fox River mainstem within the study area upstream of IH 43.

It should be noted that activities calling for the removal of material from the bed of a navigable waterway such as the Fox River, will require that a permit be obtained under Chapter 30 of the *Wisconsin Statutes* and potentially from the U.S. Army Corps of Engineers. The permit application will require identification of a dredge spoil site and that sufficient detail be provided so that an assessment can be made of the potential environmental impacts of the project. Selected dredging projects in excess of 3,000 cubic yards of material requires the preparation of an environmental analysis. The Department has provided guidance on the environmental analyses required in a July 3, 1996, memorandum attached hereto as Appendix C. Sediment Depth data of the existing and proposed channel would have to be developed at the sites where sediment is proposed to be removed. The Department of Natural Resources may require that additional testing of sediments be made as part of the review process.

As an initial implementation step for this project, it will be necessary to secure the services of a consulting firm to prepare a detailed project design (or engineering study) which will more specifically locate and quantify the sediment deposits to be removed and to develop the information needed to support the permits which are required. It is envisioned that the engineering work involved will include sediment deposit location and quantification, sediment disposal site identification, and development of environmental assessment data and other permitting activities. This work would build upon the previous studies and would expand the area of consideration in the 1997 water level control plan. An inspection of the Fox River mainstem upstream of IH 43 to the northern end of the study area would be included to determine if there are sediment deposits and navigation restrictions which should be removed in a manner similar to those south of IH 43. The consultant and the Commission will also work to determine which portions of the work could be potentially be carried out by organizations, such as the Wisconsin Conservation Corps, or by Americorp, volunteers, or local governmental forces. Efforts will be made to maximize the work to be performed by the Wisconsin Conservation Corps and similar organizations. In addition, more detailed cost estimates will be made and project implementation documents will be prepared. The method of payment for the technical and administrative work needed will be developed as part of the Commission's initial and subsequent budget process. The source of funding could include use of: a portion of any direct appropriations to the Commission, local unit of government contributions, or grant-in-aid cost-sharing appropriations.

The preliminary estimate of the total initial cost of carrying out this recommended plan element is about \$150,000, assuming an increase of about 25 percent in the amount of sediment to be removed as identified in the 1995 water level control plan in order to account for upstream reaches. The estimated annual operation and maintenance cost would be about \$3,000.

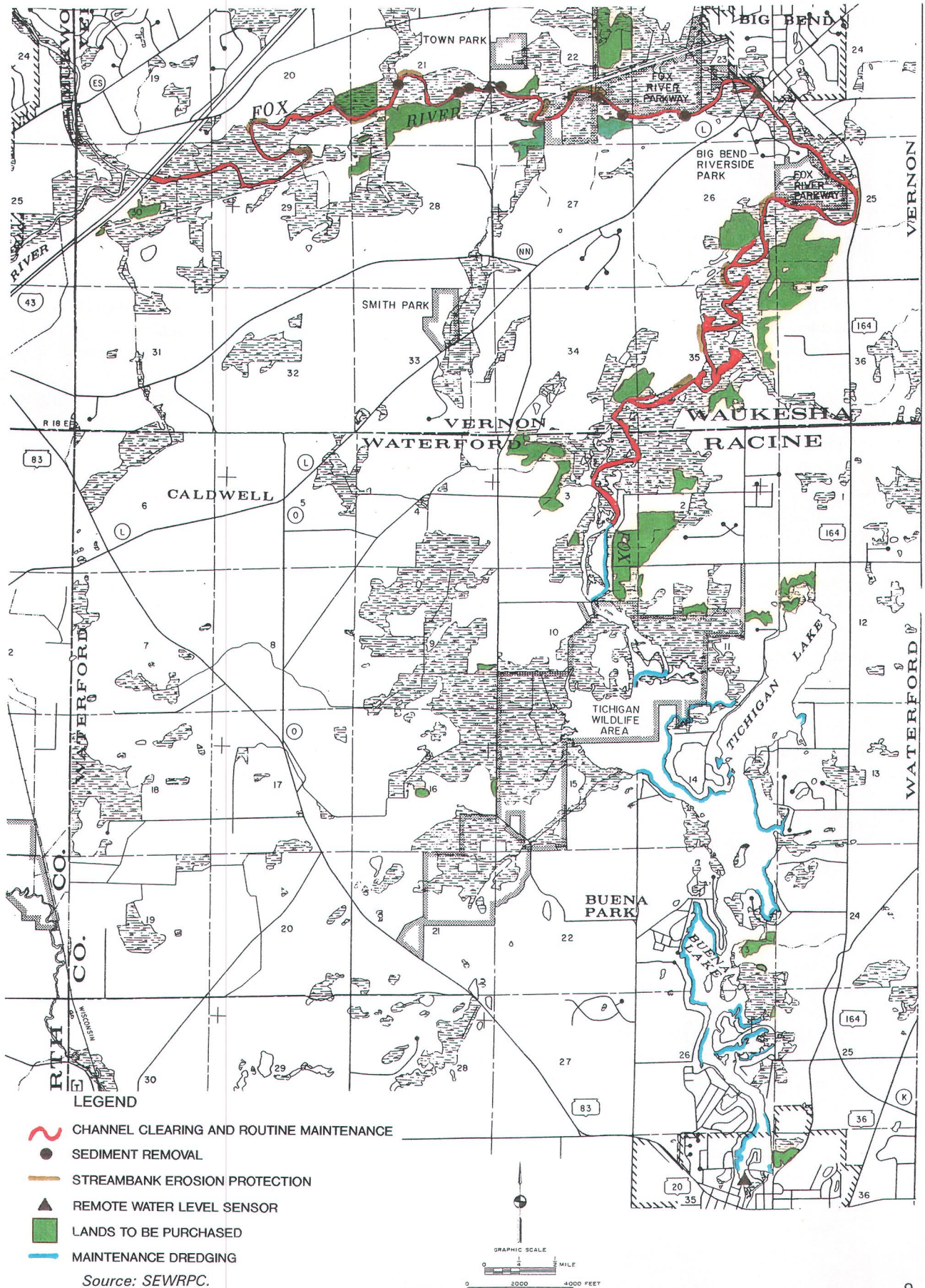
Impoundment Area

Overview

Water level problems due, in part, to sedimentation, currently severely limit shoreline access and boating activities in the Waterford impoundment. The limited depths available also severely limit the flexibility in the operation of the Waterford dam projects. During 1994, 12 property owners on the southeast side of Tichigan Lake carried out a dredging project involving about 15,000 cubic yards of sediment material removal. In addition to the shoreline areas, there is a significant observed problem with navigation in the upper reaches of the impoundment as a result of the siltation which has occurred. The problem is aggravated during low water periods.

Map 2

RECOMMENDED WATER LEVEL CONTROL PLAN FOR THE
VERNON AND WATERFORD AREA OF THE MIDDLE FOX RIVER



Recommendations

It is recommended that dredging be undertaken along selected shoreline areas and in shallow bays within the Waterford impoundment and Tichigan Lake, and in the Fox River immediately upstream from the impoundment. Dredging within the impoundment and Tichigan Lake would be mainly along areas of existing development, as shown on Map 2. A total of about 60 acres would be dredged by up to 1.0 foot, with a total of about 60,000 cubic yards of material being removed. This dredging recommendation is intended to minimize existing navigational problems in these shallow areas as well as to allow for more flexibility in the operational limits of the water level in the impoundment. As was noted previously under Item 1, this proposed dredging will require that a permit be obtained under Chapter 30 of the *Wisconsin Statutes*. Sufficient detail regarding the dredging will be needed in the permit application so that an assessment can be made of the potential environmental impacts of the project. Cross-sections of the existing and proposed channel conditions and information on the extent of the impoundment dredging will be required. The Department of Natural Resources may require that additional testing of sediments be made as part of the review process.

As an initial implementation step for this project, it will be necessary to secure the services of a consultant to prepare a detailed project design (or engineering study) which will more specifically locate and quantify the sediment to be removed and to develop the information needed to support the permits which are required. It is envisioned that the engineering work involved will include sediment removal area locations and quantification, sediment disposal site identification, and development of environmental assessment data and other permitting activities. This work would build upon the previous studies and would expand the area of consideration in the 1997 water level control plan. The consultant and the Commission will also work to determine which portions of the work could be potentially be carried out by organizations, such as the Wisconsin Conservation Corps, or by Americorp, volunteers, or local governmental forces. Efforts will be made to maximize the work to be performed by the Wisconsin Conservation Corps and similar organizations. In addition, more detailed cost estimates will be made and project implementation documents will be prepared. The method of payment for the technical and administrative work needed will be developed as part of the Commission's initial and subsequent budget process. The source of funding could include use of: a portion of any direct appropriations to the Commission, local unit of government contributions, or grant-in-aid cost-sharing appropriations.

A preliminary estimate of the total initial cost of the recommended dredging in the impoundment is \$700,000.

During the March 16, 1998, public hearing, testimony was provided by one participant of the importance of considering the need to remove accumulated sediments from the Waterford impoundment northern pool area downstream of the River mouth. It was suggested that sediment from this area would migrate to fill in other areas which may be dredged. The suggestion was made to consider enhancing the wildlife areas by potentially constructing islands with dredged materials in selected areas. Further consideration of this recommendation will be given in the subsequent, more-detailed project design phase.

2. CHANNEL CLEARING OF FALLEN TREES AND SIMILAR DEBRIS

Overview

As discussed in the previous section, boating activities on the Fox River in some reaches are severely restricted due to an accumulation of trees and other debris, as well as sediment, within the channel. Recommendations were made in the aforereferenced 1995 water level control plan to remove those trees and similar debris directly impairing navigation. The Wisconsin Department of Natural Resources provided guidance in this matter in a July 3, 1996, memorandum, included herein as Appendix C. During 1996 and 1997, the Town of Vernon worked with the Department to further clarify the regulatory considerations regarding this management activity. Subsequently, some of the fallen trees were removed.

Recommendations

In conjunction with the sediment removal project described above, it is recommended that the navigability of the Fox River mainstem be reestablished by the removal of remaining fallen trees and other debris which significantly impair

navigation. Accumulated sediment associated with these trees and debris would also be removed if deemed important to navigational considerations.

It is envisioned that a subcommittee of the Commission will be designated to direct implementation of this plan element. The subcommittee would include at least one member from each of the municipalities which include significant portions of riverine area and a representative of both Racine and Waukesha Counties. It would also be desirable to involve a staff member of the Wisconsin Department of Natural Resources in the subcommittee's work to assist in evaluating the impacts on aquatic and riverine area habitat, as well as navigation. In this regard, it should be noted that it is not expected that all fallen trees and limbs would be removed and that each situation should be reviewed to determine its navigational channel impacts, as well as aquatic and terrestrial habitat functions. In this regard, guidance regarding the removal of fallen trees and debris is available in the USDA report R8-TP-16, *Stream Habitat Improvement Handbook*, dated June 1992; and American Fisheries Society Report, *Stream Obstruction Removal Guidelines*, dated 1983.

The subcommittee would identify the location of the fallen trees and work with property owners and the municipality staffs to determine the most efficient removal process. Consideration should be given to potentially having portions of the work carried out by organizations, such as the Wisconsin Conservation Corps, or by Americorp, volunteers, or local governmental forces. In some cases, the work may need to be contracted for with a private firm. The cost of this management activity will vary depending upon the availability and willingness of landowners and the potential level of assistance available from organizations, such as the Wisconsin Conservation Corps.

3. OPERATING THE DAM WITH A WINTER DRAWDOWN LEVEL

Overview

Currently, the water level in the Waterford impoundment is maintained at about elevation 773.4 feet above National Geodetic Vertical Datum year round. The operation is manually controlled. Typically, observations and adjustments are made daily or, in some cases, twice daily. As previously noted, flooding and drainage problems along the Fox River upstream of the Waterford impoundment are a significant concern. These problems most often occur in the spring during planting periods, but also occur during other times of the year. Options were evaluated in the aforereferenced 1995 water level control plan to provide for a drawdown during winter and early spring. This management measure was intended to minimally reduce upstream spring flooding, as well as reduce ice damage in the impoundment during the winter. An evaluation of alternative drawdown measures was made considering recreational use and environmental considerations.

Recommendations

It is recommended that the Commission further evaluate and consider a one- or two-year trial operation of the Waterford dam providing for a limited winter drawdown. It should be noted that this plan element is in addition to measures intended to improve the Waterford dam operation on a year-round basis, as described under Plan Element 5, "Waterford Dam Operation Enhancement," as set forth below. The drawdown would be coordinated with a water level monitoring program included in Item 6 below. Details of the drawdown would be refined as part of the operational procedure design. However, conceptually, the water level in the Waterford impoundment would be lowered by about 0.8 foot during the winter and early spring to about the State-mandated minimum elevation of 772.6 feet NGVD. This would be accomplished by opening the control gates at the dam on about December 1st and lowering the water level to the winter level. The gates would then be manipulated throughout the winter and early spring so as to maintain the selected level as nearly as possible. The control gates would then be closed in late April so as to ensure that the water level is brought back up to the existing spillway elevation by May 1st in order for sufficient depths to be available for boating purposes. In this regard, it should be recognized that at typical low flow conditions during late April and early May, it will take about two days to bring the level of the impoundment up to elevation 773.4 NGVD. During drought conditions, if they were to occur, this time could be as much as one week and during wet weather periods, this time will be considerably shorter than two days. Thus, the timing of the spring gate closure operation should be made using judgement and consideration of weather conditions. Under this plan element, the drawdown being considered would be no lower than the currently approved low water level of 772.6 feet NGVD. In addition, the drawdown is envisioned to be limited by the winter and early spring period in order to accommodate recreational and fishery concerns. It is

recommended that, prior to implementation of this plan element, State fishery managers be consulted regarding the impact of such a drawdown on spawning activities.

Implementation of this recommendation should help to reduce ice-related damages along the shoreline of the impoundment. It should also help to reduce the time needed for the removal of early spring rain-snowmelt runoff events within the study area, thus allowing farmers an earlier opportunity to work the fields.

There would be no additional cost associated with this recommended plan element since daily monitoring and control of the gates at the Waterford dam is already being carried out by Racine County personnel.

4. STREAMBANK EROSION PROTECTION

Overview

As noted in previous sections of this report, sedimentation in the Fox River mainstem and its impoundments is a major water resources problem. A detailed description of the sedimentation problems in the reach of the Fox River from the Waterford dam to IH 43 is presented in the aforementioned 1995 water level control plan. That report estimated the need for installation of erosion control measures on about 13,000 lineal feet of streambank in the reach considered. It is expected that similar conditions may exist in selected reaches of the River upstream of IH 43.

Recommendations

It is recommended that eroded streambanks along the Fox River system be protected from erosion through the installation of suitable stabilization measures. Such measures could include regrading, establishment of vegetation, or placement of riprap or other measures, depending upon the severity of the situation and the river flow dynamics. The use of vegetated measures, including bioengineering, is preferred where such measures will resolve the identified problems.

It should be noted that activities calling for the placement of material on the banks of a navigable waterway such as the Fox River will require that a permit be obtained under Chapter 30 of the *Wisconsin Statutes*. The permit applications will require that sufficient detail be provided so that an assessment can be made of the potential environmental impacts of the project, such as loss of aquatic habitat, wetland losses, or increases in flooding. Permits may also be required under local zoning and U.S. Army Corps of Engineers regulation.

As an initial implementation step for this project, it will be necessary to secure the services of a consultant to prepare a detailed inventory of the sites to be considered, to determine the most appropriate erosion control measure, to develop environmental assessment data and other permitting activities, and to prepare more detailed cost estimates and project implementation documents. The consultant and the Commission will also work to determine which portions of the work could be potentially be carried out by organizations, such as the Wisconsin Conservation Corps, or by Americorp, volunteers, or local governmental forces. Efforts will be made to maximize the work to be performed by the Wisconsin Conservation Corps and similar organizations.

The preliminary estimate of the total capital cost of carrying out this recommended plan element in the reach of the River between IH 43 and the Waterford impoundment is about \$200,000. Based upon the total length of stream within the current planning area, an additional \$200,000 may be required to entirely stabilize the streambanks in the entire planning area. The estimated annual operation and maintenance cost would be about \$5,000.

As discussed in the subsequent section of the plan, streambank erosion control projects would be eligible for partial grant funding under the Wisconsin Nonpoint Source Priority Watershed Planning Program. The upper portion of the planning area is included in the area covered by the Upper Fox River Priority Watershed Plan Implementation Program. The project implementation period for that program is scheduled to extend through the year 2001. It is recommended that the Commission support and promote the inclusion of the Middle Fox River subwatershed in the Wisconsin Nonpoint Source Priority Watershed Pollution Abatement Program in order to make State cost-sharing funds and related programs available for nonpoint source pollution control measures, such as the streambank protection measures included in this plan.

5. WATERFORD DAM OPERATION ENHANCEMENT

Overview

The aforementioned 1995 water level control plan includes a discussion for the current and historic operational procedures for controlling the gates at the Waterford dam. Alternative modes of operation were developed and evaluated in order to have the dam operation be more effective in responding to flooding and drainage problems upstream of the impoundment while also accommodating the recreational uses in the impoundment.

Recommended Plan

It is recommended that initially the manual control operation be continued, but in an improved mode of operation. A system is proposed to be established which would provide for the dam operators to be kept apprised of upstream conditions and that the upstream conditions would be factored into the control strategy. This could be accomplished by a system of river watchers who would be responsible for notifying the operators when water levels along the upper reaches approach flood stage. These river watchers could consist of either volunteers who live along the River at specified control locations, or Town and Village personnel. Staff gages would be installed at selected locations, such as in the impoundment and along the upstream sides of the bridges located at CTH L in the Village of Big Bend and at Center Drive in the Town of Vernon. When the water level of the river reaches a predetermined elevation, as indicated on the staff gage, the person responsible for monitoring the level would notify the dam operator. The Towns of Vernon and Waterford have worked with the Wisconsin Department of Natural Resources to initiate the gage installation needed for this plan element.

The initial cost to implement the improved manual operational system is about \$2,000 for water level gage installation and control surveys.

It is further recommended that the installation of additional instrumentation and possibly an automated gate operational system using upstream sensors be considered further after experience with the improved manual system is available and a water level record is developed. As an interim step, consideration will be given to providing for the transmission of water level data or high water level indicators back to the dam site in order to provide the operator more timely information on water levels to be considered in the operational decision making.

6. ACCESS TO SHORELINE RECREATIONAL AREAS AND FACILITIES

Overview

The implementation plan element is considered to relate to access to both the water surface and the adjacent lands. With regard to public access to the River and impoundments, the existing public boating access to the Waterford impoundment currently provides for sites with a total of 125 cars and 34 car-trailer parking places. This level of access is considered adequate by Wisconsin Department of Natural Resources standards which recommend a minimum of 29 car-trailer parking places. Existing public access sites include the Village of Waterford launch site and a Wisconsin Department of Natural Resources launch and parking area site in the vicinity of Bridge Drive in the Town of Waterford. In addition, there is an access site to the Fox River in the Village of Big Bend. Furthermore, public pier access, walking trails, and recreational facilities, including small boat rentals, are in place in the impoundment in Waukesha. Additional passive recreational access is under development downstream of the impoundment in Waukesha.

An inventory of existing public land ownership along the Fox River in the planning area is included in Appendix D. There are county park and open space plans in place by both Racine and Waukesha Counties to eventually establish a Fox River Parkway Recreational Trail to extend through the entire length of the planning area.

Recommendations

The Southeastern Wisconsin Fox River Commission intends to request that the Southeastern Wisconsin Regional Planning Commission update its current inventory of surface water access sites and public river corridor recreational lands and provide that information to the Fox River Commission for use in subsequent evaluations of the need for additional access sites. Furthermore, the Fox River Commission will support Racine and Waukesha Counties in the

current implementation of county park and open space plans which include the development over time of a Fox River parkway recreational corridor.

Over time, it is recommended that those lands identified as incurring damages on a regular basis, as shown on Map 2, be acquired as they become available on the open market. The lands purchased under this plan would become part of the Fox River Parkway recreational corridor which is recommended under the Fox River watershed plan and the Racine and Waukesha County park and open space plans. A total of 702 acres—332 acres in the Town of Vernon and 370 acres in the Town of Waterford—would be purchased under this plan element. Conservation easements acquired through various programs and stream buffers obtained through the USDA Conservation Reserve Program can be a component of the corridor land recommendations.

The total capital cost of carrying out this recommended plan element is estimated to be about \$1,400,000. No specific operation and maintenance costs have been assigned since it is assumed these costs would be borne as part of the recreational and educational uses of the lands. As an alternative to outright purchase of land, consideration could also be given to obtaining conservation easements from the property owners concerned.

Since it is the intent of this recommendation that the identified lands be purchased only upon their being placed on the market, agricultural and recreational damages associated with these lands are expected to continue in the interim. Some reduction in the level of those damages can be expected from implementation of the other recommended plan elements, however.

7. and 8. WATER SAFETY, NAVIGATIONAL, AND BOATING REGULATIONS AND DEVELOPMENT OF A WATER USE PLAN

Overview

During interviews with property owners along the River, concerns were raised that the wake caused by motorized, recreational watercraft—specifically jet skis—was causing increased streambank erosion problems and causing user conflicts. The use of these watercraft within the relatively close confines of the River, coupled with the reduced visibility created by the numerous meanders in the channel, also creates a hazard to more passive users of the River, such as canoeists and fishermen.

A summary of the current ordinances which are in place in the municipalities was made as part of this *Implementation Plan* preparation. A summary of those ordinances is included in Appendix E.

Recommendations

In order to address these concerns, it is recommended that the Commission develop a water resource recreational use plan for the Fox River upstream of the Waterford Impoundment. This plan would include consideration of establishing a navigation channel along the River. In addition, consideration should be given to modifying regulations, such as establishing speed limits, motor size limitations, and no wake areas, as well as determining locations for signage and buoys to properly communicate those policies. Establishment of these regulations would need to be incorporated into local ordinances. While it is recognized that enforcement of such policies will be difficult due to the relative seclusion of the River, it is believed that it could have some benefits in reducing the potential for increased erosion and boating accidents and in providing for a broad-based, passive water use recreation area. Maintaining lower speeds may also reduce the risk of boats getting grounded along the shallow channel.

As an initial step in the plan element work effort, more detail will be developed on the specific provisions of all of the current local ordinances and State regulations which are related to the Fox River water resource management. This will form the basis for refining the existing ordinances to for the basis for an integrated and coordinated water use plan.

The water use plan envisioned should be coordinated with, and integrated into, plans for the adjacent riparian lands and with the access recommendations, as discussed under Item 7.

The total capital cost of carrying out this recommended plan element is estimated to be about \$5,000 and would consist of placing appropriate signage and marker buoys along the channel. In addition, there would be costs associated with enforcement of the ordinance requirements and replacement and modification of the markers and signage once implemented.

9. MAINTENANCE, PROTECTION, AND IMPROVEMENT OF SHORELINES, BANKS, AND BEDS OF NAVIGABLE WATERS

Overview

This implementation element is considered to be a comprehensive and integrated management strategy which is comprised of all of the other eight work elements described in this section, including: 1) selected river system and Waterford impoundment dredging, 2) channel clearing of fallen trees and similar debris, 3) operating the dam with a winter drawdown level, 4) streambank erosion protection, 5) Waterford dam operation enhancement, 6) access to shoreline recreational areas and facilities, 7) water safety, navigational, and boating regulations, and 8) development of a water use plan. These measures and activities are described in more detail under separate headings in this section. In addition, this work element involves a surface water protection component which is related to nonpoint source pollution abatement.

Recommendations

In addition to the recommendations set forth under the other nine implementation elements set forth in this report, it is recommended that a surface water protection plan element be implemented with regard to nonpoint source pollution abatement. Such a work element is best considered in the context of the Wisconsin Nonpoint Source Pollution Abatement Program. As previously noted, the upper portion of the planning area is included in the area covered by the Upper Fox River Nonpoint Source Pollution Abatement Planning Program. It is recommended that the Middle Fox River subwatershed—which includes the remainder of the planning area—be included in the Wisconsin Nonpoint Source Priority Watershed Pollution Abatement Program in order to make State cost-sharing funds and related programs available for nonpoint source pollution control measures, such as the streambank protection measures included in this plan. The current priority ranking of watersheds for inclusion in that program places the Fox River watershed in the high category, indicating that inclusion in the program will be possible in the near future when existing planning projects are completed, or additional funds and staff become available within the Department of Natural Resources and its sister agencies.

It is also recommended that local agencies charged with responsibility for nonpoint source pollution control prepare detailed local-level stormwater management and nonpoint source pollution abatement plans which are set within the framework of the Upper and Middle Fox River nonpoint source central planning programs to identify the practices to be applied to specific lands. In this regard, it is recommended that Waukesha County and the communities noted in Appendix E as having construction erosion control, continue to enforce their construction site erosion control ordinances. It is also recommended that the remaining communities within the watershed adopt and enforce such ordinances.

10. OTHER PLAN IMPLEMENTATION ACTIVITIES

The previously described work elements all have a relationship to land use planning and land development activities. Most specifically, Plan Element 6, "Access to Shoreline Recreational Areas and Facilities," includes recommendations to support the development of the ongoing county programs for development of the Fox River Parkway recreation corridor. Furthermore, Plan Element 8, "Development of a Water Use Plan," provides for review of the local municipal and county ordinances and State regulations related to the Fox River resources management. That activity is intended to form a basis for refining those ordinances to be part of an integrated and coordinated water use plan. Similarly, there are regional, county, and local land use plans in place within the planning area. It is proposed that the Commission review the currently adopted land use plans and related zoning ordinances that are currently in place. Based upon that review, the Commission could then support those plans and zoning regulations which are consistent with the water resources management objectives and recommend changes deemed important to sound water resource management.

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IMPACTS OF THE IMPLEMENTATION PLAN

The aforereferenced 1995 water level control plan included an evaluation was made of the environmental impacts, including the regulatory floodplain consideration. No significant negative environment impacts were noted to be expected. In addition, the Wisconsin Department of Natural Resources has provided guidance on the environmental impacts in a July 3, 1996, memorandum attached hereto as Appendix C. In this regard, it is recognized that actual implementation of each plan element will, in some cases, require additional project-specific environmental analysis.

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IMPLEMENTATION STRATEGIES

It is recommended that a cooperative effort involving the Southeastern Wisconsin Fox River Commission, the Wisconsin Department of Natural Resources, and the local units of government involved provide the framework for plan implementation. The Commission is recommended to be the lead agency responsible for overall plan implementation, with selected local units of government involved in each element, as set forth in the following paragraphs. The following plan implementation strategy recommendations are provided in regard to the cooperating units of government for each of the plan elements. It should be noted that funding of the plan is intended to be provided largely through a combination of local, State, and Federal sources.

Based upon input from citizens and the local communities involved, as well as the Commission's own judgement, it is clear that substantial outside funding sources will have to be secured to implement the important and needed water resource improvement programs set forth in this implementation plan.

It is recommended that the creation of the navigation channel through the cleaning and dredging of the Fox River channel between IH 43 and the Waterford impoundment, including the removal of trees and other debris; the selected removal of accumulated sediment; and the installation of streambank stabilization measures, be carried out by the Commission in cooperation with Racine and Waukesha Counties and the Towns of Mukwonago, Vernon, Waterford, and Waukesha and the City of Waukesha. It is further recommended that the Commission and the aforementioned Towns be responsible for carrying out programs of routine channel clearing and maintenance along their respective river reaches. With regard to the streambank stabilization measures, it is recommended that the Commission work through the Wisconsin Nonpoint Source Priority Watershed Program administered through Waukesha and Racine Counties to secure partial funding under Chapter NR 120 of the *Wisconsin Administrative Code*. Because of the public use interests involved, it is anticipated that outside funding source will be available for the navigation channel cleaning and dredging.

It is recommended that the proposed dredging in the impoundment and Tichigan Lake, and in the impoundment inlet and the Fox River immediately upstream of Bridge Drive, be carried out by the Commission in conjunction with the Town of Waterford and the local property owners. Because of the public use interest involved, it is anticipated that outside funding sources will be available for this work element.

It is recommended that the dam operation water level control plan elements be coordinated by the Southeastern Wisconsin Fox River Commission with the cooperation of the Village of Big Bend, the Towns of Vernon and Waterford, and Racine and Waukesha Counties. More specifically, it is recommended that Racine County, as owner and operator of the Waterford dam, implement the proposed water level drawdown in the Waterford impoundment during the winter and early spring. It is also recommended that the Commission and Racine County investigate further the economics of an automated dam operation in the context of the operation of all of its dams. Such investigation would be considered after the experience in operations is achieved using a refined control procedure relying on staff gages and river watcher observations and communication with the dam operator.

It is recommended that the Commission coordinate efforts of the Towns of Vernon and Waterford to install staff gages at selected locations and provide volunteers or Town personnel to monitor water levels on the River year round with increased frequency during high water events. These personnel would be responsible for notifying the Waterford dam operators when water levels at the gages indicate that the River is at flood stage. This operation would be discontinued once a new automation system for the dam is installed.

It is recommended that the Commission develop a water use plan, including recommendations for the establishment of a navigation channel and the adoption of boating regulations along the Fox River upstream of the Waterford impoundment—specifically, the reach upstream of Bridge Drive. The Commission would work cooperatively with all of the affected units of government to have local ordinances modified as needed to reflect the water use plan recommendations. Following incorporation of those regulations into local zoning ordinances, appropriately marked

signage and buoys notifying boaters of the recommended policies should be posted along the channel at regular intervals.

It is recommended that the Commission promote the adoption and enforcement of construction site erosion control ordinances by all communities in the planning area. It is also recommended that the Wisconsin Department of Natural Resources include the Middle Fox River subwatershed in the Wisconsin Nonpoint Source Priority Watershed Pollution Abatement Program.

It is recommended that the Commission request that the Southeastern Wisconsin Regional Planning Commission provide a current inventory of public access sites and public land holdings along the Fox River and its impoundments. The Commission would then use that data and consider the need for additional public access sites or lands. Such evaluations should be made cooperatively with Racine and Waukesha Counties and the local units of government involved, in conjunction with park and open space and recreational planning being carried out by those counties.

Finally, it is recommended that the Commission support Racine County and Waukesha County as the cooperating agencies in purchasing or acquiring conservation easements over the 370 acres of land in Racine County and the 332 acres of land in Waukesha County identified as being affected by frequent flooding and impaired drainage due to high water levels. It is expected that this purchase would be partially funded by State and Federal grants. Those lands would then be incorporated into the Fox River recreation corridor within the respective counties.

A summary of the plan costs and attendant implementing agencies is presented in Table 1.

The financing of each project element should be determined on a case-by-case basis. It is expected that the Commission will pursue outside sources of funding, including appropriate direct, State, and Federal funding programs. Programs which may be available for partial project funding include the Chapter NR 7 Recreational Boating Facilities Fund, the Chapter NR 120 Wisconsin Nonpoint Source Pollution Abatement Program, the Chapter NR 191 Lake Management Protection Grant Program, and the Chapters NR 50/51 Stewardship Program. Furthermore, efforts will be made to maximize the use of volunteers and agencies, such as the Wisconsin Conservation Corps.

Table 1

SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION IMPLEMENTATION PLAN SUMMARY

Plan Element	Agencies Most Directly Involved in Cooperation with the Commission	Estimated Capital Cost ^a
Selected River System Navigation Dredging and Maintenance Dredging	Towns of Mukwonago, Vernon, Waterford, and Waukesha	\$ 150,000
Channel Clearing of Fallen Trees and Debris	Town of Vernon, Waukesha County; Town of Waterford, Racine County	-- ^b
Impoundment Area Dredging	Riparian property owners, Town of Waterford, Racine County	\$ 700,000
Waterford Dam Drawdown	Racine County	--
Streambank Erosion Protection	Towns of Mukwonago, Vernon, and Waukesha; City of Waukesha; and Racine and Waukesha Counties	\$ 400,000
Waterford Dam Operation Enhancement	Racine County, Waukesha County	\$ 2,000 ^c
Public Access	All communities	--
Establishment of a Water Use Plan Navigation Channel and Boating Restrictions	All communities	\$ 5,000
Purchase of Floodprone Land	Racine County, Waukesha County	\$1,400,000

^aExpressed in 1998 dollars.

^bCost depends upon the degree to which assistance can be obtained by volunteers, community staffs, or agencies, such as the Wisconsin Conservation Corps.

^cInitially, costs are expected to be minimal for upstream water level gage installation and observation and communication with county operators. After a period of record is established, consideration is recommended to be given to an automated operation.

Source: SEWRPC.

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APPENDICES

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Appendix A

LEGISLATION CREATING THE SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION

CHAPTER 33 SUBCHAPTER VI SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION

Effective October 14, 1997. 1997 Act 27

33.53 Definitions. In this subchapter:

- (1) "Board of commissioners" means the board of commissioners of the commission.
- (2) "Commission" means the Southeastern Wisconsin Fox River commission created under s.33.54.
- (3) "Commissioner" means a member of the board of commissioners.
- (4) "County" means Racine County or Waukesha County.
- (5) "County board" means the county board of a county.
- (6) "Municipality" means any city, village or town.
- (7) "River municipality" means any of the following municipalities that is located in a county:
 - (a) The city of Waukesha.
 - (b) The town of Waukesha.
 - (c) The village of Waterford.
 - (d) The town of Waterford.
 - (e) The village of Big Bend.
 - (f) The town of Vernon.
 - (g) The town of Mukwonago.
 - (h) The village of Mukwonago.
- (8) "Surface waters" include surface water in drainage ditches. Effective October 14, 1997. 1997 Act 27

33.54 Creation, funding.(1) There is created a Southeastern Wisconsin Fox River commission for the Illinois Fox River basin. For the purposes of this subchapter, the Illinois Fox River basin extends from the northern boundary of the city of Waukesha downstream to the point immediately below the Waterford Dam. The board of commissioners shall govern the commission. A county or river municipality may appropriate money to the commission. The commission, a county or a river

CHAPTER 33

municipality may solicit gifts, grants and other aid for the commission to enable the commission to perform the functions in this subchapter. Effective October 14, 1997. 1997 Act 27

33.55 Board of commissioners; composition. (1) The board of commissioners shall consist of the following persons, all of whom shall be residents of the county:

- (a) The county executive of Racine County or his or her designee.
 - (b) The county executive of Waukesha County or his or her designee.
 - (c) The mayor of the city of Waukesha or his or her designee.
 - (d) The town board chairperson of the town of Waukesha or his or her designee.
 - (e) The village president of the village of Waterford or his or her designee.
 - (f) The town board chairperson of the town of Waterford or his or her designee.
 - (g) The village president of the village of Big Bend or his or her designee.
 - (h) The town board chairperson of the town of Vernon or his or her designee.
 - (i) The town board chairperson of the town of Mukwonago or his or her designee.
 - (j) The village president of the village of Mukwonago or his or her designee.
 - (k) Two residents of the town of Waterford, who shall be appointed by the town board.
 - (L) Two residents of the town of Vernon, who shall be appointed by the town board.
 - (m) One resident of the village of Big Bend, who shall be appointed by the village board.
 - (n) One nonvoting representative from the southeastern Wisconsin regional planning commission, who shall be appointed by the chairperson of the commission.
 - (o) One nonvoting representative from the department of natural resources, who shall be appointed by the secretary of natural resources.
- (2)(a) If a commissioner listed under sub.(1)(a) to (j) is an elected official, his or her term on the commission runs concurrently with his or her term in office. If the elected official resigns from the commission during his or her term in office, the elected official shall appoint a designee to take his or her place on the commission within 90 days of his or her resignation.
- (b) If a commissioner listed under sub.(1)(a) to (j) is appointed to the commission by an elected official, as the designee of an elected official, his or her term on the commission begins on the 3rd Tuesday in April of the year in which the commissioner is appointed and ends on the 3rd Tuesday in April in the 3rd year following the year in which the commissioner is appointed. Vacancies occurring during the term of the designee of an elected official shall be filled within 90 days of the vacancy by another designee who is appointed by the elected official, or the elected official may become the commissioner.
- (c) The term of a commissioner appointed by a town or village board under sub.(1)(k) to (m) begins on the 3rd Tuesday in April of the year in which the commissioner is appointed and ends on the 3rd Tuesday in April in the 2nd year following the year in which the commissioner is appointed. Vacancies occurring during the term of the appointee shall be filled by the town or village board within 90 days of the vacancy.
- (d) The term of a commissioner appointed under sub.(1)(n) or (o) begins on the 3rd Tuesday in April of the year in which the commissioner is appointed and ends on the 3rd Tuesday in April in the 3rd year following the year in which the commissioner is appointed. Vacancies occurring during the term of the appointee shall be filled by the appointing authority within 90 days of the vacancy.
- (3) Nine commissioners shall constitute a quorum for the transaction of business.
- (4) The board of commissioners shall meet at least quarterly, and at other times on the call of the chairperson or on the petition of 5 commissioners.
- (5) Any action by the board of commissioners requires the affirmative vote of a majority of the members present and voting.
- (6) Annually, the board of commissioners shall elect a chairperson, vice chairperson and secretary from its members, and these officers shall have the following duties:
- (a) The chairperson shall preside at all meetings and all public hearings held by the board of commissioners.
 - (b) The vice chairperson shall preside at any meeting or any public hearing held by the board of commissioners at which the chairperson is unable to preside.
 - (c) The secretary shall keep minutes of all meetings of the board of commissioners and hearings held by it. Effective October 14, 1997. 1997 Act 27

33.56 Board of commissioners; duties. The board of commissioners shall do all of the following:

- (1) Initiate and coordinate surveys and research projects for the purpose of gathering data relating to the surface waters and groundwaters of the Illinois Fox River basin that are located in a river municipality.
- (2) Maintain a liaison with agencies of the federal, state and local governments and other organizations that are involved in programs or projects designed to protect, rehabilitate and manage water resources.
- (3) Develop a public information and education program on issues related to the surface waters and groundwaters of the Illinois Fox River basin that are located in a river municipality.
- (4) To the greatest extent practicable, encourage and utilize the Wisconsin conservation corps and volunteers for appropriate projects. Effective October 14, 1997. 1997 Act 27

33.57 Board of commissioners; powers. The board of commissioners may do all of the following:

- (1) Develop and implement plans, projects or programs to do any of the following:
 - (a) Improve the water quality and the scenic, economic and environmental value of the surface waters and the groundwaters of the Illinois Fox River basin that are located in a river municipality.
 - (b) Protect or enhance the recreational use of the navigable waters of the Illinois Fox River basin that are located in a river municipality.
 - (c) Coordinate and integrate, for efficient and effective cost management, any county programs or projects for the waters of the county that relate to any of the following:
 1. Surface water and groundwater quality of the Illinois Fox River basin that is located in a river municipality.
 2. The recreational use of and public access to navigable waters of the Illinois Fox River basin that is located in a river municipality.
 3. Water safety and boating regulations for the Illinois Fox River basin that is located in a river municipality.
- (2) Develop and propose to the county board programs or projects to make improvements to the navigable waters in the Illinois Fox River basin that is located in a river municipality, including constructing and maintaining public boat launching facilities, maintaining park or other open natural areas adjacent to the navigable waters, implementing shoreline maintenance requests, maintaining and improving locks and dredging waterways.
- (3) Create advisory committees as it considers necessary to apprise the board of commissioners of the information necessary to implement its duties and powers. The advisory committees may include representatives of the following: fishing groups; farmers; businesses; riparian and other real property owners; industry groups; public bodies; sailing clubs; boating clubs; environmentalists; scientists; conservationists; hunters; and water skiing, diving and other sports clubs.
- (4) Adopt any rules necessary to implement the duties and powers granted to the board of commissioners. Effective October 14, 1997. 1997 Act 27

33.58 Regulation proposed by board of commissioners.(1) **ORDINANCES AND LOCAL REGULATIONS.** The board of commissioners may propose to the governing body of a river municipality the adoption, modification or rescission of any ordinance or local regulation relating to boating, recreation or safety upon the navigable waters of the Illinois Fox River basin that is located in a river municipality.

(2) **MINIMUM STANDARDS.** The board of commissioners may propose to the governing body of a river municipality minimum standards for local regulations and ordinances for municipalities to protect and rehabilitate the water quality of the surface waters and groundwaters of the Illinois Fox River basin that are located in a river municipality. Effective October 14, 1997. 1997 Act 27

33.59 Implementation plan.(1) The board of commissioners shall develop an implementation plan by April 1, 1998, and shall submit the plan to the department of natural resources, the county planning agency, the chairperson of the county board and the county executive of the county by April 1, 1998.

(2) With regard to the Illinois Fox River basin that is located in a river municipality, the implementation plan shall include all of the following:

- (a) A plan for, including the method of payment for, an engineering study to determine areas for selective dredging, including the dredging of selective shallow areas of the impoundment area in Waterford.
- (b) A plan for clearing channels of fallen trees and other debris.
- (c) A water use plan.

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- (d) A plan for operating the Waterford Dam with a winter drawdown level.
- (e) A plan for streambank erosion protection.
- (f) A plan for automating the Waterford Dam with upstream sensors.
- (g) A plan for maintenance, protection and improvement of shorelines, banks and beds of navigable waters.
- (h) A plan for access to shoreline recreational areas and facilities.
- (i) Water safety, navigational and boating regulations.
- (3) Within 3 months after the implementation plan is developed and submitted under sub.(1), the department and the designated planning agencies under s.281.51 that cover each county shall evaluate the implementation plan to determine whether it is consistent with the criteria for water quality planning under s.281.51 and whether the plan is adequate to:
 - (a) Protect and rehabilitate the water quality of the surface waters and the groundwaters of the Illinois Fox River basin that are located in a river municipality.
 - (b) Protect and enhance the recreational use of the navigable waters of the Illinois Fox River basin that are located in a river municipality.
 - (c) Increase water and boating safety on the navigable waters of the Illinois Fox River basin that are located in a river municipality. Effective October 14, 1997. 1997 Act 27

33.60 Budget proposals.(1) (a) The commission's fiscal year shall be a calendar year. Annually, the board of commissioners shall prepare a proposed budget for the commission's activities, plans, programs or projects under this subchapter.

(b) The budget shall include all of the following elements:

- 1. A list of all anticipated revenue from all sources during the upcoming year.
- 2. A list of all proposed appropriations for each activity and reserve account for the upcoming year.
- 3. Actual revenues and expenditures for the preceding year, if applicable.
- 4. Actual revenue and expenditures for the current year.
- 5. Estimated revenues and expenditures for the balance of the current year.
- 6. A list, by fund, of all anticipated unexpended or unappropriated balances and all surpluses.

(c) The commission shall publish as class 1 notice under ch. 985 in Racine County and in Waukesha County, at least 15 days before the public hearing, a summary of the budget, a notice of the place where a copy of the budget is located for public inspection and a notice of the time and place for a public hearing on the budget.

(d) The summary required under par.(c) shall include all of the following for the proposed budget, for the budget in effect and for the budget of the preceding year, if applicable:

- 1. All expenditures, by major expenditure category.
- 2. All revenues, by major revenue source.
- 3. Any financing source and use not included under subds. 1. and 2.
- 4. All beginning and year-end fund balances.

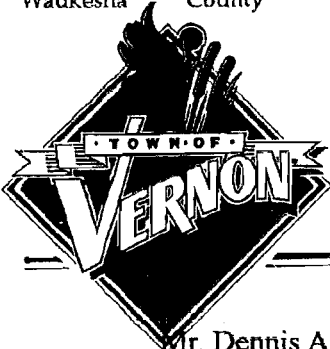
(2) Not less than 15 days after publication of the summary of the budget and of the notices required under sub.(1)(c), the board of commissioners shall hold a public hearing at the time and place specified in the notice. At the hearing, any resident or taxpayer of a county shall have the opportunity to be heard on the proposed budget. The budget hearing may be adjourned from time to time. At the hearing, the board of commissioners may adopt changes to the budget.

(3) After the public hearing, the board of commissioners shall submit the proposed budget to Racine County and to Waukesha County for incorporation into each county's budget to be subject to any review procedures that apply to a county budget under ss.59.60 and 65.90. Effective October 14, 1997. 1997 Act 27

Appendix B

MARCH 16, 1998, PUBLIC INFORMATIONAL MEETING SUMMARY

Waukesha County



Clerk, 662-2039
Fax, 662-3510
Treasurer, 662-2144
Assessor, 662-2744
Dept. of Public Works, 662-2151

Vernon Town Hall • W249 S8910 Center Drive • P.O. Box 309 • Big Bend, WI 53103

Mr. Dennis A. Shook
The Freeman
March 12, 1998

PRESS RELEASE

The Southeastern Wisconsin Fox River Commission will be conducting a public informational meeting on its Water Resources Implementation Plan. The implementation plan addresses the improvement of water quality and the scenic, economic and environmental value of the surface and ground waters of the Fox River basin that are located in the City of Waukesha, the Towns of Vernon, Waukesha and Waterford and the Villages of Mukwonago and Big Bend. The plan intends to protect and enhance of the recreational use of the navigable waters of the Fox River Basin, while coordinating and integrating programs or projects for the waters of each County.

The proposed Fox River Water Resource Implementation Plan will be presented to the public in the Town of Vernon, on Monday, March 16, at W249 S8910 Center Drive, in the meeting room at Vernon Town Hall, at 7:00. The commission will take public comments after the presentation.

****If you have questions regarding the press release, or would like further information, please contact Karen Schuh at the Vernon Town Hall at 662-2039 or at home at 662-2333.**

Waukesha County



Clerk, 662-2039
Fax, 662-3510
Treasurer, 662-2144
Assessor, 662-2744
Dept. of Public Works, 662-2151

Vernon Town Hall • W249 S8910 Center Drive • P.O. Box 309 • Big Bend, WI 53103

Mr. Sam Martino
The Milwaukee Journal/Sentinel
March 12, 1998

PRESS RELEASE

The Southeastern Wisconsin Fox River Commission will be conducting a public informational meeting on its Water Resources Implementation Plan. The implementation plan addresses the improvement of water quality and the scenic, economic and environmental value of the surface and ground waters of the Fox River basin that are located in the City of Waukesha, the Towns of Vernon, Waukesha and Waterford and the Villages of Mukwonago and Big Bend. The plan intends to protect and enhance of the recreational use of the navigable waters of the Fox River Basin, while coordinating and integrating programs or projects for the waters of each County.

The proposed Fox River Water Resource Implementation Plan will be presented to the public in the Town of Vernon, on Monday, March 16, at W249 S8910 Center Drive, in the meeting room at Vernon Town Hall, at 7:00. The commission will take public comments after the presentation.

****If you have questions regarding the press release, or would like further information, please contact Karen Schuh at the Vernon Town Hall at 662-2039 or at home at 662-2333.**

SOUTHEAST WISCONSIN FOX RIVER COMMISSION

Monday, March 16, 1998

7:00 PM

at the Vernon Town Hall in the Meeting Room

AGENDA

- I. Roll Call.**
- II. Public Informational Meeting Regarding the Southeast Wisconsin Fox River Commission Water Resources Implementation Plan**
- III. Close Public Information Meeting**
- IV. Approval of February 23, 1998 minutes.**
- V. Discussion and final approval of Southeast Wisconsin Fox River Commission Water Resources Implementation Plan**
- VI. Adjournment**

**** Please note, upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request service, contact Clerk Marilyn Gauger at 662-2039. For TTY service call 662-2151.**

**** It is possible that members of and possibly a quorum of members of governmental bodies of any municipality may be in attendance at the above stated meeting to gather information; no action will be taken by any governmental body, except the Southeast Wisconsin Fox River Commission.**

**PROCEEDINGS OF THE SOUTHEAST WISCONSIN FOX RIVER
COMMISSION MEETING**

**Monday, March 16, 1998
in the meeting room at the Vernon Town Hall**

The meeting was called to order by Chairman Bob Langmesser at 7:00 PM. Present at the meeting: Chairman Bob Langmesser Jill Mitchell and Roy Schmidt, representing the Town of Waterford; Chairman Mike Laska, representing the Town of Waukesha; Chairperson Karen Schuh, Robert E. Harvey and Forrest Drews representing the Town of Vernon; Chuck Seeger, representing Racine County; Dale Shaver, representing Waukesha County; Bob Biebel, representing SEWRPC and Greg Pilarski, representing the WDNR.

Chairman Langmesser gave a brief history as to the development of the Southeast Wisconsin Fox River Commission and outlined the procedure for the meeting. Chairman Langmesser asked Bob Biebel give a presentation as to the authority and function of the Southeast Wisconsin Fox River Commission and an explanation of the proposed implementation plan. The public was asked to state their name and address for the record and to be concise in addressing their issues to the commission.

Public Informational Meeting

Raymond Utzinger- 300 Foxwood Drive #156, Waterford, WI- Water level is currently down a foot or more. The current of the water flow is down and dredging the Waterford Dam area is common sense. The flow of the river will increase by clearing trees and dredging.

Don Hoernke- 2908 North River Road, Waterford, WI- Questioned why the plan does not included the Fox River as it runs through the Town and Village of Rochester. Feels the plan should be expanded to study the Fox River in the Rochester area. He and other property owners are losing river frontage. There are other problems downstream of this study area.

Fay Amerson-W270 S3565 Oak Knoll Drive, Waukesha, WI- Stated she supports this commission and assisted in the establishment of the commission by working with Senator Adelman and County Executive Dan Finley. She is ready to assist the commission. Explained her position in the protection of wetlands and flood plains. Would like to see the plan expanded to include the Towns of Genesee and Pewaukee to include the Pebble Creek Water Shed. Would like the commission to use the Waukesha County GreenWay Plan and the County Development Plan, subdivision ordinances and land use planning in the implementation process. Questioned the goals and schedule of implementation plan. Dredging should be used only as a last resort.

John Bostrom-6609 Riverside Road, Waterford, WI- Has recently spent over \$6000.00 dollars on a dredging project, most off which has silted back into the area dredged. He stated the silt removed in his dredging project did not have contaminants or heavy metals.

Feels the silt is causing many problems with the habitat. The water of the Fox River is clean and clear in the winter months, you are able to see three feet of clear water. This is not the case in other times of the year. He feels silt is continually blown into the river.

Chairman Langmesser closed the public informational meeting and asked for any additional comments from commission members. Written comments from Greg Pilarski, Dale Shaver, Mike Laska, Bob Harvey were incorporated into the revised draft plan. Commission members discussed Forrest Drews comments pertaining to expanding the text of draw down verbiage, and winter draw down, as a technique in controlling ice damage, water levels and erosion.

Approval of minutes

Motion by Bob Harvey to approve the February 23, 1998, the minutes of the Southeast Wisconsin Fox River Commission meeting, seconded by Chairman Laska, motion carried unanimously by voice vote.

Discussion of Revised Implementation Plan

Chairman Langmesser requested Bob Biebel and Karen Schuh to incorporate the four items discussed by the public and commission members into the final draft. More specifically, the four items are: A) Add language to the plan that discusses the possibility of expanding the study area. B) Add language to the plan that refers to adopted plans County and local land use plans. C) Expand the text of the plan as it refers to dredging areas of the Fox River. D) Expand the text of the plan and refine the "draw down" concerns. Mr. Biebel will revise and update the latest revise implementation plan. Karen Schuh was instructed to send the final implementation plan to all commission members, and to all approving agencies with a cover letter.

Commission Approval of Final Implementation Plan

Motion by Dale Shaver to approval the final draft of the Southeast Wisconsin Fox River Commission Water Resources Implementation Plan will the four items discussed by the commission, seconded by Bob Harvey, Motion carried unanimously, by voice vote.

Next meeting date

The commission agreed to meet on Monday, April 27, 1998, at 1:00 PM, at the Vernon Town Hall.

Adjournment

Motion made by Roy Schmidt, seconded by Forrest Drews to adjourn, motion carried by unanimous voice vote at 8:48 PM

Respectfully Submitted,

Karen L. Schuh

Vice Chair and Secretary, Southeast Wisconsin Fox River Commission

file:agfux

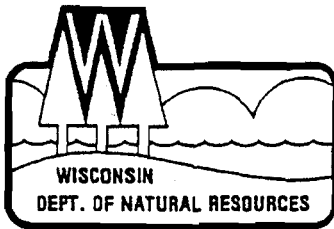
**SOUTHEAST WISCONSIN
FOX RIVER COMMISSION
PUBLIC MEETING
MARCH 16, 1998**

<u>Name</u>	<u>Address</u>
Dan & Orla Guzlecki	7820 Fox River Road, Waterford, WI 53185
Donald P. Hoernke	2908 North River Road, Waterford, WI 53185
Steven P. Forslund	4502 Empire Lane
Fay Amerson	W270 S3565 Oak Knoll Drive, Waukesha, WI 53186
Emily & Dick Sauer	7457 Poplar Circle, Waterford, WI 53185
John Bostrom	6609 Riverside Road, Waterford, WI 53185
Raymond J. & Darlene Utzinger	300 Foxwood Drive, #156, Waterford, WI 53185
Pat Serak	7605 Treeview Drive, Caledonia, WI 53108
George D. Watson	6419 Hwy. 41, Caledonia, WI 53108
Ralph M. Biernat	6437 N. Tichigan Road, Waterford, WI 53185
Forrest Drews	S88 W25985 Edgewood Avene, Mukwonago, WI 53149
Robert E. Harvey	S94 W27055 Linden Court, Mukwonago, WI 53149
Karen L. Schuh	W243 S7490 Evergreen Drive, Mukwonago, WI 53149
Dale Shaver	1320 Pewaukee Rd., Room 260, Waukesha, WI 53188
Bob Langmesser	415 North Milwaukee, Waterford, WI 53185
Roy C. Schmidt	4212 North River Bay Road, Waterford, WI 53185
Jill A. Mitchell	415 North Milwaukee, Waterford, WI 53185
Charles Seeger	14200 Washington Avenue, Sturtevant, WI 53177
Mike Laska	Town of Waukesha
Robert Biebel	SEWRPC
Greg Pilarski	DNR - Southeast Region

Filename:W:\COMMS\FOXVR\NAL31698.wpd

Appendix C

**JULY 3, 1996, WISCONSIN DEPARTMENT OF
NATURAL RESOURCES MEMO ON PLAN ELEMENTS**



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutcheon, District Director

Southeast District Headquarters
2300 N. Dr. ML King, Jr. Drive, Box 12436
Milwaukee, WI 53212-0436
TELEPHONE 414-263-8500
FAX 414-263-8483
TDD 414-263-8713

July 3, 1996

To the Chairpersons of the Town of Vernon, Town of Waterford, and Village of Big Bend:

RE: Fox River Water levels: problems, solutions and the role of DNR

In 1993, landowners, local municipalities and state agencies began meeting to discuss water level issues and to try to determine how to resolve these problems. One result of these meetings was an updating of the Southeastern Wisconsin Regional Planning Commission Report of 1975 (updated to 1995), outlining perceived problems and potential initiatives to solve them. Some solutions have been implemented. The landowners, local municipalities and state agencies continue to meet to discuss implementing other solutions. On June 28th, Department representatives met with local municipalities to discuss the operation of the Waterford dam on the Fox River. During the course of the meeting, one of the meeting participants wanted to know "what the DNR was doing in response to problems with the water level in Vernon and Waterford".

What are the problems with the water levels on the Fox River?

Let's clarify the problem: local residents in Vernon, most of them farmers, believe that the water level on the Fox River is too high, especially in spring and summer. This causes problems with normal farm operation, and may contribute to lower farm earnings. Residents in the Town of Waterford, especially those along Tichigan lake, believe the water level during the summer is too low. This causes problems with recreational boating and swimming.

What are some possible solutions to these problems?

SEWRPC issued a study in 1975 reviewing the problem and suggesting some solutions. This plan was updated in 1995 to reflect the fact that some of the suggested solutions had been implemented.

Without going into great detail, the following is a list of some recommendations made by the study:

- Installation of gates on the Waterford Dam
- Upstream water level sensors and automated dam gate operation
- Channel dredging
- Clearing channel of fallen trees and similar debris
- Dredging in selected shallow areas of the Impoundment area in Waterford
- Operating the dam with a winter drawdown level
- Purchase of flood-prone lands
- Establishment of boating restrictions along the river
- Establishment of nonpoint source pollution control plans by local municipalities
- Streambank erosion protection

What is DNR's response to the SEWRPC study?

The Department was also asked during the June 27th meeting to give our response to the 1995 SEWRPC study. The study does mention some of the environmental aspects of the recommendations, but not in great detail. There are four recommendations which have the potential to seriously impact the river resources: lowering the water level in the spring, dredging, clearing the channel of fallen

trees, and streambank erosion protection. All of these activities require a permit from the Department, except for fallen tree removal. Fallen trees may be removed without a DNR permit as long as removing the tree does not require equipment to be operated in the water, and the removal will not require dredging or removal of bottom sediments (see enclosed sheet on tree removal). The other SEWRPC recommendations (installation of dam gates, automatic sensors and dam gate operation, purchase of flood prone lands, establishment of boating restrictions, establishing nonpoint source pollution control plans) are also recommended by the DNR.

The Department has stated in the past that lowering the spring water level can impact fish spawning along the entire lower Fox River by removing water from adjacent wetlands -- the areas that pike and other species use to spawn. Streambank erosion protection and removal of fallen trees can have negative and/or positive impacts depending on the type of and extent of the project. Fallen trees can provide areas of slow water, excellent invertebrate habitat as well as areas for use by fish as cover. Some fallen trees create slow water areas which impede boating and increase sediment deposits. The difference depends on the location and physical attributes of the tree and channel. Shoreline erosion protection can stop erosion when riprap or vegetative bank controls are installed in the "right" areas, however, seawalls destroy near shore habitat, removing invertebrates used as fish prey. Dredging removes the existing bottom layer of river or lake bed, removing any existing plant matter, benthic organisms and invertebrates. It also suspends a great deal of sediment into the water, having a dramatic and immediate impact on fish and plant populations. Clouding the water inhibits photosynthesis, impedes gill action (choking fish), inhibits fish and animals that feed by sight, covers spawning beds and smothering eggs, among other impacts.

At this time, the Department can state that dredging, establishing a lower winter/spring water level, streambank erosion protection and removal of trees may have a serious impact on the waterway. The extent of the impacts will depend on the extent of the proposed project and proposed construction methods. However, since no applications have been submitted to the Department which specifically outline the extent of any proposed work or project parameters, the Department has not initiated an application review of the existing resources and impacts of such a project.

What has been done to correct the problems so far?

Some of these recommendations have been implemented, such as the installation of gates on the Waterford dam, the installation of water level sensors and automated gate operation (although the original system failed due to lightening strikes -- the Town of Vernon is currently investigating the possibility of installing a new, updated system), boating restrictions have been implemented in some stretches of the river, nonpoint source pollution control plans have been enacted by some municipalities, and clearing of fallen trees is currently being implemented by local landowners and communities. Some local landowners have applied for and received permits to dredge limited areas of shoreline.

The Department has ordered staff gauges which we will give to the municipalities to install later this year by the dam and by bridges upstream of the dam. This will allow us to better monitor water levels and make more accurate determinations about the effects and interrelationship of various water levels along the entire river reach.

Where do we go from here?

We will continue the application review process initiated by the Town of Vernon to establish a high water level for the Waterford dam. The required Environmental Analysis will be worked on throughout this fall and winter, and we plan to begin having public meetings after the draft EA is completed. The Department has also released an outline which explains in what circumstances a

property owner may remove a tree which has fallen into the river. We will contact all the dam operators/communities upstream of the Waterford dam to better coordinate the operation of these dams.

The question was also raised of whether the Department would pay for this project. The state does not sponsor individual projects. Rather, interested municipalities, organizations or individuals can apply for state funds to initiate and complete a project. Most of the available state monies are cost-share programs, in which the state will pay either 50% or 70% of the costs of a project. In order to receive state monies, a project proponent needs to identify their objectives, compile project plans and submit a grant application. An applicant can be an individual, groups of property owners who have shared goals, or even municipalities. Each grant program has established parameters under which it reviews applications and determines to which projects it can award monies. The SEWRPC plan discusses a number of different potential funding sources (pages 43-45), both state and federal. Any interested applicant would also be responsible for applying for any local, state or federal permits which may be necessary for their project.

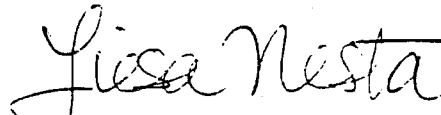
We hope that this information helps one or more of the local communities or individuals to begin formulating a project plan and begin the permit application process to alleviate the water level problems.

If you have any questions about the information or issues raised in this letter, please contact either Susan Schumacher at 414-263-8673 or Liesa Nesta at 414-263-8678.

Sincerely,



Susan Schumacher
Water Management Specialist



Liesa Nesta
Water Management Specialist

cc: Senator Adelman
Representative Gunderson
Racine County Zoning
Waukesha County Park and Land Use
Glenn Lampark - Racine Dept. Public Works
Jill Mitchell - Waterford Waterways Commission
Ron Kazmierczak - DNR/SEH
Mary Ellen Vollbrecht - DNR/SEH
Bill Sturtevant - DNR/Madison - WZ/6
Sharon Gayan - DNR/SEH
Jim McNelly - DNR/SEH
Frank Trcka - DNR/SEH

TREE REMOVAL ALONG THE FOX RIVER

Trees along Wisconsin's shorelines serve many roles. In addition to the scenic beauty they provide, trees provide habitat for a variety of species and help to anchor the soil to prevent shoreline erosion. When a tree or part of a tree falls into the water, a microenvironment is created which provides cover for various fish species, habitat for animals which go back and forth between land and water, and changes the river chemistry and temperature to increase the growth of "macroinvertebrates" - fish food. While these changes may benefit the local fishery, there is also a down side. Fallen trees can back water up, possibly causing flooding upstream, and may obstruct navigation.

Select removal of trees along the Fox River shoreline in the Town of Vernon and Village of Big Bend may be helpful in reducing upstream flooding problems. This work will generally not require a DNR permit, if certain conditions are followed. Here are some important things to consider:

1. First, make a plan which identifies the trees to be removed. Choose to remove only those trees or parts of trees which truly obstruct water flow or navigation. You should mark these trees with paint or tape, so that both you and anyone helping you will know exactly which trees to remove, and which trees will remain.
2. Next, contact the local county zoning office and show them your plan. Each county has tree cutting provisions for shoreline areas, and they may have some restrictions on the amount of trees that can be cut, or may require you to obtain a permit. They may also inspect your site. another important reason to mark the trees in advance of the work.
3. Design the project so that the work can be done from land, and use the proper equipment and techniques to prevent shoreline slumping, resuspension of river bottom, or destruction of other vegetation along the banks. If these impacts are not avoided, you'll only make the problem worse, and may cause further shoreline erosion and increase the sediments on the river bottom.
4. Leave stumps intact wherever possible, so that they may continue to hold the shoreline in place and provide important habitat.
5. Dispose of all material properly. Don't leave it in wetlands or floodplain areas next to the water, and don't burn it unless allowed by your community.
6. Don't operate any equipment in the water - this includes bobcats, front-end loaders, back-hoes, tractors, trucks or any motorized vehicle. This is prohibited by state law.

If you're unclear about any of these requirements, contact Liesa Nesta or Sue Schumacher at the Milwaukee DNR office, by calling (414)263-8500.

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Appendix D

EXISTING PUBLIC OUTDOOR PARK AND RECREATION SITES

Table 148

**STATUS OF THE IMPLEMENTATION OF RECOMMENDATIONS FOR
ACQUISITION AND DEVELOPMENT OF RESOURCE-ORIENTED PARKS, TRAILS,
AND WATER-ACCESS SITES AND FACILITIES IN WAUKESHA COUNTY: 1989-1995**

Resource-Oriented Site or Facility ^a	General Recommendations Set Forth under the Year 2000 Plan		Implementation Activity: 1989-1995	
	Acquisition ^b (acres)	Development ^b	Acquisition (acres)	Development
County Parks				
Menomonee Park	--	Additional playfields, picnic areas, group camping, horse trails, and improve support facilities	--	Group camping area expansion, horse trails, concession stand
Minooka Park	--	Improve support facilities and beach house, connect with Pebble Brook recreation corridor	238	Beach house renovation
Monches Park	248	Picnic areas and trails	150	--
Moor Downs Golf Course	--	Course improvements	--	Course improvements
Mukwonago Park	--	Improve support facilities, connect with the Mukwonago River recreation corridor	--	--
Muskego Park	30	Improve support facilities	16	--
Naga-Wauke Park	157	9-hole golf course expansion, picnic areas, trails, shoreline erosion control, support facilities	--	Ice rink, irrigation improvements
Nashotah Park	--	Improve support facilities	--	--
Retzer Nature Center	171	Trails and nature study facilities	--	Trails and nature study facilities
Ryan Park	80	Picnic areas, trails, and support facilities	87	Bridle paths
Smith Park	--	Picnic areas, trails, and support facilities	--	--
Wanaki Golf Course	--	Course improvements	--	Tee improvements
Winzenreid-Kuhtz Property ^c	--	Picnic areas and trails	55	Trails
Proposed Park No. 1	185	18-hole golf course	--	--
Proposed Park No. 2	185	18-hole golf course	--	--
Proposed Park No. 3	200	18-hole golf course	238 ^d	--
Proposed Park No. 4 ^e	400	Picnic areas, trails, canoe access to Fox River, connection with Fox River recreation corridor	209	--
Trails^f				
Bugline Trail	--	One mile of trail development (12 total)	--	One mile developed ^g
Fox River Trail	--	32 miles of trail development (37 total)	--	One mile developed ^h
Lake Country Trail	--	11 miles of trail development	--	Eight miles developed ^g
Menomonee River Trail	--	Six miles of trail development	--	--
Mill Creek Trail	--	Five miles of trail development	--	--
Mukwonago River Trail	--	14 miles of trail development	--	--
New Berlin Trail	--	Two miles of trail development (eight total)	--	Trail to be completed by County in 1996
Pebble Brook Trail	--	11 miles of trail development (12 total)	--	--
Tamarack Trail	--	Six miles of trail development	--	--
Glacial Drumlin State Trail	--	Development complete	--	--
Ice Age Trail (DNR)	--	13 miles of trail development (38 total)	--	Four miles developed
Parkways				
Bark River Parkway	2,223	--	--	--
Fox River Parkway	3,603	--	81	--
Menomonee River Parkway	269	--	--	--
Mill Creek Parkway	199	--	18	--
Mukwonago River Parkway	1,046	--	143 ^j	--
Oconomowoc River Parkway	886	--	70	--

Table 148 (continued)

Resource-Oriented Site or Facility ^a	General Recommendations Set Forth under the Year 2000 Plan		Implementation Activity: 1989-1995	
	Acquisition ^b (acres)	Development ^b	Acquisition (acres)	Development
Parkways (continued)				
Pebble Brook Parkway	709	--	58	--
Pewaukee River Parkway	424	--	38 ^j	--
Tamarack Swamp	1,045	--	415 ^k	--
Ice Age Trail (DNR)	708 ^l	--	--	--
Surface Water Access				
Hunters Lake (DNR)	--	One slow-boating access point	--	--
Lower Nashotah Lake (DNR)	--	One slow-boating access point	--	--
Upper Nashotah Lake (DNR)	--	One slow-boating access point	--	--
Pine Lake (DNR)	--	One fast-boating access point	Site acquired	Access developed
Fox River	--	Canoe access points at Fox Bend Park and Fox River Park	Sites acquired	Development funded
Other State Sites				
Ashippun Lake Remnant Area	18	--	--	--
Kettle Moraine State Forest- Lapham Peak Unit	476	Family camping, nature and visitor's center, general site improvements	539	New access road, picnic area, and backpack camping area
Lulu Lake State Natural Area ^m	312	--	--	--
Kettle Moraine State Forest- Southern Unit ⁿ	2,916	--	710	--
Lake Keesus Remnant Area	141	--	--	--
Proposed Scattered Wetland 9 ^o	184	--	--	--
Proposed Scattered Wetland 10 ^o	54	--	--	--
Proposed Scattered Wetland 11 ^o	119	--	--	--
Proposed Scattered Wetland 12 ^o	22	--	--	--
Proposed Scattered Wetland 13 ^o	161	--	--	--
Proposed Scattered Wetland 14 ^o	322	--	--	--
Proposed Scattered Wetland 15 ^o	46	--	--	--
Proposed Scattered Wetland 16 ^o	517	--	47 ^p	--
Proposed Scattered Wetland 17 ^o	20	--	--	--
Proposed Scattered Wetland 18 ^o	7	--	--	--
Scattered Wetland 26 ^o	111	--	--	--
Statewide Habitat Area 32 ^o	51	--	--	--
Vernon Marsh Wildlife Area	2,372	--	409	--

^aSites and facilities are to be provided by Waukesha County unless otherwise noted.

^bIncluded acquisition and development in addition to that existing in 1988.

^cNow known as Fox River Park.

^dAdditional land was acquired adjacent to Minooka Park in lieu of establishing a new park in the City of New Berlin.

^eNow known as Fox Bend Park.

^fLand acquisition for trails is included in the "parkway" category of this table for those trails located in natural resource corridors. The Lake Country and New Berlin trails are to be located on power company rights-of-way. Land acquisition for the Tamarack Trail, located adjacent to the Tamarack Swamp in the Village of Menomonee Falls, is included under the Fox River Parkway.

^gTrail developed by Waukesha County.

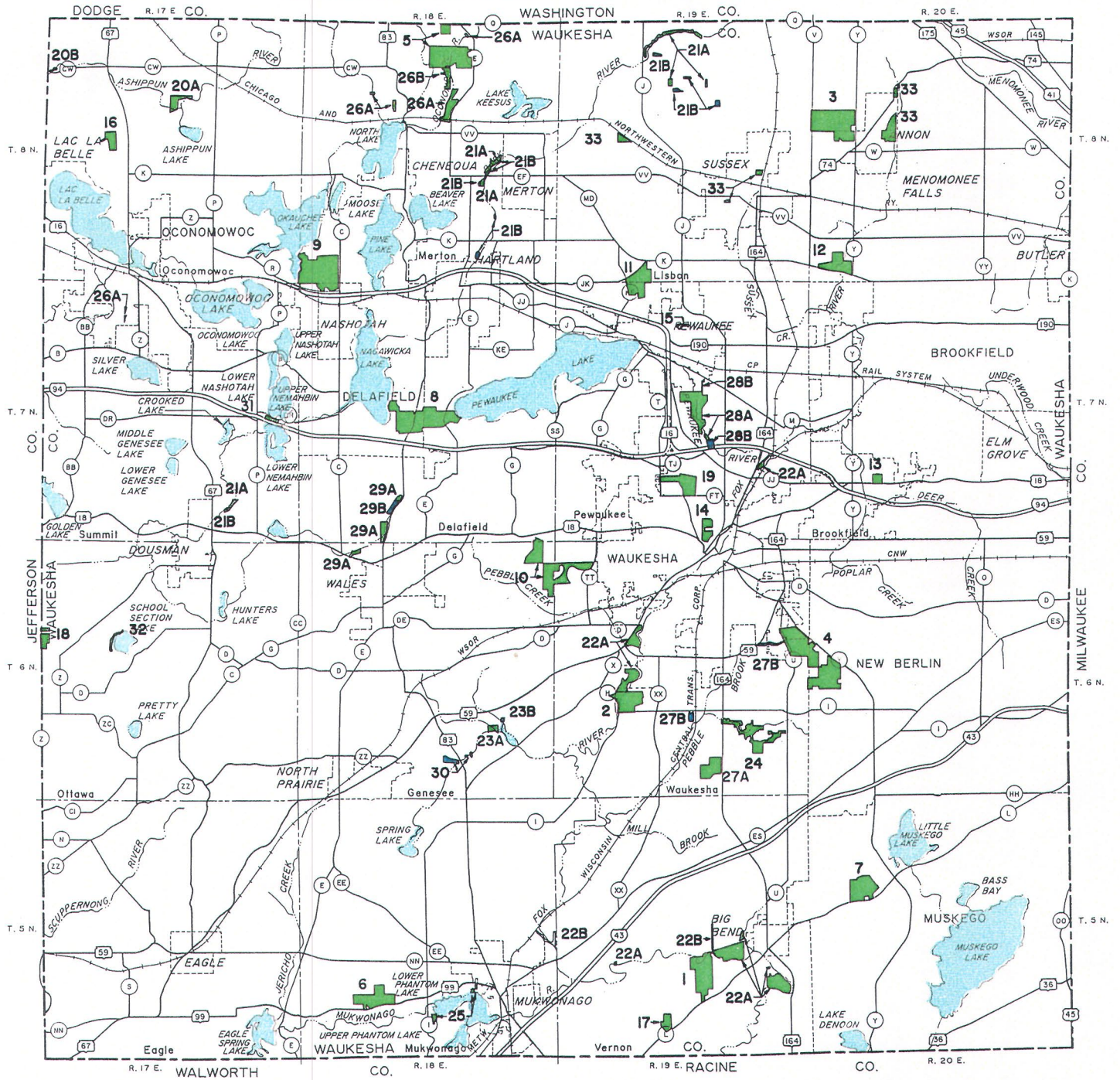
^hTrail developed by the City of Waukesha.

ⁱThese 143 acres were acquired by the Village of Mukwonago.

^jThese 38 acres were acquired by the Wisconsin Department of Transportation as a wetland mitigation site.

Map 97

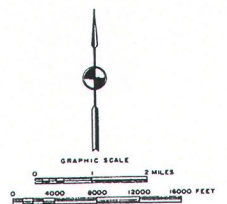
WAUKESHA COUNTY PARK AND OPEN SPACE SITES: 1995



LEGEND

- COUNTY SITE
- COUNTY EASEMENT

2 REFERENCE NUMBER (SEE TABLE 149)



Source: Waukesha County Park and Planning Commission and SEWRPC.

Table 149

WAUKESHA COUNTY PARK AND OPEN SPACE SITES: 1995

Number on Map 97	Site Number ^a	Site Name	Location	Acres
Major Parks				
1	1364	Fox Bend Park	T5N, R19E, Section 27	209
2	1267	Fox River Park	T6N, R19E, Sections 20 and 21	207
3	0024	Menomonee Park	T8N, R20E, Section 18	397
4	0711	Minooka Park	T6N, R19E, Section 13; T6N, R20E, Sections 18 and 19	535
5	0180	Monches Park	T8N, R18E, Section 3	344
6	0980	Mukwonago Park	T5N, R18E, Sections 28 and 29	222
7	1091	Muskego Park	T5N, R20E, Section 17	209
8	0361	Naga-Waukee Park	T7N, R18E, Sections 21 and 22	416
9	0170	Nashotah Park	T8N, R18E, Section 31	444
10	0866	Retzer Nature Center	T6N, R18E, Sections 1 and 12	338
11	1155	Ryan Park	T7N, R19E, Sections 4 and 5	204
12	0039	Wanaki Golf Course	T8N, R20E, Section 31	152
--	--	Subtotal: 12 Sites	--	3,677
Other Parks and Open Space Sites				
13	1264	Eble Park	T7N, R20E, Section 29	33
14	0761	Moor Downs Golf Course	T6N, R19E, Section 3; T7N, R19E, Section 34	77
15	1395	Scattered Wetland	T7N, R19E, Section 9	18
16	1365	Scattered Wetland	T8N, R17E, Section 17	59
17	1159	Smith Park	T5N, R19E, Section 33	53
18	0919	Undeveloped County Land	T6N, R17E, Section 18	51
19	0479	Waukesha County Expo Center	T7N, R19E, Section 27	152
--	--	Subtotal: Seven Sites	--	443
Parkways				
20A	1273	Ashippun River Parkway	T8N, R17E, Section 10	47
20B	1136	Ashippun River Parkway (easement)	T8N, R17E, Section 7	4
21A	1141	Bark River Parkway	T8N, R19E, Section 3	79
21B	1142	Bark River Parkway (easements)	T8N, R18E, Section 23	60
22A	1042	Fox River Parkway	T6N, R19E, Sections 17 and 20; T7N, R19E, Sections 25 and 26	404
22B	1149	Fox River Parkway (easements)	T5N, R18E, Section 24	16
23A	1363	Genesee Creek Parkway	T6N, R18E, Section 26	25
23B	1268	Genesee Creek Parkway (easement)	T6N, R18E, Section 26	9
24	1265	Mill Creek Parkway	T6N, R19E, Section 25	163
25	1148	Mukwonago River Parkway	T5N, R18E, Sections 26 and 34	17
26A	1138	Oconomowoc River Parkway	T8N, R18E, Sections 8, 9, and 10	132
26B	1137	Oconomowoc River Parkway (easement)	T8N, R18E, Section 10	1
27A	1266	Pebble Brook Parkway	T6N, R19E, Section 34	117
27B	1158	Pebble Brook Parkway (easement)	T6N, R19E, Section 27	29
28A	1156	Pewaukee River Parkway	T7N, R19E, Section 15	210
28B	1157	Pewaukee River Parkway (easements)	T7N, R19E, Sections 15 and 22	6
29A	1145	Scuppernong Creek Parkway	T7N, R18E, Section 33	50
29B	1146	Scuppernong Creek Parkway (easement)	T7N, R18E, Section 33	9
30	1147	Spring Creek Parkway (easement)	T6N, R18E, Section 34	29
--	--	Subtotal: 11 Sites ^b	--	1,407
Boat-Access Sites^c				
31	0319	Nemahbin Lake Access	T7N, R17E, Section 24	8
32	0911	School Section Lake Access	T6N, R17E, Section 17	12
--	--	Subtotal: Two Sites	--	20

Table 149 (continued)

Number on Map 97	Site Number ^a	Site Name	Location	Acres
33 ^d	1335	Trails		
-- ^d	1338	Bugline Trail	--	251 ^e
-- ^d	1339	Lake Country Trail	--	53 ^f
--	--	New Berlin Trail	--	73 ^g
--	--	Subtotal: Three Sites	--	377
--	--	Total: 35 Sites	--	5,924

^aThe site number corresponds to the number in Appendix D, SEWRPC Planning Report No. 27, *A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000*, for those sites existing in 1973. Newer sites were assigned numbers sequentially as they were identified.

^bEach parkway site may consist of one or more parcels of ownership or easement along the waterway.

^cWaukesha County also operates the Ashippun Lake access site, a 24 acre site owned by the Wisconsin Department of Natural Resources (see Table 150).

^dThe location of the trail is shown on Map 98. Parcels owned by Waukesha County adjacent to the Bugline Recreation Trail right-of-way are shown on Map 97.

^eThe Bugline Trail is located along the former Milwaukee Road right-of-way. The right-of-way is now owned by Waukesha County. The 12.3 mile trail right-of-way is about 75 feet in width and covers an area of about 112 acres. In addition, there are five parcels of land encompassing approximately 93 acres owned by Waukesha County located along the trail.

^fThe Lake Country Trail is located on lands leased from the Wisconsin Electric Power Company, on existing public streets, and in Naga-Waukee County Park. The approximately 7.8 mile trail includes 4.9 miles of right-of-way on WEPCO lands varying in width from 50 feet to 100 feet, and covers an area of about 53 acres. The remaining 2.9 miles of trails include 1.7 miles through Naga-Waukee County Park and 1.2 miles on existing streets.

^gThe New Berlin Trail is located on lands leased from the Wisconsin Electric Power Company. The 6.0 mile right-of-way is about 100 feet in width and covers an area about 73 acres.

Source: Waukesha County Park and Planning Commission and SEWRPC.

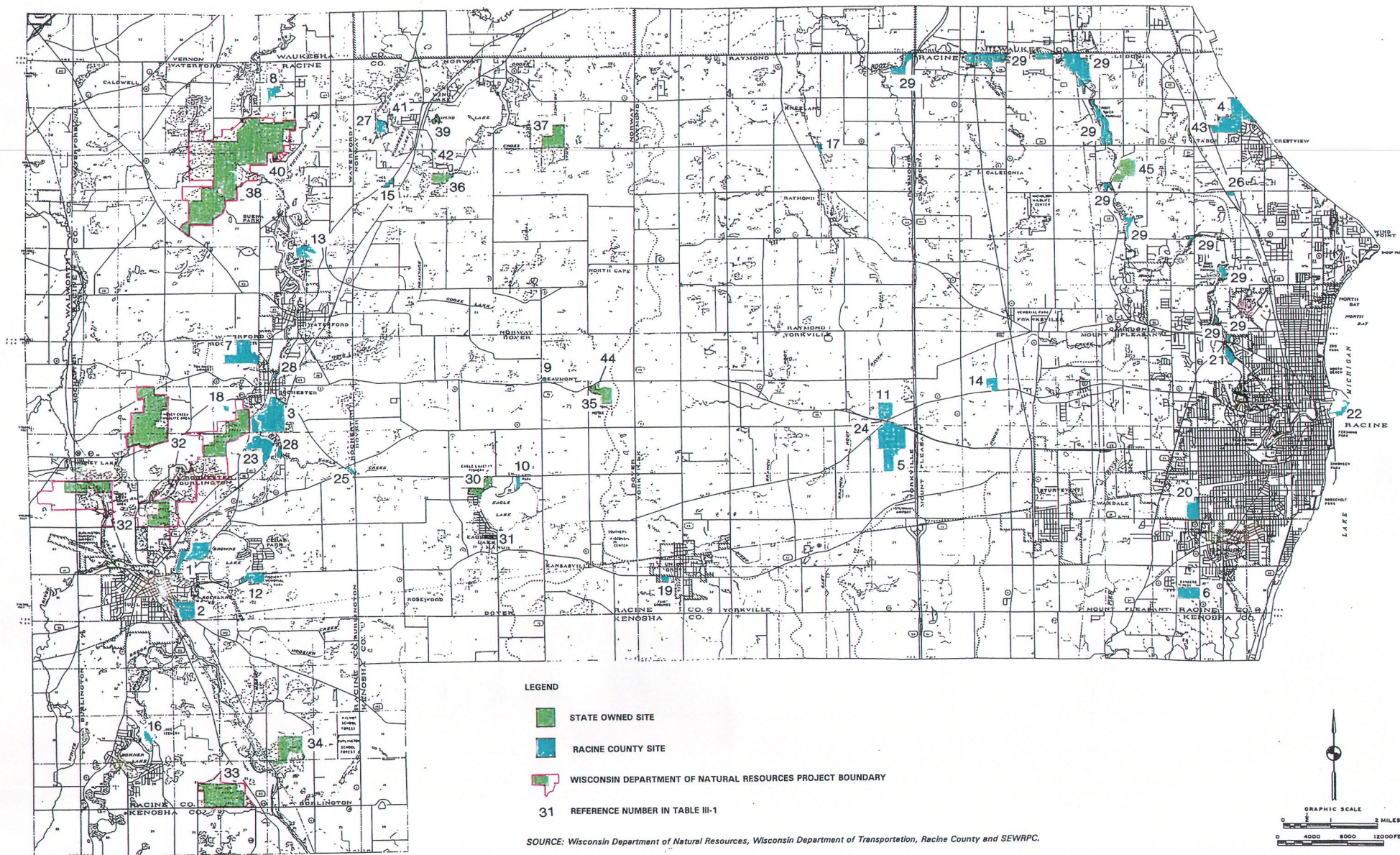
Table III-1
Park and Outdoor Recreation Sites Owned by Racine County: 1997

Number on Map III-1	Site Name	Location	Size (Acres)
	<u>Major Parks</u>		
1	Browns Lake Golf Club	T3N, R19E, Section 28	144
2	Bushnell Park	T3N, R19E, Section 33	95
3	Case Eagle Park	T3N, R19E, Section 11	239
4	Cliffside Park	T4N, R23E, Sections 7,8	233
5	Ives Grove Golf Links	T3N, R21E, Section 13	304
6	Sanders Park	T3N, R22E, Section 36	80
7	W.R. Wadewitz Nature Camp	T3N, R19E, Section 3	168
	Subtotal - 7 Sites	—	1,263
	<u>Other Parks and Outdoor Recreation Sites</u>		
8	American Eagle Manor Outlot	T4N, R19E, Section 2	17
9	Beaumont Park	T3N, R20E, Section 2	1
10	Eagle Lake Park	T3N, R20E, Section 22	25
11	Evans Park	T3N, R21E, Section 12	66
12	Fischer Memorial Park	T3N, R19E, Section 34	70
13	Fowler's Bay Outlot 1	T4N, R19E, Section 25, 26	44
14	Haban Park	T3N, R22E, Section 8	37
15	Heg Park	T4N, R20E, Section 18	21
16	John Margis, Jr. Wildlife Area	T2N, R19E, Section 17	45
17	Koerber Property	T4N, R21E, Section 15	11
18	Kuecker Property	T3N, R19E, Section 10	7
19	Old Settler's Park	T3N, R21E, Section 31	12
20	Pritchard Park	T3N, R22E, Section 24	75
21	Quarry Lake Park	T3N, R23E, Section 6	40
22	Racine Harbor Park	T3N, R23E, Section 9	18
23	Saller Woods	T3N, R19E, Section 14,15	91
24	Skewes Memorial Park	T3N, R21E, Section 14	4
25	Stenhouse Memorial Park	T3N, R19E, Section 13	12
26	Tabor Sokal Memorial Park	T4N, R23E, Section 19	1
27	Whispering Hills Outlot	T4N, R20E, Section 7	43
	Subtotal - 20 Sites	—	640
	<u>Parkways</u>		
28	Fox River Parkway	T3N, R19E, Section 2,14	14
29	Root River Parkway	T3N, R23E, Section 6 T4N, R21E, Section 1 T4N, R22E, Sections 3,4,5,10,11,14,25 T4N, R23E, Sections 19,30,31	648
	Subtotal - 2 Sites	—	662
—	Total - 29 Sites	—	2,565

Source: Racine County Public Works Division and SEWRPC.

MAP III-1

RACINE COUNTY AND STATE OF WISCONSIN
PARK AND OPEN SPACE SITES: 1997



Appendix E

**SUMMARY OF CURRENTLY ADOPTED LOCAL
ORDINANCES WITH APPLICABILITY TO THE ACTIVITIES
OF THE SOUTHEASTERN WISCONSIN FOX RIVER COMMISSION**

Ordinances with Applicability

to the Activities of the
Southeastern Wisconsin Fox River Commission

Shoreland and Floodland Protection Ordinances

Waukesha County - jurisdiction in Towns and lands annexed after May 1982. Annexing body is responsible for enforcing shoreland floodplain ordinance that is at least as restrictive as the County Ordinance.

Waukesha County: Has Shoreland Floodplain Ordinance

City of Waukesha.....	Yes	(adopting one at least as restrictive as Waukesha Co.)
Town of Waukesha.....	Yes	
Village of Big Bend.....	NO	
Town of Vernon.....	Yes	
Town of Mukwonago.....	Yes	
Village of Mukwonago.....	Yes	(100-270 ordinance #)

Racine County: Has Shoreland Floodplain Ordinance

Village of Waterford.....	No	(Only uses FEMA maps)
Town of Waterford.....	Yes	(Adopted County's - Zoning and Planning)

Zoning Ordinances:

Waukesha County: Has Zoning Ordinance

City of Waukesha.....	Yes	
Town of Waukesha.....	Yes	
Village of Big Bend.....	Yes	
Town of Vernon.....	Yes	(Waukesha County Administrates)
Town of Mukwonago.....	Yes	
Village of Mukwonago.....	Yes	

Racine County: Has Zoning Ordinance

Village of Waterford.....	Yes	(Uses Racine County Ordinance)
Town of Waterford.....	Yes	(Adopted County's - Zoning and Planning)

Construction Site Erosion Control

- A. Waukesha County - jurisdiction in towns and lands annexed after May 5, 1992
- B. COMM 20 and 21 - Uniform Dwelling Code - Responsibility of Towns to enforce construction site erosion control for 1 and 2 family home construction

Waukesha County: Has Construction Site Erosion Control Ordinance

City of Waukesha.....	Yes	(Chapter 32 Municipal Code)
Town of Waukesha	Yes	(Zoning Code)
Village of Big Bend.....	Yes	(?)
Town of Vernon.....	Yes	(County Administrates)
Town of Mukwonago.....	Yes	(Zoning - 1&2 Family)
Village of Mukwonago.....	Yes	(Zoning)

Racine County: Erosion control only in subdivision ordinance

Village of Waterford.....	Yes	(Only thru COMM 20 & 21)
Town of Waterford.....	Yes	(Only thru COMM 20 & 21)