PRELIMINARY DRAFT

SEWRPC Planning Report No. 42

2nd AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

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Chapter 1

INTRODUCTION

1.1 INTRODUCTION

This report documents the 2nd Amendment to the original 1997 regional natural areas and critical species habitat protection and management plan for southeastern Wisconsin (hereinafter 1997 plan).[1] The Commission attempts to update its regional plans on a 10-year basis, and it was time for its second update, which was last updated in 2010 (hereinafter 2010 Amendment).[2] This current Amendment was initiated by Commission staff in 2019 with an award of the first Wisconsin Coastal Management Program (WCMP) grant. Two additional WCMP grants were awarded to support development and compilation of this project and the latest grant was completed in 2024. However, prior to this update Commission staff sought feedback from each of the seven counties within the regional area and various conservation organizations specifically on three main questions: how do they use the current plan, what information on natural areas and critical species habitats is most useful to them, and how can the plan or its data format be improved. Results of this feedback identified four key elements to improve the plan and its ease of use as listed below:

- Provide more up-to-date information (i.e., new sites, lost sites, designation changes, and boundary changes) for inclusion in appropriate local and county planning reports and studies and stewardship efforts

[1]SEWRPC Planning Report No. 42, A Regional Natural Areas and Critical Species Habitat and Protection Plan for Southeastern Wisconsin, 1997.
[2]SEWRPC Planning Report No. 42, Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region, 2010.

- Need to change current hard copy map and table format to a more formal, centralized digital (i.e., boundary shapefiles with detailed attributes or mapping applications) inventory of our natural areas and their attributes to maximize use for and visibility by desired users (public and private)
- Need to update the original aquatic resource assessment schemes for lake and stream classification
- Need to better address common threats and management needs of different natural area types

Therefore, this update reflects physical changes in the Region, as well as new findings, which have occurred since the preparation of the original 1997 plan and the 2010 Amendment and several additional elements that include:

- Development of a digital geodatabase of natural areas and critical species habitat sites and their attributes to serve as a central repository for site information
- Development of new site profile summaries and maps for each natural area
- Revised and updated aquatic resource assessment schemes for lake and stream classification
- Development of an interactive webtool hosted on the Commission's website to locate natural areas and critical species habitat sites, aquatic resource locations and classification rankings, and to learn more about how to protect and manage these critical resources and download information about each of them.[3]

The initial study identified the most important remaining natural areas, critical species habitat areas, aquatic areas, geological areas, and archaeological sites in the Southeastern Wisconsin Region, and recommended means for their protection and management. The current update continues to build upon the goal of increasing the dissemination, quality, timeliness, and access to the information regarding such sites to State, county, and local units and agencies of government and to private interests, in order that the preservation of these sites may be properly considered as proposals for development within the Region are advanced.

1.2 THE REGION

The Southeastern Wisconsin Region consists of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties (see Map 1.1). Exclusive of Lake Michigan, these seven counties have a total area of 2,689 square miles, or about five percent of the total area of Wisconsin. These counties,

[3]*SEWRPC Natural Areas Interactive Webtool is located here at https://www.sewrpc.org/Regional-Planning/Natural-Areas*

however, account for about 35 percent of the total population of the State, about 36 percent of all jobs in the State, and about 36 percent of the total tangible wealth of the State, as measured by equalized property value. Exclusive of school and other special-purpose districts, the Region contains 147 local units of government, all of which participate in the work of the Commission.

1.3 NEED FOR PLAN REVIEW AND RE-EVALUATION

Within the planning framework conceived by the Commission, the periodic review of major elements of the natural area and critical species habitat plan is essential. Owing to the passage of time, there is a need to evaluate the plan in light of changes which have occurred with respect to population growth, land use development, climate change, and discernable changes to the fauna and flora populations and their associated habitat conditions.

1.4 BASIC PRINCIPLES

The Commission's regional natural areas and critical species habitat plan is based upon seven basic principles:

- That the ultimate purpose of a natural areas protection and management plan is to guide the identification, protection, and management of high-quality natural areas and critical species habitats in Southeastern Wisconsin.
- That effective solutions to the problems of natural areas and critical species habitat protection and management in the Region can be achieved only by considering all important aspects of the natural resource base, together with all significant human modifications and uses thereof. This requires that the natural areas and critical species habitat planning effort be carried out within the context of a comprehensive areawide planning effort.
- That the study will utilize the latest identification, protection, and management techniques in developing a protection and management plan for natural areas and critical species habitat in the Region.
- That the task of maintaining and implementing a natural areas and critical species habitat protection and management program, the collection and analysis of basic data under such a program, and the formulation of improvement plans and of related plan implementation programs all require close and continuing cooperation among the various levels and agencies of government concerned with, and involved in, natural areas and critical species habitat protection and management.

- That full use will be made of all previously published and unpublished surveys, reports, and other pertinent data on natural areas of Southeastern Wisconsin, including, but not limited to, technical information assembled by the following agencies and individuals: U.S. Department of the Army, Corps of Engineers; U.S. Department of the Interior, Fish and Wildlife Service and Geological Survey; Wisconsin Department of Natural Resources; Milwaukee Public Museum; University of Wisconsin System; and biologists and naturalists familiar with the natural resource base of the Southeastern Wisconsin Region. Additional data collection will be conducted only as necessary to develop essential original data currently unavailable or to supplement, or update, existing data.
- That the study will deal with natural areas and critical species habitat protection and management concerns, as well as identifying significant known archaeological and geological sites, and will provide a framework within which an integrated natural areas protection and management plan can be readily prepared.
- That although time is of the essence, the breadth of the study and its intensity must not be sacrificed for the expediency of effecting temporary, short-range solutions to the problems of natural areas protection and management in Southeastern Wisconsin.

It is intended that the present work effort culminate in the adoption of an amendment to the natural areas and critical species habitat protection and management plan, updating the prior work as necessary to reflect preservation and development decisions made over the past 15 years, and to incorporate new information. In this way, the updated plan will provide for the identification, protection, and management of the Region's high-quality natural areas and critical species habitat in an economically feasible, socially responsive, functionally sound, and environmentally sensitive manner.

1.5 THE PLANNING PROCESS

The planning process followed in preparing the original regional natural areas and critical species habitat protection and management plan involved the formulation of objectives and standards; the conduct of extensive inventories; the undertaking of analyses; the synthesis and evaluation of plans; the selection and adoption of a final plan; the preparation of plan implementation recommendations; and, dissemination of data and information to learn about these sites and how to protect them. These steps are described in detail in the aforementioned original 1997 plan.

For the purposes of updating the regional natural areas and critical species habitat protection plan and preparing this amendment to that plan, the following operational steps were undertaken:

- All natural areas, critical species habitat areas, aquatic areas, and geological areas that were listed in the original 1997 plan, were re-examined for
    - upgrading or downgrading of their classification codes (rank) based on significant changes to their site quality.
    - significant changes to their boundaries, based on examination of the Commission's 2022 aerial photography and/or applicable field inspections.
    - any recommended protective ownership change

- Additional natural areas, based on information acquired subsequent to the publication of the original 1997 plan and the 2010 amendment, were evaluated and classified according to their:
    - rank based on site quality (i.e., does the area meet the criteria for inclusion in the natural area plan?)
    - areal extent (boundary) of the site.
    - recommended protective ownership, based on the criteria set forth in the original 1997 plan.
- Changes to the original sites, as well as the addition of new sites, were added to the Commission's Geographic Information System for mapping and analysis.

1.6 ORGANIZATIONAL STRUCTURE AND PUBLIC INVOLVEMENT FOR THE PLAN UPDATING WORK EFFORT

The work leading to the updating of the natural areas and critical species habitat protection and management plan was carried out by the staff of the Commission under the guidance of the Commission's Technical Advisory Committee (TAC) and the Aquatic Habitat Subcommittee for the development of this report. Membership on both Committees consisted primarily of public and private natural resource managers, park directors, and university scientists from counties and communities from throughout the Southeastern Wisconsin Region, as well as representatives from the Wisconsin Departments of Natural Resources. A complete membership list of the TAC and Aquatic Habitat Subcommittee is provided on the inside front cover of this report. The Aquatic Habitat Subcommittee guided content and development of the revised aquatic habitat assessment schemes for lakes and rivers. The TAC guided the plan update

process, review, and recommendations for this report. The Commission also maintained records of the TAC and the Aquatic Habitat Subcommittee on its website, which included all materials prepared under this work effort; meeting agendas and minutes; and an opportunity for individuals to provide comments on the plan amendment proposals. [4]

During the plan updating effort, Commission staff worked with a number of interests through informal meetings, providing information about, and obtaining input on, habitat site condition, data updates, and draft content related to this amendment. These interests included primarily groups, organizations, and individuals concerned with environmental protection, restoration, and preservation.

1.7 REPORT FORMAT AND ORGANIZATION

The findings and recommendations presented in this report serve to update the originally prepared and adopted 1997 plan report and 2010 plan update. This report reaffirms the basic principles and concepts underlying the original study and the factual findings of the extensive inventories conducted under that study. It identifies and, to the extent possible, quantifies the historic loss of and changes to natural areas and critical species habitat in the Region since the original study. The report is intended to allow for careful, critical review of the updated plan by public officials, agency staff personnel, and citizen leaders within the Region and to provide the basis for adoption and implementation by the Federal, State, and local agencies of government concerned.

Following this initial chapter, Chapter 2 begins with a characterization of the definitions and terms, scope and purpose of the plan, and importance of preserving natural areas and critical species habitats in the regional area. This chapter also provides a summary of the inventory findings and recommendations in the original 1997 plan and how it relates to this current plan amendment effort.

Chapter 3 examines the status of implementation since publication of the 2010 amendment for natural areas, critical species habitat areas, as well as aquatic, geological, and archeological sites. More specifically, this chapter provides a summary of the number of sites and associated acreages proposed to be acquired by governmental and/or public and private organizations over the past 14 years.

[4]SEWRPC Regional Natural Areas Program can be found here at https://www.sewrpc.org/Regional-Planning/Natural-Areas

Chapter 4 describes the new or additional natural area and critical species habitat sites that have been identified since the 2010 Amendment. In addition, the newly revised aquatic assessment scheme and rankings for lakes and stream reaches is also summarized and compared to the original 1997 plan rankings to the extent practicable.

Chapter 5 defines changes in the status of endangered, threatened, and special concern plant and animal species in the Southeastern Wisconsin regional area as compared to the 2010 Amendment.

Chapter 6 describes the changes to the existing natural area and critical species habitat sites based upon site re-evaluations since the 2010 Amendment. Specifically, this chapter summarizes results of the re-inventorying site work in the field by Commission staff and/or its local, county, state, and federal partners throughout the regional area over the past 14 years.

Chapter 7 provides the recommended changes to the natural areas and critical species habitat sites and sets forth updated recommendations relative to protecting these remaining sites in the Region, including protective ownership and management guidance. This chapter also provides a summary of the recommended strategies to protect both natural areas and aquatic areas, which are often interconnected and mutually beneficial. Finally, this chapter ends with a description and link to the interactive webtool developed as part of this amendment to better find and learn about each of these sites and an updated amendment process to help keep the plan and its data more up-to-date and accessible now and in the future.

Chapter 8 provides a regional and county level summary of the plan recommended changes to the natural areas and critical species habitat sites and aquatic areas. A brief summary of the public meeting and associated comments on the plan recommended changes will be summarized in this chapter. The public meeting will include presentation of the interactive webtool, its different features, how to find essential maps and data, and how to access and download each of the natural area site profiles and associated maps. Detailed attendance and all public comments will be summarized and appended as part of this chapter.

Chapter 9 includes a summary of the updated plan changes for natural areas, critical species habitat, and aquatic areas, progress that has been made in implementing plan recommendations, and updated plan implementation recommendations for the protection and management of such areas. It also provides

implementation guidance and estimated plan costs to the extent practicable and framework for how this plan is expected to be updated in the future.

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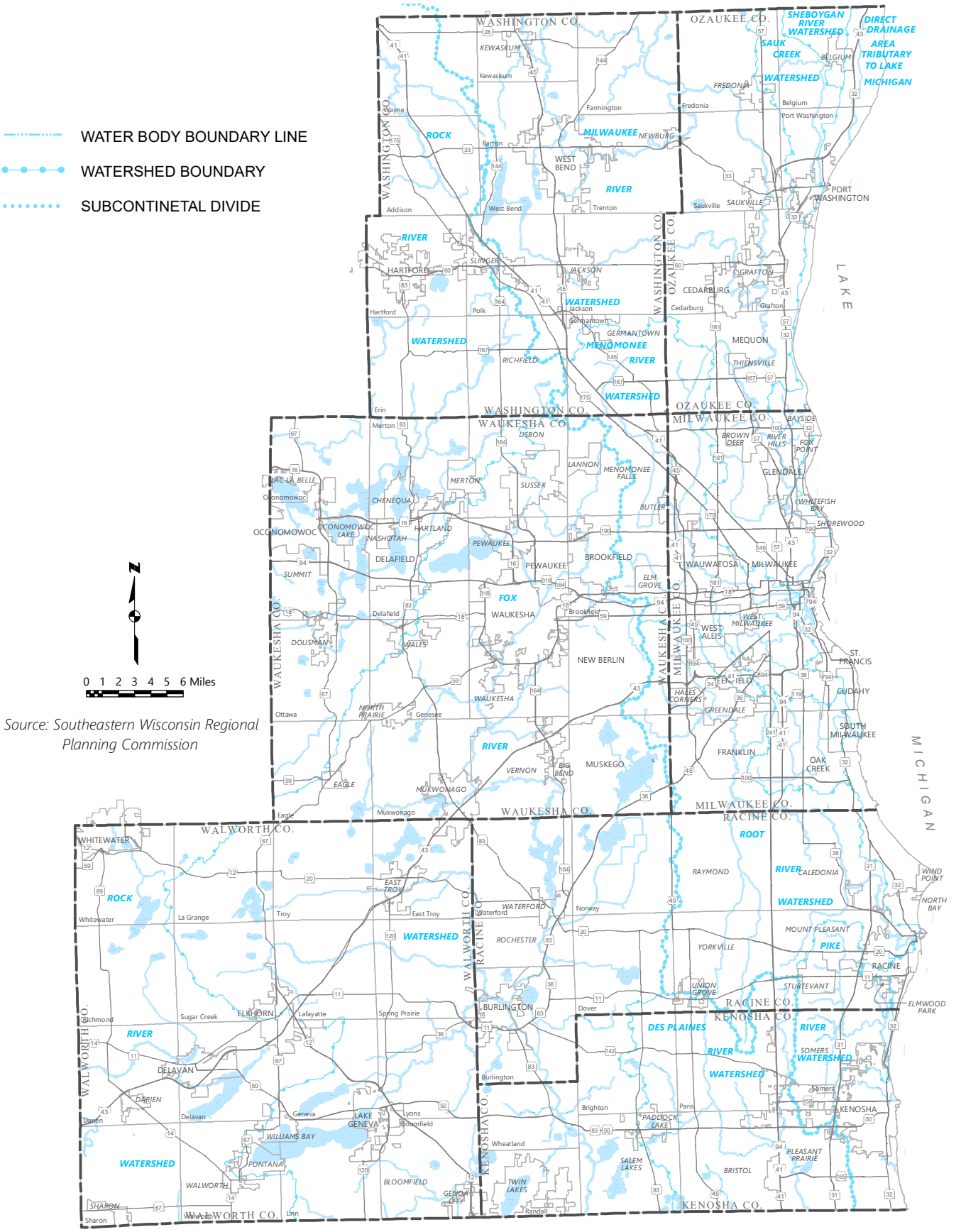
Chapter 1

MAPS

Map 1.1
Southeastern Wisconsin Region



Source: Southeastern Wisconsin Regional Planning Commission

Map Document: (M:\Special_Projects\800-2738\Chapter_1\Map_1_Southeastern_Wisconsin_Region.mxd)
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Chapter 2-Background

2.1 INTRODUCTION

The scope and purpose of this plan amendment is to identify the most important remaining natural areas, critical species habitat areas, aquatic areas, geological areas, and archeological sites and recommended means for their protection and management, which is the same as the original 1997[1] plan and 2010[2] Amendment. However, definitions and terms need to be clarified and modified where appropriate, which are summarized below. This chapter also provides a summary of the inventory findings and recommendations in the original 1997 plan and how it relates to this current plan amendment effort.

2.2 DEFINITION OF TERMS

Several terms and concepts appear throughout this report that require clear definition at the onset. Accordingly, definitions are provided for the following terms.

Archaeological sites

Archaeological sites are herein defined as those tracts of land, streambeds, or lake bottoms that include objects or other evidence of archaeological interest 100 years or more of age, including, but not limited to pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal materials, or any portion or piece of

[1]*SEWRPC Planning Report No. 42,* A Regional Natural Areas and Critical Species Habitat and Protection Plan for Southeastern Wisconsin*, 1997*.

[2]*SEWRPC Planning Report No. 42,* Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region*, 2010.*

any of the foregoing items; aboriginal mounds and earthworks; ancient burial grounds; prehistoric and historic ruins; Indian mounds; and other archaeological and historical features.[3,4]

Biotic Community

A biotic community is herein defined as any community that can be delineated in the environment based on the composition of its animals, plants, and other organisms.

Critical Species

Critical species are herein defined as those animals, plants, and other organisms considered by the Federal or State governments to be special concern, threatened, or endangered or to have significantly declining or unstable populations.

Critical Species Habitat

Critical species habitats are herein defined as those tracts of land or water which support Federally or State-listed special concern, threatened, and/or endangered plant or animal species as defined by State or Federal agencies. These habitats include the abiotic and biotic factors necessary for the long-term support of the critical species population.

Ecosystem

An ecosystem is herein defined as the sum of all organisms of a locality and their interactions with both the abiotic and biotic elements of the environment.

Endemic

Native or restricted to a specific geographic region or environment.

Extirpated Species

An extirpated species is herein defined as any species that has disappeared from the State as a breeding species, although it may still be present in other states. Animals and plants designated as extirpated have been lost to the breeding population within the State between 1800 and the present.

[3]National Historic Preservation Act of 1966, as amended, 16 U.S.C., Section 470bb.
[4]Wisconsin Statutes, Section 44.47(1)(b).

Federally Designated Endangered Species

A Federally designated endangered species is herein defined as any species or subspecies designated by the U.S. Congress as being in danger of extinction throughout all, or a significant portion, of its range.

Federally Designated Threatened Species

A Federally designated threatened species is herein defined as any species or subspecies designated by the U.S. Congress as being likely within the foreseeable future to become endangered throughout all, or a significant portion, of its range.

Gene Pool

A gene pool is herein defined as the total of all the genetic material of all the organisms within a designated population.

Geological Sites

Geological sites are herein defined as those tracts of land that include such specific glacial features as eskers and kames, fossil beds, and rock outcrop and exposed bedrock sites of scientific and educational value. Such sites may also support specific plan communities, such as dry prairie remnants or oak openings on eskers and kames.

Natural Areas

Natural areas are herein defined as those tracts of land or water so little modified by human activity, or which have sufficiently recovered from the effects of such activity, that they contain intact native plant and animal communities believed to be representative of the Pre-European settlement landscape. Natural area sites may be ranked according to several factors, including diversity of plant and animal species and community types present; the structure and integrity of the native plant or animal community; the extent of disturbance from human activity, such as logging, grazing, water level changes, and pollution; the commonness of the plant and animal communities present; the size of the area; any unique natural features within the area; and the educational and scientific value. These rankings and how they relate to the aforementioned factors are discussed further in Chapter II, "Basic Principles and Concepts" in the original 1997 plan.

Plant Community

A plant community is herein defined as a particular association of plants, usually described by referring to the most characteristic species and/or moisture conditions. Examples include "beech-maple forest," "sedge meadow," and "dry-mesic prairie."

Presettlement Vegetation

The presettlement vegetation is herein defined as the characteristic vegetation of Southeastern Wisconsin prior to settlement by Europeans.

Rare Species

Rare species are herein defined as those native animal or plant species which occur infrequently either as individuals or in specific communities on the landscape.

Special Concern Species

A special concern species, also known as a watch species, is herein defined an any native species within the State of Wisconsin about which some problem of abundance or distribution is suspected, but not yet proved. This designation is an informational, non-legal category designed to focus attention on certain species before they become endangered or threatened.

State-Designated Endangered Species

State-designated endangered species has herein defined to include any species native to the State of Wisconsin whose continued existence as a viable component of the State's wild animals or wild plants I determined by the Wisconsin Department of Natural Resources, on the basis of scientific evidence, to be in jeopardy.[5]

State-Designated Threatened Species

State-designated threatened species are herein defined to include any species of wild animals or wild plants native to the State of Wisconsin which appear likely, within the foreseeable future and on the basis of scientific evidence, to become endangered.[6]

[5]*Wisconsin Statutes, Section 29.415(2)(a).*
[6]*Wisconsin Statutes, Section 29.415(2)(b).*

2.3 SUMMARY OF FINDINGS OF THE ORIGINAL PLANNING EFFORT

Historical Loss of Natural Areas and Critical Species Habitat: 1836 - 1990

Natural area and critical species habitat losses in Southeastern Wisconsin have been profound. About 83 percent of the pre-European-settlement vegetation had been lost by 1990. The Region has experienced a substantial loss of wetlands and woodlands. Once abundant in the Region, prairies and oak savannas have nearly disappeared from the landscape. Prairies declined from an estimated 267 square miles prior to European settlement to about two square miles in 1990. Oak savannas declined from an estimated 605 square miles prior to European settlement to about 0.2 square mile in 1990.

At the time of completion of the original study, a number of native plant and animal species had been extirpated, that is, had disappeared as breeding species, from the Region since 1836. In addition, a total of 45 native plants and 35 vertebrate animal species that occurred in Southeastern Wisconsin were listed by the Wisconsin Department of Natural Resources as endangered or threatened in Wisconsin. In addition, 70 plants and 70 vertebrate animal species had been identified as rare, or of special concern.

Scope And Purpose

The primary purpose of the original study was to identify and make recommendations for the protection and management of the most significant "natural areas" and "critical species habitats" remaining in the Southeastern Wisconsin Region. For purposes of the study, "natural areas" were defined as those tracts of land or water so little modified by human activity, or which had sufficiently recovered from the effects of such activity, that they contained intact native plant and animal communities believed to be representative of the pre-European-settlement landscape. "Critical species habitats" were defined as those additional tracts of land or water which supported endangered, threatened, or rare plant or animal species.

In considering the scope of the study, the Commission's technical advisory committee guiding the work determined that, in addition to natural areas and critical species habitats, the study should also address the identification, protection, and management of sites which are of special geological or archaeological significance. These sites, like natural areas and critical species habitats, are subject to inadvertent disturbance or destruction as urbanization within the Region continues, resulting in the loss of the opportunities which these sites afford cultural, educational, and scientific pursuits. For purposes of the study, "geological sites" were defined as tracts of land that include such glacial features as eskers and kames,

fossil beds, and rock outcrop and exposed bedrock sites of scientific and educational value. "Archaeological sites" were defined as those tracts of land, streambeds, or lake bottoms that include objects or other evidence of archaeological interest 100 years or more of age including, but not limited to, pottery, tools, structures, human skeletal remains, aboriginal mounds and earthworks, and ancient burial grounds.

Importance Of Preserving Natural Areas And Critical Species Habitats

Natural areas and critical species habitat areas contain interactive groups of plants and animals existing in particular environments. In effect, such areas represent living museums of a variety of habitats in which plants and animals have adapted to exist in the physical world. Natural areas and critical species habitats benefit humankind in several ways. Among the most important of these benefits are the following:

Maintenance of Biodiversity

"Biodiversity" is a shortened from of the term "biological diversity." Simply stated, biodiversity as a concept refers to the entire spectrum of life-forms in a geographic area and the many ecological processes that support those life-forms. The concept includes the full complement of all the genetic material carried by all the individuals of a particular species; the variety of species within a geographic area; the various plant and animal communities that are composed of species and their habitats; and the complex interactions between living organisms and the nonliving environment.

It is important to preserve biodiversity because a greater wealth of species can make ecosystems more productive and stable. Greater diversity helps ensure that species and ecosystems are better able to respond to and recover from environmental changes. Preserving and maintaining natural areas preserves biodiversity by enabling the full spectrum of native species and communities which they support to interact and function under natural conditions.

Support of Basic Scientific Research

Natural areas provide regional benchmarks to which the impacts of urban and rural development on an area may be compared. They provide laboratories where natural processes may be observed, analyzed, and compared. In addition, they act as early warning systems indicating that more far-reaching environmental degradation may be occurring, and they provide a template for mitigation efforts.

Functional Values

Natural areas function as "environmental regulators." Woodland components of natural areas protect the quality and quantity of both surface water and groundwater by moderating the impacts of extreme weather, such as the effects of wind and temperature. Mature forest shades the soil, reflecting solar radiation and thus effectively cooling the area under the canopy. Cool forest microclimates can be a welcome respite for plants, animals, and humans on a hot summer day. Tree, shrub, and herb cover and the associated root structure protect soil from erosion and provide natural pathways for stormwater infiltration. Natural communities reduce and store vast amounts of stormwater by intercepting precipitation and facilitating evaporation and transpiration of water during the normal course of plant growth. Wetland components of natural areas help to regulate stream flows and lake levels by serving as natural reservoirs, abating both floods and droughts. Wetlands protect surface-water quality by trapping silt and sediment contributed by both point and nonpoint sources of pollution. Wetlands also protect stream and lake shoreline areas from erosion and support groundwater recharge and discharge. Carbon storage and sequestration have become increasingly important as carbon dioxide levels rise in the atmosphere. Plants store and sequester carbon by utilizing carbon dioxide in the process of photosynthesis. Old growth forests and peatlands tend to store the most carbon per acre, while young establishing communities tend to have higher rates of carbon sequestration. Maintaining intact natural communities and restoration of degraded systems thus has the potential to provide local communities with many ecosystems services benefits described above.

Cultural Value

Natural areas, aquatic areas, critical species habitat sites, geological areas, and archeological sites may have cultural or religious significance to the indigenous people that have called the Region home for millennia. The Region includes traditional Potawatomi, Ho-Chunk and Menominee homeland where members of Wisconsin's sovereign Anishinaabe, Ho-Chunk, Menominee, Oneida and Mohican nations remain present today.

Educational and Recreational Value

With proper management, natural areas may accommodate nature study, bird watching, nature photography, and similar passive recreational pursuits. Natural areas provide opportunities for the biological sciences to be taught on a firsthand basis.

Economic Value

In a very real sense, natural areas contribute to the economy of any region by supporting activities such as hunting, fishing, trapping, gathering of plant products, forestry, and tourism. They tend to increase the value of adjacent property and help maintain air and water quality. Native species supported by natural areas may provide new sources of food, may help to improve cultivated crops, and may aid in the creation of new medicines .

Aesthetic Value

Natural areas add variety and interest to increasingly urbanized landscapes.

Significance of this Regional Level Plan

This is the only regional level plan in the State of Wisconsin solely dedicated to the identification and preservation of the most significant remaining natural areas, critical species habitats, and aquatic areas and their associated flora and fauna in Southeastern Wisconsin. Hence, the information and recommendations comprised in this plan helps to assist in the protection and preservation of wildlife at the federal, state, coastal, county and local government levels. For example, our inventory information has helped to inform the state's 2015 Wisconsin Wildlife Action Plan (WWAP)[7] and the ongoing current 2025 WWAP plan update. This plan also represents an important element of the Regional Land Use and Transportation Plan,[8] which makes recommendations to local, county, and State government to shape and guide land use development and transportation improvement, including public transit, arterial streets and highways, freight, and bicycle and pedestrian facilities, to the year 2050. In addition, this plan provides important data and information to supplement County land and water resource management plans as well as County, City, Town, and Village Comprehensive Plans and Park and Open Space Plans throughout the entire Region. Finally, this plan also provides vital information as part of the regional water quality management plan recommendations[9] as well

[7]*Wisconsin Department of Natural Resources*, 2015-2025 Wisconsin Wildlife Action Plan*, Madison, WI, 2015*.
[8]*SEWRPC Planning Report No. 55 (2nd Edition)* Recommended Regional Land Use and Transportation Plan, Volume III of the VISION 2050 Plan Report*, June 2020*.
[9]*SEWRPC Planning Report No. 30,* A Regional Water Quality Management Plan For Southeastern Wisconsin: 2000, Volumes 1-3*, 1978; SEWRPC Planning Report No. 50,* A Regional Water Quality Management Plan Update For The Greater Milwaukee Watersheds, Part One and Two*, 2007*.

as individual lake and stream watershed-based restoration and protection plans[10] or EPA 9-Key Element pollutant load (i.e., total maximum daily load) plans.[11]

Inventory Findings

Inventory work conducted under the original study identified the following natural areas and critical species habitats within the Region:

Natural Areas

The original study identified a total of 447 natural areas in Southeastern Wisconsin. Together, these areas encompassed about 90 square miles, or about 3 percent of the total area of the Region. The 2010 amendment identified a total of 494 natural areas in Southeastern Wisconsin (see Maps 2.1 through 2.7). Together, these areas encompassed about 101 square miles, or about 3.8 percent of the Region. These sites included examples of all major pre-European-settlement vegetative community types; many of the sites supported and continue to support endangered, threatened, or rare plant or animal species. Using a classification system originally developed by the Wisconsin Department of Natural Resources and refined by the Regional Planning Commission, each of the identified natural areas were classified as being of statewide or greater significance, or an "NA-1" site; of countywide or regional significance, or an "NA-2" site; or of local significance, or an "NA-3" site. NA-1 sites represent excellent examples of nearly complete and relatively undisturbed plant and animal communities which are believed to closely resemble those present during pre-European-settlement times. NA-2 sites represent native biotic communities judged to be of lower than NA-1 significance because of evidence of limited human disturbance. NA-3 sites represent native biotic communities judged to have been substantially altered by human activities, but which are of local significance, often containing good wildlife habitat or providing refuge for several native plant species which no longer exist in the surrounding area. Of the 447 natural area sites identified in the original study, 40 sites, which together encompassed an area of about 14 square miles, were identified as NA-1 sites; 122 sites which together encompassed an area of about 33 square miles, were identified as NA-2 sites; and 285 sites, which together encompassed an area of about 43 square miles, were identified as NA-3 sites. Of the 494 natural areas sites identified in the 2010 amendment, 42 sites, which together encompassed an area of

[10]*SEWRPC Community Assistance Planning Report No. 58, A Lake Management Plan for Pewaukee Lake, Waukesha County, Wisconsin (3rd Edition), 2020; SEWRPC Community Assistance Planning Report No. 309, Mukwonago River Watershed Protection Plan, 2010.*

[11]*SEWRPC Community Assistance Planning Report No. 321, Mason Creek Watershed Protection Plan, 2013; SEWRPC Community Assistance Planning Report No. 330, A Restoration Plan for the Oak Creek Watershed, Volumes 1-3, 2021.*

about 18 square miles, were identified as NA-1 sites; 130 sites, which together encompassed an area of about 38 square miles, were identified as NA-2 sites; and 322 sites, which together encompassed an area of about 45 square miles, were identified as NA-3 sites.

Critical Species Habitat Sites

The original plan identified 142 critical species habitat sites located wholly or partially outside the boundary of the identified natural areas. These sites were classified as critical bird, plant, or mammal habitat sites. Rare herptile species ranges were identified, but not designated as critical species habitat sites. In addition, surface waters containing rare fish and mussel species were identified, but not included as critical species habitat sites. The 2010 amendment to the original plan identified a total of 271 critical species habitat sites totaling 31 square miles, or 1.2 percent of the Region.

Significant Aquatic Areas

Southeastern Wisconsin contains hundreds of lakes and thousands of stream and rivers that are critical habitat for thousands of plant, fish, macroinvertebrate, amphibian, and bird species. These waterbodies support recreational uses, such as bird-watching, fishing, and hunting, which draw thousands of visitors annually and are an important part of the Region's economy. This section will describe the process to gather information about the Region's waterbodies, utilize that information in an updated ranking scheme, and will designate and describe the Region's aquatic natural areas.

The aquatic natural areas were originally designated in SEWRPC Planning Report No. 42, *A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin* (hereafter referred to as PR 42). In this report, Commission staff developed assessment schemes to individually rank lakes and streams using available data from the Commission's files and from the Wisconsin Department of Natural Resources ("WDNR"). The Commission designated 150 lakes and 127 stream reaches as Aquatic Areas in PR 42.

Streams

In PR 42, Commission staff subdivided the major rivers of the Region into reaches that were individually assessed. The reach delineation began with the approach utilized in SEWRPC Memorandum Report No. 43,

A Regional Water Quality Management Plan for Southeastern Wisconsin: An Update and Status Report, which defined stream reaches as "perennial streams which maintain, at a minimum, a small, continuous flow throughout the year except under unusual drought conditions." These reaches were modified if they were known to contain State-listed special concern, threatened, or endangered species; significant beds of freshwater mussels; or were adjacent or encompassing an identified Natural Area. Each reach was assessed using a ranking scheme that incorporated elements of the stream's water quality, physical characteristics, wildlife, and the presence of a riparian buffer (see Table 2.1); the scheme was applied to each reach based on the available data compiled for that reach. As the required data was not available for every stream reach in the Region, Commission staff applied default point values for some aspects of the assessment scheme and also used best professional judgement on other aspects. The Technical Advisory Committee reviewed the initial stream rankings and made adjustments to develop the final rankings. Significant stream reaches were designated as either Aquatic Areas of Statewide or Greater Significance (AQ-1), Aquatic Areas of Countywide or Regional Significance (AQ-2), or Aquatic Areas of Local Significance (AQ-3). Thirteen stream reaches were ranked as AQ-1, 29 reaches as AQ-2, and 85 as AQ-3.[12] The original ranking stream Aquatic Areas from PR 42 are presented in Table 2.2.

Lakes

The process for ranking lakes in PR 42 was similar to the stream ranking process. Only lakes, which includes impoundments and other waterbodies of artificial origin, which had a surface area of 50 acres or greater were considered for ranking. However, lakes between 10 and 50 acres were also given special consideration if they contained a State-listed special concern, threatened, or endangered species or were adjacent to or encompassed a Natural Area. A separate assessment scheme was developed for lakes which contained several similar elements to the stream assessment scheme; the lake assessment elements included water quality, wildlife, size, presence of riparian buffer, and physical characteristics (see Table 2.3). As with the stream rankings, Commission staff also used best professional judgment when assigning information to lakes with data gaps and when adjusting rankings for special circumstances. The Technical Advisory Committee reviewed the initial lake rankings and adjusted them to develop the final rankings. Significant lakes were designated using the same AQ-1, AQ-2, and AQ-3 ranks as the streams. Eleven lakes were ranked as AQ-1, 50 as AQ-2, and 89 as AQ-3. The original ranking lake Aquatic Areas from PR 42 are presented in Table 2.4.

[12] *In several instances, multiple streams were listed together in Table 101 of PR 42 or were illustrated as one waterbody in Map 53. These streams were treated as separate waterbodies for tallying the number of ranked reaches in this plan and for comparing against the updated ranking stream reaches.*

Significant Geological Sites

Under the original study, an inventory of scientifically and historically important bedrock geologic sites was conducted by experienced geologists well acquainted with the bedrock geology and paleontology of eastern Wisconsin and the history of the nonmetallic-mineral-mining industry in the Region. Based upon this work a total of 86 significant geological sites, including 57 bedrock geological sites and 29 sites containing glacial features, were identified (see Map 2.9). The sites were ranked using a classification system similar to that used in the ranking of designated natural areas. Thus, 23 designated significant geological sites, or 27 percent of the total of 86 sites, were classified as geological areas of statewide or greater significance, or "GA-1" sites; 28 sites, or 32 percent, were classified as geological areas of countywide or regional significance, or "GA-2" sites; and 35 sites, or 41 percent, were classified as geological areas of local significance, or "GA-3" sites.

Significant Archaeological Sites

Fourteen archaeological sites in the Region had been evaluated and found to be of significance sufficient for listing on the National Register of Historic Places and were so listed in the original study (see Map 2.10). Files of the State Historical Society of Wisconsin indicated that more than 2,000 other historic and prehistoric archaeological sites had been identified in the Region. These sites range from occurrences of single arrowheads to campsites and village sites. These sites have not been listed on the National Register of Historic Places either because they were primarily of local significance or because they had not yet been thoroughly studied and evaluated.

Related Government Policies And Regulation

Existing public regulations at best provide limited protection of natural areas, critical species, and critical species habitats. The following summarizes the regulatory structure that existed at the time of adoption of the original plan:

- Major remedies available under Federal and State law generally consist of restrictions on or prohibitions of the taking, possession, transport, and sale of designated endangered and threatened plant and animal species. However, no Federal or State regulations have been specifically promulgated to protect natural areas and critical species habitats unless they are located within designated State natural areas which are owned or managed by the State.

- Wetland regulatory programs administered by the Federal and State governments may serve to protect natural areas and critical species habitats located within wetlands. In addition, State regulation of the extension of public sanitary sewerage systems may afford protection of natural areas and critical species habitats located within primary environmental corridors. Some Federal and State programs provide funds to public agencies and to private nonprofit conservation organizations to locate, evaluate, acquire, protect, and manage natural areas and critical species habitats.

- Local zoning, including general zoning and State-mandated floodland and shoreland zoning, provides a means of ensuring the protection of natural areas and critical species habitats. Local subdivision control ordinances may also be used to protect open space sites which encompass natural areas and critical species habitats. However, such ordinances are effective in preserving natural areas and critical species habitats only if the local units of government involved are inclined to enact and properly administer the ordinances with this end in mind.

- Government programs provide limited protection of especially significant geological and archaeological sites. The Federal National Natural Landmarks program provides for the designation of particularly significant geological sites; Federal agencies are required to consider potential impacts on designated National Natural Landmark sites in any environmental assessment of agency actions. Archaeological sites listed on the National Register of Historic Places receive limited protection from projects licensed or funded by the State or Federal governments.

Objectives, Principles, And Standards

In the course of its original work, the Commission's technical advisory committee adopted two objectives to guide the preparation of the original regional natural areas and critical species habitat protection and management plan:

- Maintenance of the integrity of the remaining biodiversity of the Region.
- Preservation and protection of the remaining significant geological and archaeological sites of the Region.

Supporting principles and related standards for the preservation, protection, and management of natural areas, critical species habitat areas, and significant geological and archaeological sites were developed accordingly.

2.4 SUMMARY OF RECOMMENDATIONS SET FORTH IN THE ORIGINAL PLANNING EFFORT

Within the framework of the objectives, principles, and standards noted above, a protection and management plan consisting of three plan elements—the first dealing with natural areas and critical species habitats, the second dealing with significant geological sites, and the third dealing with significant archaeological sites—was developed. The major recommendations of the three plan elements are summarized below.

Natural Area and Critical Species Habitat Plan Element

As noted above, the inventory phase of the amended study resulted in the identification of 494 natural area sites as well as 271 critical species habitat sites located wholly or partly outside the boundaries of the identified natural areas. The plan recommended that each of these 795 sites be protected and preserved to the maximum extent practicable as urban and rural development in the Region proceeds. The plan recommended that 677 sites, or 85 percent of the total, be placed in public or private protective ownership, and that the other 118 sites be protected, insofar as it is possible, through zoning and other regulatory means without protective ownership. The plan recommended the following priorities for public-interest acquisition, given existing constraints on the financial resources of the public and private agencies responsible for such acquisition:

- The highest acquisition priority be accorded to Natural Area sites of statewide or greater significance (NA-1 sites). All 42 of the identified NA-1 sites are recommended for protective ownership under the plan. The 42 NA-1 sites encompass 17.5 square miles, or about 0.7 percent of the total area of the Region. Of the 17.5-square-mile area concerned, about 12.3 square miles, or 70 percent, have already been placed under protective public or private conservation ownership. This includes five sites where protective acquisition of the entire site has been completed. Under the plan, the remaining 5.2 square miles would also be placed under protective ownership to ensure permanent preservation. This includes the expansion of such ownership for 33 sites where protective acquisition of a part of the site has been completed, and the acquisition of four sites where protective acquisition has not yet been initiated.

- The second-highest acquisition priority be accorded to those Natural Areas of countywide or regional significance (NA-2 sites) and those Natural Areas of local significance (NA-3 sites) which lie within Commission-delineated primary environmental corridors; which support endangered, threatened, or special concern plant or animal species; or which have already been at least partially placed in public or private protective ownership. Included in this priority group are all 130 of the NA-2 sites, plus 305 of the identified 322 NA-3 sites. The acreage within the 435 sites recommended for acquisition encompasses about 81.5 square miles, or about 3 percent of the total area of the Region. Of that total, about 39 square miles, or 47 percent, have already been placed under protective public or private conservation ownership. This includes 94 sites where protective acquisition of the entire site has been completed. Under the plan, the remaining 42.5 square miles would also be placed under protective ownership to ensure permanent preservation. This includes the expansion of such ownership for 188 sites already partially in protective ownership, plus the acquisition of 153 sites where protective acquisition has not yet been initiated.
- The third-highest acquisition priority be accorded to those Critical Species Habitat sites which are not wholly contained within a designated Natural Area, but which either are located within a Commission-delineated primary environmental corridor or are already at least partially in public or private conservation protective ownership. A total of 200 of the identified 271 Critical Species Habitat sites are included in this priority group. These 200 sites encompass about 29.2 square miles, or about 1.1 percent of the total area of the Region. Of that total, about 21.4 square miles, or 74 percent, have already been placed under protective public or private ownership. This includes 76 sites where protective acquisition of the entire site has been completed. Under the plan, the remaining 7.8 square miles would also be placed under protective ownership to ensure permanent preservation. This includes the expansion of such ownership for 27 sites already partially in protective ownership, plus the acquisition of 97 sites where protective acquisition has not yet begun. In addition, 55 Tier 3 Butler's Gartersnake habitat sites, all located in the primary environmental corridor, should be protected and managed to maintain suitable habitat under the plan.
- The fourth-highest acquisition priority be accorded to those activities intended to reestablish relatively large tracts of grasslands and forest interiors within the Region for the purpose of enhancing bird populations. The plan proposes that a new area be established to provide essential grassland habitat for native bird species in southern Walworth County, extending into

northern Illinois. This proposed grassland habitat would be a combined initiative between the Wisconsin Department of Natural Resources and the State of Illinois as part of a proposed Hack-ma-tack National Wildlife Refuge to be managed by the U.S. Fish and Wildlife Service. The proposed grassland area in Wisconsin would total approximately 5,000 acres (see Table 44 and Map 46 in the 2010 Amendment).

Upon implementation of these site acquisition recommendations, 477 Natural Area sites, or 97 percent of the 494 Natural Area sites within the Region, would be in protective public or private conservation ownership. In addition, of the 271 Critical Species Habitat sites not wholly located within a Natural Area, 200 sites, or 74 percent, would be in protective ownership.

The updated plan reiterated the following recommendations made in the original 1997 plan:

- adjust Commission-delineated primary environmental corridor boundaries to fully encompass inventoried Natural Areas and Critical Species Habitat sites which has been completed as part of the update.
- the reflection of the Natural Area and Critical Species Habitat inventory findings in the administration of Federal, State, and local wetland regulatory programs
- the potential modification of State law and administrative rules to ensure that State agency actions attendant to the approval of sanitary sewer extensions or private sewage disposal systems do not result in the destruction of Natural Areas or Critical Species Habitat sites recommended for preservation and protection
- the proper consideration of Natural Areas and Critical Species Habitat sites in the preparation of land use and other development plans by and in the related regulatory activities of county and local units of government

The amended plan recognized a need to properly manage natural areas and critical species habitat areas to ensure that the critical species and natural communities concerned can flourish. Without proper management, such areas may be significantly altered over time and their natural values diminished or lost. The plan further recognized that management techniques appropriate for one type of natural area or critical species habitat area may not be appropriate for others and that management measures must be developed and applied on a site-by-site basis. Accordingly, the plan recommended that the public agencies and private

conservancy organizations responsible for site preservation and protection prepare and implement detailed management plans specific to each site.

Geological Site Plan Element

Under the original plan, all 86 of the significant geological sites identified during the inventory phase of the planning effort were recommended to be protected and preserved. The plan recommended that 71 or the 86 sites be placed under protective public or private ownership and that the other 15 sites be protected insofar as it is practicable through zoning and other regulatory measures, without protective ownership. More specifically, the original plan recommended the following with regard to the identified significant geological sites:

- The highest priority was recommended to be accorded to the acquisition of geological sites whose acquisition had been recommended under prior State, regional, or county plans and for geological sites which had been recommended for protective ownership as natural areas or critical species habitats. In all, 48 geological sites fall into this priority group (see Map 10). About 67.1 square miles of these sites had been recommended to be acquired for protective ownership under existing plans. Of that area, 31.6 square miles had been recommended for protective ownership as natural areas or critical species habitats. Of the remaining 35.5 square miles, about 24.0 square miles, or 67 percent, were already in protective ownership in 1994.

- The second-highest priority was recommended to be accorded to the acquisition of 23 geological sites which had not been recommended for protective acquisition under prior plans but which were classified as GA-1 sites or were located within a primary environmental corridor (see Map 10). A total of 291 acres, or just over 0.4 square miles, were recommended for protective ownership at these 23 sites

- The remaining 15 geological sites were recommended to be protected and preserved to the maximum extent practicable, without public-interest acquisition. The preservation of these sites was to be taken into account in the preparation of land use plans and other development plans by county and local units of government.

Archaeological Site Plan Element

The original plan recommended the protection and preservation of the 14 archaeological sites in the Region which had been listed on the National Register of Historic Places (see Map 2.10). Five of these sites were wholly or partly held by public or private agencies in protective ownership. Under the original plan, the remaining nine sites would be protected and preserved to the maximum extent practicable, without public-interest acquisition, relying largely on protection afforded to National Register sites under Federal and State law and on county and local planning and zoning. None of these nine sites lie within any designated natural area, critical species habitat site, or significant geological area.

Plan Implementation

The amended planning report includes recommendations directed toward the concerned Federal, State, county, and local units and agencies of government and private conservancy organizations to implement the recommended natural areas and critical species habitat protection and management plan. Recommended actions include formal adoption or endorsement of the plan; integration of the plan findings and recommendations into the work program of each agency--including, at the county and local levels, integration into land use and other development plans; acquisition of natural areas, critical species habitat sites, and geological sites as recommended in the plan; and proper management of all sites which are placed under protective ownership.

Under the plan, the permanent protection of Natural Areas, Critical Species Habitat sites, and Geological Areas depends in large measure on site acquisition and management by numerous public and private agencies. Site specific recommendations directed toward State agencies, counties, local units of government, and private conservation organizations are set forth in the plan. The plan recommends that the Wisconsin Department of Natural Resources assume responsibility for ownership and management of 172 individual Natural Areas, Critical Species Habitat sites, Geological Areas, grassland, and forest interior sites in the Region. The plan recommends that the seven counties comprising the Region assume responsibility for ownership and management of 226 sites; cities, villages, towns, school districts, and other local units of government do so for 135 sites; and private conservancy organizations do so for 211 sites. The Wisconsin Department of Transportation and the University of Wisconsin would be responsible for ownership and management of 17 sites. Federal agencies would be responsible for ownership and management of six sites, plus one grassland site proposed to be jointly owned and managed by the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources.

2.5 PURPOSE OF THE CURRENT PLAN AMENDMENT WORK EFFORT

The primary purpose of the plan is to identify and make recommendations for the protection and management of the most significant remaining natural areas, critical species habitat sites, aquatic areas, geologic sites, and archeological sites in the Region. This publication summarizes changes to the sites previously recommended for protection and management and identifies new sites not previously included within the plan.

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 2

TABLES

Table 2.1
Aquatic Area Assessment Scheme for Streams: 1997 Regional Natural Areas Plan

Water Quality

Chemical Data
- +3: No water quality problems documents
- +1: No more than one water quality problem
- 0: Sufficient data not available
- -1: Two water quality problems
- -2: Three water quality problems
- -3: Four or more water quality problems

Physical Data
- +2: Low streambed sedimentation
- 0: Moderate streambed sedimentation or data not available

Physical Characteristics

Channel Modification
- +2 No physical modifications to the channel
- +1: Few modifications to the channel
- 0: Moderate modifications to the channel
- -1: Major modifications to the channel

Total Reach Length
- +2: Stream reach length (including adjacent critical stream reaches upstream and downstream) more than 15 miles
- +1 Stream reach length 10 to 15 miles
- 0: Stream reach length less than 10 miles

Connection with Critical Aquatic Areas
- +2: Connection with critical aquatic areas on both the upstream and downstream ends
- +1: Connection with critical aquatic areas on either the upstream or downstream end
- 0: No connection to critical aquatic area

Wildlife

Fish Population and Diversity
- +4: Excellent
- +2: Good
- 0: Fair or data not available
- -1: Poor

Critical Fish Species
- +5: Presence of endangered fish species (may also contain threatened or "special concern" fish species, or both)
- +4: Presence of threatened fish species (may also contain "special concern" fish species)
- +2: Presence of "special concern" fish species
- 0" No critical fish species documented

Critical Aquatic Amphibian and Reptile Species Suitable Habitat within or Adjacent to the Stream Channel
- +3: Presence of endangered aquatic herptile species habitat (may also contain threatened or "special concern" aquatic herptile species habitat, or both)
- +2: Presence of threatened aquatic herptile species habitat (may also contain "special concern" aquatic herptile species habitat)
- +1: Presence of "special concern" aquatic herptile species habitat
- 0: No critical aquatic herptile species habitat

Critical Mussel Species
- +5: Presence of endangered mussel species (may also contain threatened or "special concern" mussel species, or both)
- +4: Presence of threatened mussel species (may also contain "special concern" mussel species)
- +2: Presence of "special concern" mussel species
- +1: Supports mussel beds of nonlisted mussel species
- 0: Reach not samples for mussel species
- -1: No presence of mussel species when sampled

Table continued on next page

Wildlife (continued)

Trout Species Habitat
- +2: Class I trout stream
- +1: Class II trout stream
- 0: Class III trout stream or data not available

Biotic Index Rating
- +3: Excellent
- +2 Very Good
- +1: Good
- 0: Fair or data not available
- -1: Poor
- -2: Very Poor

Buffer

Corridor Encompassing the Stream Channel
- +3: Primary environmental corridor encompassing more than 90 percent of the stream reach
- +2 Primary environmental corridor encompassing between 50 percent and 90 percent of the stream reach
- +1: Secondary environmental corridor encompassing more than 50 percent of the stream reach
- 0: More than 50 percent of the stream channel not encompassed by corridor or any kind

Highest possible score: +36
Lowest possible score: -10

Source: SEWRPC

Table 2.2
Aquatic Natural Areas: 1997 Ranking Streams

Stream Name	WBIC	Original Rank
Bark River downstream from Nagawicka Lake to Scuppernong Creak inflow	813500	AQ1
Bark River upstream from Nagawicka Lake	813500	AQ1
Bluff Creek	816100	AQ1
Cedar Creek upstream from Little Cedar Lake	21300	AQ1
Fox River Downstream from IH 43 to Waterford Impoundment	742500	AQ1
Milwaukee River downstream from STI-I 33 to STH 57 (includes Mole Creek)	15000	AQ1
Milwaukee River downstream from Washington-Fond du Lac County to CTH H	15000	AQ1
Milwaukee River main stem upstream from STH 33	15000	AQ1
Mukwonago River Downstream from Eagle Spring Lake to Phantom Lakes	765500	AQ1
Mukwonago River Downstream from Phantom Lakes	765500	AQ1
Mukwonago River Upstream from Eagle Spring Lake	765500	AQ1
Oconomowoc River Downstream from Friess Lake to North Lake	848200	AQ1
Riveredge Creek	34000	AQ1
Allenton Creak	867100	AQ2
Bark River downstream from Scuppernong Creek inflow	813500	AQ2
Cedar Creek downstream from Little Cedar Lake to Little Cedar Creek inflow	21300	AQ2
Cedar Creek downstream from STH 60	21300	AQ2
East Branch Milwaukee River downstream from Washington-Fond du Lac County	36900	AQ2
Fox River Downstream from Echo Lake Inflow to Spring Brook Inflow	742500	AQ2
Fox River Downstream from Pebble Creek Inflow to IH 43	742500	AQ2
Fox River Downstream from Waterford Impoundment to Echo Lake Inflow	742500	AQ2
Genesee Creek	769800	AQ2
Jericho Creek	768300	AQ2
Mason Creek	851100	AQ2
Mill Brook	769400	AQ2
Milwaukee River downstream from CTH H to Woodford Drive	15000	AQ2
Milwaukee River downstream from STH 57 to CTH C	15000	AQ2
Milwaukee River downstream from STI-I 33 to main stem	15000	AQ2
North Branch, Milwaukee River	27100	AQ2
Oconomowoc River downstream from North Lake to Okauchee Lake	848200	AQ2
Pigeon Creek	20500	AQ2
Potawatomi Creek	758700	AQ2
Scuppernong Creek	825600	AQ2
Scuppernong River	817600	AQ2
Southwick Creek	758600	AQ2
Spring Creek	770300	AQ2
Turtle Creek downstream from Camus Lake to 5TH 11	790300	AQ2
Turtle Creek downstream from STH11to Walworth-Rock county line	790300	AQ2
Turtle Creek upstream from Camus Lake	790300	AQ2
Van Slyke Creek	758800	AQ2
Wallace Creek	27600	AQ2
White River	751200	AQ2
Ashippun River downstream from Waukesha-Dodge County to Ashippun Lake inflow	853800	AQ3
Ashippun River downstream from Ashippun lake inflow	853800	AQ3
Ashippun River upstream from Druid Lake	853800	AQ3
Bassett Creek	748200	AQ3
Brandy Brook	771400	AQ3
Brighton Creek	737400	AQ3
Cedar Creek downstream from CTH M to STH 60	21300	AQ3
Cedar Creek downstream from little Cedar Creek inflow to CTH M	21300	AQ3
Darien Creek	791800	AQ3
Des Plaines River Upstream of STH 50	734000	AQ3
Des Plaines Rivers Downstream of STH 50	734000	AQ3
Eagle Creek downstream from Eagle Lake	759500	AQ3
Eagle Creek upstream from Fox River	759500	AQ3
East Branch, Rock River downstream from CTH D	861400	AQ3

Table continued on next page

Stream Name	WBIC	Original Rank
East Branch, Rock River upstream from CTH D	861400	AQ3
Fish Creek	44700	AQ3
Fox River downstream from Spring Brook inflow to CTH JB	742500	AQ3
Fox River upstream from Mill Road	742500	AQ3
Fox River downstream from CTH JB to Wisconsin-Illinois Line	742500	AQ3
Friedens Creek	23300	AQ3
Honey Creek - lower reaches	751500	AQ3
Honey Creek - upper reaches	751500	AQ3
Husher Creek	3500	AQ3
Kewaskum Creek	39800	AQ3
Kilbourn Road Ditch	736900	AQ3
Kohlsville River	865400	AQ3
Ladd Creek	792400	AQ3
lake Ivanhoe Creek	756200	AQ3
limestone Creek	866800	AQ3
little Oconomowoc River	851400	AQ3
little Turtle Creek	791700	AQ3
Menomonee River downstream from Silver Spring Drive to Hampton Avenue	16000	AQ3
Menomonee River downstream from Capitol Drive to North Avenue	16000	AQ3
Menomonee River downstream from CTH Q to Lilly Road	16000	AQ3
Menomonee River downstream from Good Hope Road to Silver Spring Drive	16000	AQ3
Menomonee River downstream from Hampton Avenue to Capitol Drive	16000	AQ3
Menomonee River downstream from STH 145 to CTH A	16000	AQ3
Menomonee River downstream from Lilly Road to Good Hope Road	16000	AQ3
Mill Creek	769700	AQ3
Milwaukee River downstream from Brown Deer Road to Port Washington Road	15000	AQ3
Milwaukee River downstream from CTH C to Mequon Road	15000	AQ3
Milwaukee River downstream from Mequon Road to Brown Deer Road	15000	AQ3
Milwaukee River downstream from North Avenue to Walnut Street	15000	AQ3
Milwaukee River downstream from Port Washington Road to North Avenue	15000	AQ3
Milwaukee River downstream from Woodford Drive to STH 33	15000	AQ3
Muskego Canal	761800	AQ3
New Munster Creek downstream from CTH KD	748900	AQ3
Nippersink Creek (north branch)	742700	AQ3
Nippersink Creek (west branch)	744400	AQ3
North Branch, Cedar Creek	22500	AQ3
North Branch, Menomonee River upstream from STH 145 (Unnamed Creek)	5033314	AQ3
Oconomowoc River downstream from Okauchee Lake to Oconomowoc Lake	848200	AQ3
Oconomowoc River downstream from Lac La Belle to Waukesha-Jefferson county line	848200	AQ3
Oconomowoc River downstream from STH 16 to Fowler Lake	848200	AQ3
Oconomowoc River upstream from Friess Lake	848200	AQ3
Palmer Creek	748300	AQ3
Pebble Brook	769500	AQ3
Pebble Creek	771300	AQ3
Peterson Creek	748500	AQ3
Pewaukee Lake tributary (Coco Creek)	772100	AQ3
Pewaukee River	771700	AQ3
Pike Creek	1200	AQ3
Pike River downstream from Pike Creek (includes Sorenson Creak)	1300	AQ3
Poplar Creek	772800	AQ3
Quaas Creek	34900	AQ3
Root River Canal	2900	AQ3
Root River downstream from Nicholson Road to STH 38	2900	AQ3
Root River downstream from Ryan Road to County Line Road	2900	AQ3
Root River downstream from STH 38 to Spring Street	2900	AQ3
Root River downstream from County line Road to Nicholson Road	2900	AQ3
Rosenow Creek	848900	AQ3
Rubicon River downstream from Pike Lake	856500	AQ3
Rubicon River upstream from Pike Lake	856500	AQ3
Salem Branch	737500	AQ3

Table continued on next page

Stream Name	WBIC	Original Rank
Silver Creek	35500	AQ3
Spring Brook Creek	752400	AQ3
Spring Creek (Walworth County)	753900	AQ3
Steel Brook Creek	817800	AQ3
Stony Creek	28700	AQ3
Sugar Creek	752100	AQ3
Tess Corners-Whitnall Park Creek	6200	AQ3
Wayne Creek	865500	AQ3
West Branch, Menomonee River (Goldendale Creek)	18900	AQ3
Whitewater Creek	813900	AQ3

Source: SEWRPC

Table 2.3
Aquatic Area Assessment Scheme for Lakes: 1997 Regional Natural Areas Plan

Water Quality
Trophic Status (Wisconsin Trophic State Index Values)
+5: Below 44 (oligotrophic)
+4: 44-48 (oligotrophic or mildly mesotrophic)
+3: 49-53 (mesotrophic)
+2: 54-64 (mesotrophic or mildly eutrophic)
+1: 65-75 (eutrophic)
0: Above 75 (hypereutrophic)
Wildlife
Critical Fish Species
+5: Presence of endangered fish species (may also contain threatened or "special concern" fish species, or both)
+4: Presence of threatened fish species (may also contain "special concern" fish species)
+2: Presence of "special concern" fish species
0: No critical fish species documented
Critical Aquatic Amphibian and Reptile Species Suitable Habitat within or Adjacent to the Stream Channel
+3: Presence of endangered aquatic herptile species habitat (may also contain threatened or "special concern" aquatic herptile species habitat, or both)
+2: Presence of threatened aquatic herptile species habitat (may also contain "special concern" aquatic herptile species habitat)
+1: Presence of "special concern" aquatic herptile species habitat
0: No critical aquatic herptile species habitat
Wildlife Habitat
+1: Outstanding wildlife habitat
0: Data not available
-1: No outstanding wildlife habitat
Size
Surface Water Area
+3: Greater than 100 acres
+2 50 to 100 acres
+1: 10 to 49 acres
0: Less than 10 acres
Buffer
Development of Shoreline
+3: Less than 5 percent development of shoreline
+2: 5 percent to 24 percent development of shoreline
+1: 25 percent to 50 percent development of shoreline
0: More than 50 percent development of shoreline
Physical Characteristics
Connection with Critical Aquatic Area
+2: Connection to critical aquatic areas at both the inlet and outlet of the lake
+1: Connection to critical aquatic areas at either inlet or outlet of the lake
0: No connection to critical aquatic areas
Highest possible score: +22
Lowest possible score: -1

Source: SEWRPC

Table 2.4
Aquatic Natural Areas: 1997 Ranking Lakes

Lake Name	County	WBIC	Original Rank
Benedict Lake	Kenosha/Walworth	743900	AQ2
Benet Lake	Kenosha	734800	AQ3
Camp Lake	Kenosha	747100	AQ3
Center Lake	Kenosha	747300	AQ3
Cross Lake	Kenosha	746500	AQ3
Dyer Lake	Kenosha	751100	AQ2
Elizabeth Lake	Kenosha	742800	AQ2
Friendship Lake	Kenosha	739500	AQ3
George Lake	Kenosha	735100	AQ3
Hooker Lake	Kenosha	738400	AQ3
Lake Mary	Kenosha	743000	AQ2
Lake Shangrila	Kenosha	734700	AQ3
Montgomery Lake	Kenosha	738200	AQ3
Mud Lake	Kenosha	734500	AQ3
Paddock Lake	Kenosha	737900	AQ3
Peat Lake	Kenosha	746900	AQ2
Powers Lake	Kenosha/Walworth	744200	AQ3
Rock Lake	Kenosha	746000	AQ3
Silver Lake	Kenosha	747900	AQ2
Tombeau Lake	Kenosha/Walworth	743800	AQ3
Vern Wolf Lake	Kenosha	739100	AQ3
Voltz Lake	Kenosha	746300	AQ3
Horn Lake	Ozaukee	9500	AQ2
Huiras Lake	Ozaukee	9600	AQ3
Long Lake	Ozaukee	22200	AQ1
Mud Lake	Ozaukee	22100	AQ1
Spring Lake	Ozaukee/Sheboygan	30500	AQ3
Unnamed	Ozaukee	12600	AQ3
Bohner Lake	Racine	750800	AQ3
Brock Lake	Racine	759400	AQ3
Browns Lake	Racine	750300	AQ3
Eagle Lake	Racine	759800	AQ3
Lake Denoon	Racine/Waukesha	761300	AQ3
Leda Lake	Racine	759200	AQ3
Long Lake	Racine	759000	AQ2
Long Lake	Racine	761100	AQ2
Quarry Lake	Racine	400	AQ3
Tichigan Lake	Racine	763600	AQ2
Tichigan Lake	Racine	763600	AQ2
Waubeesee Lake	Racine	760900	AQ2
Wind Lake	Racine	761700	AQ2
Army Lake	Walworth	740200	AQ3
Booth Lake	Walworth	740400	AQ3
Como Lake	Walworth	757900	AQ3
Comus Lake	Walworth	794200	AQ2
Cravath Lake	Walworth	815200	AQ3
Geneva Lake	Walworth	758300	AQ2
Green Lake	Walworth	755800	AQ3
Honey Lake (Vienna)	Walworth	752300	AQ3
Lake Beulah	Walworth	766600	AQ1
Lake Ivanhoe	Walworth	756700	AQ3
Lake Lorraine	Walworth	777500	AQ3
Lake Number Ten	Walworth	777600	AQ3
Lake Wandawega	Walworth	740700	AQ3
Lulu Lake	Walworth	768800	AQ1
Middle Lake	Walworth	755700	AQ3

Table continued on next page

Lake Name	County	WBIC	Original Rank
Mill Lake	Walworth	755600	AQ2
Peters Lake	Walworth	741400	AQ3
Pickerel Lake	Walworth	767100	AQ1
Pleasant Lake	Walworth	741500	AQ2
Potter Lake	Walworth	753800	AQ3
Rice Lake	Walworth	816600	AQ3
Silver Lake	Walworth	741700	AQ3
Swan Lake	Walworth	766900	AQ3
Swift Lake	Walworth	741800	AQ3
Tripp Lake (Trapp)	Walworth	816000	AQ2
Turtle Lake	Walworth	795100	AQ2
Unnamed	Walworth	767200	AQ3
Unnamed	Walworth	5577736	AQ3
Whitewater Lake	Walworth	816800	AQ3
Amy Bell Lake	Washington	774000	AQ3
Bark Lake	Washington	828600	AQ3
Beck Lake	Washington	851700	AQ2
Cedar Lake	Washington	25300	AQ1
Druid Lake	Washington	855200	AQ3
Friess Lake	Washington	853200	AQ3
Gilbert Lake	Washington	25600	AQ1
Green Lake	Washington	28100	AQ3
Hasmer Lake	Washington	24000	AQ3
Lake Five	Washington/ Waukesha	777400	AQ3
Lake Twelve	Washington	29700	AQ3
Little Cedar Lake	Washington	25100	AQ2
Little Friess Lake	Washington	853100	AQ2
Lowes Lake	Washington	852900	AQ1
Lucas Lake	Washington	35900	AQ2
McConville Lake	Washington	851800	AQ2
Mud Lake	Washington	853600	AQ3
Mueller Lake	Washington	778900	AQ3
Murphy Lake	Washington	852000	AQ2
Pike Lake	Washington	858300	AQ2
Silver Lake	Washington	36200	AQ2
Smith Lake	Washington	36700	AQ2
Tilly Lake	Washington	24100	AQ3
Ashippun Lake	Waukesha	854300	AQ2
Bass Bay Lake	Waukesha	763200	AQ3
Beaver Lake	Waukesha	774400	AQ3
Big Muskego Lake	Waukesha	762400	AQ2
Bowron Lake	Waukesha	774600	AQ3
Crooked Lake	Waukesha	826800	AQ2
Duck Lake	Waukesha	775500	AQ3
Dutchman Lake	Waukesha	826400	AQ2
Eagle Spring Lake	Waukesha/Walworth	768600	AQ2
Forest Lake	Waukesha	775800	AQ3
Fowler Lake	Waukesha	849400	AQ3
Golden Lake	Waukesha/Jefferson	775900	AQ2
Henrietta Lake	Waukesha	776600	AQ3
Lac La Belle	Waukesha	848800	AQ3
Lake Keesus	Waukesha	852400	AQ3
Larkin Lake	Waukesha	777700	AQ3
Lower Genesee Lake	Waukesha	778100	AQ3
Lower Nashotah Lake	Waukesha	827300	AQ2
Lower Nemahbin Lake	Waukesha	827000	AQ2
Lower Phantom Lake	Waukesha	765800	AQ1
Merton Millpond	Waukesha	828200	AQ2
Middle Genesee Lake	Waukesha	778300	AQ3
Moose Lake	Waukesha	778400	AQ3

Table continued on next page

Lake Name	County	WBIC	Original Rank
Nagawicka Lake	Waukesha	828000	AQ1
North Lake	Waukesha	850800	AQ2
Oconomowoc Lake	Waukesha	849600	AQ2
Okauchee Lake	Waukesha	850300	AQ2
Ottawa Lake	Waukesha	822200	AQ2
Pewaukee Lake	Waukesha	772000	AQ2
Phantom Lake	Waukesha	766000	AQ1
Pine Lake	Waukesha	779200	AQ2
Rainbow Springs Lake	Waukesha	768000	AQ3
Reagan Lake	Waukesha	783700	AQ3
Reagon Lake	Waukesha	779400	AQ3
Saylesville Millpond	Waukesha	770100	AQ3
School Section Lake	Waukesha	825000	AQ2
Silver Lake	Waukesha	779800	AQ2
Spring Lake	Waukesha	770600	AQ2
Spring Lake	Waukesha	780100	AQ3
Upper Genesee Lake	Waukesha	788500	AQ3
Upper Nashotah Lake	Waukesha	827500	AQ2
Upper Nemahbin Lake	Waukesha	827100	AQ2
Utica Lake	Waukesha	825800	AQ3
Waterville Lake	Waukesha	826600	AQ3
Willow Springs Lake	Waukesha	770500	AQ3
Wood Lake	Waukesha	766200	AQ3

Source: SEWRPC

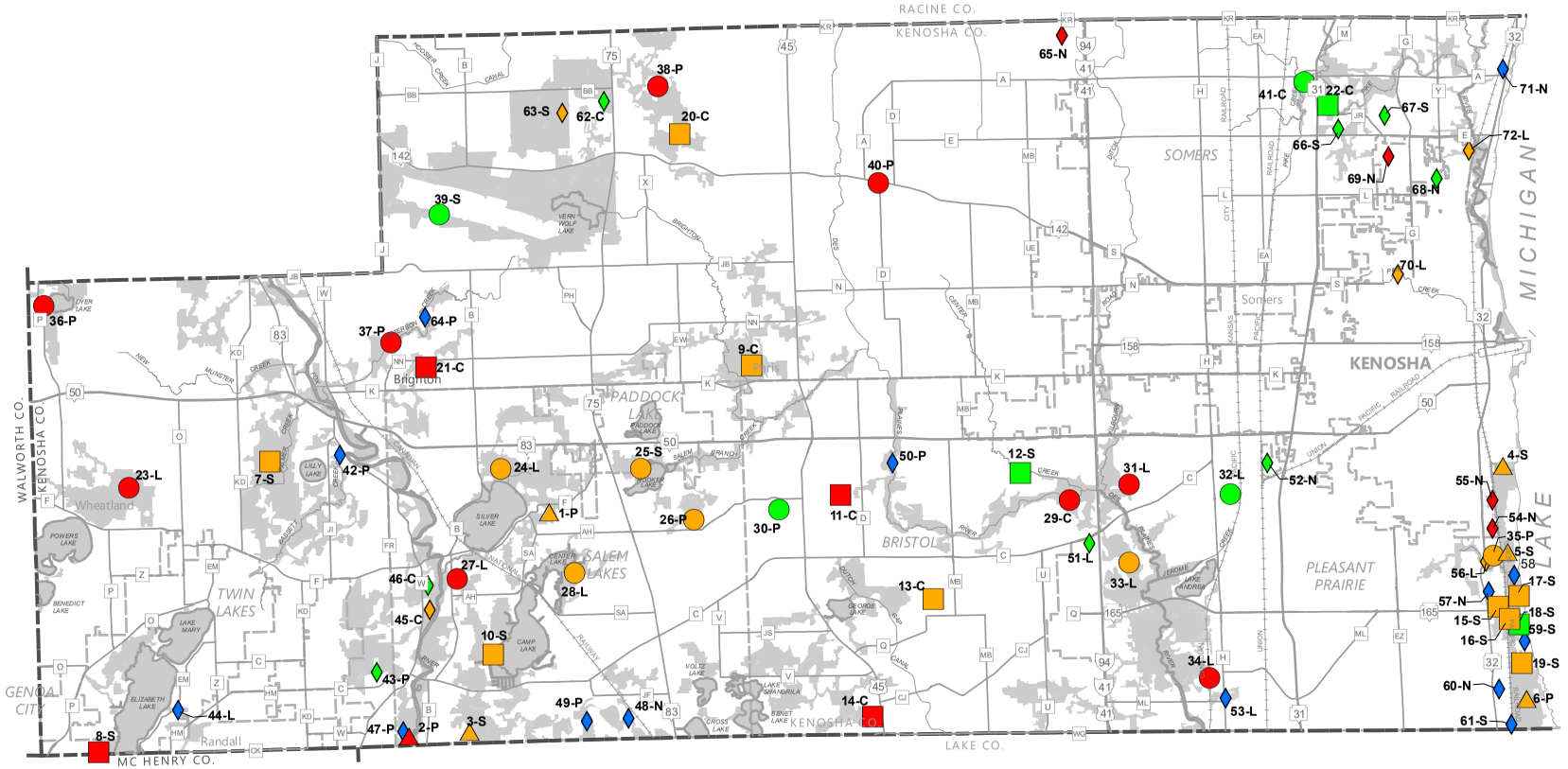
SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 2

MAPS

Map 2.1
2010 Plan Recommendatations for Natural Areas and Critical Species Habitat Sites in Kenosha County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	♦
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	♦
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	♦
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	(NONE)	♦

RECOMMENDED OWNERSHIP KEY:

S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

27- SITE REFERENCE NUMBER
(SEE TABLE)

2010 Primary Environmental Corridors

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.1_Plan_Rec_NA_CSH_Kenosha_Co.mxd)
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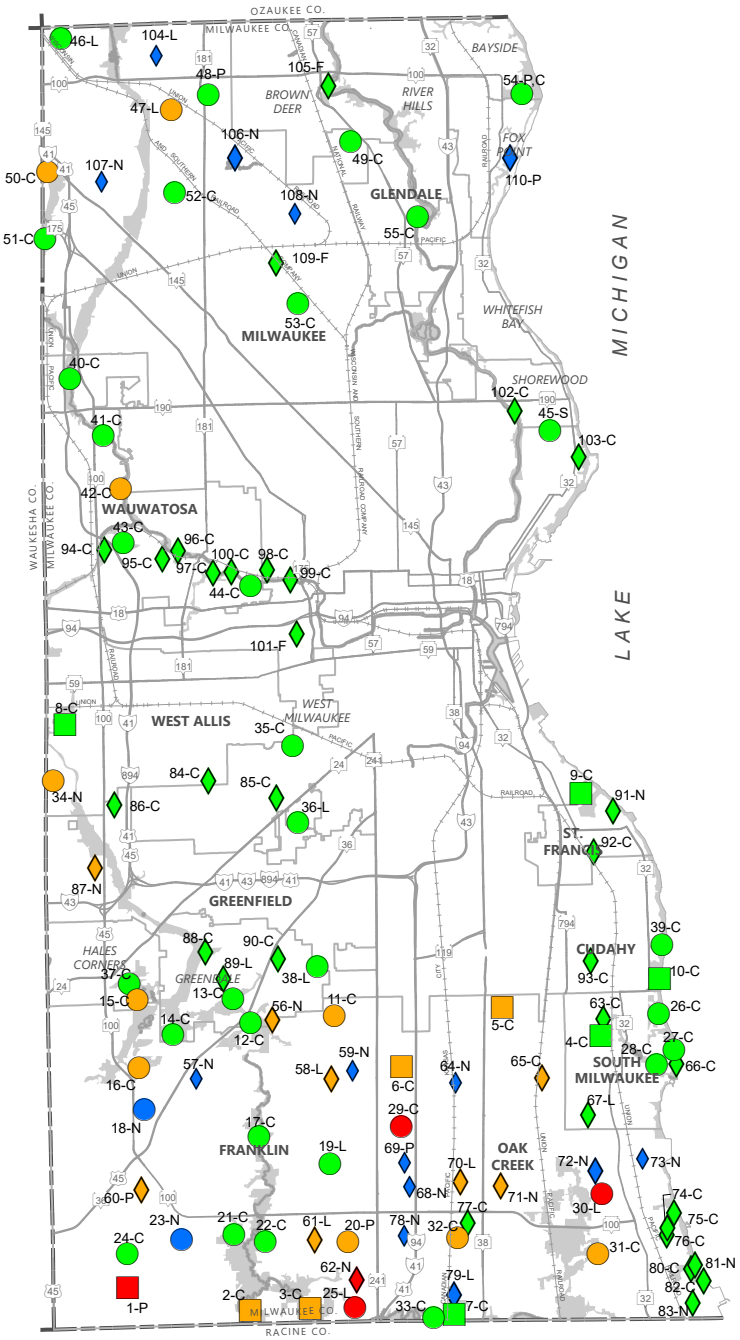
Map 2.2
2010 Plan Recommendations for Natural Areas and Critical Species habitiat Sites in Milwaukee County



RECOMMENDED OWNERSHIP KEY:

F-FEDERAL GOVERNEMNT
S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

2010 Primary Environmental Corridors

CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	(NONE)	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	(NONE)	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

N

0 1 2 Miles

Source: Southeastern Wisconsin Regional Planning Commission

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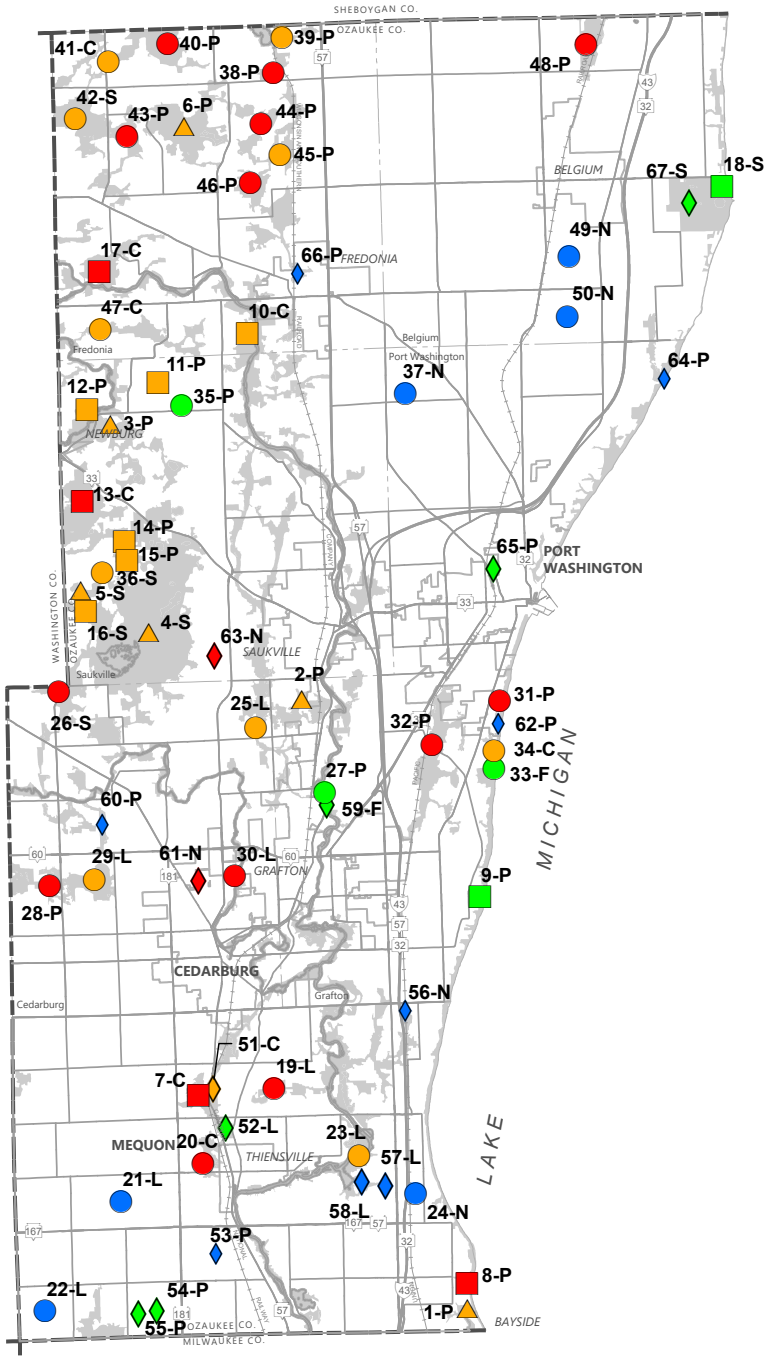
Map 2.3
2010 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Ozaukee County



RECOMMENDED OWNERSHIP KEY:

F-FEDERAL GOVERNEMNT
S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

2010 Primary Environmental Corridors

27- SITE REFERENCE NUMBER
(SEE TABLE)

CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	♦
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	♦
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	(NONE)	■	●	♦
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	♦

N

0 1 2
Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.3_Plan_Rec_NA_CSH_Ozaukee_Co.mxd)
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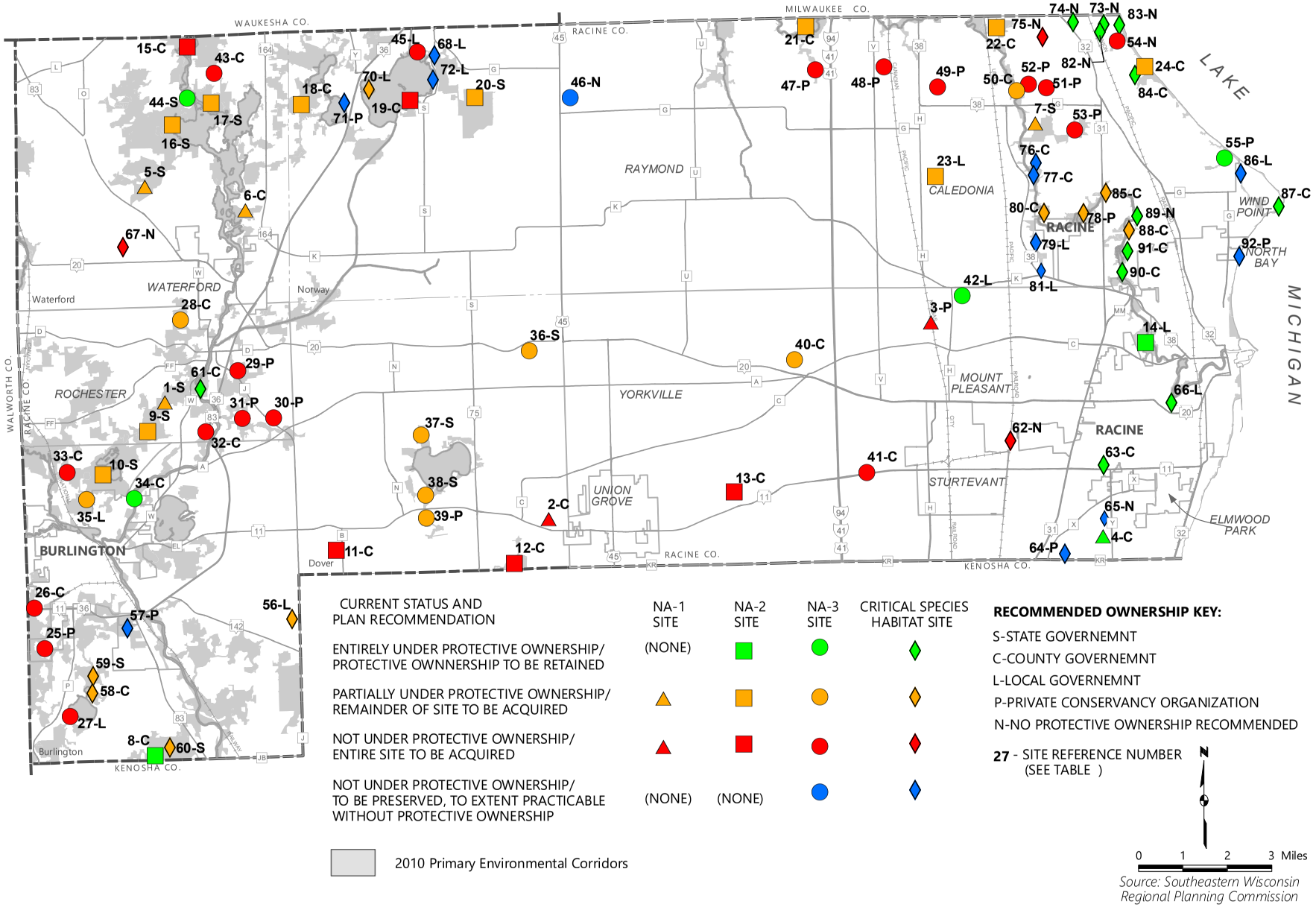
Map 2.4
2010 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Racine County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

2010 Primary Environmental Corridors

RECOMMENDED OWNERSHIP KEY:

S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

27 - SITE REFERENCE NUMBER (SEE TABLE)

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.4_Plan_Rec_NA_CSH_Racine_Co.mxd)
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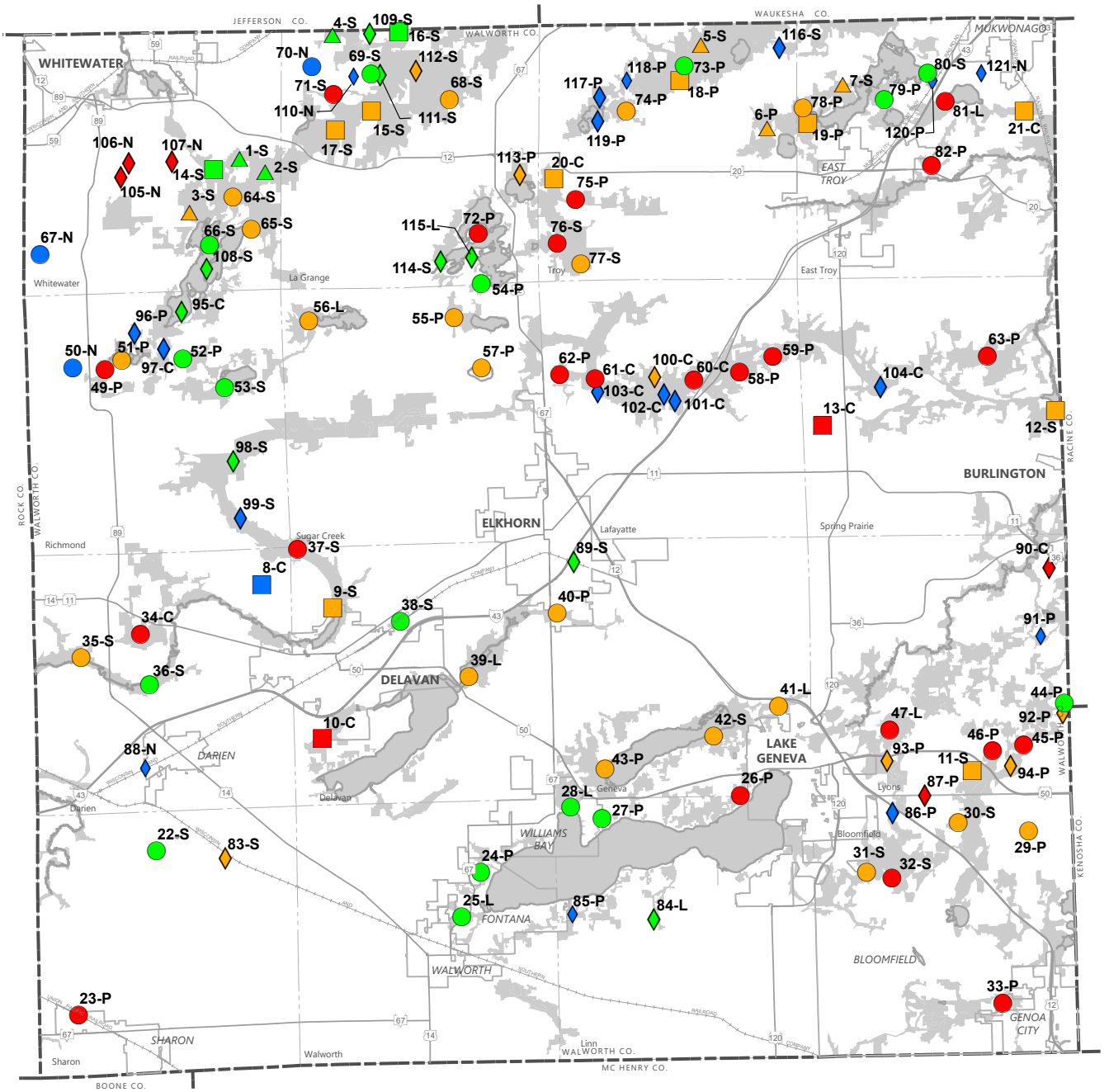
Map 2.5
2010 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Walworth County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	▲	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	(NONE)	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	■	●	◆

RECOMMENDED OWNERSHIP KEY:

- S-STATE GOVERNEMNT
- C-COUNTY GOVERNEMNT
- L-LOCAL GOVERNEMNT
- P-PRIVATE CONSERVANCY ORGANIZATION
- N-NO PROTECTIVE OWNERSHIP RECOMMENDED

27 - SITE REFERENCE NUMBER (SEE TABLE)

2010 Primary Environmental Corridors

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.5_Plan_Rec_NA_CSH_Walworth_Co.mxd)
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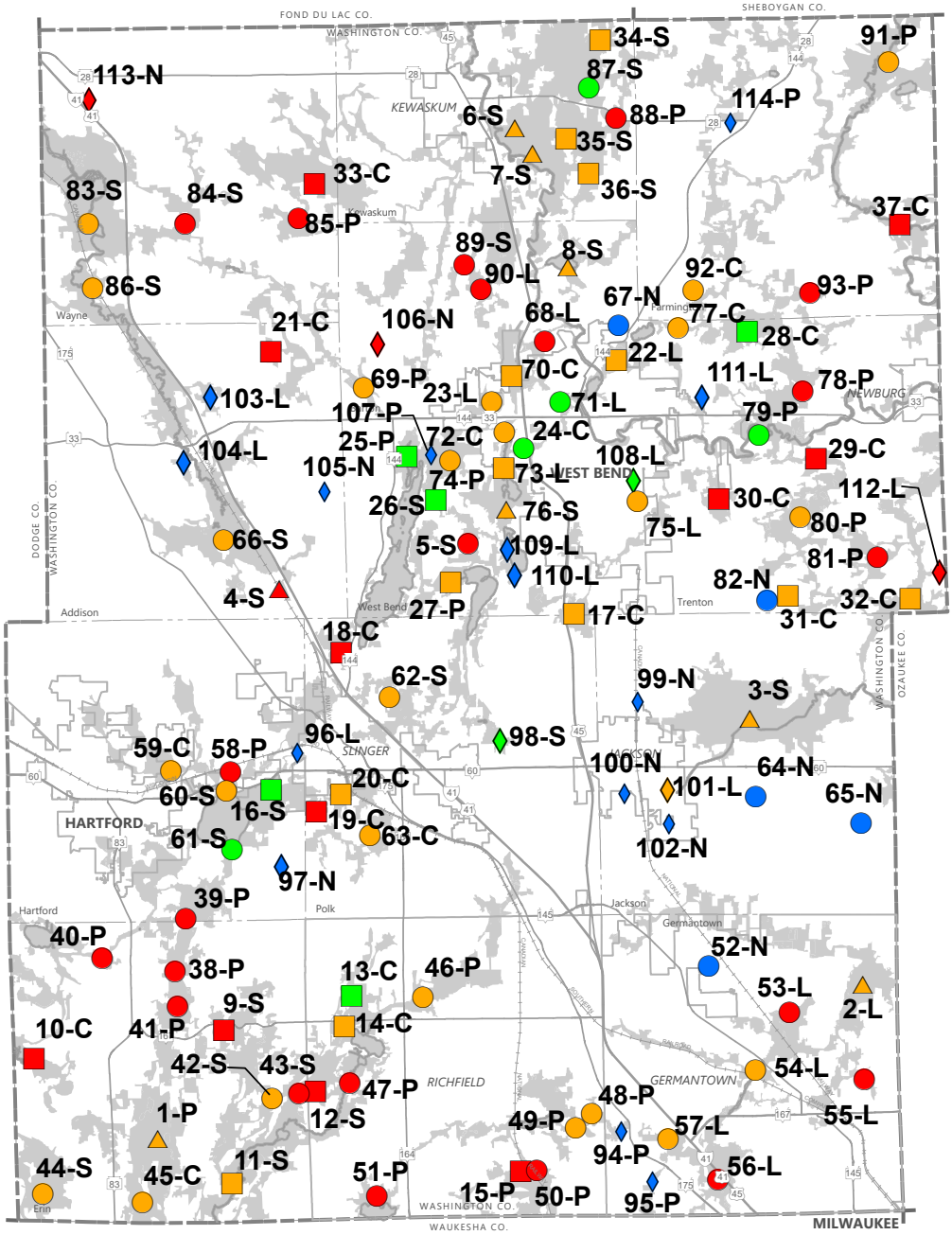
Map 2.6
2010 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Washington County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

RECOMMENDED OWNERSHIP KEY:

S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

27 - SITE REFERENCE NUMBER (SEE TABLE)

2010 Primary Environmental Corridors

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.6_Plan_Rec_NA_CSH_Washington_Co.mxd)
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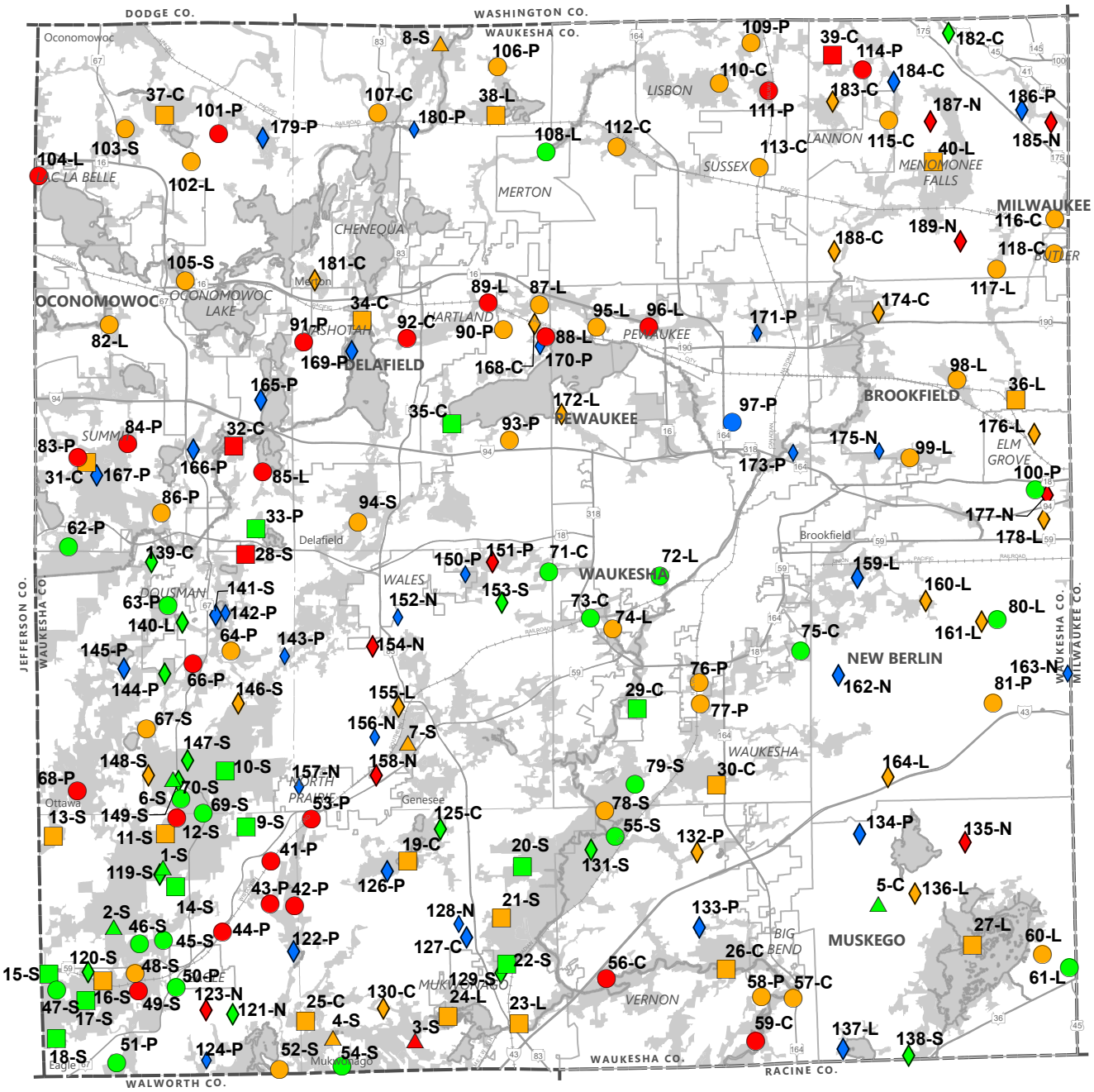
Map 2.7
2010 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Waukesha County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	▲	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

RECOMMENDED OWNERSHIP KEY:

- S-STATE GOVERNEMNT
- C-COUNTY GOVERNEMNT
- L-LOCAL GOVERNEMNT
- P-PRIVATE CONSERVANCY ORGANIZATION
- N-NO PROTECTIVE OWNERSHIP RECOMMENDED

27 - SITE REFERENCE NUMBER (SEE TABLE)

2010 Primary Environmental Corridors

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.7_Plan_Rec_NA_CSH_Waukesha_Co.mxd)
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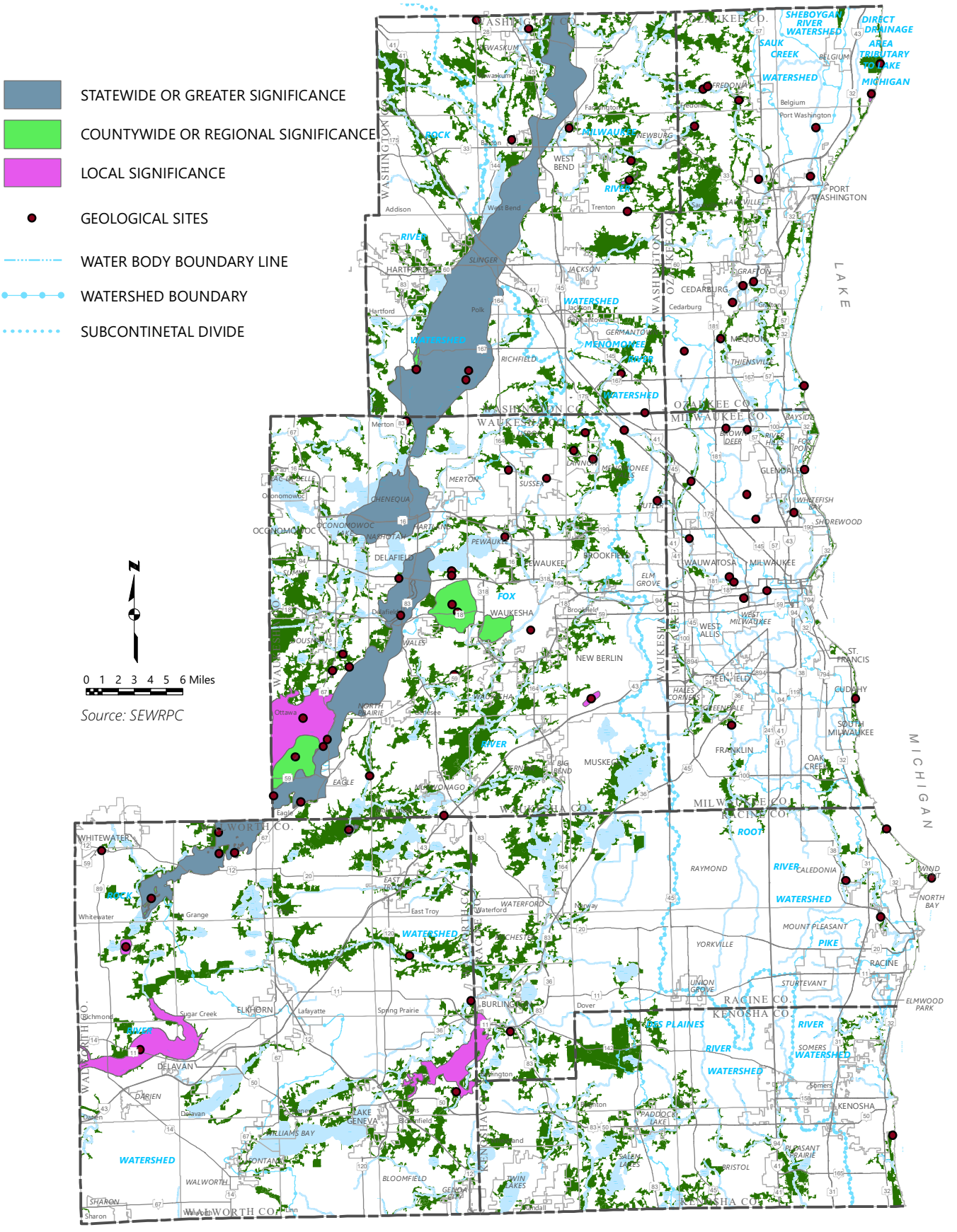
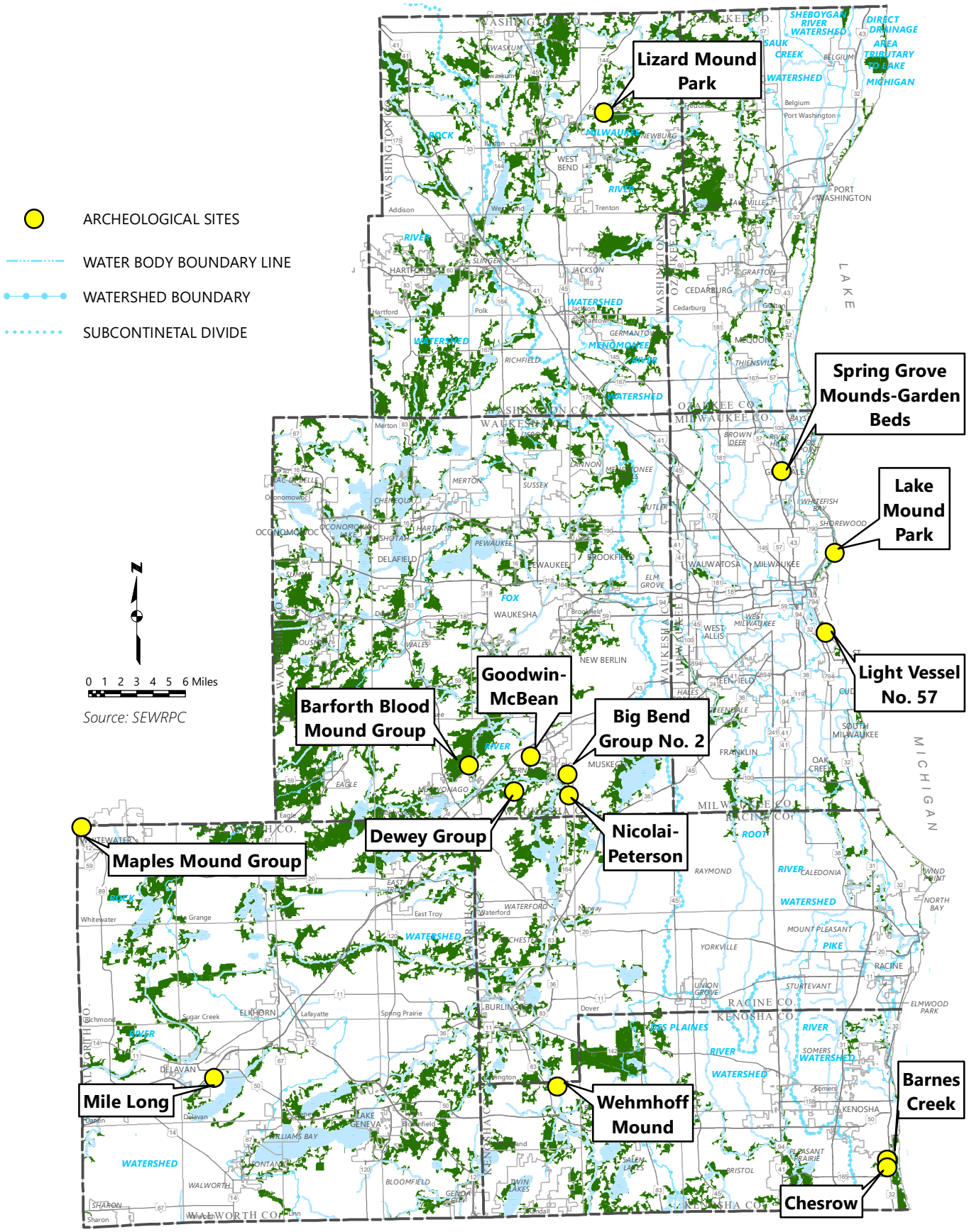
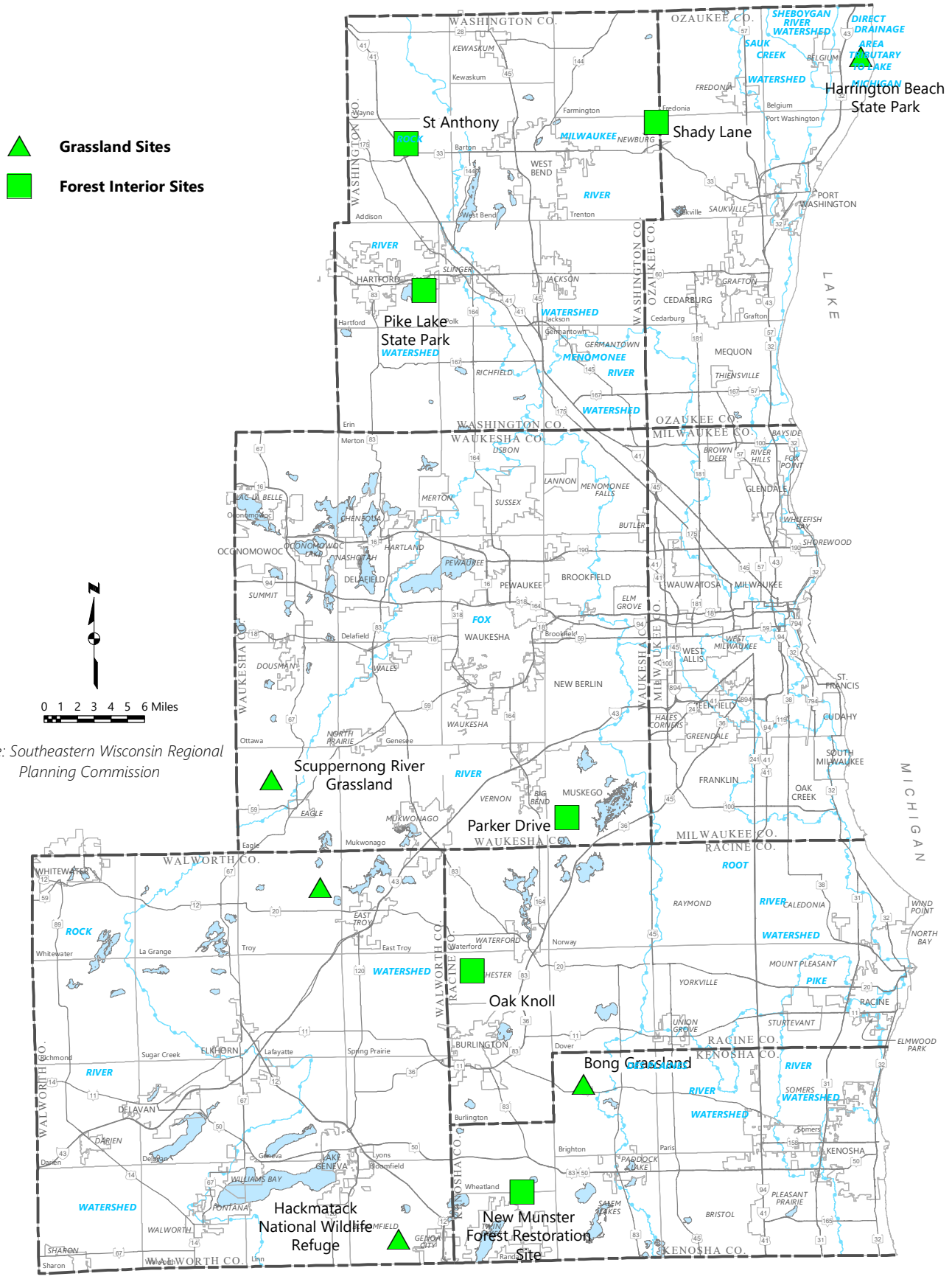
Map 2.9
Significant Geological Areas: 2010



Map 2.10
Plan Recommendations for Archeological Sites in the Region



Map 2.11
Recommended Forest Interior and Grassland Sites



Source: Southeastern Wisconsin Regional Planning Commission

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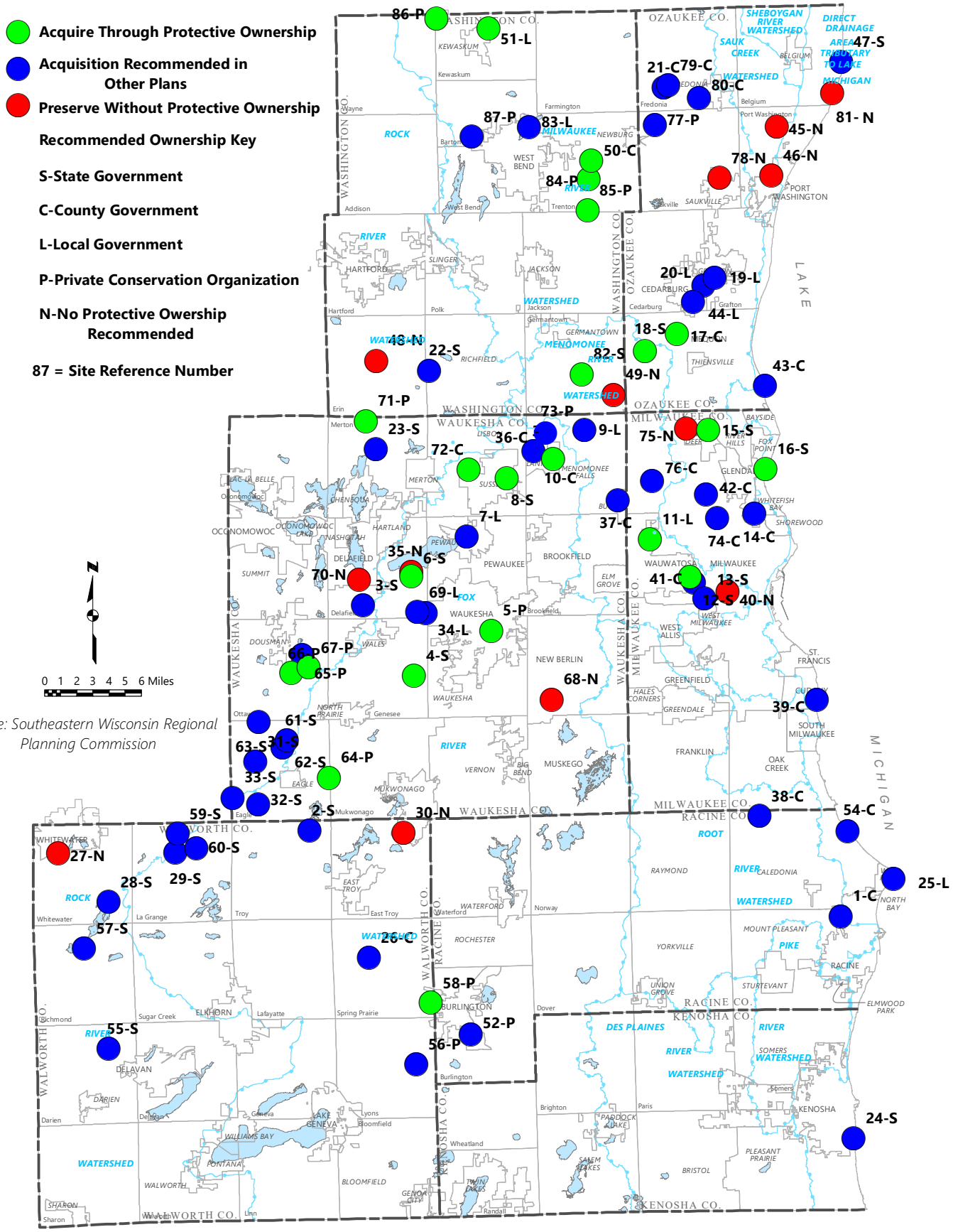
Map 2.12
Recommendations for Geological Sites in the Southeastern Wisconsin Region



Source: Southeastern Wisconsin Regional Planning Commission

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SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 3-Implementation Status

3.1 INTRODUCTION

This chapter presents the status of implementation of plan recommendations to preserve and protect, to the maximum extent practicable, the identified sites, since publication of the 2010 amendment. More specifically, this chapter provides a summary of the number of sites and associated acreages proposed to be acquired by governmental and/or public and private organizations over the past 14 years. The following reports on the progress to date in implementing those plan recommendations.

3.2 BACKGROUND

Just as the cultural landscape is not static, neither is the natural landscape, especially in a region experiencing such rapid changes as southeastern Wisconsin. Therefore, any evaluation of natural area remnants is an ongoing process because it can only reflect the current condition, which will change as species and species populations are lost, and as natural areas are degraded or restored. As stated in SEWRPC Planning Report No. 42, the natural areas "plan presented in this report is intended to guide State, county, and local units of government, private conservancy organizations, and other private interests in efforts to protect and manage the remaining natural areas and other areas vital to the maintenance of endangered, threatened, and rare plant and animal species in the Region." This goal can only be accomplished with accurate and current information. Newly acquired information requires that the natural landscape be re-evaluated to better, more completely, and more accurately assess the status of these areas in the Region. The purpose of this section is to use the most updated information to:

- Assess the degree to which the recommendations originally proposed in the Amendment to SEWRPC Planning Report No. 42 have been implemented.

- Document losses in the natural resource base caused by human-induced changes in the landscape that have occurred since preparation of SEWRPC Amendment to Planning Report No. 42.

Designation of State Natural Areas

The amendment to SEWRPC Planning Report No. 42 identified the 38 sites within the southeastern Wisconsin Region that had been formally designated as State Natural Areas by the Wisconsin Department of Natural Resources. As defined, State Natural Areas contain nearly intact plant and animal communities, or unique and significant geological or archaeological features. Such designation means that there is an agreement in place to properly manage the natural area. The Wisconsin Department of Natural Resources has designated one additional site since publication of the 2010 amendment (See Table 3.1).

3.3 NATURAL AREAS

Sites Preserved Since Publication of the Amended Plan

The amended plan proposed the public or private protection of 477 (96 percent) of the 494 natural areas listed in the inventory. This total included all 42 of the NA-1 sites, all 130 of the NA-2 sites, and 305 of the 322 NA-3 sites. The total area of natural area sites proposed to be protected in the amended plan was 63,240 acres. At the time 32,289 acres were already protected under protective ownership (about 51 percent), leaving a total of 30,950 acres to be acquired. 133 sites recommended in the amendment to SEWRPC Planning Report No. 42 for protective ownership have, entirely or in part, been acquired for protection. Table 3.2 lists the site, agency of acquisition, and the known aerial extent that has come under protective ownership since the publication of the amendment to Planning Report No. 42. Since preparation of the amended plan, 5,476 acres have been protected under public or private protective ownership (see Table 3.3). This total includes sixteen NA-1 sites, totaling 1,278 acres (38 percent) of the NA-1 area proposed to be acquired; 34 NA-2 sites, totaling 1,680 acres (15 percent) of the NA-2 area proposed to be acquired; and 81 NA-3 sites, totaling 2,518 acres (15 percent) of the NA-3 area proposed to be acquired. 37 of these sites are in Washington County, 35 in Waukesha, 20 in Walworth, 17 Ozaukee, nine each in Racine and Kenosha, and four in Milwaukee. The areas acquired include acquisitions by several land trust organizations either by fee simple acquisition or protection with a conservation easement. A total of twelve sites had their acquisition completed, according to the recommendations found in the amendment to PR No. 42 (see Table 3.4).

Losses of Natural Areas

Human-induced disturbance to natural areas, except for those with the most highly restricted legal or physical access, is, unfortunately, an ongoing process in an urbanizing environment. Rare species and their habitats continue to suffer adverse development-related impacts. While the original plan constituted an important initial step toward achieving protected status, simply being identified as a natural area or critical species habitat area deserving of protection does not in and by itself prevent a site from being severely disturbed. A more realistic objective is to keep such disturbance to a minimum, and in the process maintain the integrity of the natural area. Disturbances include such obvious factors as cutting timber, grazing, trampling, and road and residential construction, but also such less obvious factors as lack of proper management resulting in a gradual change in species composition and dominance. In addition, invasion by exotic species is a continuing problem. Thirty-one of the natural areas listed in the original plan and 2010 amendment have suffered disturbance to such a degree and such a reduction in quality (usually accompanied by reduced acreage) to warrant a downward revision in their classification. Twenty of these sites no longer qualify for natural area status at all (see Table 3.5), while eleven others, despite significant disturbance, still provide habitat suitable for critical plant species and thus have had their designation changed to Critical Species Habitat area (see Table 3.6).

3.4 CRITICAL SPECIES HABITAT AREAS

Sites Newly Preserved

Several Critical Species Habitat sites have been fully or partially protected since publication of the 2010 amendment to PR No. 42. This includes additional acreage protected at twenty-one sites recommended for protective ownership in all seven counties. Site specific protection information can be found in Table 3.7.

Losses of Critical Species Habitat Areas

Because the location of a Critical Species Habitat site depends directly on the presence of a critical plant or animal species, and only indirectly on the ecological quality of the site, a site may undergo significant disturbance yet still contain enough suitable habitat for the critical species in question to survive. To date there are only four known documented instances relating to critical species habitat sites listed in the original plan where the critical species in question has been extirpated from the site. These three critical species habitat sites located in Kenosha, Milwaukee, Racine, and Walworth Counties, have each been so degraded that the environmental conditions necessary for the critical species continued existence on the site have

been lost. The four sites are Hamilton Woods, Oak Creek Powerplant Woods, Wood Duck Woods and Anderson Road (see Table 3.5).

3.5 AQUATIC, GEOLOGICAL, GRASSLAND, FOREST INTERIOR AND ARCHAEOLOGICAL SITES

Since the aquatic lake and stream sites were not assessed in the 2010 amendment it is not possible to compare any changes in those sites. However, see Chapter 4 of this report for a summary and update on the revised aquatic assessment scheme and rankings compared to the original 1997 plan. There also have been no known documented changes in the status of archaeological sites listed since the 2010 amendment. Notable changes in protection status for Geological, Grassland, and Forest Interior sites can be found below.

Geological Areas

A small percentage of the Lyons Glacial Deposits in Walworth County are now under protective ownership and easement. These areas were already recommended for protective ownership where they overlapped with existing Critical Species Habitat Sites and Natural Areas.

A small, roughly one-acre portion of Hunters Bluff's Bluff was protected by the Wisconsin Department of Natural Resources, but these changes are already reflected within the updates to the overlapping Ottawa Limestone Outcrop Natural Area.

Grasslands

SEWRPC Planning Report Number 42 and subsequent 2010 amendment recommended that relatively large grassland and forest interior sites be established in several locations throughout the region. In Walworth County, the United States Fish and Wildlife Service protected 86 acres within the Hackmatack National Wildlife Refuge Acquisition Boundary in the Town of Bloomfield. Also within Walworth County, the Wisconsin Department of Natural Resources and The Nature Conservancy protected an additional 1,200 acres within the Lulu Lake-Pickeral Lake Grassland Reestablishment area. Once restored, this corridor of protected lands will connect Lulu Lake and Pickeral Lake Fen State Natural Areas.

Forest Interior Sites

The Wisconsin Department of Natural Resources, as part of the Honey Lake Wildlife area, acquired an additional 86 acres within the proposed Oak Knoll Woods Forest Interior Reestablishment site. In

Washington County, the Ozaukee Washington Land Trust acquired a 31-acre easement on existing forested lands within the proposed Shady Lane Woods Forest Interior reestablishment site.

3.6 SUMMARY

This section summarizes the gains in protective ownership and losses of natural areas and critical species habitat area sites originally inventoried in the 2010 amendment to SEWRPC Planning Report Number 42. Since the preparation of the amendment, 133 natural area sites have, in entirety or in part, been acquired for protection. This total encompasses 5,476 additional acres. Thirty-one natural areas encompassing have been downgraded in classification because of disturbance, with eleven sites retained as critical species habitat sites as they still provide habitat to rare species. Additional acreage was protected at twenty-three critical species habitat sites. Four critical species habitat areas have been lost due to destruction of the required habitat. No aquatic, or archaeological area sites have been acquired since the original plan. Additional lands were protected within Commission designated Geological Areas, Grassland Sites, and Forest Interior Sites.

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 3

TABLES

Table 3.1
Designated State Natural Areas in Southeastern Wisconsin: 2024

State Natural Area Name	County	Location	Ownership
New Munster Bog Island	Kenosha	T1N, R19E Sections 2, 3, 10, 11	Department of Natural Resources
Silver Lake Bog	Kenosha	T1N, R20E Section 16	Silver Lake Sportsmen's Club
Peat Lake	Kenosha	T1N, R20E Section 32	Department of Natural Resources
Chiwaukee Prairie	Kenosha	T1N, R23E Sections 31, 32	Department of Natural Resources, University of Wisconsin—Parkside
Karcher Springs	Racine	T2N, R19E Sections 21, 22	Department of Natural Resources
Cherry Lake Sedge Meadow	Racine	T3N, R19E Sections 10, 15	Department of Natural Resources
Sander's Park Hardwoods	Racine	T3N, R22E Section 36	Racine County
Renack-Polak Maple-Beech Woods	Racine	T4N, R22E Section 14	University of Wisconsin—Parkside
C. F. Messinger Dry Prairie and Savanna Preserve	Walworth/Waukesha/Jefferson	Several Separate Units	Department of Natural Resources
Bluff Creek	Walworth	T4N, R15E Sections 14, 24 T4N, R15E Section 19	Department of Natural Resources
Clover Valley Fen	Walworth	T4N, R15E Sections 22, 27	Department of Natural Resources
Kettle Moraine Oak Opening	Walworth/Jefferson	T4N, R16E Sections 3, 4	Department of Natural Resources
Young Prairie	Walworth	T4N, R16E Section 5	Department of Natural Resources
Lulu Lake	Walworth	T4N, R17E Sections 1-3, 10, 11	Department of Natural Resources and The Nature Conservancy
Pickerel Lake Fen	Walworth	T4N, R17E Sections 13, 24	The Nature Conservancy and private
Beulah Bog	Walworth	T4N, R18E Sections 7, 8	Department of Natural Resources
Kettle Moraine Low Prairie	Waukesha	T5N, R17E Sections 3, 4	Department of Natural Resources
Scuppernong Prairie	Waukesha	T5N, R17E Sections 16, 17	Department of Natural Resources
Eagle Centre Prairie	Waukesha	T5N, R17E Sections 22, 27	Waukesha Land Conservancy
Eagle Oak Opening	Waukesha	T5N, R17E Section 30	Department of Natural Resources
Mukwonago River	Waukesha	T5N, R17E Section 36 T5N, R18E Sections 31, 32, 33	Department of Natural Resources
Martin's Woods	Waukesha	T5N, R19E Sections 22, 23	Waukesha County, Village of Big Bend, and Waukesha Land Conservancy
Muskego Park Hardwoods	Waukesha	T5N, R20E Section 17	Waukesha County and private
Ottawa Lake Fen	Waukesha	T6N, R17E Section 34	Department of Natural Resources
Genesee Oak Opening and Fen	Waukesha	T6N, R18E Section 28	Department of Natural Resources
Fairy Chasm	Ozaukee, Milwaukee	T9N, R22E Section 33 T8N, R22E Sections 4, 5	Ozaukee Washington Land Trust

Kurtz Woods	Ozaukee	T10N, R21E Section 1	Ozaukee Washington Land Trust
Riveredge Creek and Ephemeral Pond	Ozaukee	T11N, R21E Sections 7, 8	Riveredge Nature Center
Cedarburg Bog	Ozaukee	T11N, R21E Sections 18, 29-32	Department of Natural Resources and University of Wisconsin—Milwaukee
Cedarburg Beech Woods	Ozaukee	T11N, R21E Section 30	University of Wisconsin—Milwaukee
Sapa Spruce Bog	Ozaukee	T11N, R21E Section 30	University of Wisconsin—Milwaukee
Huiras Lake	Ozaukee	T12N, R21E Sections 8, 9, 10, 16	Department of Natural Resources and Ozaukee Washington Land Trust
Jackson Marsh	Washington	T10N, R20E Sections 1, 2, 8, 9, 10, 14, 15, 16, 17	Department of Natural Resources
Milwaukee River Floodplain Forest	Washington	T12N, R19E Section 14	Department of Natural Resources
Kewaskum Maple-Oak Woods	Washington	T12N, R19E Section 15	Department of Natural Resources
Cudahy Woods	Milwaukee	T5N, R22E Section 4	Milwaukee County
Franklin Savanna	Milwaukee	5N, R21E Section 29	Milwaukee County
Warnimont Bluff Fens	Milwaukee	T6N, R22E Section 36	Milwaukee County
Tichigan Springs and Fen (NEW)	Racine	T4N, R19E Section 21, 22	Department of Natural Resources

Source: SEWRPC

Table 3.2
Natural Area and Critical Species Habitat Area Sites Placed Wholly or Partially Under Protective Ownership Since 2010

Site Name	County	2010 Rank	Additional Area Under Protective Ownership	Agency of Acquisition
Chiwaukee Prairie State Natural Area[a]	Kenosha	NA-1	80	WDNR[b], Kenosha County and Village of Pleasant Prairie
Kenosha Sand Dunes and Low Prairie	Kenosha	NA-1	4	WDNR
Mud Lake Sedge Meadow	Kenosha	NA-2	4	Village of Bristol
Camp Lake Marsh	Kenosha	NA-2	67	WDNR and Kenosha County
Des Plaines River Wetlands	Kenosha	NA-3	13	Seno KRLT
Montgomery Lake Marsh	Kenosha	NA-3	11	Village of Salem Lakes in part
Pike River Bottomland woods	Kenosha	NA-3	14	Hawthorn Hollow Nature Center
Pleasant Railroad Prairie	Kenosha	NA-3	1	Village of Pleasant Prairie
Silver Lake Wetlands	Kenosha	NA-3	7	Kenosha County
St. Francis Seminary Woods	Milwaukee	NA-2	7	City of St. Francis
Barloga Woods	Milwaukee	NA-3	63	Milwaukee County
Oak Creek Low Woods	Milwaukee	NA-3	6	Milwaukee County
Ryan Road Woods	Milwaukee	NA-3	19	Milwaukee County
Cedarburg Bog State Natural Area	Ozaukee	NA-1	82	MMSD[c] and OWLT[d]
Huiras Lake Woods and Bog	Ozaukee	NA-1	106	Conservation Fund and OWLT
Abbott Woods and Ravine	Ozaukee	NA-2	22	OWLT
Kinnamon Conifer Swamp	Ozaukee	NA-2	183	OWLT
Milwaukee River Mesic Woods	Ozaukee	NA-2	32	OWLT
Riveredge Mesic Woods	Ozaukee	NA-2	8	MMSD
Beekeeper Bog	Ozaukee	NA-3	6	Ozaukee County
Cedar - Sauk Low Woods	Ozaukee	NA-3	67	MMSD
Cedar Heights Gorge	Ozaukee	NA-3	11	Ozaukee County
Countyline Low Woods	Ozaukee	NA-3	121	OWLT and WDNR
Department of Natural Resources Lowlands	Ozaukee	NA-3	5	MMSD
Highland Road Woods	Ozaukee	NA-3	30	OWLT

Solar Heights Low Woods	Ozaukee	NA-3	6	MMSD
Triple Woods	Ozaukee	NA-3	6	OWLT
Ulao Lowland Forest	Ozaukee	NA-3	79	OWLT
Ville du Parc Riverine Forest	Ozaukee	NA-3	55	City of Mequon and OWLT
Waubeka Low Woods	Ozaukee	NA-3	4	OWLT
Renak - Polak Maple - Beech Woods State Natural Area	Racine	NA-1	30	Caledonia Conservancy and University of Wisconsin
Kansasville Railroad Prairie	Racine	NA-1	10	WDNR
Cliffside Park Woods and Clay Banks	Racine	NA-2	2	Racine County
Hunts Woods	Racine	NA-2	1	Caledonia Conservancy
Union Grove Railroad Prairie	Racine	NA-2	25	WDNR
Caledonia Low Woods	Racine	NA-3	12	Racine County
Sylvania Railroad Prairie	Racine	NA-3	4	WDNR
Tabor Woods	Racine	NA-3	9	Caledonia Conservancy
Van Valin Woods	Racine	NA-3	5	Racine County
Clover Valley Fen State Natural Area	Walworth	NA-1	16	WDNR
Lulu Lake SNA	Walworth	NA-1	252	GLC[e] and WDNR
Pickeral Lake Fen SNA	Walworth	NA-1	75	The Nature Conservancy
Comus Lake Wetland Complex	Walworth	NA-2	36	Lake Comus Protection and Rehabilitation District
Honey Lake Marsh and Sedge Meadow	Walworth	NA-2	94	WDNR
Muir oak woods and Duffin Rd Fen	Walworth	NA-2	28	WDNR
Upper Mukwonago River Wetland Complex	Walworth	NA-2	33	The Nature Conservancy
Army Lake Lowland and Oak Woodland	Walworth	NA-3	56	Village of East Troy and WDNR
Connelly Fen	Walworth	NA-3	1	WDNR
Honey Creek Fen	Walworth	NA-3	2	WDNR
Lone Tree Trail Oak Woods	Walworth	NA-3	60	WDNR
Nordic Trail Oak Woods	Walworth	NA-3	75	GLC and WDNR
Pallottine Maple Woods	Walworth	NA-3	10	GLC
Peninsula Woods	Walworth	NA-3	26	GLC
Peterson Fen	Walworth	NA-3	2	Seno KRLT
Potter Lake Tamaracks	Walworth	NA-3	15	Potter Lake District
Sugar Creek Fens, Springs, and Sedge Meadow	Walworth	NA-3	10	Walworth County

Sugar Creek Wetlands	Walworth	NA-3	33	GLC
Tri - County Tamarack Swamp	Walworth	NA-3	25	Seno KRLT
Wychwood	Walworth	NA-3	13	GLC
Aurora Road Fen	Washington	NA-1	2	WDNR
Germantown Swamp	Washington	NA-1	56	MMSD
Jackson Swamp	Washington	NA-1	249	WDNR
Murphy Lake - McConville Lake Wetland Complex	Washington	NA-1	200	Tall pines Conservancy and OWLT
Smith Lake Fen and Swamp	Washington	NA-1	12	WDNR
Blue Hills Woods	Washington	NA-2	81	OWLT and City of West Bend
Friess Lake Tamarack Swamp	Washington	NA-2	10	WDNR
Gilbert Lake Wetlands and Uplands	Washington	NA-2	73	Cedar Lakes Conservation Foundation
Lac Lawrann Conservancy Upland Woods and Wetlands	Washington	NA-2	21	City of West Bend
North Branch Woods	Washington	NA-2	125	MMSD
Sandy Knoll Swamp	Washington	NA-2	105	OWLT
Schoenbeck Woods	Washington	NA-2	38	OWLT
Silverbrook Lake Woods	Washington	NA-2	54	Cedar Lakes Conservation Foundation
Wayne Swamp	Washington	NA-2	25	WDNR
Albecker Park Wetlands	Washington	NA-3	28	City of West Bend
Allenton Swamp	Washington	NA-3	7	WDNR
CTH J Swamp	Washington	NA-3	12	Village of Richfield and Holy Hill Area School District
CTH Z Upland Woods and Wetlands	Washington	NA-3	31	Cedar Lakes Conservation Foundation
Donegal Road Woods	Washington	NA-3	54	WDNR
Hoelz Swamp	Washington	NA-3	9	MMSD
Lake Park Swamp	Washington	NA-3	17	MMSD
Lange Hardwoods	Washington	NA-3	11	WDNR
Mason Creek Swamp	Washington	NA-3	33	WDNR
Milwaukee River Swamp	Washington	NA-3	175	MMSD and OWLT
Pike Lake Sedge Meadow	Washington	NA-3	3	Town of Hartford
Rubicon Lowlands	Washington	NA-3	23	City of Hartford
Schoessow Woods	Washington	NA-3	9	MMSD
Silver Creek Marsh	Washington	NA-3	14	City of West Bend

Slinger Upland Woods	Washington	NA-3	19	WDNR
St. Augustine Road Sedge Meadow	Washington	NA-3	9	WDNR
Sunset Park Wetlands	Washington	NA-3	8	City of West Bend
Theresa Swamp	Washington	NA-3	48	WDNR
Thompson Swamp	Washington	NA-3	61	OWLT
US 41 Swamp	Washington	NA-3	46	MMSD
Wayne Creek Swamp	Washington	NA-3	1	WDNR
Wildwood Hardwood Swamp	Washington	NA-3	26	WDNR
Ziegler Woods	Washington	NA-3	107	Cedar Lakes Conservation Foundation
Monches Woods	Waukesha	NA-1	93	Waukesha County
Mukwonago Fen, Sedge Meadow, and Tamarack Relict	Waukesha	NA-1	11	WDNR
Mukwonago River State Natural Area	Waukesha	NA-2	8	WDNR
Ashippun River Lowlands	Waukesha	NA-2	127	Waukesha County
Brown Lake Wetlands, Woods, and Prairie	Waukesha	NA-2	76	WCLC
Eagle Fen and Spring	Waukesha	NA-2	5	WDNR
Eagle Shrub Fen	Waukesha	NA-2	4	WDNR
Fosters Woods	Waukesha	NA-2	3	City of Waukesha
Genesee Lake Road Bog	Waukesha	NA-2	5	WCLC
Menomonee Falls "Tamarack" Swamp	Waukesha	NA-2	240	Village of Menomonee Falls and WCLC
Nagawicka Lake Bog and Oak Woods	Waukesha	NA-2	38	WCLC
Ottawa Oak Woods and Dry Prairies	Waukesha	NA-2	31	WDNR
Spring Lake Sedge Meadow and Fens	Waukesha	NA-2	69	Tall Pines Conservancy and WCLC
Clarks Woods	Waukesha	NA-3	6	Village of Butler and Waukesha County
CTH ZC Lowlands	Waukesha	NA-3	61	WCLC
Fox River Woods	Waukesha	NA-3	49	WDNR
Holtz Oak Opening	Waukesha	NA-3	78	WCLC
Lac La Belle Lowlands	Waukesha	NA-3	30	Village of Lac La Belle
Lapham Peak Woods	Waukesha	NA-3	3	WDNR
Laura Lake Swamp	Waukesha	NA-3	56	WCLC
Lisbon Low Woods	Waukesha	NA-3	25	WCLC
Malek Wetland	Waukesha	NA-3	48	The Nature Conservancy

Nashotah House Woods	Waukesha	NA-3	12	WCLC
Oconomowoc River Marsh	Waukesha	NA-3	8	Town of Oconomowoc
Oconomowoc Swamp	Waukesha	NA-3	22	WCLC
Paradise Springs Woods	Waukesha	NA-3	43	WDNR
Pebble Creek Wetlands	Waukesha	NA-3	14	City of Waukesha
Peters Woods	Waukesha	NA-3	29	Village of Menomonee Falls
Porter Low Woods	Waukesha	NA-3	151	Waukesha County
Pretty Lake Tamarack Relict	Waukesha	NA-3	50	WDNR
Raasch Tamarack Swamp	Waukesha	NA-3	10	Town of Oconomowoc
River Oaks Woods and Wetlands	Waukesha	NA-3	40	Waukesha County
Sussex Swamp	Waukesha	NA-3	61	WCLC
Wirth Swamp	Waukesha	NA-3	20	City of Brookfield
Zuba Woods	Waukesha	NA-3	69	Waukesha County
Bong Recreation Area	Kenosha	CSH	198	WDNR
Carol Beach Oak Woods	Kenosha	CSH	2	The Nature Conservancy
Carol Beach Parcel #2	Kenosha	CSH	1	Village of Pleasant Prairie
Barnes Creek	Kenosha	CSH	5	WDNR
PPG Woods	Milwaukee	CSH	19	City of Oak Creek
Port Washington Clay Banks	Ozaukee	CSH	34	Ozaukee County
Forked Aster Site	Racine	CSH	1	Racine County
Four Mile Road Woods	Racine	CSH	9	Racine County
Caledonia Low Woods - South	Racine	CSH	4	Racine County
Landon Wetland	Racine	CSH	5	Wind Lake District
Wind Lake	Racine	CSH	8	WDNR
Caledonia Sanitary Sewer ROW	Racine	CSH	25	Racine County
Campbell Woods	Racine	CSH	20	Root-Pike WIN
Rosewood Railroad Prairie	Racine	CSH	5	WDNR
Horn Dry Prairies	Walworth	CSH	5	WDNR
Sugar Creek Woods-North	Walworth	CSH	21	Walworth County
White River Railroad Prairie	Walworth	CSH	1	WDNR
Lake No. 10 Open Woods	Walworth	CSH	41	Walworth County

Peterson Property	Walworth	CSH	14	Seno KRLT
Seno Oak Opening	Walworth	CSH	2	Seno KRLT
Unnamed Wetland No. 2	Washington	CSH	14	Village of Slinger
Campground Woods	Waukesha	CSH	20	Waukesha County
Fox River Woodland	Waukesha	CSH	3	Waukesha County
Utica Lake Tamaracks	Waukesha	CSH	11	Waukesha County
Denoon Lake Wetlands	Waukesha	CSH	1	City of Muskego
Kostello Property	Waukesha	CSH	1	City of New Berlin
Swan Farm Woods	Waukesha	CSH	51	WCLC
Genesee Lake Road Tamaracks	Waukesha	CSH	40	WCLC

[a] *Includes Chiwaukee Prairie State Natural Area, Carol Beach Low Prairie and Panne State Natural Area, Carol Beach Estates Prairie, Carol Beach Prairie, Barnes Creek Dunes and Panne, 104st Mesic Prairie, Tobin Road Prairie, and First Avenue Prairie.*

[b] *Wisconsin Department of Natural Resources*

[c] *Milwaukee Metropolitan Sewerage District*

[d] *Ozaukee-Washington Land Trust*

[e] *Geneva Lakes Conservancy*

Source: SEWRPC

Table 3.3
Progress in Acquisition of Natural Area Acreage as Recommended in the Amendment to SEWRPC Planning Report NO. 42

Classification	Total Acreage Proposed to be Placed Under Protective Ownership	Acreage Proposed to be Acquired for Protection	Acreage Acquired for Protection Subsequent to Preparation of the Amendment to PR-42	Percent Acquired
NA-1	11,224	3,352	1,278	38
NA-2	24,094	11,353	1,680	15
NA-3	27,911	16,246	2,518	15
Subtotal	63,429	30,951	5,476	18
Critical Species Habitat	18,679	4,935	561	11
Total	81,928	35,886	6,180	17

Source: SEWRPC

Table 3.4
Sites Fully Protected Since the Amendment to PR-42

Site Name	County	2010 Rank
Union Grove Railroad Prairie	Racine	NA-2
Eagle Fen and Spring	Waukesha	NA-2
Eagle Shrub Fen	Waukesha	NA-2
Fosters Woods	Waukesha	NA-2
Ottawa Oak Woods and Dry Prairies	Waukesha	NA-2
Beekeeper Bog	Ozaukee	NA-3
Sylvania Railroad Prairie	Racine	NA-3
Peterson Fen	Walworth	NA-3
Potter Lake Tamaracks	Walworth	NA-3
Pike Lake Sedge Meadow	Washington	NA-3
Malek Wetland	Waukesha	NA-3
Paradise Springs Woods	Waukesha	NA-3
Horn Dry Prairies	Walworth	CSH

Source: SEWRPC

Table 3.5
Natural Areas and Critical Species Habitat Areas Listed in the 2010 Amendment to SEWRPC Planning Report Number 42 that have been Lost Because of Disturbance or Degradation

Area Name	Location	Former Rank	Revised Rank	Former Acreage	Revised Acreage	Downgrade Reason
CTH B-CTH AH Sedge Meadow	Kenosha County	NA-3	None	12	0	Invasive Species
Hooker Lake Marsh	Kenosha County	NA-3	None	47	0	Invasive Species
Salem Road Marsh	Kenosha County	NA-3	None	27	0	Invasive Species
Friendship Lake Marsh	Kenosha County	NA-2	None	119	0	Invasive Species
Peterson Creek Sedge Meadow	Kenosha County	NA-3	None	69	0	Invasive Species
CTH NN Sedge Meadow	Kenosha County	NA-2	None	60	0	Invasive Species
Harris Marsh and Oak Woods	Kenosha County	NA-2	None	237	0	Invasive Species
Hamilton Woods	Kenosha County	CSH	None	18	0	Development
Paris (Ehlen) Prairie Remnant	Kenosha County	NA-3	None	1	0	Agriculture and mowing
Mission Hills Wetlands	Milwaukee County	NA-3	None	38	0	Invasive Species
Oak Creek Powerplant Woods	Milwaukee County	CSH	None	16	0	Development
Wood Duck Woods	Racine County	CSH	None	3	0	Development
Schroeder Road Marsh	Racine County	NA-2	None	188	0	Invasive Species
Vandenboom Road Marsh	Racine County	NA-3	None	27	0	Invasive Species
Eagle Lake Wetlands	Racine County	NA-3	None	46	0	Invasive Species
Church Road Lowlands	Racine County	NA-3	None	24	0	Invasive Species
Fox River Prairie	Racine County	NA-3	None	2	0	Development
Six Mile Road Swamp	Racine County	NA-3	None	55	0	Invasives Species
Hilburn Sedge Meadow	Walworth County	NA-3	None	66	0	Invasives Species
Anderson Road	Walworth County	CSH	None	1	0	Maintained turfgrass
Newark Road Wetland	Washington County	NA-3	None	8	0	Pond excavation and hydrologic alteration
Pewaukee Lake Wetland	Waukesha County	NA-3	None	65	0	Invasives Species
Pewaukee Sedge Meadow	Waukesha County	NA-3	None	13	0	Invasives Species
Pewaukee Park Sedge Meadow	Waukesha County	NA-3	None	42	0	Invasives Species

Source: SEWRPC

Table 3.6
Natural Areas Listed in the 2010 Amendment to SEWRPC Planning Report Number 42 Reduced in Classification due to Disturbance or Degradation

Area Name	Location	Former Rank	Revised Rank	Former Acreage	Revised Acreage	Reason for Rank Change
Benedict Prairie	Kenosha	NA-2	NA-3	6	3	Woody Encroachment
Camp Lake Marsh	Kenosha	NA-2	NA-3	292	256	Nonnative cattail and phragmites invasion
Elizabeth Lake Lowlands	Kenosha	NA-2	CSH	48	48	Nonnative cattail and phragmites invasion
Bong Low Prairie	Kenosha	NA-3	CSH	2	2	Woody Encroachment
Franklin Oak Woods and Oak Savanna	Milwaukee	NA-3	CSH	79	79	Invasive Species
Bike Trail Marsh [a]	Milwaukee	NA-3	CSH	3	213	Invasive Species
Menomonee River Swamp--North	Milwaukee	NA-3	CSH	79	134	Invasive Species
Mequon Wetland	Ozaukee	NA-3	CSH	76	76	Invasive Species
Karcher Springs State Natural Area	Racine	NA-2	NA-3	19	13	Invasive Species
Burlington Railroad Prairie	Racine	NA-3	CSH	6	3	Development
Burlington Hills Woods	Racine	NA-3	CSH	502	349	Residential Development and Quarry
Rosewood Railroad Prairie	Racine	NA-2	CSH	25	5	Invasive species, development
Colonial Park Woods	Racine	NA-2	NA-3	94	94	Floodplain Forest Decimated by EAB
Union Grove Railroad Prairie	Racine	NA-2	NA-3	44	25	Woody Encroachment
Kansasville Railroad Prairie	Racine	NA-1	NA-3	28	17	Woody Encroachment
Franksville Railroad Prairie	Racine	NA-1	NA-3	4	2	Woody Encroachment
Nicholson Wildlife Refuge	Racine	NA-2	NA-3	166	143	Invasive Species
Wind Lake Wet Meadow	Racine	NA-3	CSH	11	11	Invasive Species
Tichigan Low Woods	Racine	NA-2	NA-3	170	42	Invasive Species
Tichigan Marsh	Racine	NA-2	NA-3	466	424	Invasive Species
Norris Marsh and Slough	Racine	NA-2	NA-3	209	215	Invasive Species
Tichigan Fen, Springs, and Woods	Racine	NA-1	NA-2	131	126	Invasive Species
Bloomfield Prairie	Walworth	NA-3	CSH	6	4	Agriculture, Mowing and Woody encroachment
Marsh Road Railroad Prairie	Walworth	NA-3	CSH	6	6	Woody Encroachment
Bellin Bog	Washington	NA-2	NA-3	17	16	Excavated pond
Vernon Tamarack-Fen	Waukesha	NA-2	NA-3	18	18	Woody Encroachment
Frog Alley Fen	Waukesha	NA-2	NA-3	39	39	Woody Encroachment
Capitol Drive Sedge Meadow and Wet Prairie	Waukesha	NA-3	CSH	90	58	Invasive Species
Pewaukee Lake Access Fen	Waukesha	NA-2	NA-3	10	12	Invasive Species

[a] *Bike Trail Marsh will be renamed to Root River Parkway Section 9 CSH in later chapters*

Source: SEWRPC

Table 3.7
Critical Species Habitat Sites Wholly or Partially Protected Since the Publication of the Amendment to PR No 42

Site	County	Acreage Proposed for Acquisition	Acreage Acquired since 2010	Percent Acquired (%)
Carol Beach Oak Woods	Kenosha	3	3	100
Carol Beach Parcel #2	Kenosha	2	1	50
PPG Woods	Milwaukee	19	19	100
Port Washington Clay Banks	Ozaukee	35	34	97
Forked Aster Site	Racine	18	1	6
Four Mile Road Woods	Racine	31	9	29
Landon Wetland	Racine	12	5	42
Campbell Woods	Racine	43	20	47
Rosewood Railroad Prairie	Racine	25	4	16
Horn Dry Prairies	Walworth	5	5	100
Sugar Creek Woods-North	Walworth	230	21	9
White River Railroad Prairie	Walworth	12	1	8
Lake No. 10 Open Woods	Walworth	194	41	21
Peterson Property	Walworth	40	14	35
Seno Oak Opening	Walworth	2	2	100
Unnamed Wetland No. 2	Washington	26	14	54
Utica Lake Tamaracks [a]	Waukesha	36	11	31
Denoon Lake Wetlands	Waukesha	30	1	3
Kostello Property	Waukesha	11	1	9
Swan Farm Woods	Waukesha	71	51	72
Genesee Lake Road Tamaracks	Waukesha	111	40	36

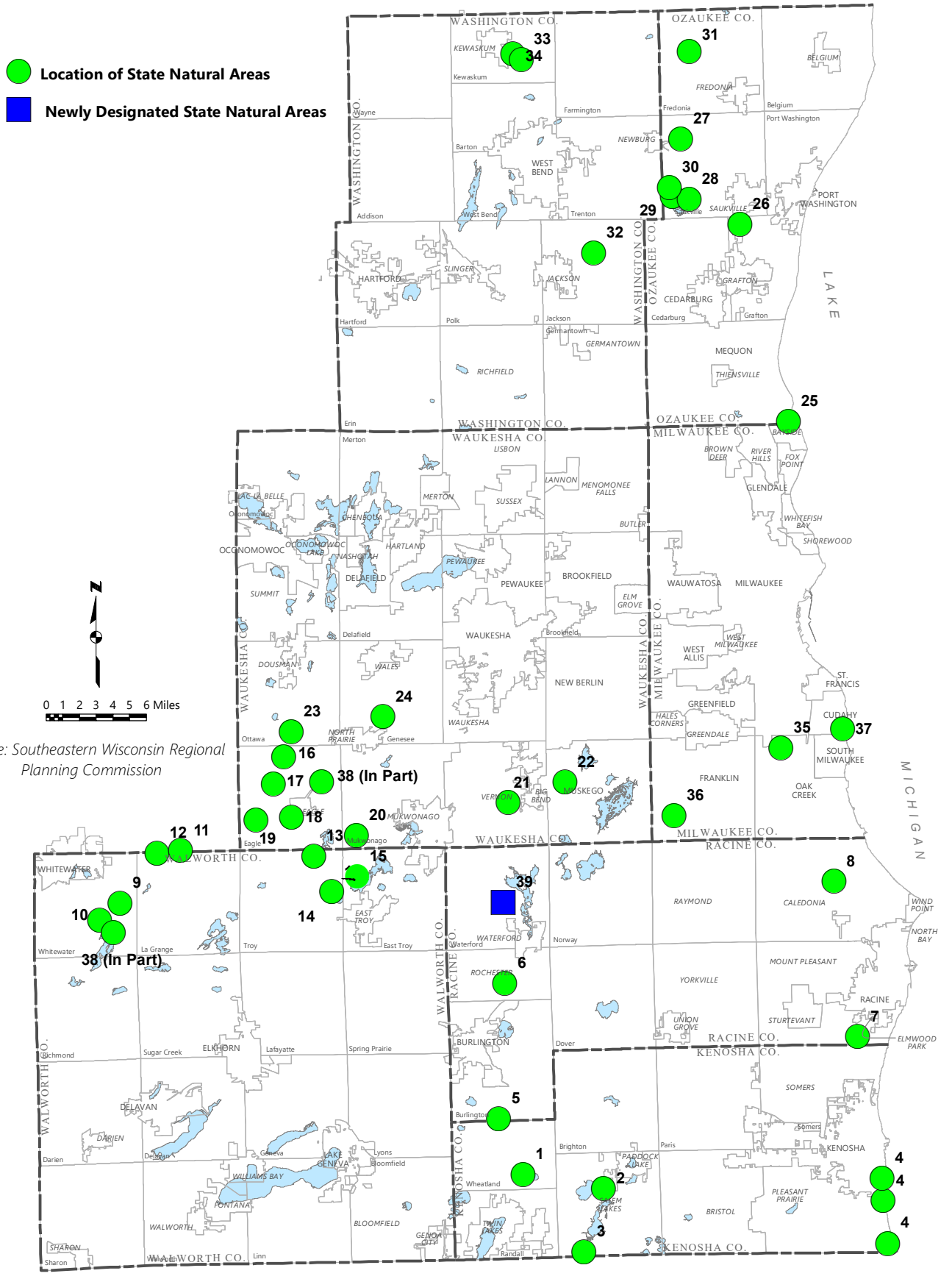
[a] *Upgraded to NA-3 in later chapters.*

Source: SEWRPC

Chapter 3

MAPS

Map 3.1
Designated State Natural Areas in Southeastern Wisconsin: 2024



Source: Southeastern Wisconsin Regional Planning Commission

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SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 4-New Sites Identified Since the 2010 Amendment

4.1 INTRODUCTION

As comprehensive as the original 1997 plan and the 2010 Amendment attempted to be, there remain in the southeastern Wisconsin landscape an indeterminate number of sites which, because of a combination of time, staff, and cost restraints, and limited access to private lands, could not reasonably be surveyed during the preceding inventory effort. Accordingly, little or no information was available concerning the ecological quality of these sites. The question of encountering critical species was even more problematic, depending greatly on the observer being in the appropriate area at the optimal time for observation. Since it was physically impossible to survey every possible natural area for potential inclusion in the inventory, it was determined that it was of primary importance to prepare the original plan and amendment and disseminate the information therein in expectation that progress could be made in preserving the most important natural area sites in the Region. Otherwise, there was a distinct possibility that natural areas and critical species habitat areas would continue to be lost during the additional time that it would take to ensure that every single potential natural area was surveyed, and that every critical species occurrence was accounted for.

Over time, however, the effort expended by the Commission staff in information gathering has continued. On an ad hoc basis, new sites have been surveyed in the field, and the most up-to-date aerial photography has been interpreted. This has resulted in the identification of additional natural area and critical species habitat sites that have been identified since the 2010 Amendment, which are summarized below. In addition, the newly revised aquatic assessment scheme and rankings for lakes and stream reaches is also summarized.

4.2 ADDITIONAL NATURAL AREA SITES

The updated natural areas plan proposes adding 17 natural area sites totaling 254 acres to the regional inventory (see Map 4.1 and Table 4.1). All 17 sites were rated according to the Commission's evaluation procedure set forth in SEWRPC Planning Report No. 42. This list consists of areas not included under any ranking in the original plan and does not include sites from the original plan whose classification has changed. Of the 17 newly identified sites, one was found to be of Statewide significance (NA-1), encompassing a total area of 11 acres, and 16 were found to be of local significance (NA-3), encompassing a total area of 243 acres. Waukesha County contained the greatest number of new sites, six, totaling 40 acres, and Walworth County had three, totaling 50 acres. Two new sites, totaling 52 acres, are located in Kenosha County; two new sites, totaling 25 acres, are located in Ozaukee County; two new sites, totaling 70 acres, are located in Washington County; one new site of seven acres is located in Milwaukee County; and one new site of 10 acres is located in Racine County (see Table 4.2).

4.3 NEW CRITICAL SPECIES HABITAT SITES

The updated natural areas plan proposes to add 196 new critical species habitat sites to the regional inventory (see Map 4.2 and Table 4.3). These represent sites that support critical plant or animal species, as designated by the Wisconsin Department of Natural Resources, but do not reach at least NA-3 quality status according to the standards set forth in SEWRPC Planning Report No. 42. This list consists of areas not included under any ranking in the original plan and does not include sites from the original plan whose classification has changed. These new sites total 14,839 acres. Milwaukee County contains the greatest number of new sites, 77, totaling 4,670 acres, and Waukesha County has 53 new sites, totaling 5,731 acres. Twenty-two new sites, totaling 888 acres, are in Ozaukee County; 20 new sites, totaling 1450 acres, are located in Walworth County; 11 new sites, totaling 528 acres, are located in Washington County; ten new sites, totaling 1562 acres are located in Kenosha County; and three new sites totaling 10 acres are located in Racine County (see Table 4.3).

4.4 RELATIONSHIP OF NEWLY IDENTIFIED SITES TO PRIMARY ENVIRONMENTAL CORRIDORS

Of the 17 newly identified natural areas, 10, or 59 percent of the total, are located entirely within Commission-delineated primary environmental corridors (PEC) (see Table 4.4). while the remaining 7 are located outside of PECs. On an aerial basis, 152 acres, or 60 percent of the total, are located within such corridors. Of the 196 newly identified critical species habitat areas, 43, or 22 percent of the total, are located entirely within Commission-delineated primary environmental corridors (PEC) (see Table 4.5). 77 critical

species habitat areas are located partially within a PEC, while the remaining 76 are located outside of PECs. On an aerial basis, 9,955 acres, or 67 percent of the total, are located within such corridors. The original plan recommended the adjustment of Commission-delineated primary environmental corridor boundaries to fully encompass inventoried natural areas and critical species habitat sites found to be partially within such boundaries.

4.5 UPDATED AQUATIC AREAS

The aquatic natural areas were originally designated in SEWRPC Planning Report No. 42, *A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, 1997*. Planning Report No. 42 was updated in 2010 in the *Amendment to the Natural Areas and Critical Species Habitat Protection*. However, this amended plan only updated the Regional Natural Areas and did not update the Aquatic Areas of the Region. Consequently, the existing Aquatic Area rankings were still based on the original 1997 plan and the waterbody condition data at that time. Since that publication, there have been several methods and biotic indices that have been developed and widely adopted for assessing aquatic biotic communities in Wisconsin. These metrics will be introduced and discussed in greater detail in the "Updated Assessment Schemes" section below. This plan update provides an opportunity to revisit and reassess the Aquatic Areas using both updated data as well as novel methods and indices.

Updated Assessment Schemes

This section will describe the updated assessment schemes used to individually rank lakes and stream reaches, the metrics and indices of biological integrity (IBI) used for ranking, the data sources and aggregation including an updated stream reach delineation, and how the ranking scheme was applied to each lake and stream reach.

Commission staff developed lake and stream ranking schemes that evaluate biological conditions using published and widely used models and biotic indices when available as well as verified observations of special concern, threatened, and endangered species. These ranking schemes also incorporate elements of waterbody morphology, water quality, land use for surrounding riparian lands, and habitat connectivity. In some cases, elements from the original assessment schemes in the original 1997 plan were utilized with some modification. Recycled and modified elements include the presence of State-listed fish and amphibian species, proximity to other Natural Areas, waterbody size, and water quality conditions. In contrast to the original assessment schemes, the range of total scores for each assessment scheme is 0 to +100 as

compared to the range of -10 to +36 for streams and -1 to +22 for lakes. No negative point values were assigned for any element of the updated assessment schemes. The updated assessment schemes also drop some elements from the original schemes while introducing novel elements, such as an evaluation of the aquatic plant community for lakes. The following subsection will describe the updated assessment schemes in greater detail.

Data Aggregation and Reach Delineation

Commission staff utilized the hydrology spatial files from the WDNR's 24k Hydro geodatabase to aggregate data for the lake and stream assessment schemes. Consequently, only waterbodies that are recognized and mapped within this geodatabase were included in the assessment scheme application. All lakes with a surface area of at least 10 acres, as reported by the WDNR for the lake, were included in this Aquatic Areas update. The WDNR geodatabase was utilized in lieu of the Commission's own hydrology geodatabase because the WDNR geodatabase assigns unique Waterbody Identification Codes (WBIC) to each lake and stream and uses that WBIC to assign data to the correct waterbody. As much of the data aggregated for the assessment scheme was generated by WDNR and/or is stored on WDNR databases with an assigned WBIC, the WBIC provided a useful framework for easily aggregating data specific to each waterbody.

All streams mapped within the WDNR 24k Hydro geodatabase were also included in the assessment. However, Commission staff note that some streams mapped by the Commission in its hydrology geodatabase are not present in the WDNR's geodatabase. Most of these streams in conflict are small and often intermittent and consequently rarely have any available data upon which to apply the ranking schemes. Of potentially greater importance is that the mapped representation of the streams can occasionally vary between the WDNR geodatabase and more recently updated representations of those streams, whether by the Commission or other mapping sources. For example, recent stream remeandering projects are not always captured in the WDNR geodatabase, which represents the stream as channelized. Much of the data was aggregated by WBIC, which helps to buffer against potential errors caused by these inconsistencies. However, certain aspects of the stream assessment scheme that rely upon calculated stream morphology statistics and/or proximity of other elements to the map streamline may be affected.

As in the original 1997 plan, Commission staff recognized that there are substantial differences between upstream and downstream portions of the larger streams and rivers within Southeastern Wisconsin and that these reaches should be evaluated independently. However, Commission staff did not reuse these same

stream reaches as they were constructed using the Commission's hydrology geodatabase rather than the WDNR geodatabase and the selected reach breakpoints did not reflect considerations of fish passage barriers or features that may change water quality. For this assessment scheme, the reaches were delineated programmatically using stream order, dams and other passage barriers, and lakes. Each stream, as designated by a shared WBIC value, was split into various reach by the presence of a WDNR-reported dam or another passage barrier, a lake larger than 10 acres, or a significant stream confluence.[1] Dams and other passage barriers can affect fish and macroinvertebrates by limiting recruitment as well as access to potential habitat in each segment of the river, which may result in the development of different communities over time. Similarly, water quality and flow conditions can vary greatly in streams upstream and downstream of lakes as well as significant stream confluences, which were defined as large enough to cause an increase in stream order following the confluence. Each reach was assigned with a unique reach identification code for use in aggregating data in the assessment scheme.

Lakes Assessment

The updated lakes assessment scheme evaluates waterbodies based on morphology, water quality, aquatic plant, fisheries, riparian buffers, habitat connectivity, and the presence of State-listed species. Each of these elements is comprised of sub-elements, for which each lake was scored. The element score is the sum of the sub-elements score and the total score for the lake is the sum of the elements score. Total potential scores were not uniform across the elements, but instead were weighted to reflect the perceived importance for assessing the biotic community. Consequently, biotic elements such as fisheries and aquatic plants, were granted a higher element score than abiotic elements like morphology. As previously, the range of possible scores for any lake was 0 to 100, with 100 representing the highest scores in all elements. The complete assessment scheme for lakes is presented in Table 4.6. This subsection will provide greater detail on each element and sub-element included in the assessment scheme.

[1] Commission staff used a WDNR spatial file of reported dams in the Region to identify fish passage barriers with some modifications based on local knowledge. One such modification included removing the Thiensville dam as a passage barrier due to the presence of a successful fish passage project.

Morphology and Natural Community

In general, larger and deeper lakes have been shown to have greater diversity of aquatic plants and fish species than smaller and shallower lakes.[2,3] These lakes can also support different aquatic habitats and communities that vary with depth. For example, certain fish species, such as cisco (*Coregonus artedi*), can only be found in deep waters with cold temperatures and high dissolved oxygen concentrations. Larger lakes with complex shorelines have more opportunities to support aquatic plant species that prefer sheltered bays over open waters, such as water lilies (*Nymphaea* spp. and *Nuphar* spp.) and duckweeds (*Lemna* spp.), while deeper lakes support species that can thrive in low-light conditions, like muskgrass (*Chara* spp.), nitella (*Nitella* spp.), and aquatic mosses (*Fontanilis* spp. and *Depranocladus* spp.).

The WDNR Riverine and Lakes Natural Communities model classifies lakes into their natural community based on size, stratification status, hydrology, and watershed size.[4] These morphological and hydrological characteristics can influence the lake's ecological conditions and what species and habitats the lake can sustain. In this evaluation, size is only used to group the lakes into those greater or less than 10 acres in surface area. Lakes greater than 10 acres are then classified into either constantly mixed or stratified lakes, depending on whether the lakes likely exhibit thermal stratification based on a modified ratio of lake depth to lake surface area as reported in the Wisconsin Register of Waterbodies (ROW). Finally, the lakes larger than 10 acres were further classified based on their hydrology, contributing watershed size, and maximum depth into seepage (shallow or deep), headwater lakes (shallow or deep), lowland lakes (shallow or deep), two-story lakes, impounded flowing waters, or reservoirs.

The updated assessment scheme evaluated lakes based on their surface area, maximum depth, and their WDNR-designated natural community. The highest potential score for the Morphology element was 7 points. Larger and deeper lakes received more points for this element as these lakes have greater potential for a diversity of aquatic habitats and species. Lakes greater than 500 acres received the highest score for the surface area sub-element while lakes with a maximum depth greater than 50 feet received the highest score for the water depth sub-element. Lakes under 10 acres or less than 20 feet deep received no points for these sub-elements. For the natural community sub-element, lakes classified as either two-story and

[2] O. Vestergaard and K. Sand-Jensen, "Aquatic Macrophyte Richness in Danish Lakes in Relation to Alkalinity, Transparency, and Lake Area," Canadian Journal of Fisheries and Aquatic Sciences 57(10): 2022-2031, 2000.
[3] J.E. Matuszek and G.L. Beggs, "Fish Species Richness in Relation to Lake Area, pH, and Other Abiotic Factors in Ontario Lakes," Canadian Journal of Fisheries and Aquatic Sciences 45(11): 1931-1941, 1998.
[4] https://dnr.wisconsin.gov/topic/Rivers/NaturalCommunities.html

spring lakes received the highest scores as these lakes can support rare and increasingly threatened cold and cool-water fish species like cisco and because these natural communities are relatively rare within Southeastern Wisconsin lakes. The reservoirs, impounded waters, small lakes, and lakes without an assigned natural community received no points in this element. All other natural communities were treated the same with each receiving one point in this element.

Water Quality

The physical, chemical, and biological components of the water in a lake are important determinants of the overall health of the aquatic ecosystem. Waterbodies with poor water quality, whether due to an overabundance of algae, elevated water temperatures, low dissolved oxygen concentrations, or the presence of heavy metals, will generally have a more limited flora and fauna than what that ecosystem could support with better water quality. For example, increased water turbidity from suspended sediment and/or an overabundance of algae can limit light availability for aquatic plants, leading to declines in aquatic plant coverage and diversity.[5] Similarly, many macroinvertebrates and fish species are sensitive to decreases in water clarity as it affects their feeding habits.[6] Some fish species, particularly salmonids like native brook trout, are very sensitive to increasing water temperatures and corresponding decreases in dissolved oxygen concentrations. Higher concentrations of some salts, metals, and other pollutants can reduce or inhibit organism vitality, reproduction, or even cause direct mortality. Common analytes used to assess water quality in Wisconsin include water clarity, water temperature, and the concentrations of chloride, phosphorus, chlorophyll-*a*, and dissolved oxygen.

All surface waters in Wisconsin are considered to have appropriate designed uses for the protection of fish and aquatic life (Aquatic Life), recreational use (Recreation), incidental human contact and fish consumption (Public Health and Welfare), and the protection of wildlife that depends on the waterbody (Wildlife). Each designated use has its own set of water quality standards. The water quality standards for temperature, dissolved oxygen, total phosphorus, chlorophyll-*a*, and chloride are considered for the Aquatic Life designated use. The numeric criteria used to determine whether a waterbody meets these standards are presented in the *Wisconsin Consolidated Assessment and Listing Methodology (WisCALM)*.[7] Waterbodies that

[5] *B. Freedman and P. Lacoul, "Environmental Influences on Aquatic Plants in Freshwater Ecosystems," Environmental Reviews 14: 89-136, 2006.*
[6] *G.C. Becker, Fishes of Wisconsin, University of Wisconsin Press, Madison, Wisconsin, 1983*
[7] *Wisconsin Department of Natural Resources, Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) 2024, April 2023.*

do not meet these standards and are determined to not currently support their Aquatic Life attainable use may be listed as impaired on the 303(d) impaired waters list (see Map 4.3).

Wisconsin has also previously recognized high-quality waters across the state via the Outstanding and Exceptional Resource Waters list.[8] These waterbodies support high-quality fisheries and wildlife habitat, have good water quality, and considered to be not significantly impacted by human activities. Consequently, these waterbodies receive greater protection by implementing an anti-degradation policy that acts to prevent declines in water quality for these waterbodies.

Commission staff incorporated water quality into the assessment scheme by utilizing the information prepared for WDNR for the 2024 303(d) impaired waters list as well as the list of Outstanding and Exceptional Resource Waters. The highest potential score for the Water Quality element was 8 points. Lakes that were listed as impaired and deemed to be "Not Supporting" their Aquatic Life attainable use received no points while lakes on the 303(d) list but deemed to be "Fully Supporting" were provided 4 points. Non-impaired lakes, including lakes recently delisted from the 303(d) list, were given six points for this sub-element. As a separate sub-element, lakes on the Outstanding and Exceptional Resource Waters list received 2 points while lakes not on the list received no points.

Aquatic Plants

All healthy lakes have native aquatic plants that form a foundational part of a lake ecosystem (see Figure 4.1). Aquatic plants serve many valuable functions in a lake ecosystem, including:

- Form the basis of the food web
- Improving water quality by filtering excess nutrients from the water
- Provide habitat for fish and invertebrates
- Stabilize lake bottom
- Supply food for waterfowl and aquatic animals

The original assessment scheme from the original 1997 plan did not include any element to address the aquatic plant community, which was likely due in part to the lack of a standard monitoring protocol to assess these communities in Wisconsin. In 2010, the WDNR published *Recommended Baseline Monitoring*

[8] *https://dnr.wisconsin.gov/topic/SurfaceWater/orwerw.html*

of Aquatic Plants in Wisconsin, which established surveying lake aquatic plant communities using a point-intercept grid where each aquatic plant species is identified at each survey point.[9] Simultaneously, WDNR published standard point-intercept grids for each lake to ensure consistency between surveys of the same waterbody (see Figure 4.2). The point-intercept method has become the most common protocol for surveying aquatic plant communities in Southeastern Wisconsin lakes, resulting in an extensive database upon which to assess these communities.

Along with the point-intercept survey protocol and grids, the WDNR also provided a standard survey spreadsheet with formulas to calculate useful metrics for describing the aquatic plant community conditions. These metrics include species richness, mean coefficient of conservatism, and the percentage of points in the littoral zone for each species observed. Species richness is the number of distinct types of aquatic plants present in a lake. Larger lakes with diverse lake basin morphology, less human disturbance, and/or healthier, more resilient lake ecosystems have greater species richness. The coefficient of conservatism (C value) scales from zero to ten and reflects the likelihood that each species occurs in undisturbed habitat.[10] Native sensitive species that are intolerant of ecological disturbance receive high C values, while natives that are disturbance tolerant receive low C values (see Figure 4.3). Invasive species are assigned a C value of 0. The littoral frequency of occurrence refers to the percentage of points where a species was observed and where the water depth was shallower than the deepest aquatic plant surveyed. This metric is useful for determining how frequently a species occurs within a lake. In addition to the metrics described above, WDNR scientists used data generated from the point-intercept survey protocol to develop a macrophyte bioassessment model.[11] This model evaluates whether a lake has been disturbed by general human activity using known species sensitivity to disturbance as well as the littoral frequency of occurrence of each species observed on the lake. Lakes that receive a rating of "Not Attaining" have an aquatic plant community that indicates significant disturbance by human activity while "Attaining" lakes indicate a lower impact from human disturbance.

[9] *J. Hauxwell, S. Knight, K. Wagner, A. Mikulyuk, M. Nault, M. Porzky, and S. Chase, Recommended Baseline Monitoring of Aquatic Plants in Wisconsin: Sampling Design, Field and Laboratory Procedures, Data Entry and Analysis, and Applications, Wisconsin Department of Natural Resources, Bureau of Science Services, Publication No. PUB-SS-1068 201, March 2010.*

[10] *S. Nichols, "Floristic Quality Assessment of Wisconsin Lake Plant Communities with Example Applications," Lake and Reservoir Management 15(2), 1999.*

[11] *Mikulyuk, A.M., et al., "A Macrophyte Bioassessment Approach Linking Taxon-Specific Tolerance and Abundance in North Temperate Lakes," Journal of Environmental Management 199: 172-180, 2017.*

Commission staff requested the summary statistics from each aquatic plant survey for each lake in Southeastern Wisconsin from WDNR staff, who obliged with that request. Using this data, Commission staff assessed the aquatic plant communities via several metrics for the updated assessment scheme with the highest potential score for the Aquatic Plant element at 20 points. The survey data was aggregated for lakes with multiple aquatic plant surveys and Commission staff evaluated the distributions of scores for Southeastern Wisconsin lakes when determining cutoffs for each sub-element scoring. First, Commission staff calculated the percent of surveys where the lake was considered to be "Attaining" in the macrophyte bioassessment model, with a higher percent of "Attaining" surveys receiving a higher sub-element score.[12] Next, Commission staff calculated average values for the mean C value and the species richness across all surveys.[13] Average species richness was divided by the log of the lake surface area to create a term called "Richness by Area". Lakes with a higher Richness by Area and higher average C value received higher scores while lakes with lower values received lower scores. Finally, the average sum littoral frequency of occurrence for either the invasive Eurasian watermilfoil (*Myriophyllum spicatum*), curly-leaf pondweed (*Potamogeton crispus*), or starry stonewort (*Nitellopsis obtusa*) was calculated across all surveys, with higher sub-element scores for lakes with lower frequencies of invasive species. Lakes where the percentage of littoral points with any of these species was greater than 50 percent did not receive any points in this sub-element as these were considered highly invaded waterbodies.

Fisheries

As in the original 1997 plan, Commission staff recognize that a lake's fishery is an essential component of the overall lake ecosystem. A productive, diverse fishery is an indicator of a healthy lake as well as an important resource for recreation and tourism. Water temperature and clarity are important factors for determining which fish species can thrive within a lake. High-quality warmwater fisheries are characterized as having many native species. Cyprinids, darters, suckers, sunfish, and percids typically dominate the fish assemblage. Pollution intolerant species (species that are particularly sensitive to water pollution and habitat degradation) are also common in such high-quality warmwater systems. Coolwater fisheries are generally less diverse than warmwater fisheries and sustain species that have lower temperature and higher dissolved oxygen requirements, such as suckers, northern pike, and trout. Warmwater fisheries are generally more common than coolwater fisheries in Southeastern Wisconsin. Commission staff incorporated information

[12] *Ibid.*
[13] *Nichols, 1999, op. cit.*

on lake fishery classifications, fish species richness, and the presence of common carp in assessing each lake's fishery.

In 2019, Rypel et al. developed a fishery classification model for Wisconsin lakes and classified 6,112 lakes across the state and 277 lakes in Southeastern Wisconsin (see Map 4.4).[14] The lake fisheries were first classified using WDNR fishery data two broad categories, "Simple" and "Complex" fisheries. "Simple" fisheries were those with fewer than three sportfish species and without walleye (*Sander vitreus*) present while "Complex" fisheries had more than four sportfish species, including walleye. The "Simple" and "Complex" fisheries were then subdivided based on temperature, water clarity, and hydrology into 15 lake classes, including "two-story" lakes that can support cisco as well as lakes with a harsh fishery. Within Southeastern Wisconsin, "Simple-Warm-Dark" fisheries were the most common while "Complex-Cool-Dark," "Complex-Riverine", and "Simple-Cool-Dark" fisheries were among the least common. Example fish species that can be found in each fishery classification are illustrated in Figure 4.4.

Commission staff requested and were granted WDNR fish species counts from lake fishery surveys conducted between 2010 and 2020 and downloaded a dataset of WDNR fishery data from lake fishery surveys conducted between 1944 and 2012. For each lake, Commission staff calculated the species richness in fishery surveys conducted since 1970 and then calculated the maximum species richness for lakes with multiple fishery surveys. Additionally, for lakes where Commission staff had previously prepared a comprehensive lake management plan with fishery information, staff also added lake fish species richness as presented in these plans.

Carp are often considered "ecosystem engineers" due to their habitat-disrupting foraging and spawning habitats. Consequently, an overabundance of carp can have detrimental effects on lake ecosystems by disturbing lake bottom sediment, excessively consuming aquatic plants, and decreasing water quality.[15] Commission staff used the WDNR fishery data to identify lakes where common carp were observed in recent surveys.

[14] A.L. Rypel, T.D. Simonson, D.L. Oele, et al., "Flexible Classification of Wisconsin Lakes for Improved Fisheries Conservation and Management," Fisheries 44:5 225-238, 2019.
[15] P.G. Bajer and P.W. Sorensen, "Effects of common carp on phosphorus concentrations, water clarity, and vegetation density: a whole system experiment in a thermally stratified lake," Hydrobiologia 746(1): 303-311, 2015.

For the updated assessment scheme, the fishery element was composed of three sub-elements: a lake fishery classification, the fish species richness, and the presence of carp. The highest potential score for the Fisheries element was 25 points. Using the Rypel et al. 2019 fishery classification, lakes with a "Complex" fishery or were classified as two-story lakes received the most points for the fishery classification sub-element as these classifications reflect more diverse communities and/or more regionally rare in the case of two-story lakes. The lakes designated as having a "Simple" fishery but not classified as harsh or a stocked trout pond received fewer points while the lakes classified as trout points or as having harsh fisheries received no points. Lakes with a higher mean fish species richness received more points for the species richness sub-element; however, this scale was graded differently between lakes with "Simple" or "Complex" fisheries to account for expected species richness differences between these lake types. For lakes with a "Simple" fishery, no points were given for a species richness below four while maximum points were for lakes with a species richness greater than 16. In "Complex" fishery lakes, no points were given for a species richness below five while a species richness of at least 20 was required for maximum points. Based on the destructive potential of common carp overabundance, lakes in which carp were recently observed received no scores for this sub-element while lakes where carp were not identified as present received three points.

Riparian Buffer

Healthy and extensive riparian buffers help protect aquatic ecosystems and provide habitat and dispersal corridors for both obligate and facultative aquatic species (see Figure 4.5 and Figure 4.6).[16] For example, submerged sections of woody vegetation along a lake shore can be important spawning habitat for fish while the above-water portions are frequently used by turtles and waterfowl. In 2020, the WDNR published *Lake Shoreland & Shallows Habitat Monitoring Field Protocol*, which provides a standardized protocol for evaluating riparian parcels along lakes.[17] However, this protocol has not yet been utilized on most lakes in Southeastern Wisconsin, which limited its usefulness for this assessment. Instead, Commission staff conducted a Geographic Information System (GIS) assessment of riparian buffers using their 2015 land use data. Commission staff summarized all the land uses within a 1,000-foot buffer around each lake in Southeastern Wisconsin and then calculated the percentage of these land uses that was in woodlands, wetlands, open water, or unused rural lands. These land uses were presumed to provide many of the habitat benefits of riparian buffers. Lakes where the 1,000-foot buffer around the lake had a higher percentage of

[16] *Managing the Water's Edge: Making Natural Connections, SEWRPC Riparian Buffer Management Guide No. 1, 2010.*
[17] *K. Hein et al., Lake Shoreland & Shallows Habitat Monitoring Field Protocol, Wisconsin Department of Natural Resources EGAD # 3400-2020-19, 2020.*

these land uses were given a higher sub-element score while lakes with a percentage below 50 did not a receive a riparian buffer score. The highest potential score for the Riparian Buffer element was 5 points.

Habitat Connectivity

Establishing connections between high-quality habitats is essential for maintaining the resilience of these habitats and the species that they support. Connectivity allows for essential ecological functions, such as habitat refuge during harsh conditions, access to various feeding and spawning grounds, dispersal to new sites, and maintaining genetic diversity between various populations of a species (see Figure 4.7). As in the original 1997 plan, Commission staff assessed the habitat connectivity for each lake by calculating the number and size of spatially adjacent Natural Area, Critical Species Habitat, and Aquatic Areas. Aquatic Areas were not considered adjacent if a known passage barrier, such as a dam, exists between the Aquatic Areas. To complete this element, the rest of the assessment scheme had to be applied to both lakes and streams first to establish potential Aquatic Areas. Then the number and total acreage of the Natural Areas, Critical Species Habitats, and potential Aquatic Areas were calculated for each lake to determine the final element score. Lakes connected to a greater number of Natural Areas, Critical Species Habitats, and potential Aquatic Areas as well as a larger total acreage of these areas received higher scores while lakes without these connections did not receive a score for this element. The highest potential score for the Habitat Connectivity element was 15 points.

Rare Species

Wisconsin is home to many native rare and threatened animal and plant species. The population and distribution of some of these species may be naturally limited due to requiring habitats that are rare within Wisconsin, such plant species that only grow on cliff faces or in sand dunes. However, many rare species were more common but are now rare due to loss of habitat or human-induced changes to their habitats. Freshwater mussels, which are among the most threatened animal groups within the world, are excellent examples of species made rare because of human disturbance. Most species of freshwater mussels prefer clean running water with high oxygen content, and all species are susceptible to pollution, including pesticides, heavy metals, ammonia, and algal toxins. Mussels are also wholly dependent on fishes to complete their life history, particularly for early larval stages, so loss of host fish species results in a loss of the mussel species as well. Due to human-induced declines in water quality and fragmentation of fish and mussel habitat by road crossings and dams, freshwater mussel populations and diversity have severely

declined within Wisconsin.[18] Consequently, nearly half of Wisconsin's 52 mussel species have been listed on the Natural Heritage Inventory (NHI) Working List, which is a list of rare species within Wisconsin classified as either Special Concern, Threatened, or Endangered.[19] The Commission maintains a license to access NHI data and utilized this data in conducting the updated Aquatic Areas assessment. Some of the most commonly observed aquatic NHI-listed species in southeastern Wisconsin are the lake chubsucker (*Erimyzon sucetta*), pugnose shiner (*Notropis anogenus*), slender madtom (*Noturus exilis*), least darter (*Etheostoma microperca*), ellipse (*Venustaconcha ellipsiiformis*, a freshwater mussel), and Blanding's turtle (*Emydoidea blandingii*) (see Figure 4.8).

Commission staff calculated the number of NHI-listed bird, fish, herptile, invertebrate (including freshwater mussels), and plant species observed in each lake in Southeastern Wisconsin. For the assessment scheme, lakes with a greater number of NHI-listed species received more points for the rare species element while lakes with no NHI-listed species received no points. Additionally, the species classification on the Working List affected the element score, with Endangered species receiving more points than Threatened species which received more points than Special Concern species. The highest potential score for the Rare Species element was 20 points, with five points available for each sub-element of NHI-listed birds, fish, herptiles, invertebrates, and plants.

Streams Assessment

The updated stream assessment scheme evaluates waterbodies based on morphology, water quality, macroinvertebrates, fisheries, riparian buffers, habitat connectivity, and the presence of State-listed species. Like the lake assessment scheme, each of these elements is comprised of sub-elements, for which each stream reach was scored. The element score is the sum of the sub-elements score and the total score for the stream reach is the sum of the elements score. Total potential scores were not uniform across the elements, but instead were weighted to reflect the perceived importance for assessing the biotic community. Consequently, biotic elements such as macroinvertebrates and fisheries, were granted a higher element score than abiotic elements like morphology. As with the lakes, the range of possible scores for any stream reach was 0 to 100, with 100 representing the highest scores in all elements. The complete assessment scheme for lakes is presented in Table 4.7. This subsection will provide greater detail on each element and sub-element included in the assessment scheme.

[18] For more information on freshwater mussels in Wisconsin, see https://wiatri.net/inventory/mussels/.
[19] https://dnr.wisconsin.gov/topic/NHI/WList

Unlike the lakes which were treated as discrete units, Commission staff delineated streams and rivers into reaches based on the presence of lakes, fish passage barriers, and major confluences (see "Data Aggregation and Reach Delineation" section earlier in this chapter). These reach delineations differ from the stream segments that WDNR has used to apply different stream classifications, such as water quality impairments, natural communities, and trout stream designations. Consequently, a single reach in this assessment scheme may only be impaired for part of its entire length and thus should not be scored the same as a reach impaired for its entire length. To address these issues, Commission staff weighted the appropriate sub-elements presented in this assessment scheme by the percentage of the reach to which the sub-elements applied. This weighting approach will be mentioned where it was applied within this subsection.

Morphology and Natural Community

As with the lake assessment scheme, Commission staff included morphological elements in its assessment of stream reaches. In particular, the number of road crossings, the stream sinuosity, and the WDNR-designated natural community model were utilized to assess the potential aquatic habitat and human-induced disturbance for each stream reach.

Road crossings can have a detrimental impact on stream health by inhibiting fish passage, contributing to water quality declines, and acting as source areas for road pollutants and invasive species.[20,21] Passage barriers strongly influence the distribution of species within a watershed as they prevent access to feeding areas, spawning areas, juvenile rearing habitat, and overwintering sites. Undersized road crossings can detain water causing suspended sediment and other pollutants within that water can accumulate upstream of the road crossing as the water velocity slows. The stagnant water within these impounded areas is also susceptible to lower dissolved oxygen concentrations and higher water temperatures than the flowing water immediately upstream and downstream. Commission staff calculated the number of road crossings per mile in GIS using its 2015 land use information combined with the WDNR 24k Hydro spatial layers. Crossings per mile were utilized to normalize the number of crossings for stream reaches of unequal length. Due to lack of readily available information, no consideration was given to the size or type of these crossings (e.g., bridge versus a culvert).

[20] M.W. Diebel et al., "Effects of road crossings on habitat connectivity for stream-resident fish," River Research and Applications, 2014.

[21] B.C. Wemple et al., "Ecohydrological disturbances associated with roads: Current knowledge, research needs, and management concerns with reference to the tropics," Ecohydrology 11(3), 2018.

Sinuosity is a measure of how much a stream meanders, which is defined as the ratio of channel length between two points on a channel to the straight-line distance between those points (see Figure 4.9). Prior to human-induced stream channelization, many low-gradient streams in Southeastern Wisconsin used to meander significantly, which provides a variety of riffle, run, and pool habitats that can support a greater diversity of aquatic flora and fauna. Following European settlement, many Southeastern Wisconsin streams were channelized and ditched to facilitate agricultural, residential, or transportation use. Many of these aquatic habitats were lost or severely disturbed as a result of this channelization. Commission staff retrieved the calculated sinuosity for each stream reach from the WDNR 24k Hydro database for use in this assessment scheme.

The WDNR Riverine and Lakes Natural Communities model classifies stream reaches into a natural community based on water temperature and streamflow. WDNR staff modeled water temperature and streamflow for many streams across the state in the development of these natural communities.[22] The predicted maximum daily mean temperature, which is the 13-year average of the daily mean temperature for the warmest day of the year, was used to classify streams into warm and coolwater categories while the annual 90 percent exceedance streamflow was used to classify them into headwater and mainstem categories. The combination of each category, such as a "Cold Headwater" or "Warm Mainstem," is the designated natural community for the stream.[23] Streams with streamflow too low to be considered headwater streams were designated as either Macroinvertebrate or Ephemeral; these natural communities are recognized to have low fish diversity and abundance. Macroinvertebrate, Cool-Warm Headwater, and Cool-Cold Headwater are the most common stream natural communities within Southeastern Wisconsin while Cool-Cold Mainstem and Large River are the least common (see Map 4.5).

For this element, Commission staff assessed the stream reaches based on the number of road crossings, sinuosity, and their natural community. The highest potential score for the Morphology element was 7 points. Stream reaches with fewer road crossings per mile received higher scores for this sub-element while reaches with more than five road crossings per mile did not receive a score. The stream reaches with higher sinuosity values received the highest scores for the sinuosity sub-element while streams with sinuosity

[22] M. Diebel, D. Menuz, and A. Ruesch, 1:24K Hydrography Attribution Data, Wisconsin Department of Natural Resources, 2013.

[23] For a full list of the stream natural communities, see the following link: https://dnr.wisconsin.gov/topic/Rivers/NaturalCommunities.html.

values below 1.05 without a reported sinuosity did not receive a score. Reaches designated by larger and/or more regionally rare stream natural communities, such as "Cool-Cold Mainstem" and "Large River," received higher scores for the natural community sub-element while reaches with smaller or more common natural communities received lower scores. As sinuosity was represented by WDNR as stream segments, the weighting approach described above was applied to calculate a mean sinuosity for the entire length of the reach. Similarly, Commission staff used this weighting approach to apply the scores for the natural community using the percent of the entire stream reach classified as each natural community.

Water Quality

Water quality is as essential a component for stream health as it is for lakes, with many of the same analytes such as water temperature, chloride, and phosphorus having as large of an impact. Like for lakes, WDNR assesses streams for their water quality by comparing measured values to numeric criteria in WisCALM.[24] Streams with measurements that do not meet water quality criteria and are found to not fully support their Aquatic Life use may be listed on the 303(d) list as impaired waters (see Map 4.3).

Commission staff incorporated water quality into the assessment scheme by utilizing the information prepared for WDNR for the 2024 303(d) impaired waters list as well as the list of Outstanding and Exceptional Resource Waters. The highest potential score for the Water Quality element was 8 points. Stream reaches that were listed as impaired and deemed to be "Not Supporting" their Aquatic Life attainable use received no points while streams on the 303(d) list but deemed to be "Fully Supporting" were provided 4 points. Non-impaired streams, including those recently delisted from the 303(d) list, were given six points for this sub-element. As a separate sub-element, streams on the Outstanding and Exceptional Resource Waters list received 2 points while streams not on the list received no points. For both of these sub-elements, Commission staff used the weighted approach to calculate the scores using the percentage of the reach to which each classification applied.

Macroinvertebrates

Macroinvertebrates are organisms without backbones inhabiting substrates such as sediments, debris, logs, and plant vegetation in a stream for at least part of their life cycle. They are visible to the naked eye, are abundant in freshwater systems, and include insect larvae, leeches, worms, crayfish, shrimp, clams, mussels, and snails. These organisms are useful water quality indicators because differences among

[24] *WDNR, 2024, op. cit.*

macroinvertebrate species in habitat preferences, feeding ecology, and environmental tolerances allow the quality of water and habitat in a waterbody to be evaluated based upon the identity of the groups that are present and their relative abundances. Some species, such as those in the mayfly (Ephemeroptera), stonefly (Plecoptera), and caddisfly (Trichoptera) families are particularly sensitive to poor water quality while others, such as (see Figure 4.10). The WDNR routinely monitors macroinvertebrates communities within streams to assess stream water quality and to better understand and protect these organisms.

A variety of metrics have been developed and used for evaluating water quality based upon macroinvertebrate assemblages.[25] These include metrics based on species richness, relative abundance of the dominant taxa, and diversity, as well as more complicated metrics, such as the Hilsenhoff Biotic Index (HBI). The HBI represents the average weighted pollution tolerance values of all arthropods present in a sample.[26] It is based upon the macroinvertebrate community's response to high loading of organic pollutants and reductions in dissolved oxygen concentrations. Lower HBI values indicate better water quality while higher values indicate worse water quality conditions.

Macroinvertebrates were not considered at a taxon-wide level in the original stream assessment scheme described in the original 1997 plan, although freshwater mussels were included as one element.[27] Commission staff discussed whether to include freshwater mussels as their own element with WDNR mussel biologists but decided against their inclusion as a separate element because of data scarcity and the lack of an IBI for freshwater mussels in Wisconsin. For the updated assessment scheme, Commission staff incorporated macroinvertebrates by including the taxa richness and HBI scores reported as part of the routine monitoring conducted by WDNR stream biologists. The highest potential score for the Macroinvertebrate element was 20 points. For each stream reach, macroinvertebrate survey was aggregated with mean taxa richness and HBI values calculated for reaches with multiple surveys. Stream reaches with higher mean taxa richness received high scores for that sub-element while reaches with a richness below 16 received no score. Reaches with a lower HBI value, indicating more taxa present that are intolerant of organic pollutants, received a higher score for this sub-element while reaches with a higher HBI value received a low score.

[25]R.A. Lillie, S.W. Szcytko, and M.A. Miller, Macroinvertebrate Data Interpretation Manual, Wisconsin Department of Natural Resources, PUB-SS-965 2003, Madison, Wisconsin, 2003.
[26]W.L. Hilsenhoff, "Rapid Field Assessment of Organic Pollution With a Family-Level Biotic Index," Journal of the North American Benthological Society, 7(1): 65-68, 1988.
[27] SEWRPC Planning Report No. 42, 1997, op. cit.

Fisheries

Wisconsin is comprised of coldwater, warmwater, and coolwater streams that are distinguished by summer maximum water temperatures, which is an important environmental determinant influencing the occurrence and abundance of fishes.[28] Streams with relatively cold summer maximum water temperatures are usually dominated by a small number of ''coldwater'' species in the salmonid (i.e., trout) and cottid (e.g., sculpin) families that are not able to tolerate warmer temperatures while streams with relatively warm temperatures contain a greater richness of ''warmwater'' species in the minnow and carp, sucker, bullhead, sunfish, and perch families. These species, while able to survive as individuals at colder temperatures, require warmer temperatures to complete their life cycle and persist as populations (see Figure 4.11).[29,30] Of the perennial streams, warmwater streams are more common in Southeastern Wisconsin while coldwater streams, particularly those that can support native brook trout (*Salvelinus fontinalis*) are rare. Commission staff assessed the quality of stream fisheries using biotic indices, fish species richness, and trout stream classifications.

The WDNR uses its stream natural community model to assign an appropriate fishery index of biotic integrity (IBI), which is a metric that assesses the stream health based on its fish assemblage. Due to the fundamental differences among warmwater, coolwater, and coldwater headwater and mainstem streams, separate fish IBIs have been developed to assess the health of each of these types of streams.[31,32,33,34] Through calculation of the IBI, fish population data can provide insight into the overall health of the stream ecosystem. WDNR biologists routinely monitor stream fish populations in Southeastern Wisconsin and prepare survey summary metrics, such as species richness and how the survey result compares against the corresponding IBI for that stream natural community. Commission staff received fishery survey IBI scores from WDNR biologists for use in this assessment scheme.

[28] John J. Magnuson, "Temperature as an Ecological Resource," American Zoologist 19(1): 331-343, 1979.
[29] J. Lyons, "Patterns in the Species Composition of Fish Assemblages Among Wisconsin Streams," Environmental Biology of Fishes 45, 329-341, 1996.
[30] J. Lyons, "Influence of Winter Starvation on the Distribution of Smallmouth Bass Among Wisconsin Streams: a Bioenergetics Modeling Assessment," American Fisheries Society 126(1), 157-162, 1997.
[31] J. Lyons, 1996, op. cit.
[32] J. Lyons et al., "Defining and Characterizing Coolwater Streams and Their Fish Assemblages in Michigan and Wisconsin, USA," North American Journal of Fisheries Management 29: 1130–1151, 2009.
[33] J. Lyons, "Development and Validation of an Index of Biotic Integrity for Coldwater Streams in Wisconsin," North American Journal of Fisheries Management 16, 1996.
[34] J. Lyons, "A Fish-Based Index of Biotic Integrity to Assess Intermittent Headwater Streams in Wisconsin, USA," Environmental Monitoring and Assessment 122: 239-258, 2006.

Streams capable of supporting trout are typically cold, well-oxygenated, and low in siltation. These streams are generally found in headwater areas in which upwelling of groundwater occurs. Three trout species are currently managed by the WDNR: the regionally native brook trout (*Salvelinus fontinalis*), the introduced brown trout (*Salmo trutta*), and the introduced rainbow trout (*Oncorhynchus mykiss*). Trout streams are not only rare within Southeastern Wisconsin but are also increasingly threatened by encroaching land development and warming temperatures from climate change.[35] Consequently, Commission staff included explicit recognition of these streams, as was done in the original 1997 plan. WDNR designates trout streams as either Class I, II, or III. Class I streams have natural reproduction of wild trout to sustain their populations while Class II streams have some natural reproduction but not enough to sustain a population. Class III streams have marginal trout habitat without natural reproduction. Commission staff retrieved the trout class information from WDNR databases for use in this assessment scheme.

Commission staff used fish species richness, fishery IBIs, and trout stream classifications to assess stream reaches within Southeastern Wisconsin. The highest potential score for the Fisheries element was 20 points. For stream reaches with multiple fishery surveys, Commission staff calculated average fish species richness and IBI scores across these surveys. Reaches with a higher mean species richness received higher scores than reaches with a lower mean richness. Since each fishery IBI is tailored to a specific stream type, such as coldwater streams, Commission staff matched the stream's natural community with the fish survey IBI scores in order to apply the appropriate IBI. Stream reaches with higher mean IBI scores received a higher score for this sub-element than reaches with lower mean IBI scores. Reaches designated as classified trout streams received scores while reaches not designated as trout streams did not receive a score; reaches designated as Class I streams received more points than Class III streams.

Riparian Buffer

Riparian buffers provide the same habitat and water quality protection benefits to streams as they do for lakes.[36] Using the 2015 SEWRPC land use data, Commission staff summarized all the land uses within a 1,000-foot buffer around each stream reach in Southeastern Wisconsin and then calculated the percent of these land uses that was in woodlands, wetlands, open water, or unused rural lands (see Figure 4.12). The highest potential score for the Riparian Buffer element was 5 points. Stream reaches where the 1,000-foot

[35] *B.M. Maitland and A.W. Latzka, "Shifting climate conditions affect recruitment in Midwestern stream trout, but depend on seasonal and spatial context," Ecosphere 13: 1-19, 2022.*
[36] *SEWRPC Riparian Buffer Guide, 2010, op. cit.*

buffer around the stream had a higher percentage of these land uses were given a higher sub-element score while stream reaches with a percentage below 50 did not a receive a riparian buffer score.

Habitat Connectivity

The number and total acreage of the Natural Areas, Critical Species Habitats, and potential Aquatic Areas were calculated for each stream reach using a similar approach to that described in the "Lakes Assessment" subsection above. Stream reaches connected to a greater number of Natural Areas, Critical Species Habitats, and potential Aquatic Areas as well as a larger total acreage of these areas received higher scores while streams without these connections did not receive a score for this element. For the purposes of the stream assessment, Lake Michigan was considered an automatically qualifying Aquatic Area of Regional or Statewide Significance, so stream reaches connected to Lake Michigan received a corresponding score for connection to another Aquatic Area of that size. The highest potential score for the Habitat Connectivity element was 15 points.

Rare Species

Using the same NHI data described in the "Lakes Assessment" subsection, Commission staff calculated the number of NHI-listed bird, fish, herptile, invertebrate, and plant species for each stream reach in Southeastern Wisconsin. For the assessment scheme, reaches with a greater number of NHI-listed species received more points for the rare species element while stream reaches with no NHI-listed species did not receive any points. Additionally, the species classification on the Working List affected the element score, with Endangered species receiving more points than Threatened species which received more points than Special Concern species. The highest potential score for the Rare Species element was 20 points, which is comprised of five points for each sub-element of NHI-listed birds, fish, herptiles, invertebrates, and plants.

Assessment Scheme Application

Commission staff only applied the ranking schemes based on available data for the Region's waterbodies and did not assume or infer any information about waterbodies where it had not been recorded. Small and/or intermittent waterbodies are poorly monitored compared to larger waterbodies within the Region. Many of these waterbodies therefore lack enough monitoring data to fairly assess their conditions for purposes of designating the Aquatic Areas. Abiotic information, such as the waterbody size, natural community, water quality, and extent of riparian buffer, was available for most waterbodies within Southeastern Wisconsin, but these elements were deemed less important than the biotic surveys for

assessing the quality of these aquatic ecosystems. Consequently, lakes without a point-intercept aquatic plant survey or a fishery survey as well as streams without a macroinvertebrate or fishery survey were designated as "Not Enough Data to Rank" as these surveys constitute nearly half the total potential points for each assessment scheme. Across the Region, 103 out of 221 lakes (47 percent) and 2,147 out of the 2,471 reaches (87 percent) were designated as "Not Enough Data to Rank". Most of these waterbodies are small and many are not easily accessible to the public, such as lakes completely surrounded by private lands and small tributaries to larger streams.

For waterbodies with enough data, Commission staff applied the assessment schemes to each lake and stream reach. As described above, each waterbody received a score for each element and the sum of these elements scores was the total score for that waterbody. The total scores for the lakes ranged from 9 to 66 while the stream reach total scores ranged from 2 to 73.

The top 5th percentile from the lakes (as represented by a total score exceeding 52 points) were designated Aquatic Areas of Statewide or Greater Significance (AQ-1). Lakes with a score between the 5th and 15th percentiles (as represented by total scores between 44 and 52 points) were designated Aquatic Areas of Countywide or Regional Significance (AQ-2). Finally, lakes with a score between the 15th and 25th percentiles (as represented by total scores between 40 and 43 points) were designed Aquatic Areas of Local Significance (AQ-3).

The same process was repeated for the stream reaches, with the exception that the percentiles were drawn from the 313 stream reaches that had enough data to apply the assessment schemes.[37] For these reaches, the top 5th percentile (as represented by a total score exceeding 49 points) were designed Aquatic Areas of Statewide or Greater Significance (AQ-1). Stream reaches with a score between the 5th and 15th percentiles (as represented by total scores between 40 and 49) were designated Aquatic Areas of Countywide or Regional Significance (AQ-2). Finally, stream reaches with a score between the 15th and 25th percentiles (as represented by total scores between 34 and 39) were designed Aquatic Areas of Local Significance (AQ-3).

[37] This adjustment was made because most stream reaches did not have enough biotic survey data to apply the assessment schemes and consequently many reaches without survey data would have been ranked.

Aquatic Areas

Based on the compiled data for each waterbody, Commission staff applied the updated assessment schemes to each qualifying lake and stream reach within Southeastern Wisconsin. This section will present the updated Aquatic Areas for Southeastern Wisconsin that resulted from this process.

Ranking Lakes

The lakes designated as Aquatic Areas in this assessment are presented in Table 4.8 and Map 4.6. In total, there are 11 lakes ranked as AQ-1, 21 lakes ranked as AQ-2, and 21 lakes ranked as AQ-3. These 53 ranking lakes represent a variety of sizes, depths, and types found across the Region and are in every County in the Region except for Milwaukee County, which has few natural lakes. The smallest ranking lake is Mueller Lake in Washington County, an AQ-3, at 12 acres while the largest is Geneva Lake in Walworth County, an AQ-1, at 5,404 acres. The shallowest ranking lake is Mud Lake in Ozaukee County, an AQ-1, at four feet deep while the deepest lake is Geneva Lake at 135 feet deep. Every natural community present in the Region is represented within the ranking lakes except for Small and Impounded Flowing Waters. Deep Lowland, Deep Headwater, and Two-Story lakes are the most common natural communities, constituting a combined 68 percent of the ranking lakes. Waukesha County has the most ranking lakes (20 lakes) followed by Walworth County (16 lakes) and Washington County (10 lakes).

The ranking lakes represent surveyed lakes with the highest quality biotic communities in southeastern Wisconsin. In general, these lakes have excellent water quality and most have good aquatic plant communities and/or fisheries. Some lakes denote special recognition in individual categories. Lulu Lake in Walworth County and Spring Lake in Waukesha County are the only lakes in the Region recognized by WDNR as Outstanding or Exceptional Resource Waters. Several lakes across the Region have excellent aquatic plant communities, with some having especially high diversity considering their small size. These lakes include Huiras and Mud Lakes in Ozaukee County, Waubeesee Lake in Racine County, North and Peters Lakes in Walworth County, Mueller Lake in Washington County, and Oconomowoc and Ottawa Lakes in Waukesha County. Similarly, many of the large two-story and drainage lakes in the Region support diverse fisheries, such Lake Mary in Kenosha County, Lake Beulah and Geneva Lake in Walworth County, Friess Lake in Washington County, and North and Okauchee Lakes in Waukesha County. A few lakes also support a significant number of NHI-listed rare species, with Mud Lake in Ozaukee County, Lulu Lake in Walworth County, and Eagle Spring and Lower Phantom Lakes in Waukesha County standing out in this regard.

Despite the generally high quality of the Aquatic Areas, there are instances where a lake ranked poorly in one element but ranked very highly in other categories. For water quality, six lakes ranked as Aquatic Areas despite ongoing water quality impairments: Wind Lake in Racine County, Friess Lake in Washington County, and Lac La Belle, North, Okauchee, and Phantom Lakes in Waukesha County. These lakes all have above average fishery communities even among ranking lakes and several sustain NHI-listed species, which helped to raise their scores despite their poor water quality. Several lakes scored highly despite having limited fisheries, with the most notable example being Mud Lake in Ozaukee County attaining a rank of AQ-1. Many of the ranking lakes scored poorly in the Riparian Buffer element with a mean score of 1.2 points among the Aquatic Areas. This score highlights the extensive urban development that has occurred around lakes in southeastern Wisconsin that limits the biotic potential of these ecosystems. Similarly, several lakes do not have a connection to other Aquatic Areas or Natural Areas that is uninhibited by passage barriers, such as Lac La Belle, Lower Nashotah, and Oconomowoc Lakes. These lakes generally have urban lands surrounding their shores and their contributing tributaries or downstream outlets are impeded by dams.

County Summary

Kenosha County has five lakes ranking as Aquatic Areas: Camp Lake (AQ-2), Lake Mary (AQ-2), Powers Lake (AQ-3), Silver Lake (AQ-3), and Tombeau Lake (AQ-3). These lakes are located in the southwestern corner of the County and are all fairly close to the border with Walworth County (Powers and Tombeau lakes are partially within Walworth County). In general, these lakes scored highly in the Water Quality and Fishery elements, scored moderately highly in the Morphology and Aquatic Plant elements, and scored fairly or poorly in the Riparian Buffer, Habitat Connectivity, and Rare Species elements. Of the other 25 lakes in the County eligible for assessment, 14 had enough data to be considered for ranking while the remaining 11 did not have enough data. Sixteen of these lakes require an aquatic plant point-intercept survey while nine lakes require a fishery survey.

Aside from Lake Michigan, Milwaukee County did not have any lakes ranking as Aquatic Areas. There are few natural lakes within the County and there is limited biotic survey data on these lakes. Of the five lakes eligible for assessment, all the lakes require an aquatic plant point-intercept survey and all the lakes except for Juneau Park Lagoon require a fishery survey.

Ozaukee County has two lakes ranking as Aquatic Areas: Mud Lake (AQ-1) and Huiras Lake (AQ-3). Mud Lake is located within the Cedarburg Bog State Natural Area in the middle of the County while Huiras Lake

is within land protected by the Ozaukee-Washington Land Trust in the northern part of the County. Both lakes scored highly in the Water Quality and Aquatic Plant elements, moderately in the Morphology element, and poorly in the Fishery element. Mud Lake also scored highly in the Habitat Connectivity, Riparian Buffer, and Rare Species elements while Huiras Lake scored moderately in these elements. Of the other 13 lakes eligible for assessment, two had enough data to be considered for ranking while the other remaining 11 did not. Each of the 13 lakes requires a fishery survey while 11 of the 13 lakes requires an aquatic plant point-intercept survey.

Racine County has three lakes ranking as Aquatic Areas: Waubeesee Lake (AQ-1), Wind Lake (AQ-3), and Lake Denoon (AQ-3). All three lakes are located in the northwestern section of the County and are at least partially in the Town of Norway. Waubeesee Lake scored highly in multiple elements, most notably Aquatic Plants and Fisheries while Wind Lake and Lake Denoon scored moderately well in these elements. All three lakes scored moderately well in Morphology, fairly in Habitat Connectivity and Rare Species, and poorly for Riparian Buffers. Waubeesee Lake and Lake Denoon scored highly in Water Quality while Wind Lake scored poorly as it was listed as an impaired water on the 2022 303(d) list. Of the other 13 lakes eligible for assessment, six lakes had enough data to be considered for ranking while the remaining seven did not. Seven lakes require aquatic plant point-intercept surveys and seven lakes require fishery surveys.

Walworth County has 17 lakes ranking as Aquatic Areas: Beulah, Eagle Spring, Geneva, and Lulu Lakes as AQ-1; Middle, Mill, North, Pickerel, Pleasant, and Turtle Lakes as AQ-2, and Como, Green, Peters, Powers, Tombeau, and Wandawega Lakes as AQ-3. These lakes are scattered throughout the County in multiple municipalities. There was a large variety in the scoring across these 14 lakes, but all these lakes scored highly for Water Quality and most of these lakes had higher Aquatic Plant and Fishery scores with a few exceptions (e.g., Mill Lake scoring poorly for Aquatic Plants and Peters Lake scoring poorly for Fisheries due to lack of survey data). Some lakes, such as Lulu and Pickerel Lakes, had high Riparian Buffer scores while other lakes like Geneva, Beulah, and Como had low scores. Of the other 32 lakes eligible for assessment, 14 lakes had enough data to be considered for ranking while the remaining 18 did not. Twenty-one of these lakes require an aquatic plant point-intercept survey and 19 require a fishery survey.

Washington County has 10 lakes ranking as Aquatic Areas: Big Cedar Lake as AQ-1; Friess, Gilbert, Green, Little Cedar, Little Friess, Lowes, Pike, and Silver as AQ-2; and Mueller Lake as AQ-3. These lakes are mostly located in the band of the Kettle Moraine stretching from the center of the County to its southwestern

corner. The Towns of Polk and West Bend and the Village of Richfield encompass several of these lakes. As with Walworth County, there was a large variety of scores across these 10 lakes but many of these lakes scored highly for Water Quality, Fisheries, Habitat Connectivity, and Rare Species. Friess, Little Friess, and Lowes Lake benefit from unbroken connections with the Oconomowoc River while Gilbert Lake and Big Cedar benefit from their connection to each other. Rare species, including lake chubsucker (*Erimyzon sucetta*), pugnose shiner (*Notropis anogenus*), and slender madtom (*Noturus exilis*), have recently been observed in several of the lakes in the County. Some lakes, such as Gilbert and Lowes Lakes, had high Riparian Buffer scores while other lakes like Big Cedar, Friess, and Silver had low scores. Mueller Lake has not had a fishery survey but still ranked as an Aquatic Area largely on account of its highly scoring aquatic community, which features several species not commonly observed in the Region. Of the 23 other lakes eligible for assessment, eight lakes had enough data to be considered for ranking while 15 lakes did not. Sixteen lakes require an aquatic plant point-intercept survey while 19 lakes require a fishery survey.

Waukesha County has 20 lakes ranking as Aquatic Areas: Big Muskego, Eagle Spring, Lower Phantom, Nagawicka, and Oconomowoc Lakes as AQ-1; North, Okauchee, Ottawa, and Phantom Lake as AQ-2; and Ashippun, Beaver, Denoon, Lac La Belle, Lower Genesee, Lower Nashotah, Lower Nemahbin, Pewaukee, Pine, Pretty, and Silver. These lakes are located across the entire County in multiple municipalities. As there were the most ranking lakes of any County, there was also a large variance in the scoring elements amongst the lakes in the County. One consistent trend is that all the lakes scored fairly to poorly in the Riparian Buffer element, which indicates the intense development along shorelines within the County. A few lakes benefit from unbroken connections with the highly ranking Bark, Mukwonago, and Oconomowoc Rivers. Several lakes also sustain rare fish species, such as lake chubsucker, pignose shiner, slender madtom, least darter (*Etheostoma microperca*), and starhead topminnow (*Fundulus dispar*). Of the 56 other lakes eligible for assessment, 18 lakes had enough data to be considered for ranking while 38 did not. Forty-one lakes require a fishery survey while 46 lakes require an aquatic plant point-intercept survey.

Ranking Streams

The stream reaches designated as Aquatic Areas in this assessment are presented in Table 4.9 and Map AQ.AquaticAreas. In total, 17 stream reaches ranked as AQ-1, 31 reaches ranked as AQ-2, and 43 reaches ranked as AQ-3. Several streams and rivers had multiple reaches that individually ranked. For example, the Milwaukee, Mukwonago, and Oconomowoc Rivers as well as Cedar Creek all had four reaches that individually ranked as Aquatic Areas. As with the lakes, the ranking stream reaches represent various stream

sizes and types and ranking streams reaches are located in each County of the Region. The shortest ranked stream reach was 0.3-mile Harris Creek, a tributary of Geneva Lake in Walworth County, while the longest was a 38.5-mile stretch of the Root River between its headwaters and the Horlick Dam. The ranking stream reaches contained each natural community classification, with the large river classification having the fewest ranking stream reaches (segments of the Fox and Milwaukee Rivers) while the cool-warm mainstem, cool-cold mainstem, and the cool-cold headwaters had the most ranking stream reaches. Several Class I, II, and III trout streams were also ranked but not every classified trout stream was designated an Aquatic Area.

As with the lakes, the ranking stream reaches represent surveyed streams with the highest quality biotic communities in southeastern Wisconsin. The ranking stream reaches had fewer road crossings, greater sinuosity, higher fish and macroinvertebrate species richness, and lower Hilsenhoff's biotic index scores on average compared to non-ranking streams. Eighty-eight percent of the ranking stream reaches sustain habitat for at least one NHI-listed species with segments of Bluff Creek and the Fox, Mukwonago, and Oconomowoc Rivers receiving the highest scores in this element. High quality coldwater and warmwater fish communities were represented in the ranking reaches, with Bluff and Lightbody Creeks representing coldwater streams while segments of the Mukwonago and Oconomowoc Rivers represent warmwater streams. Nearly ninety percent of the ranking stream reaches were connected to other high-quality terrestrial and aquatic habitat, including seven streams directly connected to Lake Michigan.

However, several ranking streams still scored poorly in one or more categories. Thirty-four percent of the ranking stream had portions listed as impaired on the 303(d) impaired waters list, although a few of these segments were deemed to still support fish and aquatic life. Several reaches had poor macroinvertebrate or fish scores and a few reaches had poor scores in both categories, including segments of the Bark, Coney, and Fox Rivers. These segments ranked as Aquatic Areas despite these poor scores due to the presence of NHI-listed species (which may not be obligate aquatic species) and their connections to other high-quality habitats. Nearly forty percent of the ranking stream reaches received no points for their riparian buffer, indicating that land development along stream corridors impacts even some of the highest quality streams within the Region.

County Summary

Kenosha County has three stream reaches ranking as Aquatic Areas: a reach of the Des Plaines River (AQ-3), the Fox River (AQ-3), and the Pike River (AQ-3). The Des Plains and Fox River reaches extend north to

south across the middle and western sections of the County, respectively, while the Pike River extends from the confluence with Pike Creek to Lake Michigan. These reaches all scored highly in the Morphology element. The Des Plaines and Fox River reaches scored highly in the Rare Species element while the Pike River scored highly in the Habitat Connectivity element with its connection to Lake Michigan. All three reaches scored poorly in the Water Quality (each reach was listed as impaired on the 2022 303(d) list) and the Riparian Buffer elements and had moderate scores in the Macroinvertebrate and Fishery elements.

Milwaukee County has six stream reaches ranking as Aquatic Areas: a reach of the Menomonee River (AQ-2), two reaches of the Milwaukee River (both AQ-3), a reach of the Root River (AQ-2) and Root River Canal (AQ-3), and a reach of Underwood Creek (AQ-3). Collectively these streams drain much of the northern, western, and southwestern areas of the County. Most of these reaches scored highly in the Morphology and Habitat Connectivity elements through their connection to Lake Michigan. Several reaches scored highly in the Fishery element and three scored highly for Rare Species. All of the ranking reaches scored poorly in the Water Quality (each reach was listed as impaired on the 2022 303(d) list) and Riparian Buffer elements.

Ozaukee County has thirteen stream reaches ranking as Aquatic Areas: two reaches of the Milwaukee River (an AQ-1 and an AQ-3), North Branch Cedar Creek (AQ-1), two reaches of Cedar Creek (both AQ-2), Mole Creek (AQ-2), the North Branch Milwaukee River (AQ-2), a Mole Creek tributary (AQ-3), Mud Lake inlet and outlet streams (both AQ-3), Pigeon Creek (AQ-3), Sauk Creek (AQ-3), and an unnamed tributary of Sauk Creek (AQ-3). Aside from Sauk Creek and the Milwaukee River reaches, these streams all scored highly in the Water Quality element and most also scored well in the Macroinvertebrate element. The Cedar Creek, Milwaukee River, North Branch Cedar Creek, and North Branch Milwaukee River reaches scored fairly highly in the Fisheries element. Several streams also had high Habitat Connectivity scores due to their connections with Lake Michigan, Mud Lake, or the Milwaukee River. The Mud Lake inlet stream attained the highest Riparian Buffer score while several other reaches had moderate scores in this element (Mole Creek, Mud Lake outlet, North Branch Cedar Creek, North Branch Milwaukee River, Pigeon Creek, and the unnamed tributary to Mole Creek).

Racine County has eight stream reaches ranking as Aquatic Areas: reaches of Honey Creek, the Fox River, and the White River ranked as AQ-2 while reaches of the Des Plaines River, Fox River, Root River, Root River Canal, and Spring Valley Creek ranked as AQ-3. Several stream reaches ranked due to their high

Macroinvertebrate (Honey Creek and White River), Fisheries (Root River Canal and Spring Valley Creek), or Rare Species scores (Des Plaines and Fox River reaches). The Root River reach downstream of the dam scored highly in Habitat Connectivity due to connection with Lake Michigan as did the upstream Fox River reach with its connection to the Mukwonago River. Aside from Spring Valley Creek, the stream reaches still scored poorly in the Water Quality element, Riparian Buffer element, or both.

Walworth County has 20 stream reaches ranking as Aquatic Areas: reaches of Bluff Creek, the Mukwonago River, Sugar Creek, and Whitewater Creek ranked as AQ-1; reaches of Como Creek, Harris Creek, Honey Creek, the Mukwonago River, Spring Brook, Turtle Creek, and the White River ranked as AQ-2; and reaches of Darien Creek, Lightbody Creek, North Branch Nippersink Creek, Spring Valley Creek, a tributary of the Mukwonago River, a tributary of Steel Brook, a tributary of Turtle Creek, and West Branch Nippersink Creek ranked as AQ-3. Aside from Sugar Creek, which was listed as impaired on the 2022 303(d) impaired waters lists, all streams reaches had high scores for Water Quality and many had high or moderate scores for Habitat Connectivity. Several reaches have high scores for the Riparian Buffer element, including reaches of the Mukwonago River, a tributary of the Mukwonago River, and Harris Creek, while others receive low scores, such as Darien Creek, Honey Creek, and the White River. Most of the highest ranking reaches in the County scored highly for Fisheries, Macroinvertebrates, and/or Rare Species; one such reach is Bluff Creek, a coldwater trout stream that was the second highest scoring reach within the entire Region. A few stream reaches ranked even while missing macroinvertebrate surveys: two upstream reaches of the Mukwonago River, an unnamed tributary of the Mukwonago, and Spring Valley Creek.

Washington County has 20 stream reaches ranking as Aquatic Areas: reaches of the East Branch Milwaukee River, Milwaukee River, North Branch Cedar Creek, and Oconomowoc River ranked as AQ-1; reaches of Cedar Creek, Little Oconomowoc River, North Branch Milwaukee River, Stony Creek, and Wallace Creek ranked as AQ-2; and reaches of Allenton Creek, Bark River, Cedar Creek, Coney River, Kohlsville River, Milwaukee River, Oconomowoc River, Quas Creek, a tributary of Allenton Creek, and a tributary of the Oconomowoc River as AQ-3. Aside from Cedar Creek, the Kohlsville River, and the Milwaukee River, all ranking reaches in the County had high scores for the Water Quality element and all of these but the Coney River also had high scores for the Macroinvertebrate element. The highest ranking reaches in the County, including the East Branch Milwaukee River, Milwaukee River, and the Oconomowoc River, had high scores in the Fisheries and Rare Species elements. The Coney River largely ranked due to the presence of Rare Species as it scored moderately to poorly in all other elements. Two reaches ranked despite missing biotic

survey data: a tributary of Allenton Creek missing a macroinvertebrate survey and a tributary of the Oconomowoc River missing a fishery survey.

Waukesha County has 35 stream reaches ranking as Aquatic Areas, which is the most of any County in the Region. Reaches of Genesee Creek, Jericho Creek, the Mukwonago River, Oconomowoc River, Pebble Brook, the Scuppernong River, and the South Branch Scuppernong River ranked as AQ-1; reaches of the Ashippun River, Bark River, Fox River, Genessee Creek, Little Oconomowoc River, Menomonee River, Mukwonago River, Oconomowoc River, Pebble Creek, Root River, Scuppernong Creek, and Spring Brook ranked as AQ-2; and reaches of the Bark River, Battle Creek, Fox River, Muskego Creek, Paradise Springs Creek, Pebble Brook, Pewaukee River, a tributary of Jericho Creek, a tributary of the Mukwonago River, and Underwood Creek ranked as AQ-3. There is significant variation in the size and type of streams ranking in the County, including small headwater streams, coldwater trout streams, warmwater streams, and large rivers. Consequently, there is also substantial variation in the scores of the ranking streams. Most of the reaches scored highly for Water Quality with the exceptions of Ashippun River, Battle Creek, Fox River, Menomonee River, Root River, and Underwood Creek. Many of the highly ranking reaches scored highly in the Macroinvertebrate, Fisheries, and/or Rare Species elements. Two reaches of the Mukwonago River, recognized as one of the highest quality warmwater streams in the state, were ranked as AQ-1: the Mukwonago River between Eagle Spring Lake and Lower Phantom Lake was the highest ranking reach in the Region while the reach between Lower Phantom Lake and the Fox River had the highest score of any reach in the Region for the Fisheries element. The third and fourth highest ranking stream reaches in the Region, an upstream reach of the Scuppernong River flowing through the Kettle Moraine State Forest and the Oconomowoc River between Little Friess and Lowes Lakes, scored highly due to in part high scores for Habitat Connectivity and Rare Species elements.

Comparison with Previous Aquatic Areas

The Commission designated 150 lakes and 127 stream reaches as Aquatic Areas in the original 1997 plan. Eleven lakes were ranked as AQ-1, 50 as AQ-2, and 89 as AQ-3 while 13 stream reaches were ranked as AQ-1, 29 reaches as AQ-2, and 85 as AQ-3.[38]

[38] In several instances, multiple streams were listed together in Table 101 of the original 1997 plan or were illustrated as one waterbody in Map 53. These streams were treated as separate waterbodies for tallying the number of ranked reaches in this plan and for comparing against the updated ranking stream reaches.

Despite the differences in the assessment schemes used, many of the lakes ranked in the original 1997 plan are still maintaining their status in this updated assessment (see Table 4.10). Of the eleven lakes designated as AQ-1 in the original 1997 plan, six were designated as AQ-1, four as AQ-2, and only one (Long Lake in Ozaukee County) as not ranking in this update. With the much greater number of lakes ranked in the original 1997 plan, there are only two ranking lakes in this update that were not originally ranked: North Lake in Walworth County as an AQ-2 and Pretty Lake in Waukesha County as an AQ-3.

Due to the differences in the stream reach delineations, evaluating changes for each of the original ranking stream reaches in the original 1997 plan based on the updated stream assessment was not feasible. Instead, the Commission evaluated changes in the entire stream as identified using the WDNR WBIC. The original assessment identified 77 streams as having reaches with designated Aquatic Areas while the updated assessment identified 42 streams with reaches as Aquatic Areas. Except for one stream flowing through the Cedarburg Bog State Natural Area, every stream with a reach designated as an Aquatic Area in the updated assessment also had at least one ranking reach in the original assessment.[39] Table 4.11 presents the number of ranking reaches and the highest rank attained by a reach for each entire stream in the original and updated assessments. Bluff Creek and the Milwaukee, Mukwonago, and Oconomowoc have AQ-1 reaches in both the original and updated assessments, but all the reaches for all other AQ-1 streams shifted in the rankings. Of the other streams with current AQ-1 reaches, half of them (East Branch Milwaukee River, Jericho Creek, Genesee Creek, and the Scuppernong River) had their best reach rank as AQ-2 in the original assessment while the other half had their best reach rank as AQ-3 (North Branch Cedar Creek, Pebble Brook, Sugar Creek, and Whitewater Creek). One stream, Riveredge Creek, was ranked an AQ-1 in the original assessment but was not ranked (due to lack of biotic survey data) in the updated assessment; this stream would likely attain a ranking if these surveys were conducted based on its scores in other categories.

In most cases, the differences between the original and updated rankings likely reflect the changes in the assessment scheme elements (e.g., introducing the macroinvertebrate element) rather than a change in the quality of the streams themselves. However, there have been some notable changes within the Region's landscape since the original assessment that deserve recognition. Since the 1997 publication of the original 1997 plan, several projects have helped to improve fish passage and habitat connectivity on the Milwaukee River, including the removal of the North Avenue dam in Milwaukee and the Waubeka dam in Waubeka as

[39] *This stream in the Cedarburg Bog State Natural Area was not assessed in the original 1997 plan.*

well as the installation of fish passages at the Thiensville dam and Kletzsch dam.[40] These projects have enabled fish from Lake Michigan to access upstream feeding and spawning grounds until the Grafton dam and between Grafton, West Bend, and the entirety of the North Branch of the Milwaukee River. Similarly, the Falk Dam on the Menomonee River was removed in 2000 which also enabled access between Lake Michigan and Menomonee Falls. In 2022, the East Troy dam on Honey Creek was removed and re-connected the Creek between Echo Lake and just downstream of the Lauderdale Lakes.

Other notable changes include the development and implementation of Total Maximum Daily Load (TMDL) programs for the Rock River watershed in 2011, the Milwaukee River watershed in 2018, and a forthcoming TMDL for the Fox River watershed. These programs are designed to address total phosphorus and sediment loading within these watersheds, which are the most common reasons for water quality impairments on the Region's lake and rivers. The TMDL programs have led to the development of adaptive management and water quality trading plans that are implementing best management practices throughout these watersheds to improve water quality. Many of these best management practices, such as establishing riparian buffers and restoring wetlands, also have habitat benefits in addition to water quality benefits.

Comparison with Conservation Opportunity Areas

In 2015, the Wisconsin Department of Natural Resources published its updated Wisconsin Wildlife Action Plan that identifies declining wildlife species and their associated habitats within Wisconsin.[41] Among other things, this plan lists species that are identified as Species of Greatest Conservation Need (SGCN), identifies the extent and condition of habitat for these species, lists factors negatively impacting these species, addresses what additional monitoring is necessary, and how to implement and adapt conservation actions for these species. The plan is currently being updated with an expected publication date in late 2025 or early 2026.[42] Conservation Opportunity Areas (COAs) are areas that the plan identifies as having significant ecological features, natural communities, or SGCN habitat. Lake Michigan and the following rivers, all of which contain reaches that are ranking Aquatic Areas, were identified as COAs in this plan: the Bark, East Branch Milwaukee, Fox, Little Oconomowoc, Milwaukee, North Branch Milwaukee, Mukwonago, and West Branch Milwaukee Rivers as well as Sugar and Turtle Creeks.[43] The plan also assigns ecological priorities for

[40] For more information on these dam removal projects, see https://wisconsinrivers.org/dam-removal/.
[41] Wisconsin Department of Natural Resources, 2015-2025 Wisconsin Wildlife Action Plan, *2015.*
[42] https://dnr.wisconsin.gov/topic/WildlifeHabitat/ActionPlan
[43] See the following link for a map of the COAs within the Region: https://widnr.widen.net/content/a0xb0amhgt/jpeg/WWAP2015_map_COA_EL9.jpeg?w=2048.

conservation by natural community. A list of the SGCN for Lake Michigan, small lakes, warmwater streams, and warmwater rivers are presented on Table 4.12.

Comparison with WDNR High-Quality Waters

In 2022, the Wisconsin Department of Natural Resources (WDNR) assessed and identified the highest quality surveyed lakes, streams, and wetlands across Wisconsin as part of their Healthy Watersheds, High-Quality Waters program.[44] For a waterbody to be considered a HQW, it had to meet at least two of the following three criteria:

- Unique and Rare Natural Communities
    - Be within or adjacent to a State Natural Area
    - Trout streams and/or springs
    - Outstanding and Exceptional Resource Waters
    - Wild Rice Water
    - Waters in ecologically significant coastal wetlands along Lakes Michigan and Superior as identified in the Coastal Wetlands of Wisconsin
    - Federal or state waters designated as wild or scenic rivers
    - Two-story fishery lakes with at least one non-stocked native coldwater species
- Water Quality Standards
    - Attaining uses and currently described as "healthy" (Category 2a and 2b waters)
- Biotic Integrity
    - Good and/or Excellent macroinvertebrate or fish IBI scores for streams
    - Attaining or Good macrophyte assessment scores for lakes

There are several overlapping features in the assessment schemes used by WDNR for the HQW and that Commission staff used for the Aquatic Areas, including the use of fish and macroinvertebrate IBIs for streams, macrophyte assessment for lakes, water quality evaluations, and special consideration of trout streams, two-story lakes, and Outstanding and Exceptional Resource Waters. These features, which were selected completely independently of each other, highlight the importance of these biotic elements and

[44] For more information on the WDNR Healthy Watersheds, High-Quality Waters program, see this link (https://dnr.wisconsin.gov/topic/SurfaceWater/HQW.html) or review the technical report: A.M. Marti, L.A. Beringer, and P.J. Toshner, "Modeling and Identification of Watersheds (Healthy Waters) and Water Bodies (High Quality Waters) for Water Resources Protection in Wisconsin," Wisconsin Department of Natural Resources Technical Report, 2022.

their survey methods for assessing the health of aquatic ecosystems. However, there are also several major differences in the assessment schemes. The Aquatic Areas scheme incorporated the presence of rare and threatened species as well as information on riparian buffers, morphology, and habitat connectivity that were not used in the HQW assessment. For similar elements in both scheme, such as evaluating the macroinvertebrate, fishery, and aquatic plant communities, the Aquatic Areas scheme used multiple metrics, such as species richness, presence of invasive species, and the IBI score, instead of only using the IBI score. For streams, the HQW assesses entire rivers as one unit while the Aquatic Area delineated the streams into reaches and assessed each reach independently. As an example, the entire Milwaukee River was evaluated as one unit for the HQW assessment while the River was split into eight reaches for the Aquatic Areas assessment; only four of the reaches were designated as Aquatic Areas.

Across the Region there are 32 lakes that WDNR designated as High Quality Waters (HQW). Given the similarities between the assessment schemes, many of the lakes designated as HQW are also designated as Aquatic Areas. Table 4.13 provides a comparison between the lakes ranked by each program. Of the 32 HQW lakes, 23 are also considered Aquatic Areas including 73 percent of the AQ-1 lakes, 38 percent of the AQ-2 lakes, and 33 percent of the AQ-3 lakes. Of particular interest are the lakes that ranked by one scheme but not the other. Big Muskego and Lower Phantom lakes in Waukesha County and Waubeesee Lake in Racine County are all designated as AQ-1 but are not currently HQW. Both Big Muskego and Lower Phantom sustain several rare species and are connected to multiple other high-quality habitats; neither of these elements were considered in the HQW assessment scheme. Waubeesee Lake scored highly in its fishery score for the Aquatic Areas, but the HQW assessment scheme did not consider fishery conditions for lakes. Nine lakes were considered as HQW but not designated as Aquatic Areas. Most of these lakes received moderate total scores for the Aquatic Areas assessment but were not high enough to be designated Aquatic Areas.

WDNR designated 32 streams as HQW within the Region. The stream rankings between the HQW and Aquatic Areas cannot be directly compared due to the differences in how the streams were assessed, i.e. as entire waterbodies for the HQW assessment versus split into reaches for the Aquatic Areas. To make this comparison, Commission staff calculated the average total score among all reaches for each stream (as identified by WDNR WBIC) and then selected streams where the average total score exceeded 34, which was the minimum score to rank as an AQ-3. Table 4.14 provides a comparison between the streams ranked by each program using this approach. Thirteen streams designated as HQW had a mean Aquatic Areas total

score that met or exceeded the mark to rank as an AQ-3: Bluff Creek, Como Creek, East Branch Milwaukee River, Genesee Creek, Jericho Creek, Mukwonago River, North Branch Cedar Creek, North Branch Milwaukee River, Pebble Creek, Pewaukee River, Scuppernong River, South Branch Genesee River, and Spring Brook. Two streams with reaches ranking as Aquatic Areas were not considered HQW: South Branch Scuppernong Creek, which was one reach designated an AQ-1, and Pebble Brook, which had an AQ-1 and AQ-3 reach. Multiple streams were designated as HQW but did not have average scores meeting or exceeding the AQ-3 minimum score. However, some of these streams, such as Allenton Creek, the Bark River, the Oconomowoc River, and Scuppernong Creek, did have individual reaches that ranked as Aquatic Areas.

Non-Ranking Waterbodies

The non-ranking waterbodies can be grouped into two broader categories: waterbodies without enough available aquatic plant, macroinvertebrate, or fishery data were designated "Not Enough Data to Rank" while the other non-ranking waterbodies had enough available aquatic plant, macroinvertebrate, or fishery data but did not score highly enough to be considered Aquatic Areas. Of the 168 assessed but non-ranking lakes, 65 lakes had enough data to be considered for ranking while 103 lakes were designated as "Not Enough Data to Rank." These 103 lakes do not have a recent fishery or aquatic plant point-intercept survey and thus their current biotic condition could not be adequately assessed. Although 2,459 stream reaches were included in the streams assessment, 2,147 reaches were designated as "Not Enough Data to Rank" due to the absence of a recent fishery or macroinvertebrate survey upon which their biotic conditions could be assessed. A total of 228 non-ranking stream reaches had enough data but did not score highly enough to be considered Aquatic Areas.

Non-Ranking Lakes

The 65 non-raking lakes with enough data scored poorly in multiple categories. Most of these lakes are small and there are several impoundments or reservoirs which can be more riverine than lacustrine in their hydrology and biology; however, there were also some larger lakes including Tichigan Lake in Racine County, Delavan Lake in Walworth County, and Little Muskego in Waukesha County. Eleven of 65 non-ranking lakes are listed as impaired on the Section 303(d) impaired water list. Of the 31 lakes with aquatic plant surveys, most of the lakes had low aquatic plant richness and had a higher dominance of invasive species, such as Eurasian watermilfoil, curly-leaf pondweed, and starry stonewort. Many of the lakes with low fishery scores are shallow and/or seepage lakes that may lack the potential to sustain diverse fisheries due to lack of available habitat for specific fish species or harsh conditions caused by lowered water levels

and winterkill events. Nearly three-quarters of the 65 lakes had low scores for Riparian Buffer with only one lake, Rainbow Springs Lake in Waukesha County, attaining full marks for this element. Similarly, 60 percent of these lakes did not have any connection to an Aquatic Area, Natural Area, or Critical Species Habitat although a few lakes did receive high marks in this element (Delavan, Honey and Ivanhoe Lakes in Walworth County and Crooked Lake in Waukesha County). Improving water quality, expanding riparian buffers, and increasing habitat connectivity would benefit nearly all these 65 lakes and these enhancements would likely be reflected via healthier and more diverse biotic communities.

Some of the non-ranking lakes may be considered Aquatic Areas with updated biotic survey information. For example, Vern Wolf Lake in Kenosha County and Crooked Lake and Upper Nashotah Lakes in Waukesha County scored fairly well in several metrics, including the presence of rare species, but have not had an aquatic plant survey so received a low score for the Aquatic Plant element. Some lakes without an aquatic plant or fishery survey would also likely be considered Aquatic Areas if these surveys were conducted as they score highly in all other categories. This includes lakes with almost entirely natural shorelines that connect to other high-quality habitats, and may sustain rare species, including Horn and Long Lakes in Ozaukee County, Murphy and McConville Lake in Washington County, and Spring Lake in Waukesha County. These lakes would be excellent candidates for exploratory biotic surveys to assess their conditions.

Non-Ranking Streams

The 228 non-ranking stream reaches were mixed between lacking biotic survey data and having that data but indicating poor for their biotic community. Nearly forty percent of these streams still did not have either a fishery or macroinvertebrate survey, which lowered their potential scores. These stream reaches would benefit from additional biotic surveys, particularly fishery surveys which were not available for nearly half of these stream reaches. Of the 85 stream reaches that had both fishery and macroinvertebrate surveys, approximately 32 percent were impaired for water quality and 84 percent had little to no riparian buffer. Enhancing buffers and water quality may help improve the health of the macroinvertebrate and fish communities within these streams.

4.6 OTHER SITES

No information concerning new Geological Sites in the Region has been acquired by the Commission. One new Archeological Site, Cutler Park Mounds Group in Waukesha County, was identified on the National Register of Historic Places and added to inventory.

4.7 SUMMARY

In summary, a total of 17 additional natural area sites, including one NA-1 site and sixteen NA-3 sites, and 196 additional critical species habitat area sites, have been identified in the southeastern Wisconsin Region since the preparation of SEWRPC Planning Report No. 42. Using the updated assessment schemes, Commission staff identified 53 lakes and 91 stream reaches as Aquatic Areas; most of these lakes and streams were identified in the original 1997 plan. These sites have all been added to the regional inventory and are herein documented. Detailed descriptions and plant associations of each site have been coordinated and shared with the Wisconsin Department of Natural Resources, Bureau of Endangered Resources.

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 4

TABLES

Table 4.1
Additional Natural Areas Identified Since Preparation of the 2010 Amendment to Planning Report Number 42

Site Name	Location	Proposed Rank	Size (acres)	Ownership	Site Description
Basset Creek Wetlands	Kenosha County T1N R19E Section 34 Village of Twin Lakes, Town of Randall	NA-3	41	Private	Moderate-quality fen, springs and spring runs degraded by minor grazing and lack of fire
Heide Prairie	Kenosha County T2N R22E Section 3 Village of Somers	NA-1	11	Private	A mesic, wet-mesic, and dry-mesic prairie complex along a railroad right-of-way with exceptional species diversity for its relatively small size. Areas of southern sedge meadow are also included. Provides habitat for a number of state-listed species
Sydney Woods	Milwaukee County T8N R22E Section 30 City of Glendale	NA-3	7	Milwaukee Area Land Conservancy	A small but diverse mesic forest and hardwood swamp containing several rare species within a densely populated area
Awana Road Swamp	Ozaukee County T12N R21E Section 6 Town of Fredonia	NA-3	17	Private	A complex of northern hardwood swamp and good quality cedar swamp within two distinct woodlots. The eastern section is slightly younger, but several regionally uncommon species are present.
Sauk Trail Road Ravine	Ozaukee County T12N R23E Section 7 Town of Belgium	NA-3	8	Private	A deep ravine just west of Lake Michigan featuring northern hardwood forest, forested seeps, and a Lake Michigan tributary. Several regionally uncommon species are present
North Beach Dunes	Racine County T3N R23E Section 4 City of Racine	NA-3	10	City of Racine	A great lakes dune complex exhibiting dune succession, including near-beach, foredune, transitional dune, back dune, as well as interdunal wetland communities. An example of a rare community type in the Region due to development on the coast of Lake Michigan. Floristically diverse
Lake Ivanhoe Fen-South	Walworth County T1N R18E Section 03 Town of Bloomfield	NA-3	14	Geneva Lakes Conservancy and Private	Moderate quality groundwater fed wetland complex southwest of Lake Ivanhoe composed of fen, sedge meadow, shrub-carr, and tamarack swamp. Suffering from shrub encroachment
Natureland Park Fen	Walworth County T03N R15E Section 03 Town of Richmond	NA-3	1	Walworth County	Moderate quality calcareous fen and spring runs in the headwaters of Whitewater Creek
Beulah Bluff Oak Woodland and Tamaracks	Walworth County T04N R18E Section 8 Town of East Troy	NA-3	35	Kettle Moraine Land Trust and Private	Oak woodland encircling a southern tamarack swamp on the northwest shore of Lake Beulah. A restored oak opening is also included. Many uncommon plant species are present
Jackson Marsh Springs	Washington County T10N R20E Section 8 Town of Jackson	NA-3	34	Wisconsin Department of Natural Resources	A wetland complex composed of cedar swamp, northern hardwood swamp, springs and spring runs. Recovering from past disturbance.
Hoy-Anderle Woods	Washington County T12N R20E Section 24 Town of Farmington	NA-3	36	Milwaukee Metropolitan Sewerage District	Dry-mesic to mesic forest with oak, beech, basswood and sugar maple on steep glacial terrain. Depressional areas contain an ephemeral pond and open marsh bisected by an esker.

Table continued on next page

Site Name	Location	Proposed Rank	Size (acres)	Ownership	Site Description
Hidden Knoll Dry Prairie	Waukesha County T5N R17E Section 13 Town of Eagle	NA-3	6	Private with Easement	A small remnant of the once vast Eagle Prairie. Leadplant (Amorpha canescens), prairie smoke (Geum triflorum), little bluestem (Little bluestem) , and prairie dropseed (Sporobolus heterolepis) are dominant on this dry prairie knoll.
Holiday Road Fen and Oak Woodland	Waukesha County T05N R18E Section 01 Town of Mukwonago	NA-3	17	Private	A small calcareous wetland at the headwaters of an unnamed tributary to Genesee Creek with a good assemblage of fen specialists, adjacent to a moderate-quality oak woods.
Faulkner Road Fen	Waukesha County T5N R19E Section 16 Village of Vernon	NA-3	5	Private	A small, moderate-quality calcareous fen along Horseshoe Brook. Several regionally uncommon species are found here
Sigurdson Fen	Waukesha County T06N R18E Section 01 Town of Genesee	NA-3	9	Waukesha County	Good-quality spring run and calcareous fen along and unnamed tributary to Brandy Brook containing several rare and uncommon species. Quality improving with management
Saylesville Road Fen	Waukesha County T6N R18E Section 35 Town of Genesee	NA-3	2	Private	A small, discontinuous remnant of open calcareous fen. Several signature calciphiles are present. Threatened by nearby residential development
Party Island Oak Woodland and Dry Prairie	Waukesha County T8N R18E Section 30 Town of Merton	NA-3	1	Private	A small island within the southeast portion of Okauchee Lake housing oak woodland as well as dry prairie and oak opening remnants. A population of a State-designated special concern plant species is present

Source: SEWRPC

Table 4.2
Summary of Natural Areas and Critical Species Habitat Sites Identified Since Preparation of the 2010 Amendment to Planning Report Number 42

County		Classification Code				Total
		NA-1	NA-2	NA-3	CSH	
Kenosha	No. of Sites	1	0	1	10	12
	Acres	11	0	41	1,562	1,614
Milwaukee	No. of Sites	0	0	1	77	78
	Acres	0	0	11	4,670	4,681
Ozaukee	No. of Sites	0	0	2	22	24
	Acres	0	0	25	888	913
Racine	No. of Sites	0	0	1	3	4
	Acres	0	0	10	10	20
Walworth	No. of Sites	0	0	3	20	23
	Acres	0	0	50	1,450	1,500
Washington	No. of Sites	0	0	2	11	13
	Acres	0	0	70	528	598
Waukesha	No. of Sites	0	0	6	53	59
	Acres	0	0	40	5,731	5,771
Region	No. of Sites	1	0	16	196	213
	Acres	11	0	247	14,839	15,097

Note: NA-1 indicates natural area of statewide or greater significance, NA-2 indicates natural area of regional or countywide significance, NA-3 indicates natural area of local significance, and CSH indicates a critical species habitat area.

Source: SEWRPC

Table 4.3
Additional Critical Species Habitat Areas Identified Since Preparation of the 2010 Amendment to SEWRPC Planning Report Number 42

Site Name	Location	Size (acres)	Ownership	Site Description
Ice House Trail Wetlands	Kenosha County T01N R19E Section 15 Village of Twin Lakes and Town of Randall	116	Village of Twin Lakes and Town of Randall	Degraded prairie, fen, marsh, and hardwood swamp provide habitat for a rare animal
Veterans Park Wetlands	Kenosha County T1N R19E Section 15 Town of Randall and Town of Wheatland	35	Kenosha County	Emergent marsh containing a rare species
314th Woods and Wetlands	Kenosha County T1N R19E Section 36 Town of Randall	28	Town of Randall	A recovering southern dry-mesic forest that is habitat for a rare insect
Old Oaks Park	Kenosha County T01N R20E Section 07 Village of Salem Lakes	25	Village of Salem Lakes	Degraded sedge meadow and wet-mesic prairie provide habitat for several rare plants
Peat Lake Habitat Area	Kenosha County T01N R20E Section 19 Village of Salem Lakes	208	Wisconsin Department of Natural Resources	A variety of wetland habitats along the lower Fox River Floodplain
Camp Lake Tamaracks	Kenosha County T1N R20E Section 29 Village of Salem Lakes	122	Kenosha County and Wisconsin Department of Natural Resources	Large wetland complex or degraded marsh, sedge meadow and tamarack swamp west of Camp Lake
Trevor Creek Woods	Kenosha County T01N R20E Section 34 Village of Salem Lakes	6	Private	Marsh and Floodplain forest along Trevor Creek
Carol Beach Recovering Prairie and Wetland	Kenosha County T1N R23E Section 30 Village of Pleasant Prairie	19	Wisconsin Department of Natural Resources, Village of Pleasant Prairie	Large recovering mesic to wet-mesic lake plain prairie complex . Brush control and prescribed fire are improving the integrity of this site
Alford Beach	Kenosha County T2N R23E Section 30 City of Kenosha	31	City of Kenosha	Degraded Great Lakes Beach supporting several rare plants
Root River East Branch Woods	Milwaukee County T05N R21E Section 01 City of Franklin	7	Milwaukee County, Milwaukee Metropolitan Sewerage District	Small recovering dry-mesic forest, hardwood swamp, and ephemeral pond provide habitat for a rare plant
Root River Section 18 Woods	Milwaukee County T05N R21E Section 02 City of Oak Creek	6	Milwaukee County	Mature mesic forest island within an agricultural matrix containing a large population of a State endangered plant. Moderate diversity of spring ephemerals. A drainage ditch, constructed historically, bisects the site and accepts drainage from an adjacent parking lot
Root River Habitat Area-South	Milwaukee County T05N R21E Section 04 City of Franklin and Village of Greendale	206	Milwaukee County	Corridor along the Root River supporting several rare species
West Drexel Habitat Area	Milwaukee County T5N R21E Section 13 City of Franklin	6	Private	A recovering mesic forest on private lands containing a rare shrub species

Froemming Woods and Grasslands	Milwaukee County T5N R21E Section 22 City of Franklin	316	Milwaukee County	Surrogate grassland and recovering woodlands provide habitat for several rare species
Scott Woods	Milwaukee County T05N R21E Section 23 City of Franklin	9	Private	Small but diverse dry-mesic forest with ephemeral pond. Provides habitat for two rare plant species
Oakwood Golf Course	Milwaukee County T05N R21E Section 25 City of Franklin	34	Milwaukee County	Old field, wetlands, and habitat restoration projects support rare species
Rainbow Airport	Milwaukee County T05N R21E Section 27 City of Franklin	37	Milwaukee County	Degraded prairie and wetland provide habitat for rare species
Root River Pkwy Section 13	Milwaukee County T05N R21E Section 27 City of Franklin	54	Milwaukee County	Recovering floodplain along the Root River provides habitat for rare species
Root River Pkwy Section 14	Milwaukee County T05N R21E Section 36 City of Franklin	38	Milwaukee County	Old field and degraded wetland provide habitat for rare species
Oak Creek Parkway Habitat Area	Milwaukee County T05N R22E Section 02 City of Oak Creek	71	Milwaukee County	Primarily forested corridor along lower Oak Creek provides habitat for several rare species
Johnstone Park Wetlands	Milwaukee County T05N R22E Section 06 City of Oak Creek	33	Milwaukee County	Several degraded wetland communities provide habitat for rare species
Falk Park Habitat Area	Milwaukee County T5N R22E Section 7 City of Oak Creek	100	Milwaukee County	A mix of recovering old field and wetlands supporting rare species adjacent to Falk Park Woods
South Shore Metro Dunes	Milwaukee County T05N R22E Section 13 City of South Milwaukee and City of Oak Creek	22	Public Trust Lands, Milwaukee Metropolitan Sewerage District, and City of Oak Creek	Degraded Great Lakes beach, dune, and interdunal wetland containing several rare species. One of the best opportunities for dune restoration in Milwaukee County
Oak Creek Habitat Area	Milwaukee County T05N R22E Section 15 City of Oak Creek	387	City of Oak Creek, Milwaukee County Parks, Milwaukee Metropolitan Sewerage District	Woods, wetlands, and ponds of varying quality supporting several rare species within the Oak Creek Environmental Corridor
Riverton Meadows	Milwaukee County T05N R22E Section 15 City of Oak Creek	4	Milwaukee County	Small mesic forest remnant with ephemeral ponds, recovering with management
Springbrook Marsh	Milwaukee County T05N R22E Section 17 City of Oak Creek	3	Private	Small wetland containing a rare plant
Barloga Recovering Woods	Milwaukee County T5N R22E Section 18 City of Oak Creek	70	Milwaukee County	Former farm field recovering following a reforestation planting providing habitat for rare animals
Oak Creek 15	Milwaukee County T05N R22E Section 24 City of Oak Creek	146	Milwaukee County	Extensive degraded floodplain wetland complex supporting several rare species
Bender Beach	Milwaukee County T05N R22E Section 25 City of Oak Creek	1	Milwaukee County	A degraded assemblage of great lakes dune supporting one State-designated special concern species
Oak Creek Low Woods and Wetlands	Milwaukee County T05N R22E Section 26 City of Oak Creek	135	Milwaukee County	Recovering woods and wetlands adjacent to Oak Creek Low Woods that support rare species
Crayfish Creek Woods	Milwaukee County T5N R22E Section 34 City of Oak Creek	2	City of Oak Creek	A narrow band of early successional woodland along a ditched reach of Crayfish Creek

Oak Creek 14	Milwaukee County T05N R22E Section 34 City of Oak Creek	54	Milwaukee County and City of Oak Creek	Degraded marsh and recovering floodplain forest provide habitat for rare species
Root River Habitat Area	Milwaukee County T06N R21E Section 07 City of Greenfield and City of West Allis	324	Milwaukee County	Several degraded natural communities provide habitat for rare species along the Root River
Jackson Park Woods	Milwaukee County T06N R21E Section 12 City of Milwaukee	26	Milwaukee County	Recovering dry-mesic forest and adjacent pond support several rare animals
Zablocki Park Habitat Area	Milwaukee County T6N R21E Section 24 City of Greenfield	7	Milwaukee County	Narrow band of degraded woods in a developed landscape retaining a rare plant species
Konkel Park Habitat Area	Milwaukee County T06N R21E Section 26 City of Greenfield	22	City of Greenfield	Degraded wetlands adjacent to Honey Creek provide habitat for a rare species
Root River Pkwy Section 5	Milwaukee County T06N R21E Section 29 City of Greenfield	7	Milwaukee County	Small, open marsh adjacent to the Root River provides habitat to rare species
Hales Corners Park Woods	Milwaukee County T06N R21E Section 31 Village of Hales Corners	6	Milwaukee County	Forested edge of a small park containing a rare species
Baran Park Woods	Milwaukee County T6N R22E Section 8 City of Milwaukee	5	Milwaukee County	Narrow band of dry-mesic and floodplain forest along the Kinnickinnic river that is habitat for rare animals
Humbolt Park	Milwaukee County T06N R22E Section 09 City of Milwaukee	14	Milwaukee County	Pond and adjacent upland habitat supporting several rare species within an urban park
South Shore Park	Milwaukee County T06N R22E Section 10 City of Milwaukee	5	Milwaukee County	Park adjacent to Lake Michigan containing rare species
Bay View Clay Banks	Milwaukee County T06N R22E Section 14 City of St. Francis	15	Milwaukee County	A narrow band of bluff and beach habitat along Lake Michigan providing habitat for rare animals
Wilson Park	Milwaukee County T6N R22E Section 19 City of Milwaukee	30	Milwaukee County	Pond and adjacent upland habitat supporting several rare species within an urban park
Oak Leaf Habitat Area	Milwaukee County T06N R22E Section 23 City of Cudahy, City of St. Francis, City of South Milwaukee	428	Milwaukee County	Four mile stretch of open space corridor along Lake Michigan provides habitat for several rare plants and animals
Holler Park Woods	Milwaukee County T06N R22E Section 29 City of Milwaukee	11	Milwaukee County	A small pond surrounded by recovering dry-mesic forest
Copernicus Park Woods	Milwaukee County T06N R22E Section 31 City of Milwaukee	11	Milwaukee County	An isolated moderate-quality dry-mesic forest containing a rare animal
Maitland Park	Milwaukee County T06N R22E Section 31 City of Milwaukee	16	Milwaukee County	Woods and old fields provide habitat for rare species
Hopkins Hollow	Milwaukee County T07N R21E Section 01 City of Milwaukee	25	Milwaukee Metropolitan Sewerage District	Prairie and wetland restoration adjacent to Lincoln Creek that provide habitat for a rare species

Grantosa Creek	Milwaukee County T07N R21E Section 05 City of Milwaukee and City of Wauwatosa	6	Milwaukee County	Narrow wooded stream corridor provides habitat for a rare species
Currie Park	Milwaukee County T7N R21E Section 7 City of Wauwatosa	76	Milwaukee County	Old field, woodlands, and tree plantings containing a rare animal population
Menomonee River Pkwy Section 6	Milwaukee County T07N R21E Section 08 City of Wauwatosa	8	Milwaukee County	Narrow strip of woods along the northern bank of the Menomonee River
Cooper Park	Milwaukee County T07N R21E Section 16 City of Milwaukee	1	Milwaukee County	Small native planting at a public park providing habitat for rare animals
Menomonee River Pkwy Section 7	Milwaukee County T07N R21E Section 17 City of Wauwatosa	3	Milwaukee County	Narrow strip of woods along the Menomonee River supporting rare species
Monarch Trail	Milwaukee County T07N R21E Section 20 City of Wauwatosa	20	UWM Innovation Park	Habitat project including prairie and oak woodland restorations provides habitat for rare species
Underwood Parkway Thicket	Milwaukee County T7N R21E Section 20 City of Wauwatosa	47	Milwaukee County, Milwaukee Metropolitan Sewerage District, State of Wisconsin	Narrow habitat corridor supporting rare species
Washington Park	Milwaukee County T7N R21E Section 23 City of Milwaukee	38	Milwaukee County	Pond and adjacent upland habitat supporting several rare species within an urban park
Menomonee River PCA No. 11	Milwaukee County T07N R21E Section 26 City of Wauwatosa	2	Milwaukee County	Narrow strip of woods along the southern bank of the Menomonee River
Mitchell Boulevard Park	Milwaukee County T07N R21E Section 26 City of Milwaukee	4	Milwaukee County	Recovering woodland supports rare species
Cannon Park Woods	Milwaukee County T7N R21E Section 29 City of Milwaukee	2	Milwaukee County	Small urban woodland that provides habitat for a rare plant
Chippewa Park Woods	Milwaukee County T7N R21E Section 30 City of Wauwatosa	6	Milwaukee County, State of WI	Narrow strip of woods and pollinator habitat at an urban park supports a rare insect
Underwood Creek Habitat Area	Milwaukee County T7N R21E Section 30 City of Wauwatosa	86	Milwaukee County, Milwaukee Metropolitan Sewerage District	Degraded wildlife corridor along Underwood Creek containing a rare animal species
Hank Aaron Trail Hoptree Site	Milwaukee County T07N R21E Section 33 City of Milwaukee	1	Department of Natural Resources	Shrub thicket along the Hank Aaron trail containing a rare shrub species
Estabrook Woods	Milwaukee County T07N R22E Section 04 City of Milwaukee and Village of Shorewood	80	Milwaukee County	A narrow band of mesic forest, floodplain forest, forested seeps and recovering old field support rare species along the Milwaukee River
Milwaukee River Greenway	Milwaukee County T07N R22E Section 09 City of Milwaukee and Village of Shorewood	116	Milwaukee County	Two mile stretch of primary environmental corridor along the Milwaukee River provides habitat for several rare species
Caesar's Woods	Milwaukee County T07N R22E Section 21 City of Milwaukee	3	Milwaukee County	Small recovering mesic forest along the Milwaukee River

Veterans Park	Milwaukee County T7N R22E Section 28 City of Milwaukee	7	Milwaukee County	Wetlands and adjacent uplands provide habitat for rare species
Mitchell Park Woods	Milwaukee County T07N R22E Section 31 City of Milwaukee	8	Milwaukee County	Narrow band of north facing recovering forest and shrub thicket
Hilltop Farm Woods	Milwaukee County T08N R21E Section 04 City of Milwaukee	17	Private	Mature mesic forest, hardwood swamp, and ephemeral ponds support a rare plant species
Kohl Park Woods	Milwaukee County T08N R21E Section 04 City of Milwaukee	67	Milwaukee County	Planted prairie, recovering woodland, and open wetlands provide habitat for several rare species
Little Menomonee River Habitat Area	Milwaukee County T08N R21E Section 05 City of Milwaukee	721	Milwaukee County	A large expanse of degraded floodplain forest along the Little Menomonee River Primary Environmental Corridor containing several rare species populations
Dretzka Park	Milwaukee County T8N R21E Section 7 City of Milwaukee	177	Milwaukee County	Disturbed woods, wetlands, and old field supporting rare species
Servite Park	Milwaukee County T08N R21E Section 09 City of Milwaukee	20	Milwaukee County	Prairie plantings and hardwood swamp provide habitat for several rare species in a developed area
Brown Deer Park Pond	Milwaukee County T08N R21E Section 13 City of Milwaukee	13	Milwaukee County	Excavated ponds providing breeding habitat for a rare animal
Melody View Preserve	Milwaukee County T08N R21E Section 16 City of Milwaukee	18	Milwaukee County	Open grassland, marsh and woodland supporting a rare species
Uihlein Park	Milwaukee County T8N R21E Section 22 City of Milwaukee	16	Milwaukee County	Uplands and wetlands containing a rare animal
Menomonee River Habitat Area	Milwaukee County T08N R21E Section 31 City of Milwaukee	80	Milwaukee County	Upland and lowland hardwoods provide habitat for rare species
McGovern Park Lagoons	Milwaukee County T08N R21E Section 35 City of Milwaukee	7	Milwaukee County	Ponds and wooded islands adjacent to McGovern Park Woods
Schlitz Meadows	Milwaukee County T08N R22E Section 09 Village of Bayside	65	Schlitz Audubon Center	Recovering natural communities of several types provide habitat for rare species
Doctors Park	Milwaukee County T8N R22E Section 10 Village of Fox Point and Village of Bayside	19	Milwaukee County	Recovering woodland and pollinator gardens supporting rare insect species
Kletzch Park Habitat Area	Milwaukee County T8N R22E Section 19 City of Glendale	21	Milwaukee County	Relatively open wetland and old field adjacent to Kletzch Park Woods
Milwaukee River 1	Milwaukee County T08N R22E Section 19 City of Glendale	13	Milwaukee County	Floodplain forest and adjacent old field supporting rare species along the Milwaukee River
Fox Point Clay Bluffs and Beach	Milwaukee County T08N R22E Section 21 Village of Fox Point	8	Private	Clay seepage bluffs supporting rare plant species
Milwaukee River 2	Milwaukee County T08N R22E Section 30 City of Glendale	10	Milwaukee County	Recovering floodplain forest along the Milwaukee River
Lincoln Creek Woods	Milwaukee County T08N R22E Section 31 City of Milwaukee	20	Milwaukee County	Forest and grassland along the Lincoln Creek corridor containing a rare species

Lincoln Park Woods	Milwaukee County T08N R22E Section 31 City of Glendale and City of Milwaukee	165	Milwaukee County	Forested habitat along Lincoln Creek and the Milwaukee River supporting rare species
Big Bay Woods	Milwaukee County T08N R22E Section 33 Village of Whitefish Bay	6	Milwaukee County	Recovering mesic forest and clay seepage bluff along Lake Michigan supporting a rare species
Lemke Farm Woods	Ozaukee County T08N R21E Section 32 City of Mequon	13	City of Mequon	Recovering southern mesic forest in a City park containing a rare tree species
Mee Kwon Park Habitat Area	Ozaukee County T09N R21E Section 10 City of Mequon	17	WISDOT, City of Mequon, Ozaukee County	Degraded railroad and road habitat corridor
Mequon Wetland Habitat Area	Ozaukee County T09N R21E Section 30 City of Mequon	31	Milwaukee Metropolitan Sewerage District	Marsh and adjacent woodland supporting rare species
Baehr Road Wetlands and Meadows	Ozaukee County T09N R21E Section 35 City of Mequon	177	City of Mequon	Open wetlands and grassland provide habitat for a State-designated special concern species. Includes Lilly Lane Nature Preserve and Trinity Creek Wetland Habitat Areas
Mequon Beach Habitat Area	Ozaukee County T09N R22E Section 20 City of Mequon	2	Private	Narrow band of beach supporting rare species
Virmond Park Habitat Area	Ozaukee County T9N R22E Section 28 City of Mequon	45	Ozaukee County	Wetlands and woods along the Lake Michigan shoreline
Maple Road Wetlands	Ozaukee County T10N R21E Section 01 Town of Grafton	4	Private	Degraded hardwoods swamp provides habitat for a rare species
Decker Corner Habitat Area	Ozaukee County T10N R21E Section 6 Town of Cedarburg	21	Private	Marsh and hardwood swamp provides habitat for a rare snake
Cedar Creek Wetlands	Ozaukee County T10N R21E Section 14 Village of Grafton and Town of Cedarburg	42	None	Degraded marsh and shrub-carr provides habitat for a rare animal
Bridge Road Wetlands and Meadows	Ozaukee County T10N R21E Section 28 Town of Cedarburg	22	Private	Open grasslands and shrubby wetlands providing habitat for a State-designated special concern animal
Wasaukee-Pioneer Hardwood Swamp	Ozaukee County T10N R21E Section 31 Town of Cedarburg	49	OWLT Easement	Large hardwood swamp contains essential breeding habitat
Ulao Meadows	Ozaukee County T10N R22E Section 8 Town of Grafton	61	Private	Old field and wetlands Adjacent to Ulao Lowland Forest provide additional habitat to a rare animal
Daly Lake Wetlands	Ozaukee County T11N R21E Section 17 Town of Saukville	69	Ozaukee County	Extensive wetland basin surrounding Daly Lake. Wetland communities include cedar swamp, hardwood swamp, sedge meadow and marsh
Gough Lake Wetlands and Woods	Ozaukee County T11N R21E Section 17 Town of Saukville	158	Ozaukee County, OWLT, and Town of Saukville	Woods and wetlands surrounding Gough Lake, especially important to migrating birds
Cedarburg Wetlands and Meadows Habitat Area	Ozaukee County T11N R21E Section 21 Town of Cedarburg and Town of Saukville	71	Wisconsin Department of Natural Resources, UW System	? - Not sure about township info. Recovering natural communities adjacent to Cedarburg Bog that provide habitat for rare animals

Center Road Woods and Wetlands	Ozaukee County T11N R21E Section 21 Town of Saukville	12	Private	Small patch of woods and wetlands containing a rare species
Cedarburg Wetlands and Meadows	Ozaukee County T11N R21E Section 30 Town of Saukville	22	University of Wisconsin-Milwaukee	A managed prairie restoration supporting rare species
Sauk Creek Shady Lane	Ozaukee County T11N R22E Section 09 Town of Port Washington	5	Private	Critical habitat for a rare species
Interurban Trail Woods	Ozaukee County T11N R22E Section 21 City of Port Washington	43	City of Port Washington	A mile long forested ravine bisected by a local bike trail
South Branch Sauk Creek Ravine Woods	Ozaukee County T11N R22E Section 33 City of Port Washington	4	City of Port Washington	Forested ravine provides habitat for State-designated threatened plant
Six Mile Road Grassland	Ozaukee County T12N R22E Section 32 Town of Belgium	19	Private	Surrogate grassland supporting grassland breeding birds
Forest Beach Pond	Ozaukee County T12N R22E Section 36 Town of Belgium	1	OWLT	Small pond near Lake Michigan provides habitat for a rare dragonfly
New Munster Wildlife Area	Racine County T01N R19E Section 02 Village of Mount Pleasant	972	Wisconsin Department of Natural Resources	Very large habitat are comprised of several degraded upland and wetland communities containing rare species
Quarry Park Woods	Racine County T3N R23E Section 06 Village of Mount Pleasant	4	Racine County	Dry cliff habitat along the Root River supporting a State-designated special concern plant species
Samuel Myers Beach	Racine County T03N R23E Section 16 City of Racine	5	City of Racine	Dune and beach restoration project provides habitat for rare species
Riverpark Bluff Woods	Racine County T04N R23E Section 31 Village of Caledonia	1	Private	Thinly wooded river bluff supporting a rare species
Fontana Bike Trail Wetlands	Walworth County T1N R16E Section 14 Village of Fontana	1	WisDOT	A degraded spring run adjacent to STH 67 provides habitat for a rare plant
State Line Wetlands	Walworth County T01N R17E Section 31 Town of Linn	1	Private	Very small degraded wet meadow containing a rare plant
Turtle Creek Wetland	Walworth County T02N R15E Section 02 Town of Darien	281	Wisconsin Department of Natural Resources	Degraded sedge meadow, Emergent marsh, fen, and shrub-carr along Turtle Creek supporting several rare animals
Mallard Habitat Area	Walworth County T02N R15E Section 04 Town of Darien	356	Private	Extensive oak woodland containing numerous kettle wetlands, Protected by conservation easement
Turtle Creek Bike Trail Wetland	Walworth County T02N R15E Section 17 Town of Darien	23	Private	Disturbed wetlands along Turtle Creek containing a rare plant
Springs Park Wetlands	Walworth County T02N R16E Section 18 City of Delavan	11	City of Delavan	Wetlands adjacent to Swan Creek, a mix of emergent marsh, sedge meadow, and shrub-carr
Dam Road Wetlands	Walworth County T02N R17E Section 22 Town of Geneva	220	Wisconsin Department of Natural Resources	Marsh and sedge meadow adjacent to Lake Como

Ore Creek Wet-Mesic Prairie	Walworth County T2N R18E Section 9 Town of Lyons	23	Wisconsin Department of Natural Resources	Small disturbed wet-mesic prairie and sedge meadow supporting a State-designated special concern plant
Lyons Wildlife Area	Walworth County T02N R18E Section 20 Town of Lyons	8	Wisconsin Department of Natural Resources	Small, disturbed remnants of sedge meadow, fen, and prairie recovering with management
Sheridan Springs Road Habitat Area	Walworth County T02N R18E Section 20 Town of Lyons	33	Private	Emergent marsh supports rare species
CTH O Woods	Walworth County T03N R16E Section 04 Town of Sugar Creek	2	Private	Degraded dry-mesic prairie containing a rare plant threatened by quarry operations
Bluff Creek Sedge Meadow	Walworth County T04N R15E Section 13 Town of Whitewater	3	Wisconsin Department of Natural Resources	Sedge meadow and shrub-carr adjacent to Bluff Creek Fens providing habitat for one State-designated special concern plant
Clover Valley State Wildlife Area	Walworth County T4N R15E Section 19 Town of Whitewater	307	Wisconsin Department of Natural Resources	Large degraded wetland complex dominated by emergent marsh, sedge meadow, and shrub-carr
Rice Lake Esker Woods	Walworth County T04N R15E Section 35 Town of Whitewater	5	Wisconsin Department of Natural Resources	Degraded oak opening supporting a rare species
Scout Road Tract	Walworth County T04N R17E Section 04 Town of Troy	22	The Nature Conservancy	Oak woodland, prairie, and fen provide habitat for rare species
Pickerel Lake Road Oak Opening	Walworth County T04N R17E Section 11 Town of Troy	44	Private	Degraded oak opening improving with management
Pine Rd Woods	Walworth County T04N R17E Section 22 Town of Troy	2	Private	Small, degraded oak woodland supporting a rare species
Section 28 Wetlands	Walworth County T04N R17E Section 28 Town of Troy	88	Private	Fen, sedge meadow, and shrub-carr habitat contains a rare plant
Island Drive Bog	Walworth County T04N R18E Section 04 Town of East Troy	9	Public Trust Lands	Small bog relict in Lake Beulah
Lake Beulah Woodland	Walworth County T04N R18E Section 09 Town of East Troy	11	Private	Tamarack swamp and adjacent upland oak woodland containing a rare plant species
Dublin Road Sedge Meadow	Washington County T09N R18E Section 15 Town of Erin	42	Private	Sedge meadow and marsh supporting a State-designated special concern animal
Loew's Lake Woods	Washington County T09N R18E Section 25 Town of Erin	149	Wisconsin Department of Natural Resources	Dry mesic forest east of Loew's Lake wetland Complex supporting several rare animal species
CTH CC Woods	Washington County T09N R19E Section 07 Village of Richfield	9	Private	Second growth southern mesic forest providing habitat for a rare insect
STH 175 Wetlands and Meadows	Washington County T09N R20E Section 32 Village of Germantown	39	Private	Disturbed wetland and old field complex containing a rare animal population
Mueller Woods	Washington County T10N R19E Section 06 Town of Addison	80	Private	Mature dry-mesic forest disturbed by development, but still supporting rare species
Allenton Wetlands	Washington County T11N R18E Section 06 Town of Addison	101	Wisconsin Department of Natural Resources	Open wetland complex along the East Branch of the Rock River containing a State-designated special concern bird species
CTH M Pond and Wetlands	Washington County T11N R20E Section 34 Town of Trenton	19	Private	Degraded marsh and hardwood swamp providing habitat for a rare animal

Stony Creek Wetlands	Washington County T12N R19E Section 01 Town of Kewaskum	28	Private	Marsh, Shrub-carr, and hardwood swamp adjacent to Stony Creek, supporting a rare animal
Kettle Moraine Drive Meadows	Washington County T12N R19E Section 23 Town of Kewaskum	16	Wisconsin Department of Natural Resources	Old field providing habitat for rare species. Adjacent to St. Michael's Woods
Saxonia Property	Washington County T12N R20E Section 24 Town of Farmington	1	Friends of Saxonia House	Critical habitat for a rare species
Green Lake Wetlands	Washington County T12N R20E Section 33 Town of Farmington	44	Private	Recovering wetland complex west of Green Lake providing habitat for a rare animal
Ottawa Oak Woods and Pine Plantations	Waukesha County T05N R17E Section 02 Town of Ottawa and Town of Eagle	1389	Wisconsin Department of Natural Resources	Forested corridor of varying quality connecting several natural areas
Road X Kettle	Waukesha County T05N R17E Section 03 Town of Eagle	1	Wisconsin Department of Natural Resources	Small kettle wetland provides habitat for a rare plant
CTH ZZ Grasslands	Waukesha County T05N R17E Section 04 Town of Eagle and Town of Ottawa	120	Wisconsin Department of Natural Resources	Extensive grassland providing habitat for several rare grassland breeding birds
Wilton Road Ponds	Waukesha County T5N R17E Section 15 Town of Eagle	27	Wisconsin Department of Natural Resources	Kettle wetlands containing a rare amphibian
Grotjen Oak Woods and Wetlands	Waukesha County T05N R17E Section 20 Town of Eagle	48	Wisconsin Department of Natural Resources	Degraded oak woods, sedge meadow, and prairie provide habitat for rare plants and animals
Scuppernong Marsh Low Prairie	Waukesha County T05N R17E Section 21 Town of Eagle	14	Wisconsin Department of Natural Resources	Wet-mesic prairie supporting two rare species
Old World Woods	Waukesha County T05N R17E Section 28 Town of Eagle	17	Wisconsin Department of Natural Resources	Recovering oak woodland support rare species
Eagle Esker Grassland	Waukesha County T05N R17E Section 29 Town of Eagle	76	Wisconsin Department of Natural Resources	Prairie and oak woodland restoration provide habitat for several rare plants and animals
Eagle Spring Lake Marsh	Waukesha County T05N R17E Section 35 Town of Eagle	10	Wisconsin Department of Natural Resources	Marsh and fen supporting several rare species
Mukwonago River Pine Plantation and Barrens	Waukesha County T05N R17E Section 36 Town of Mukwonago	45	Private	Historic sand prairie disturbed by conifer plantings and shrub encroachment, recovering with management. Protected by easement
Schnitzler Road Oak Woods	Waukesha County T05N R18E Section 04 Town of Mukwonago	36	Private	Oak woodland, oak opening, and dry prairie recovering with management. Supports rare species. Protected by Easement
Albert Thiesen Donation	Waukesha County T05N R18E Section 11 Town of Mukwonago	52	WCLC	A large protected site with degraded oak woodland and sedge fen supporting two State-designated special concern species
Phantom Lake Marsh	Waukesha County T05N R18E Section 27 Town of Mukwonago	20	Private	Marsh and sedge meadow provide habitat for a rare species
Davis Oak Woods	Waukesha County T5N R18E Section 32 Town of Mukwonago	6	Wisconsin Department of Natural Resources	Recovering oak opening supporting a State special concern plant

Martin's Upland Woods	Waukesha County T05N R19E Section 14 Village of Vernon	45	Private	Mature but discontinuous upland forest supporting a rare plant species
Paradise Valley Marsh	Waukesha County T06N R17E Section 06 Town of Ottawa	587	Wisconsin Department of Natural Resources	Emergent marsh restoration, part of a much larger wetland complex along the Bark River. Includes 51 acres in Jefferson County
Ice Age Trail Riparian Habitat	Waukesha County T06N R17E Section 13 Town of Ottawa	67	Wisconsin Department of Natural Resources	Sedge meadow, marsh, and streams supporting several rare species
Retzer Wetlands and Meadows Habitat Area	Waukesha County T06N R18E Section 01 City of Waukesha and Town of Genesee	202	Waukesha County	A variety of natural communities supporting rare species
Pebble Creek Habitat Area	Waukesha County T06N R18E Section 12 Town of Genesee, Village of Waukesha, City of Waukesha	124	Town of Genesee, School District of Waukesha	Disturbed wet meadow and marsh along Pebble Creek supporting a rare species
Genesee Wetlands and Meadows	Waukesha County T06N R18E Section 15 Town of Genesee	452	Wisconsin Department of Natural Resources	Extensive wetland habitat provides habitat for rare animals along Genesee Creek and its tributaries. Protected in part by conservation easements
East Broadway Woods and Thicket	Waukesha County T06N R19E Section 01 City of Waukesha	3	City of Waukesha	Recovering hardwood forest and adjoining thicket provide habitat for a rare plant. Much of the site was recently lost to development
Pewaukee River Wetlands and Meadows Habitat Area	Waukesha County T06N R19E Section 15 City of Pewaukee, Village of Pewaukee	696	Waukesha County	Degraded marsh, sedge meadow, and floodplain forest along the Pewaukee River supporting rare species
Bypass Wetlands and Meadows	Waukesha County T6N R19E Section 22 City of Waukesha and Village of Waukesha	525	City of Waukesha, State of Wisconsin	Extensive degraded marsh, sedge meadow and hardwood swamps along Mill and Pebble Creeks
West Cleveland Avenue Habitat Area	Waukesha County T6N R20E Section 7 City of New Berlin	94	City of New Berlin	Wet meadow and marsh provides habitat to a rare animal
Malone Park Habitat Area	Waukesha County T06N R20E Section 15 City of New Berlin	57	City of New Berlin	Mature dry-mesic forest grading into hardwood swamp at lower elevations
Muskego Creek Wetlands	Waukesha County T06N R20E Section 27 City of New Berlin	9	Private	Woods and wetlands provide habitat for rare species
Anderson Woods	Waukesha County T6N R20E Section 29 City of New Berlin	3	Private	Disturbed southern mesic forest providing habitat for a small population of a State-designated special concern plant
South Moorland Road Woods	Waukesha County T06N R20E Section 34 City of New Berlin	39	Private	Islands of dry-mesic forest and hardwood swamp in a developed landscape
Olympia Meadows	Waukesha County T07N R17E Section 09 City of Oconomowoc	26	Private	Old field and ponds provide habitat for a rare species
Indian Mound Camp	Waukesha County T07N R17E Section 16 Village of Summit	5	Forest County Potawatomi Community	Emergent marsh, sedge meadow and hardwood swamp supporting a rare animal

Henrietta Lake Marsh	Waukesha County T7N R17E Section 36 Village of Summit	2	University of Wisconsin-Waukesha	Undeveloped shoreline of Henrietta Lake provides breeding habitat for rare species
University Lake School Woods	Waukesha County T7N R18E Section 4 City of Delafield	10	University Lake School	Southern dry-mesic forest contains breeding habitat for a rare animal
Frog Hollow Oak Woods	Waukesha County T07N R18E Section 21 City of Delafield	3	Private	Degraded oak opening provides habitat for a rare plant species
Highland View Habitat Area	Waukesha County T7N R18E Section 28 Town of Delafield	54	Private	Wetlands and old field provide habitat for a rare species at the headwaters of Scuppernong Creek. Includes a portion of the Scuppernong Creek Spillway, a Geologic Area of Statewide Significance
Scenic Drive Ponds	Waukesha County T07N R18E Section 29 Town of Delafield	20	Wisconsin Department of Natural Resources	Wetland habitat for rare species
Simmons Wetland Habitat	Waukesha County T07N R19E Section 03 City of Pewaukee, Village of Pewaukee, and Town of Lisbon	239	Waukesha County and Village of Pewaukee	Upper Pewaukee River wetlands containing a rare species
Busse Habitat Area	Waukesha County T07N R19E Section 14 City of Pewaukee	59	City of Pewaukee	Woods and wetlands along a small stream tributary to the Fox River
Silvernail Wetlands	Waukesha County T07N R19E Section 28 City of Waukesha	26	Waukesha County	Ruderal emergent marsh contains supports a population of a State-designated special concern species
Woodburn Wetlands	Waukesha County T7N R19E Section 28 City of Waukesha	34	City of Waukesha	Wet meadow and marsh adjacent to a city park containing a rare animal
Northview Butternuts	Waukesha County T07N R19E Section 29 City of Waukesha	1	City of Waukesha	Narrow band of woods within a City park support a population of rare tree
Lilly Heights Park Wetlands	Waukesha County T07N R20E Section 02 City of Brookfield	70	City of Brookfield	Marsh and shrub-carr supporting a rare species
Deer Creek Habitat	Waukesha County T7N R20E Section 33 City of Brookfield	47	City of Brookfield	Riparian wetlands support a State-designated special concern species
Ice Age Trail Skunk Cabbage Seep and Woods	Waukesha County T08N R18E Section 10 Town of Merton	20	Waukesha County	Dry-mesic forest and forested seep provides habitat for a rare plant
Westshore Road Woods	Waukesha County T8N R18E Section 20 Town of Merton	3	Private	Recovering dry-mesic forest containing a rare plant
Merton Ptelea Site	Waukesha County T08N R18E Section 21 Town of Merton	2	Private	Narrow bands of shrub thicket provide habitat for a rare shrub
Bark River Greenway	Waukesha County T08N R19E Section 04 Town of Lisbon	25	Private	Shrub-carr and emergent marsh provides habitat for a rare animal along the upper reaches of the Bark River
Bugline Habitat Area	Waukesha County T08N R19E Section 17 Town of Lisbon	225	Town of Lisbon, Waukesha County	Open wetlands provide habitat for a State-designated special concern species

Sussex Marsh	Waukesha County T08N R19E Section 22 Village of Sussex and Town of Lisbon	51	Village of Sussex	Emergent Marsh, ponds and old field containing a rare animal population
Sussex Meadows	Waukesha County T08N R19E Section 28 Village of Sussex and Town of Lisbon	31	Village of Sussex	Ditched marsh and sedge meadow complex supporting a rare species
Devonwood Wetlands	Waukesha County T8N R20E Section 4 Village of Menomonee Falls and Village of Germantown	9	Village of Menomonee Falls	Degraded riparian wetlands along the Menomonee River supporting a rare species
Lannon Road Ptelea Site	Waukesha County T08N R20E Section 07 Village of Menomonee Falls	1	Private	Shrub thicket partially within the road right of way containing a rare shrub species
River's Edge Park Woods	Waukesha County T08N R20E Section 12 Village of Menomonee Falls	3	Village of Menomonee Falls	Recovering woodland provides habitat for rare plants
River Trail Habitat Area	Waukesha County T08N R20E Section 25 Village of Menomonee Falls	1	None	A thicket supporting a rare species

Source: SEWRPC

Table 4.4
Relationship of Newly Identified Natural Areas to Commission-Delineated Primary Environmental Corridor

Site Name	Location	Proposed Rank	Size (acres)	Ownership	Relationship to Primary Environmental Corridor	
					Within PEC (Acres)	Outside PEC
Basset Creek Wetlands	Kenosha County T1N R19E Section 34 Village of Twin Lakes, Town of Randall	NA-3	41	Private	0	41
Heide Prairie	Kenosha County T2N R22E Section 3 Village of Somers	NA-1	11	Private	0	11
Sydney Woods	Milwaukee County T8N R22E Section 30 City of Glendale	NA-3	7	Milwaukee Area Land Conservancy	0	7
Awana Road Swamp	Ozaukee County T12N R21E Section 6 Town of Fredonia	NA-3	17	Private	17	0
Sauk Trail Road Ravine	Ozaukee County T12N R23E Section 7 Town of Belgium	NA-3	8	Private	8	0
North Beach Dunes	Racine County T3N R23E Section 4 City of Racine	NA-3	10	City of Racine	10	0
Lake Ivanhoe Fen-South	Walworth County T1N R18E Section 03 Town of Bloomfield	NA-3	14	Geneva Lakes Conservancy and Private	14	0
Natureland Park Fen	Walworth County T03N R15E Section 03 Town of Richmond	NA-3	1	Walworth County	1	0
Beulah Bluff Oak Woodland and Tamaracks	Walworth County T04N R18E Section 8 Town of East Troy	NA-3	35	Kettle Moraine Land Trust and Private	35	0
Jackson Marsh Springs	Washington County T10N R20E Section 8 Town of Jackson	NA-3	34	Wisconsin Department of Natural Resources	0	34
Hoy-Anderle Woods	Washington County T12N R20E Section 24 Town of Farmington	NA-3	36	Milwaukee Metropolitan Sewerage District	35	1
Hidden Knoll Dry Prairie	Waukesha County T5N R17E Section 13 Town of Eagle	NA-3	6	Private with Easement	0	6
Holiday Road Fen and Oak Woodland	Waukesha County T05N R18E Section 01 Town of Mukwonago	NA-3	17	Private	17	0
Faulkner Road Fen	Waukesha County T5N R19E Section 16 Village of Vernon	NA-3	5	Private	5	0
Sigurdson Fen	Waukesha County T06N R18E Section 01 Town of Genesee	NA-3	9	Waukesha County	9	0
Saylesville Road Fen	Waukesha County T6N R18E Section 35 Town of Genesee	NA-3	2	Private	0	2
Party Island Oak Woodland and Dry Prairie	Waukesha County T8N R18E Section 30 Town of Merton	NA-3	1	Private	1	0
Total					152	102

Source: Southeastern Wisconsin Regional Planning Commission

Table 4.5
Relationship of Newly Identified Critical Species Habitat Sites to Commission Delineated Primary Environmental Corridor (PEC)

Site Name	Location	Size (acres)	Ownership	Relation to Primary Environmental Corridor (PEC)	
				Within PEC	Outside PEC
New Munster Wildlife Area	Kenosha County T01N R19E Section 02 Village of Mount Pleasant	972	WDNR	934	38
Ice House Trail Wetlands	Kenosha County T01N R19E Section 15 Village of Twin Lakes and Town of Randall	116	Village of Twin Lakes and Town of Randall	0	116
Veterans Park Wetlands	Kenosha County T1N R19E Section 15 Town of Randall and Town of Wheatland	35	Kenosha County	0	35
314th Woods and Wetlands	Kenosha County T1N R19E Section 36 Town of Randall	28	Town of Randall	0	28
Old Oaks Park	Kenosha County T01N R20E Section 07 Village of Salem Lakes	25	Village of Salem Lakes	0	25
Peat Lake Habitat Area	Kenosha County T01N R20E Section 19 Village of Salem Lakes	208	WDNR	184	24
Camp Lake Tamaracks	Kenosha County T1N R20E Section 29 Village of Salem Lakes	122	Kenosha County and WDNR	118	4
Trevor Creek Woods	Kenosha County T01N R20E Section 34 Village of Salem Lakes	6	Private	5	1
Carol Beach Recovering Prairie and Wetland	Kenosha County T1N R23E Section 30 Village of Pleasant Prairie	19	WDNR, Village of Pleasant Prairie	18	1
Alford Beach	Kenosha County T2N R23E Section 30 City of Kenosha	31	City of Kenosha	30	1
Root River East Branch Woods	Milwaukee County T05N R21E Section 01 City of Franklin	7	Milwaukee County, MMSD	0	7
Root River Section 18 Woods	Milwaukee County T05N R21E Section 02 City of Oak Creek	6	Milwaukee County	0	6
Root River Habitat Area-South	Milwaukee County T05N R21E Section 04 City of Franklin and Village of Greendale	206	Milwaukee County	0	206
West Drexel Habitat Area	Milwaukee County T5N R21E Section 13 City of Franklin	6	Private	0	6
Froemming Woods and Grasslands	Milwaukee County T5N R21E Section 22 City of Franklin	316	Milwaukee County	185	131
Scott Woods	Milwaukee County T05N R21E Section 23 City of Franklin	9	Private	0	9
Oakwood Golf Course	Milwaukee County T05N R21E Section 25 City of Franklin	34	Milwaukee County	0	34
Rainbow Airport	Milwaukee County T05N R21E Section 27 City of Franklin	37	Milwaukee County	22	15
Root River Pkwy Section 13	Milwaukee County T05N R21E Section 27 City of Franklin	54	Milwaukee County	54	0
Root River Pkwy Section 14	Milwaukee County T05N R21E Section 36 City of Franklin	38	Milwaukee County	14	24
Oak Creek Parkway Habitat Area	Milwaukee County T05N R22E Section 02 City of Oak Creek	71	Milwaukee County	48	23
Johnstone Park Wetlands	Milwaukee County T05N R22E Section 06 City of Oak Creek	33	Milwaukee County	0	33
Falk Park Habitat Area	Milwaukee County T5N R22E Section 7 City of Oak Creek	100	Milwaukee County	0	100

South Shore Metro Dunes	Milwaukee County T05N R22E Section 13 City of South Milwaukee and City of Oak Creek	22	Public Trust Lands, MMSD, and City of Oak Creek	21	1
Oak Creek Habitat Area	Milwaukee County T05N R22E Section 15 City of Oak Creek	387	City of Oak Creek, Milwaukee County Parks, MMSD	136	251
Riverton Meadows	Milwaukee County T05N R22E Section 15 City of Oak Creek	4	Milwaukee County	0	4
Springbrook Marsh	Milwaukee County T05N R22E Section 17 City of Oak Creek	3	Private	0	3
Barloga Recovering Woods	Milwaukee County T5N R22E Section 18 City of Oak Creek	70	Milwaukee County	0	70
Oak Creek 15	Milwaukee County T05N R22E Section 24 City of Oak Creek	146	Milwaukee County	141	5
Bender Beach	Milwaukee County T05N R22E Section 25 City of Oak Creek	1	Milwaukee County	1	0
Oak Creek Low Woods and Wetlands	Milwaukee County T05N R22E Section 26 City of Oak Creek	135	Milwaukee County	120	15
Crayfish Creek Woods	Milwaukee County T5N R22E Section 34 City of Oak Creek	2	City of Oak Creek	2	0
Oak Creek 14	Milwaukee County T05N R22E Section 34 City of Oak Creek	54	Milwaukee County and City of Oak Creek	48	6
Root River Habitat Area	Milwaukee County T06N R21E Section 07 City of Greenfield and City of West Allis	324	Milwaukee County	279	45
Jackson Park Woods	Milwaukee County T06N R21E Section 12 City of Milwaukee	26	Milwaukee County	0	26
Zablocki Park Habitat Area	Milwaukee County T6N R21E Section 24 City of Greenfield	7	Milwaukee County	0	7
Konkel Park Habitat Area	Milwaukee County T06N R21E Section 26 City of Greenfield	22	City of Greenfield	0	22
Root River Pkwy Section 5	Milwaukee County T06N R21E Section 29 City of Greenfield	7	Milwaukee County	7	0
Hales Corners Park Woods	Milwaukee County T06N R21E Section 31 Village of Hales Corners	6	Milwaukee County	0	6
Baran Park Woods	Milwaukee County T6N R22E Section 8 City of Milwaukee	5	Milwaukee County	5	0
Humbolt Park	Milwaukee County T06N R22E Section 09 City of Milwaukee	14	Milwaukee County	0	14
South Shore Park	Milwaukee County T06N R22E Section 10 City of Milwaukee	5	Milwaukee County	0	5
Bay View Clay Banks	Milwaukee County T06N R22E Section 14 City of St. Francais	15	Milwaukee County	14	1
Wilson Park	Milwaukee County T6N R22E Section 19 City of Milwaukee	30	Milwaukee County	0	30
Oak Leaf Habitat Area	Milwaukee County T06N R22E Section 23 City of Cudahy, City of St. Francais, City of South Milwaukee	428	Milwaukee County	242	186
Holler Park Woods	Milwaukee County T06N R22E Section 29 City of Milwaukee	11	Milwaukee County	0	11
Copernicus Park Woods	Milwaukee County T06N R22E Section 31 City of Milwaukee	11	Milwaukee County	0	11
Maitland Park	Milwaukee County T06N R22E Section 31 City of Milwaukee	16	Milwaukee County	0	16
Hopkins Hollow	Milwaukee County T07N R21E Section 01 City of Milwaukee	25	MMSD	0	25
Grantosa Creek	Milwaukee County T07N R21E Section 05 City of Milwaukee and City of Wauwatosa	6	Milwaukee County	0	6
Currie Park	Milwaukee County T7N R21E Section 7 City of Wauwatosa	76	Milwaukee County	17	59
Menomonee River Pkwy Section 6	Milwaukee County T07N R21E Section 08 City of Wauwatosa	8	Milwaukee County	8	0

Cooper Park	Milwaukee County T07N R21E Section 16 City of Milwaukee	1	Milwaukee County	0	1
Menomonee River Pkwy Section 7	Milwaukee County T07N R21E Section 17 City of Wauwatosa	3	Milwaukee County	3	0
Monarch Trail	Milwaukee County T07N R21E Section 20 City of Wauwatosa	20	UWM Innovation Park	0	20
Underwood Parkway Thicket	Milwaukee County T7N R21E Section 20 City of Wauwatosa	47	Milwaukee County, MMSD, State of Wisconsin	25	22
Washington Park	Milwaukee County T7N R21E Section 23 City of Milwaukee	38	Milwaukee County	0	38
Menomonee River PCA No. 11	Milwaukee County T07N R21E Section 26 City of Wauwatosa	2	Milwaukee County	2	0
Mitchell Boulevard Park	Milwaukee County T07N R21E Section 26 City of Milwaukee	4	Milwaukee County	0	4
Cannon Park Woods	Milwaukee County T7N R21E Section 29 City of Milwaukee	2	Milwaukee County	0	2
Chippewa Park Woods	Milwaukee County T7N R21E Section 30 City of Wauwatosa	6	Milwaukee County, State of WI	0	6
Underwood Creek Habitat Area	Milwaukee County T7N R21E Section 30 City of Wauwatosa	86	Milwaukee County, MMSD	0	86
Hank Aaron Trail Hoptree Site	Milwaukee County T07N R21E Section 33 City of Milwaukee	1	WDNR	0	1
Estabrook Woods	Milwaukee County T07N R22E Section 04 City of Milwaukee and Village of Shorewood	80	Milwaukee County	58	22
Milwaukee River Greenway	Milwaukee County T07N R22E Section 09 City of Milwaukee and Village of Shorewood	116	Milwaukee County	110	6
Caesar's Woods	Milwaukee County T07N R22E Section 21 City of Milwaukee	3	Milwaukee County	3	0
Veterans Park	Milwaukee County T7N R22E Section 28 City of Milwaukee	7	Milwaukee County	4	3
Mitchell Park Woods	Milwaukee County T07N R22E Section 31 City of Milwaukee	8	Milwaukee County	0	8
Hilltop Farm Woods	Milwaukee County T08N R21E Section 04 City of Milwaukee	17	Private	0	17
Kohl Park Woods	Milwaukee County T08N R21E Section 04 City of Milwaukee	67	Milwaukee County	0	67
Little Menomonee River Habitat Area	Milwaukee County T08N R21E Section 05 City of Milwaukee	721	Milwaukee County	622	99
Dretzka Park	Milwaukee County T8N R21E Section 7 City of Milwaukee	177	Milwaukee County	0	177
Servite Park	Milwaukee County T08N R21E Section 09 City of Milwaukee	20	Milwaukee County	0	20
Brown Deer Park Pond	Milwaukee County T08N R21E Section 13 City of Milwaukee	13	Milwaukee County	0	13
Melody View Preserve	Milwaukee County T08N R21E Section 16 City of Milwaukee	18	Milwaukee County	0	18
Uihlein Park	Milwaukee County T8N R21E Section 22 City of Milwaukee	16	Milwaukee County	0	16
Menomonee River Habitat Area	Milwaukee County T08N R21E Section 31 City of Milwaukee	80	Milwaukee County	73	7
McGovern Park Lagoons	Milwaukee County T08N R21E Section 35 City of Milwaukee	7	Milwaukee County	0	7
Schlitz Meadows	Milwaukee County T08N R22E Section 09 Village of Bayside	65	Schlitz Audubon Center	20	45
Doctors Park	Milwaukee County T8N R22E Section 10 Village of Fox Point and Village of Bayside	19	Milwaukee County	11	8
Kletzch Park Habitat Area	Milwaukee County T8N R22E Section 19 City of Glendale	21	Milwaukee County	0	21

Milwaukee River 1	Milwaukee County T08N R22E Section 19 City of Glendale	13	Milwaukee County	9	4
Fox Point Clay Bluffs and Beach	Milwaukee County T08N R22E Section 21 Village of Fox Point	8	Private	8	0
Milwaukee River 2	Milwaukee County T08N R22E Section 30 City of Glendale	10	Milwaukee County	7	3
Lincoln Creek Woods	Milwaukee County T08N R22E Section 31 City of Milwaukee	20	Milwaukee County	0	20
Lincoln Park Woods	Milwaukee County T08N R22E Section 31 City of Glendale and City of Milwaukee	165	Milwaukee County	156	9
Big Bay Woods	Milwaukee County T08N R22E Section 33 Village of Whitefish Bay	6	Milwaukee County	6	0
Lemke Farm Woods	Ozaukee County T08N R21E Section 32 City of Mequon	13	City of Mequon	13	0
Mee Kwon Park Habitat Area	Ozaukee County T09N R21E Section 10 City of Mequon	17	WISDOT, City of Mequon, Ozaukee County	14	3
Mequon Wetland Habitat Area	Ozaukee County T09N R21E Section 30 City of Mequon	31	MMSD	0	31
Baehr Road Wetlands and Meadows	Ozaukee County T09N R21E Section 35 City of Mequon	177	City of Mequon	0	177
Mequon Beach Habitat Area	Ozaukee County T09N R22E Section 20 City of Mequon	2	Private	2	0
Virmond Park Habitat Area	Ozaukee County T9N R22E Section 28 City of Mequon	45	Ozaukee County	13	32
Maple Road Wetlands	Ozaukee County T10N R21E Section 01 Town of Grafton	4	Private	4	0
Decker Corner Habitat Area	Ozaukee County T10N R21E Section 6 Town of Cedarburg	21	Private	20	1
Cedar Creek Wetlands	Ozaukee County T10N R21E Section 14 Village of Grafton and Town of Cedarburg	42	None	34	8
Bridge Road Wetlands and Meadows	Ozaukee County T10N R21E Section 28 Town of Cedarburg	22	Private	0	22
Wasaukee-Pioneer Hardwood Swamp	Ozaukee County T10N R21E Section 31 Town of Cedarburg	49	OWLT Easement	0	49
Ulao Meadows	Ozaukee County T10N R22E Section 8 Town of Grafton	61	Private	22	39
Daly Lake Wetlands	Ozaukee County T11N R21E Section 17 Town of Saukville	69	Ozaukee County	64	5
Gough Lake Wetlands and Woods	Ozaukee County T11N R21E Section 17 Town of Saukville	158	Ozaukee County, OWLT, and Town of Saukville	134	24
Cedarburg Wetlands and Meadows Habitat Area	Ozaukee County T11N R21E Section 21 Town of Cedarburg and Town of Saukville	71	WDNR, UW System	71	0
Center Road Woods and Wetlands	Ozaukee County T11N R21E Section 21 Town of Saukville	12	Private	0	12
Cedarburg Wetlands and Meadows	Ozaukee County T11N R21E Section 30 Town of Saukville	22	University of Wisconsin-Milwaukee	3	19
Sauk Creek Shady Lane	Ozaukee County T11N R22E Section 09 Town of Port Washington	5	Private	0	5

Interurban Trail Woods	Ozaukee County T11N R22E Section 21 City of Port Washington	43	City of Port Washington	36	7
South Branch Sauk Creek Ravine Woods	Ozaukee County T11N R22E Section 33 City of Port Washington	4	City of Port Washington	0	4
Six Mile Road Grassland	Ozaukee County T12N R22E Section 32 Town of Belgium	19	Private	0	19
Forest Beach Pond	Ozaukee County T12N R22E Section 36 Town of Belgium	1	OWLT	0	1
Quarry Park Woods	Racine County T3N R23E Section 06 Village of Mount Pleasant	4	Racine County	3	1
Samuel Myers Beach	Racine County T03N R23E Section 16 City of Racine	5	City of Racine	5	0
Riverpark Bluff Woods	Racine County T04N R23E Section 31 Village of Caledonia	1	Private	1	0
Fontana Bike Trail Wetlands	Walworth County T1N R16E Section 14 Village of Fontana	1	WisDOT	0	1
State Line Wetlands	Walworth County T01N R17E Section 31 Town of Linn	1	Private	0	1
Turtle Creek Wetland	Walworth County T02N R15E Section 02 Town of Darien	281	WDNR	234	47
Mallard Habitat Area	Walworth County T02N R15E Section 04 Town of Darien	356	Private	271	85
Turtle Creek Bike Trail Wetland	Walworth County T02N R15E Section 17 Town of Darien	23	Private	23	0
Springs Park Wetlands	Walworth County T02N R16E Section 18 City of Delavan	11	City of Delavan	0	11
Dam Road Wetlands	Walworth County T02N R17E Section 22 Town of Geneva	220	WDNR	220	0
Ore Creek Wet-Mesic Prairie	Walworth County T2N R18E Section 9 Town of Lyons	23	WDNR	0	23
Lyons Wildlife Area	Walworth County T02N R18E Section 20 Town of Lyons	8	WDNR	8	0
Sheridan Springs Road Habitat Area	Walworth County T02N R18E Section 20 Town of Lyons	33	Private	31	2
CTH O Woods	Walworth County T03N R16E Section 04 Town of Sugar Creek	2	Private	0	2
Bluff Creek Sedge Meadow	Walworth County T04N R15E Section 13 Town of Whitewater	3	WDNR	3	0
Clover Valley State Wildlife Area	Walworth County T4N R15E Section 19 Town of Whitewater	307	WDNR	61	246
Rice Lake Esker Woods	Walworth County T04N R15E Section 35 Town of Whitewater	5	WDNR	5	0
Scout Road Tract	Walworth County T04N R17E Section 04 Town of Troy	22	The Nature Conservancy	22	0
Pickerel Lake Road Oak Opening	Walworth County T04N R17E Section 11 Town of Troy	44	Private	0	44
Pine Rd Woods	Walworth County T04N R17E Section 22 Town of Troy	2	Private	0	2
Section 28 Wetlands	Walworth County T04N R17E Section 28 Town of Troy	88	Private	83	5
Island Drive Bog	Walworth County T04N R18E Section 04 Town of East Troy	9	Public Trust Lands	9	0
Lake Beulah Woodland	Walworth County T04N R18E Section 09 Town of East Troy	11	Private	11	0
Dublin Road Sedge Meadow	Washington County T09N R18E Section 15 Town of Erin	42	Private	42	0
Loew's Lake Woods	Washington County T09N R18E Section 25 Town of Erin	149	WDNR	143	6
CTH CC Woods	Washington County T09N R19E Section 07 Village of Richfield	9	Private	0	9

STH 175 Wetlands and Meadows	Washington County T09N R20E Section 32 Village of Germantown	39	Private	21	18
Mueller Woods	Washington County T10N R19E Section 06 Town of Addison	80	Private	78	2
Allenton Wetlands	Washington County T11N R18E Section 06 Town of Addison	101	WDNR	101	0
CTH M Pond and Wetlands	Washington County T11N R20E Section 34 Town of Trenton	19	Private	19	0
Stony Creek Wetlands	Washington County T12N R19E Section 01 Town of Kewaskum	28	Private	24	4
Kettle Moraine Drive Meadows	Washington County T12N R19E Section 23 Town of Kewaskum	16	WDNR	0	16
Saxonia Property	Washington County T12N R20E Section 24 Town of Farmington	1	Friends of Saxonia House	0	1
Green Lake Wetlands	Washington County T12N R20E Section 33 Town of Farmington	44	Private	41	3
Ottawa Oak Woods and Pine Plantations	Waukesha County T05N R17E Section 02 Town of Ottawa and Town of Eagle	1389	WDNR	1340	49
Road X Kettle	Waukesha County T05N R17E Section 03 Town of Eagle	1	WDNR	1	0
CTH ZZ Grasslands	Waukesha County T05N R17E Section 04 Town of Eagle and Town of Ottawa	120	WDNR	3	117
Wilton Road Ponds	Waukesha County T5N R17E Section 15 Town of Eagle	27	WDNR	27	0
Grotjen Oak Woods and Wetlands	Waukesha County T05N R17E Section 20 Town of Eagle	48	WDNR	47	1
Scuppernong Marsh Low Prairie	Waukesha County T05N R17E Section 21 Town of Eagle	14	WDNR	14	0
Old World Woods	Waukesha County T05N R17E Section 28 Town of Eagle	17	WDNR	17	0
Eagle Esker Grassland	Waukesha County T05N R17E Section 29 Town of Eagle	76	WDNR	9	67
Eagle Spring Lake Marsh	Waukesha County T05N R17E Section 35 Town of Eagle	10	WDNR	10	0
Mukwonago River Pine Plantation and Barrens	Waukesha County T05N R17E Section 36 Town of Mukwonago	45	Private	1	44
Schnitzler Road Oak Woods	Waukesha County T05N R18E Section 04 Town of Mukwonago	36	Private	36	0
Albert Thiesen Donation	Waukesha County T05N R18E Section 11 Town of Mukwonago	52	WCLC	24	28
Phantom Lake Marsh	Waukesha County T05N R18E Section 27 Town of Mukwonago	20	Private	20	0
Davis Oak Woods	Waukesha County T5N R18E Section 32 Town of Mukwonago	6	WDNR	2	4
Martin's Upland Woods	Waukesha County T05N R19E Section 14 Village of Vernon	45	Private	43	2
Paradise Valley Marsh	Waukesha County T06N R17E Section 06 Town of Ottawa	587	WDNR	35	552
Ice Age Trail Riparian Habitat	Waukesha County T06N R17E Section 13 Town of Ottawa	67	WDNR	62	5

Retzer Wetlands and Meadows Habitat Area	Waukesha County T06N R18E Section 01 City of Waukehsa and Town of Genesee	202	Waukesha County	159	43
Pebble Creek Habitat Area	Waukesha County T06N R18E Section 12 Town of Genesee, Village of Waukesha, City of Waukesha	124	Town of Genesee, School District of Waukesha	94	30
Genesee Wetlands and Meadows	Waukesha County T06N R18E Section 15 Town of Genesee	452	WDNR	409	43
East Broadway Woods and Thicket	Waukesha County T06N R19E Section 01 City of Waukesha	3	City of Waukesha	0	3
Pewaukee River Wetlands and Meadows Habitat Area	Waukesha County T06N R19E Section 15 City of Pewaukee, Village of Pewaukee	696	Waukesha County	655	41
Bypass Wetlands and Meadows	Waukesha County T6N R19E Section 22 City of Waukeshsa and Village of Waukesha	525	City of Waukesha, State of Wisconsin	471	54
West Cleveland Avenue Habitat Area	Waukesha County T6N R20E Section 7 City of New Berlin	94	City of New Berlin	92	2
Malone Park Habitat Area	Waukesha County T06N R20E Section 15 City of New Berlin	57	City of New Berlin	0	57
Muskego Creek Wetlands	Waukesha County T06N R20E Section 27 City of New Berlin	9	Private	0	9
Anderson Woods	Waukesha County T6N R20E Section 29 City of New Berlin	3	Private	3	0
South Moorland Road Woods	Waukesha County T06N R20E Section 34 City of New Berlin	39	Private	0	39
Olympia Meadows	Waukesha County T07N R17E Section 09 City of Oconomowoc	26	Private	0	26
Indian Mound Camp	Waukesha County T07N R17E Section 16 Village of Summit	5	Forest County Potawatomi Community	5	0
Henrietta Lake Marsh	Waukesha County T7N R17E Section 36 Village of Summit	2	University of Wisconsin-Waukesha	2	0
University Lake School Woods	Waukesha County T7N R18E Section 4 City of Delafield	10	University Lake School	9	1
Frog Hollow Oak Woods	Waukesha County T07N R18E Section 21 City of Delafield	3	Private	3	0
Highland View Habitat Area	Waukesha County T7N R18E Section 28 Town of Delafield	54	Private	35	19
Scenic Drive Ponds	Waukesha County T07N R18E Section 29 Town of Delafield	20	WDNR	19	1
Simmons Wetland Habitat	Waukesha County T07N R19E Section 03 City of Pewaukee, Village of Pewaukee, and Town of Lisbon	239	Waukesha County and Village of Pewaukee	179	60
Busse Habitat Area	Waukesha County T07N R19E Section 14 City of Pewaukee	59	City of Pewaukee	0	59
Silvernail Wetlands	Waukesha County T07N R19E Section 28 City of Waukesha	26	Waukesha County	21	5
Woodburn Wetlands	Waukesha County T7N R19E Section 28 City of Waukesha	34	City of Waukesha	34	0
Northview Butternuts	Waukesha County T07N R19E Section 29 City of Waukesha	1	City of Waukesha	0	1
Lilly Heights Park Wetlands	Waukesha County T07N R20E Section 02 City of Brookfield	70	City of Brookfield	63	7
Deer Creek Habitat	Waukesha County T7N R20E Section 33 City of Brookfield	47	City of Brookfield	42	5
Ice Age Trail Skunk Cabbage Seep and Woods	Waukesha County T08N R18E Section 10 Town of Merton	20	Waukesha County	20	0
Westshore Road Woods	Waukesha County T8N R18E Section 20 Town of Merton	3	Private	3	0

Merton Ptelea Site	Waukesha County T08N R18E Section 21 Town of Merton	2	Private	0	2
Bark River Greenway	Waukesha County T08N R19E Section 04 Town of Lisbon	25	Private	24	1
Bugline Habitat Area	Waukesha County T08N R19E Section 17 Town of Lisbon	225	Town of Lisbon, Waukesha County	211	14
Sussex Marsh	Waukesha County T08N R19E Section 22 Village of Sussex and Town of Lisbon	51	Village of Sussex	49	2
Sussex Meadows	Waukesha County T08N R19E Section 28 Village of Sussex and Town of Lisbon	31	Village of Sussex	0	31
Devonwood Wetlands	Waukesha County T8N R20E Section 4 Village of Menomonee Falls and Village of Germantown	9	Village of Menomonee Falls	0	9
Lannon Road Ptelea Site	Waukesha County T08N R20E Section 07 Village of Menomonee Falls	1	Private	0	1
River's Edge Park Woods	Waukesha County T08N R20E Section 12 Village of Menomonee Falls	3	Village of Menomonee Falls	2	1
River Trail Habitat Area	Waukesha County T08N R20E Section 25 Village of Menomonee Falls	1	None	1	0
Regional Total				**9,955**	**4,884**

Note: WDNR refers to the Wisconsin Department of Natural Resources, MMSD refers to the Milwaukee Metropolitan Sewerage District, and OWLT refers to the Ozaukee-Washington Land Trust.

Source: SEWRPC

Table 4.6
Aquatic Area Assessment Scheme for Lakes: 2024 Regional Natural Areas Plan Update

Morphology

- Surface Area
  - +0: Fewer than 10 acres
  - +1: Between 10 and 100 acres
  - +2: Between 101 and 500 acres
  - +3: Over 500 acres
- Maximum Depth
  - +0: Fewer than 20 feet
  - +1: Between 20 and 50 feet
  - +2: Greater than 50 feet
- Natural Community Model
  - +0: Small, Impounded Flowing Water, Reservoir, Not Assigned
  - +1: Deep Headwater, Deep Lowland, Deep Seepage, Shallow Headwater, Shallow Lowland, Shallow Seepage
  - +2: Spring, Two-Story

Water Quality

- Impaired Waters
  - +0: On 303(d) list and not supporting Fish and Aquatic Life attainable use
  - +2: On 303(d) list but fully supporting Fish and Aquatic Life attainable use
  - +5: Not on 303(d) list
- Outstanding and Exceptional Resource Waters
  - +0: Not designated an Outstanding and Exceptional Resource Water
  - +2: Designated an Outstanding and Exceptional Resource Water

Aquatic Plants

- Macrophyte Bioassessment Model (Mikulyuk et al., 2017)
  - +0: Score of "Attaining" in less than 50 percent of surveys
  - +3: Score of "Attaining" in between 50 and 75 percent of surveys
  - +5: Score of "Attaining" in greater than 75 percent of surveys
- Mean Coefficient of Conservatism (Nichols, 1999)
  - +0: Less than 4
  - +1: Between 4 and 5
  - +2: Between 5 and 5.5
  - +3: Between 5.5 and 6
  - +4: Between 6 and 7
  - +5: Greater than 7
- Species Richness Divided by Log of Surface Area
  - +0: Less than 1
  - +1: Between 1 and 2
  - +2: Between 2 and 2.5
  - +3: Between 2.5 and 3.5
  - +4: Between 3.5 and 4.5
  - +5: Greater than 4.5
- Percent of Littoral Zone Points with Invasives
  - +0: Greater than 50 percent
  - +1: Between 25 and 50 percent
  - +2: Between 5 and 25 percent
  - +3: Between 2.5 and 3.5
  - +5: Less than 5 percent

Fisheries

- Lake Fishery Classification (Rypel et al., 2019)
  - +0: Simple-Harsh-No Fishery, Not Assigned
  - +2: Simple-Harsh-Has Fishery, Trout Pond

Table continued on next page

Fisheries (continued)

+5: Simple-Riverine, Simple-Cool-Dark, Simple-Warm-Clear, Simple-Warm-Dark

+10: Complex-Two Story, Complex-Warm-Clear, Complex-Riverine, Complex-Warm-Dark, Complex-Cool Dark, Simple-Two Story

Species Richness by Fishery Classification

+0: Simple and fewer than 4 species

+4: Simple and between 4 and 8 species

+8: Simple and between 8 and 16 species

+12: Simple and greater than 16 species

+0: Complex and fewer than 5 species

+4: Complex and between 5 and 14 species

+8: Complex and between 14 and 19 species

+12: Complex and greater than 19 species

Carp Presence

+0: Carp observed

+3: No carp observed

Riparian Buffer

Percent of 1,000-foot Buffer in Natural Land Uses

+0: Less than 50 percent

+2: Between 50 and 75 percent

+4: Between 75 and 95 percent

+6: Greater than 95 percent

Habitat Connectivity

Connection with Number of Natural Areas

+0: No connection to Natural Areas

+1: Connected to 1 Natural Area

+2: Connected to 2 Natural Areas

+3: Connected to 3 Natural Areas

Connection with Size of Natural Areas

+0: No connection to Natural Areas

+1: Connected to fewer than 100 acres of Natural Areas

+2: Connected to between 100 and 400 acres of Natural Areas

+3: Connected to between 400 and 1,000 acres of Natural Areas

+34 Connected to greater than 1,000 acres of Natural Areas

Connection with Other Aquatic Areas

+0: No connection to Natural Areas

+2: Connected to one other Aquatic Area

+3: Connected to more than one other Aquatic Areas

Connection with Size of Aquatic Areas

+0: No connection to Natural Areas

+1: Connected to fewer than 8,000 feet or 100 acres of other Aquatic Areas

+2: Connected to between 8,000 and 19,500 feet or between 100 and 200 acres of other Aquatic Areas

+4: Connected to between 19,500 and 45,000 feet or between 200 and 400 acres of other Aquatic Areas

+5: Connected to greater than 45,000 feet or 500 acres of Natural Areas

Rare Species

NHI-Listed Bird Species

+0: No rare species

+2: Rare species score of one

+3: Rare species score between one and three

+4: Rare species score of three or greater

NHI-Listed Fish Species

+0: No rare species

+2: Rare species score of one

+3: Rare species score between one and three

+4: Rare species score of three or greater

Table continued on next page

Rare Species (continued)
NHI-Listed Herptile Species
+0: No rare species
+2: Rare species score of one
+3: Rare species score between one and three
+4: Rare species score of three or greater
NHI-Listed Invertebrate Species
+0: No rare species
+2: Rare species score of one
+3: Rare species score between one and three
+4: Rare species score of three or greater
NHI-Listed Plant Species
+0: No rare species
+2: Rare species score of one
+3: Rare species score between one and three
+4: Rare species score of three or greater
Highest possible score: 100
Lowest possible score: 0

Source: SEWRPC

Table 4.7
Aquatic Area Assessment Scheme for Streams: 2024 Regional Natural Areas Plan Update

Morphology

- Road Crossings
  - +0: More than five crossings per mile
  - +1: Between one and five crossings per mile
  - +2: Less than one crossing per mile
- Sinuosity
  - +0: Less than 1.05
  - +1: Between 1.05 and 1.5
  - +2: Greater than or equal to 1.5
- Natural Community Model
  - +0: Macroinvertebrate, Not Assigned
  - +1: Cool-Warm Headwater, Cool-Cold Headwater
  - +2: Coldwater, Warm Mainstem, Warm Headwater, Cool-Warm Mainstem
  - +3: Cool-Cold Mainstem, Large River

Water Quality

- Impaired Waters
  - +0: On 303(d) list and not supporting Fish and Aquatic Life attainable use
  - +3: On 303(d) list, Fish and Aquatic Life attainable use support not assessed
  - +6: On 303(d) list but fully supporting Fish and Aquatic Life attainable use
  - +6: Not on 303(d) list
- Outstanding and Exceptional Resource Waters
  - +0: Not designated an Outstanding and Exceptional Resource Water
  - +2: Designated an Outstanding and Exceptional Resource Water

Macroinvertebrates

- Hilsenhoff's Biotic Index (
  - +0: Greater than 8.5
  - +2: Between 7.5 and 8.5
  - +4: Between 6.5 and 7.5
  - +6: Between 5.5 and 6.5
  - +9: Between 4.5 and 5.5
  - +12: Between 3.5 and 4.5
  - +15: Less than 3.5
- Taxa Richness
  - +0: Less than 16
  - +1: Between 16 and 22
  - +3: Between 22 and 30
  - +5: Greater than 30

Fisheries

- Index of Biotic Integrity (Lyons, 1996; Lyons, 2006; Lyons et al., 2009)
  - +0: Poor, Very Poor, Not Assigned
  - +5: Fair
  - +10: Good
  - +15: Excellent
- Species Richness
  - +0: Fewer than 5 species
  - +1: Between 5 and 10 species
  - +3: Between 10 and 15 species
  - +5: More than 15 species

Table continued on next page

Fisheries (continued)

Trout Stream Classification
- +0: Not a trout stream
- +1: Class III trout stream
- +2: Class II trout stream
- +3: Class I trout stream

Riparian Buffer

Percent of 1,000-foot Buffer in Natural Land Uses
- +0: Less than 50 percent
- +2: Between 50 and 75 percent
- +3: Between 75 and 95 percent
- +5: Greater than 95 percent

Habitat Connectivity

Connection with Number of Natural Areas
- +0: No connection to Natural Areas
- +1: Connected to 1 Natural Area
- +2: Connected to 2 Natural Areas
- +3: Connected to 3 Natural Areas

Connection with Size of Natural Areas
- +0: No connection to Natural Areas
- +1: Connected to fewer than 100 acres of Natural Areas
- +2: Connected to between 100 and 400 acres of Natural Areas
- +3: Connected to between 400 and 1,000 acres of Natural Areas
- +34 Connected to greater than 1,000 acres of Natural Areas

Connection with Other Aquatic Areas
- +0: No connection to Natural Areas
- +2: Connected to one other Aquatic Area
- +3: Connected to more than one other Aquatic Areas

Connection with Size of Aquatic Areas
- +0: No connection to Natural Areas
- +1: Connected to fewer than 8,000 feet or 100 acres of other Aquatic Areas
- +2: Connected to between 8,000 and 19,500 feet or between 100 and 200 acres of other Aquatic Areas
- +4: Connected to between 19,500 and 45,000 feet or between 200 and 400 acres of other Aquatic Areas
- +5: Connected to greater than 45,000 feet or 500 acres of Natural Areas

Rare Species

NHI-Listed Bird Species
- +0: No rare species
- +2: Rare species score of one
- +3: Rare species score between one and three
- +4: Rare species score of three or greater

NHI-Listed Fish Species
- +0: No rare species
- +2: Rare species score of one
- +3: Rare species score between one and three
- +4: Rare species score of three or greater

NHI-Listed Herptile Species
- +0: No rare species
- +2: Rare species score of one
- +3: Rare species score between one and three
- +4: Rare species score of three or greater

NHI-Listed Invertebrate Species
- +0: No rare species
- +2: Rare species score of one
- +3: Rare species score between one and three
- +4: Rare species score of three or greater

Table continued on next page

Rare Species (continued)
NHI-Listed Plant Species
+0: No rare species
+2: Rare species score of one
+3: Rare species score between one and three
+4: Rare species score of three or greater
Highest possible score: 100
Lowest possible score: 0

Source: SEWRPC

Table 4.8
Aquatic Natural Areas: 2024 Ranking Lakes

Lake Name	WBIC	County	Morphology Score	Water Quality Score	Aquatic Plant Score	Fisheries Score	Riparian Buffer Score	Habitat Connectivity Score	Rare Species Score	Total Score	Aquatic Area Rank
Lower Phantom Lake	765800	Waukesha	2	5	8	22	0	15	14	66	AQ1
Nagawicka Lake	828000	Waukesha	7	5	16	18	0	14	6	66	AQ1
Lulu Lake	768800	Walworth	3	7	16	13	4	9	12	64	AQ1
Lake Beulah	766600	Walworth	7	5	12	21	0	7	8	60	AQ1
Mud Lake	22100	Ozaukee	3	5	17	3	6	13	10	57	AQ1
Eagle Spring Lake	768600	Waukesha/Walworth	2	5	9	13	2	14	12	57	AQ1
Waubeesee Lake	760900	Racine	5	5	17	21	0	3	4	55	AQ1
Oconomowoc Lake	849600	Waukesha	7	5	17	22	0	0	4	55	AQ1
Geneva Lake	758300	Walworth	7	5	10	22	0	8	2	54	AQ1
Cedar Lake	25300	Washington	7	5	14	17	0	6	5	54	AQ1
Big Muskego Lake	762400	Waukesha	5	5	8	17	2	10	6	53	AQ1
Silver Lake	36200	Washington	4	5	16	16	0	3	8	52	AQ2
Pickerel Lake	767100	Walworth	3	5	11	12	4	6	9	50	AQ2
Turtle Lake	795100	Walworth	4	5	13	14	2	4	8	50	AQ2
Gilbert Lake	25600	Washington	2	5	10	12	4	13	4	50	AQ2
Ottawa Lake	822200	Waukesha	2	5	17	13	2	5	6	50	AQ2
Little Cedar Lake	25100	Washington	5	5	9	18	2	8	2	49	AQ2
Lowes Lake	852900	Washington	3	5	8	8	6	10	8	48	AQ2
Pike Lake	858300	Washington	4	5	11	14	2	7	5	48	AQ2
Okauchee Lake	850300	Waukesha	7	0	8	22	0	7	4	48	AQ2
Middle Lake	755700	Walworth	5	5	16	18	0	3	0	47	AQ2
Pleasant Lake	741500	Walworth	4	5	15	17	2	2	2	47	AQ2
Mill Lake	755600	Walworth	5	5	5	18	0	11	2	46	AQ2
North Lake	741200	Walworth	3	5	19	12	2	3	2	46	AQ2
Whitewater Lake	816800	Walworth	5	5	10	14	2	3	7	46	AQ2
Friess Lake	853200	Washington	4	0	7	22	0	5	8	46	AQ2
Green Lake	28100	Washington	3	5	15	13	2	6	2	46	AQ2
North Lake	850800	Waukesha	6	0	0	22	2	8	8	46	AQ2
Camp Lake	747100	Kenosha	3	5	9	18	0	6	4	45	AQ2
Phantom Lake	766000	Waukesha	4	0	12	18	0	7	4	45	AQ2
Lake Mary	743000	Kenosha	4	5	11	21	0	0	3	44	AQ2
Little Friess Lake	853100	Washington	3	5	9	13	2	4	8	44	AQ2
Silver Lake	747900	Kenosha	5	5	10	14	0	3	6	43	AQ3
Green Lake	755800	Walworth	5	5	9	18	0	6	0	43	AQ3
Ashippun Lake	854300	Waukesha	3	5	11	18	0	4	2	43	AQ3
Pine Lake	779200	Waukesha	7	5	7	17	2	0	5	43	AQ3

Table continued on next page

Lake Name	WBIC	County	Morphology Score	Water Quality Score	Aquatic Plant Score	Fisheries Score	Riparian Buffer Score	Habitat Connectivity Score	Rare Species Score	Total Score	Aquatic Area Rank
Wind Lake	761700	Racine	5	0	11	17	0	5	4	42	AQ3
Lake Denoon	761300	Racine/Waukesha	5	5	11	17	0	2	2	42	AQ3
Beaver Lake	774400	Waukesha	4	5	13	18	0	0	2	42	AQ3
Lower Nemahbin Lake	827000	Waukesha	4	5	13	14	0	2	4	42	AQ3
Pewaukee Lake	772000	Waukesha	5	5	6	14	0	3	9	42	AQ3
Huiras Lake	9600	Ozaukee	2	5	19	5	2	6	2	41	AQ3
Como Lake	757900	Walworth	4	5	7	13	2	6	4	41	AQ3
Lower Genesee Lake	778100	Waukesha	4	5	14	18	0	0	0	41	AQ3
Powers Lake	744200	Kenosha/Walworth	4	5	15	14	0	0	2	40	AQ3
Tombeau Lake	743800	Kenosha/Walworth	3	5	8	20	2	0	2	40	AQ3
Lake Wandawega	740700	Walworth	3	5	13	16	0	3	0	40	AQ3
Peters Lake	741400	Walworth	2	5	18	8	2	3	2	40	AQ3
Mueller Lake	778900	Washington	3	5	20	8	2	2	0	40	AQ3
Lac La Belle	848800	Waukesha	6	0	8	22	0	0	4	40	AQ3
Lower Nashotah Lake	827300	Waukesha	4	5	12	17	0	0	2	40	AQ3
Pretty Lake	779300	Waukesha	3	5	13	17	2	0	0	40	AQ3
Silver Lake	779800	Waukesha	4	5	9	16	0	2	4	40	AQ3

Source: SEWRPC

Table 4.9
Aquatic Natural Areas: 2024 Ranking Streams

Stream Name	WBIC	County(ies)	Reach ID	Morphology Score	Water Quality Score	Aquatic Plant Score	Fisheries Score	Riparian Buffer Score	Habitat Connectivity Score	Rare Species Score	Total Score	Aquatic Area Rank
Mukwonago River	765500	Waukesha	765500:398	5	8	12	18	3	14	13	73	AQ1
Bluff Creek	816100	Walworth	816100:290	5	7	13	15	2	8	12	62	AQ1
Scuppernong River	817600	Waukesha	817600:409	4	6	10	9	3	11	18	61	AQ1
Oconomowoc River	848200	Washington	848200:576	4	6	14	14	3	11	8	60	AQ1
East Branch Milwaukee River	36900	Washington	36900:715	5	7	15	18	3	4	7	59	AQ1
Jericho Creek	768300	Waukesha	768300:398	5	6	13	16	2	8	8	58	AQ1
Oconomowoc River	848200	Waukesha	848200:551	5	6	12	6	2	11	16	58	AQ1
Mukwonago River	765500	Waukesha	765500:463	4	6	9	20	2	7	8	56	AQ1
Whitewater Creek	813900	Walworth	813900:290	5	6	12	12	2	8	10	55	AQ1
Sugar Creek	752100	Walworth	752100:228	5	0	12	19	2	8	8	54	AQ1
South Branch Genesee River	3000069	Waukesha	3000069:436	4	6	17	10	3	6	6	52	AQ1
Pebble Brook	769500	Waukesha	769500:404	5	6	11	15	3	4	8	52	AQ1
Milwaukee River	15000	Ozaukee/Washington	15000:724	5	0	12	14	0	7	12	50	AQ1
North Branch Cedar Creek	22500	Ozaukee/Washington	22500:658	4	6	9	15	2	6	8	50	AQ1
Mukwonago River	765500	Walworth	765500:319	5	6	0	14	3	9	13	50	AQ1
Genesee Creek	769800	Waukesha	769800:436	4	8	12	17	2	4	3	50	AQ1
South Branch Scuppernong River	821200	Waukesha	821200:409	4	6	15	5	3	11	6	50	AQ1
Pebble Creek	771300	Waukesha	771300:463	4	6	12	16	0	4	7	49	AQ2
Menomonee River	16000	Milwaukee/Waukesha	16000:720	4	0	7	10	0	14	12	47	AQ2
Spring Brook	752400	Walworth	752400:228	4	6	15	11	0	6	5	47	AQ2
Spring Brook	770300	Waukesha	770300:416	4	6	15	17	3	2	0	47	AQ2
Little Oconomowoc River	851400	Washington/Waukesha	851400:571	3	6	12	5	3	10	8	47	AQ2
Mole Creek	26300	Ozaukee	26300:720	3	6	14	12	2	9	0	46	AQ2
North Branch Milwaukee River	27100	Ozaukee/Washington	27100:720	5	0	12	15	2	9	3	46	AQ2
Fox River	742500	Racine/Waukesha	742500:463	5	0	9	5	2	7	18	46	AQ2
Como Creek	757600	Walworth	757600:206	4	6	9	13	2	4	8	46	AQ2
Genesee Creek	769800	Waukesha	769800:463	4	6	12	19	2	0	3	46	AQ2
Bark River	813500	Waukesha	813500:534	4	6	7	14	0	7	8	46	AQ2
Root River	2900	Milwaukee/Racine/ Waukesha	2900:447	4	0	9	10	0	11	11	45	AQ2
Genesee Creek	769800	Waukesha	769800:418	3	7	15	16	2	0	2	45	AQ2
Bark River	813500	Waukesha	813500:470	5	6	7	5	2	7	13	45	AQ2
Stony Creek	28700	Washington	28700:720	4	6	12	18	0	4	0	44	AQ2
Scuppernong Creek	825600	Waukesha	825600:470	5	6	5	15	2	4	7	44	AQ2
Turtle Creek	790300	Walworth	790300:188	5	0	9	10	0	6	13	43	AQ2
Ashippun River	853800	Waukesha	853800:555	5	0	14	15	2	3	4	43	AQ2

Table continued on next page

Stream Name	WBIC		Reach ID	Morphology Score	Water Quality Score	Aquatic Plant Score	Fisheries Score	Riparian Buffer Score	Habitat Connectivity Score	Rare Species Score	Total Score	Aquatic Area Rank
Cedar Creek	21300	Ozaukee/Washington	21300:658	5	0	9	13	0	5	10	42	AQ2
Wallace Creek	27600	Washington	27600:720	4	6	12	15	2	0	3	42	AQ2
Honey Creek	751500	Racine/Walworth	751500:237	5	6	14	11	0	0	6	42	AQ2
Spring Valley Creek	756200	Walworth	756200:206	5	6	9	15	0	4	3	42	AQ2
Mukwonago River	765500	Walworth/Waukesha	765500:335	3	6	0	4	5	10	14	42	AQ2
Mill Brook	769400	Waukesha	769400:463	4	6	12	11	2	3	4	42	AQ2
Oconomowoc River	848200	Waukesha	848200:535	5	8	0	15	0	7	7	42	AQ2
Cedar Creek	21300	Washington	21300:633	4	0	10	10	3	11	2	40	AQ2
Cedar Creek	21300	Ozaukee	21300:720	5	6	12	14	0	0	3	40	AQ2
White River	751200	Racine/Walworth	751200:206	5	1	14	10	0	3	7	40	AQ2
Harris Creek	758500	Walworth	758500:102	1	6	12	3	3	10	5	40	AQ2
Scuppernong Creek	825600	Waukesha	825600:451	4	6	9	18	3	0	0	40	AQ2
Quas Creek	34900	Washington	34900:720	3	6	12	14	0	4	0	39	AQ3
North Branch Nippersink Creek	742700	Walworth	742700:74	4	6	12	11	0	3	3	39	AQ3
Bark River	813500	Washington/Waukesha	813500:569	3	6	7	12	2	3	6	39	AQ3
Battle Creek	848300	Waukesha	848300:488	4	2	12	14	2	5	0	39	AQ3
Milwaukee River	15000	Washington	15000:715	5	0	12	10	0	5	6	38	AQ3
Milwaukee River	15000	Milwaukee	15000:727	3	0	9	7	0	7	12	38	AQ3
Mud Lake Inlet Stream	22000	Ozaukee	22000:652	4	6	0	0	5	9	13	37	AQ3
Root River Canal	4300	Milwaukee/Racine	4300:447	4	0	9	13	2	9	0	37	AQ3
Pebble Brook	769500	Waukesha	769500:435	3	6	7	12	2	0	7	37	AQ3
Unnamed Trib. to Steel Brook	818600	Walworth	818600:334	4	6	9	5	2	7	4	37	AQ3
Allenton Creek	867100	Washington	867100:648	3	6	13	9	0	6	0	37	AQ3
Milwaukee River	15000	Milwaukee/Ozaukee	15000:726	5	3	9	13	0	3	3	36	AQ3
Sauk Creek	49500	Ozaukee	49500:705	4	0	7	12	0	11	2	36	AQ3
Mole Creek	5031399	Ozaukee	5031399:720	3	6	11	7	2	3	4	36	AQ3
Des Plaines River	734000	Kenosha/Racine	734000:202	5	0	9	7	0	6	9	36	AQ3
Lightbody Creek	758400	Walworth	758400:81	4	6	12	1	2	11	0	36	AQ3
Muskego Creek	762500	Waukesha	762500:388	4	6	9	0	0	11	6	36	AQ3
Paradise Springs Creek	821400	Waukesha	821400:409	4	6	0	5	5	7	9	36	AQ3
Oconomowoc River	848200	Washington	848200:603	4	6	12	2	2	6	4	36	AQ3
Unnamed Trib. to Oconomowoc	853000	Washington	853000:576	3	6	0	11	3	5	8	36	AQ3
Kohlsville River	865400	Washington	865400:709	3	0	12	13	2	6	0	36	AQ3
Underwood Creek	16700	Milwaukee/Waukesha	16700:720	3	0	9	7	0	13	3	35	AQ3
Cedar Creek	21300	Washington	21300:624	4	0	12	5	2	4	8	35	AQ3
Root River	2900	Racine	2900:235	4	0	7	10	0	10	4	35	AQ3
Unnamed Trib. to Sauk Creek	49600	Ozaukee	49600:705	4	6	10	1	0	10	4	35	AQ3
Fox River	742500	Kenosha/Racine	742500:223	6	0	9	3	0	6	11	35	AQ3
Fox River	742500	Waukesha	742500:549	3	3	7	4	2	9	7	35	AQ3
West Branch Nippersink Creek	744400	Walworth	744400:74	3	6	9	10	0	4	3	35	AQ3

Table continued on next page

Stream Name	WBIC		Reach ID	Morphology Score	Water Quality Score	Aquatic Plant Score	Fisheries Score	Riparian Buffer Score	Habitat Connectivity Score	Rare Species Score	Total Score	Aquatic Area Rank
Unnamed Trib. to Jericho Creek	768400	Waukesha	768400:398	4	6	10	5	2	6	2	35	AQ3
Pike River	1300	Kenosha	1300:230	5	0	7	7	0	12	3	34	AQ3
Pigeon Creek	20500	Ozaukee	20500:720	3	6	10	4	2	5	4	34	AQ3
Mud Lake Outlet Stream	22000	Ozaukee	22000:658	3	6	4	0	2	10	9	34	AQ3
Spring Valley Creek	756200	Racine/Walworth	756200:181	4	6	0	15	3	4	2	34	AQ3
Unnamed Trib. to Mukwonago	767600	Walworth/Waukesha	767600:398	4	6	0	0	5	10	9	34	AQ3
Pewaukee River	771700	Waukesha	771700:549	4	6	9	8	0	2	5	34	AQ3
Darien Creek	791800	Walworth	791800:131	4	6	12	3	0	2	7	34	AQ3
Unnamed Trib. to Turtle Creek	792800	Walworth	792800:188	4	6	10	3	2	0	9	34	AQ3
Coney River	853400	Washington	853400:603	3	6	5	5	0	5	10	34	AQ3
Unnamed Trib. to Allenton Creek	867200	Washington	867200:648	4	6	16	0	0	6	2	34	AQ3

Source: SEWRPC

Table AQ.LakesCurrentRanks
Aquatic Natural Areas: 2024 Ranking Lakes

Lake Name	County	WBIC	Current Rank	Original Rank
Benedict Lake	Kenosha/Walworth	743900	Not Ranking	AQ2
Benet Lake	Kenosha	734800	Not Ranking	AQ3
Camp Lake	Kenosha	747100	AQ2	AQ3
Center Lake	Kenosha	747300	Not Ranking	AQ3
Cross Lake	Kenosha	746500	Not Ranking	AQ3
Cull Lake	Kenosha	748100	Not Ranking	Not Ranking
Dyer Lake	Kenosha	751100	Not Ranking	AQ2
Elizabeth Lake	Kenosha	742800	Not Ranking	AQ2
Flanagan Lake	Kenosha	748800	Not Ranking	Not Ranking
Friendship Lake	Kenosha	739500	Not Ranking	AQ3
George Lake	Kenosha	735100	Not Ranking	AQ3
Hooker Lake	Kenosha	738400	Not Ranking	AQ3
Juniper Lake	Kenosha	740000	Not Ranking	Not Ranking
Lake Andrea	Kenosha	733850	Not Ranking	Not Ranking
Lake Mary	Kenosha	743000	AQ2	AQ2
Lake Shangrila	Kenosha	734700	Not Ranking	AQ3
League Lake	Kenosha	738700	Not Ranking	Not Ranking
Lilly Lake	Kenosha	740900	Not Ranking	Not Ranking
Montgomery Lake	Kenosha	738200	Not Ranking	AQ3
Mud Lake	Kenosha	734500	Not Ranking	AQ3
Paasch Lake	Kenosha	735600	Not Ranking	Not Ranking
Paddock Lake	Kenosha	737900	Not Ranking	AQ3
Peat Lake	Kenosha	746900	Not Ranking	AQ2
Powers Lake	Kenosha/Walworth	744200	AQ3	AQ3
River Oaks Lake	Kenosha	733840	Not Ranking	Not Ranking
Rock Lake	Kenosha	746000	Not Ranking	AQ3
Silver Lake	Kenosha	747900	AQ3	AQ2
Tombeau Lake	Kenosha/Walworth	743800	AQ3	AQ3
Vern Wolf Lake	Kenosha	739100	Not Ranking	AQ3
Voltz Lake	Kenosha	746300	Not Ranking	AQ3
Juneau Park Lagoon	Milwaukee	44600	Not Ranking	Not Ranking
Koepmier Lake	Milwaukee	5900	Not Ranking	Not Ranking
Monastery Lake	Milwaukee	7500	Not Ranking	Not Ranking
Whitnall Park Pond	Milwaukee	7300	Not Ranking	Not Ranking
Cedarburg Pond 121	Ozaukee	21700	Not Ranking	Not Ranking
Daly Lake	Ozaukee	34100	Not Ranking	Not Ranking
Grafton Millpond	Ozaukee	26200	Not Ranking	Not Ranking
Horn Lake	Ozaukee	9500	Not Ranking	AQ2
Huiras Lake	Ozaukee	9600	AQ3	AQ3
Long Lake	Ozaukee	22200	Not Ranking	AQ1
Ludowissi Lake	Ozaukee	49800	Not Ranking	Not Ranking
Mud Lake	Ozaukee	22100	AQ1	AQ1
Spring Lake	Ozaukee/Sheboygan	30500	Not Ranking	AQ3
Thiensville Millpond	Ozaukee	21000	Not Ranking	Not Ranking
Unnamed	Ozaukee	12500	Not Ranking	Not Ranking
Unnamed	Ozaukee	12600	Not Ranking	AQ3
Unnamed	Ozaukee	20300	Not Ranking	Not Ranking
Unnamed	Ozaukee	26750	Not Ranking	Not Ranking
Unnamed	Ozaukee	46800	Not Ranking	Not Ranking
Bisanabi Lake	Racine	740300	Not Ranking	Not Ranking
Bohner Lake	Racine	750800	Not Ranking	AQ3
Brock Lake	Racine	759400	Not Ranking	AQ3
Browns Lake	Racine	750300	Not Ranking	AQ3
Eagle Lake	Racine	759800	Not Ranking	AQ3
Echo Lake	Racine	751400	Not Ranking	Not Ranking
Gravel Pit Lake	Racine	100	Not Ranking	Not Ranking

Table continued on next page

Lake Name	County	WBIC	Current Rank	Original Rank
Lake Denoon	Racine/Waukesha	761300	AQ3	AQ3
Leda Lake	Racine	759200	Not Ranking	AQ3
Long Lake	Racine	759000	Not Ranking	AQ2
Long Lake	Racine	761100	Not Ranking	AQ2
Quarry Lake	Racine	400	Not Ranking	AQ3
Rockland Lake	Racine	741600	Not Ranking	Not Ranking
Tichigan Lake	Racine	763600	Not Ranking	AQ2
Tichigan Lake	Racine	763600	Not Ranking	AQ2
Waubeesee Lake	Racine	760900	AQ1	AQ2
Wind Lake	Racine	761700	AQ3	AQ2
Army Lake	Walworth	740200	Not Ranking	AQ3
Booth Lake	Walworth	740400	Not Ranking	AQ3
Como Lake	Walworth	757900	AQ3	AQ3
Comus Lake	Walworth	794200	Not Ranking	AQ2
Congdon Pond	Walworth	781250	Not Ranking	Not Ranking
Cravath Lake	Walworth	815200	Not Ranking	AQ3
Delavan Lake	Walworth	793600	Not Ranking	Not Ranking
East Troy Pond (Trent)	Walworth	754400	Not Ranking	Not Ranking
Elkhorn Lake	Walworth	794000	Not Ranking	Not Ranking
Geneva Lake	Walworth	758300	AQ1	AQ2
Goose Pond	Walworth	744800	Not Ranking	Not Ranking
Green Lake	Walworth	755800	AQ3	AQ3
Hilburn Pond	Walworth	754200	Not Ranking	Not Ranking
Honey Lake (Vienna)	Walworth	752300	Not Ranking	AQ3
La Grange Lake	Walworth	818700	Not Ranking	Not Ranking
Lake Beulah	Walworth	766600	AQ1	AQ1
Lake Ivanhoe	Walworth	756700	Not Ranking	AQ3
Lake Lorraine	Walworth	777500	Not Ranking	AQ3
Lake Number Ten	Walworth	777600	Not Ranking	AQ3
Lake Wandawega	Walworth	740700	AQ3	AQ3
Lulu Lake	Walworth	768800	AQ1	AQ1
Middle Lake	Walworth	755700	AQ2	AQ3
Mill Lake	Walworth	755600	AQ2	AQ2
North Lake	Walworth	741200	AQ2	Not Ranking
Pell Lake	Walworth	743600	Not Ranking	Not Ranking
Peterkin Pond	Walworth	745200	Not Ranking	Not Ranking
Peters Lake	Walworth	741400	AQ3	AQ3
Pickerel Lake	Walworth	767100	AQ2	AQ1
Pleasant Lake	Walworth	741500	AQ2	AQ2
Potter Lake	Walworth	753800	Not Ranking	AQ3
Rice Lake	Walworth	816600	Not Ranking	AQ3
Silver Lake	Walworth	741700	Not Ranking	AQ3
Swan Lake	Walworth	766900	Not Ranking	AQ3
Swift Lake	Walworth	741800	Not Ranking	AQ3
Tripp Lake (Trapp)	Walworth	816000	Not Ranking	AQ2
Turtle Lake	Walworth	795100	AQ2	AQ2
Unnamed	Walworth	741900	Not Ranking	Not Ranking
Unnamed	Walworth	744500	Not Ranking	Not Ranking
Unnamed	Walworth	756600	Not Ranking	Not Ranking
Unnamed	Walworth	758100	Not Ranking	Not Ranking
Unnamed	Walworth	767200	Not Ranking	AQ3
Unnamed	Walworth	780800	Not Ranking	Not Ranking
Unnamed	Walworth	5577736	Not Ranking	AQ3
Whitewater Lake	Walworth	816800	AQ2	AQ3
Amy Bell Lake	Washington	774000	Not Ranking	AQ3
Bark Lake	Washington	828600	Not Ranking	AQ3
Barton Pond	Washington	35400	Not Ranking	Not Ranking
Beck Lake	Washington	851700	Not Ranking	AQ2
Cedar Lake	Washington	25300	AQ1	AQ1
Druid Lake	Washington	855200	Not Ranking	AQ3

Table continued on next page

Lake Name	County	WBIC	Current Rank	Original Rank
Ehne Lake	Washington	27900	Not Ranking	Not Ranking
Erler Lake	Washington	27500	Not Ranking	Not Ranking
Friess Lake	Washington	853200	AQ2	AQ3
Gilbert Lake	Washington	25600	AQ2	AQ1
Green Lake	Washington	28100	AQ2	AQ3
Hasmer Lake	Washington	24000	Not Ranking	AQ3
Hickey Lake	Washington	776700	Not Ranking	Not Ranking
Lake Five	Washington/ Waukesha	777400	Not Ranking	AQ3
Lake Lenwood	Washington	28600	Not Ranking	Not Ranking
Lake Twelve	Washington	29700	Not Ranking	AQ3
Little Cedar Lake	Washington	25100	AQ2	AQ2
Little Friess Lake	Washington	853100	AQ2	AQ2
Lowes Lake	Washington	852900	AQ2	AQ1
Lucas Lake	Washington	35900	Not Ranking	AQ2
McConville Lake	Washington	851800	Not Ranking	AQ2
Monches Millpond	Washington/ Waukesha	852600	Not Ranking	Not Ranking
Mud Lake	Washington	853600	Not Ranking	AQ3
Mueller Lake	Washington	778900	AQ3	AQ3
Murphy Lake	Washington	852000	Not Ranking	AQ2
Pike Lake	Washington	858300	AQ2	AQ2
Silver Lake	Washington	36200	AQ2	AQ2
Smith Lake	Washington	36700	Not Ranking	AQ2
Tilly Lake	Washington	24100	Not Ranking	AQ3
Unnamed	Washington	787700	Not Ranking	Not Ranking
Wallace Lake	Washington	28300	Not Ranking	Not Ranking
Applebecker Millpond	Waukesha	827700	Not Ranking	Not Ranking
Ashippun Lake	Waukesha	854300	AQ3	AQ2
Bass Bay Lake	Waukesha	763200	Not Ranking	AQ3
Beaver Dam Lake	Waukesha	774300	Not Ranking	Not Ranking
Beaver Lake	Waukesha	774400	AQ3	AQ3
Big Muskego Lake	Waukesha	762400	AQ1	AQ2
Bowron Lake	Waukesha	774600	Not Ranking	AQ3
Brown Lake	Waukesha	768200	Not Ranking	Not Ranking
Cornell Lake	Waukesha	851000	Not Ranking	Not Ranking
Crooked Lake	Waukesha	826800	Not Ranking	AQ2
Crystal Lake	Waukesha	7215141	Not Ranking	Not Ranking
Duck Lake	Waukesha	775500	Not Ranking	AQ3
Dumkes Lake	Waukesha/Milwaukee	5200	Not Ranking	Not Ranking
Dutchman Lake	Waukesha	826400	Not Ranking	AQ2
Eagle Spring Lake	Waukesha/Walworth	768600	AQ1	AQ2
Florence Lake	Waukesha	775700	Not Ranking	Not Ranking
Forest Lake	Waukesha	775800	Not Ranking	AQ3
Fowler Lake	Waukesha	849400	Not Ranking	AQ3
Garvin Lake	Waukesha	850700	Not Ranking	Not Ranking
Golden Lake	Waukesha/Jefferson	775900	Not Ranking	AQ2
Grass Lake	Waukesha	775200	Not Ranking	Not Ranking
Henrietta Lake	Waukesha	776600	Not Ranking	AQ3
Lac La Belle	Waukesha	848800	AQ3	AQ3
Lake Keesus	Waukesha	852400	Not Ranking	AQ3
Lannon County Park Pond	Waukesha	740800	Not Ranking	Not Ranking
Larkin Lake	Waukesha	777700	Not Ranking	AQ3
Little Muskego Lake	Waukesha	762700	Not Ranking	Not Ranking
Lower Genesee Lake	Waukesha	778100	AQ3	AQ3
Lower Nashotah Lake	Waukesha	827300	AQ3	AQ2
Lower Nemahbin Lake	Waukesha	827000	AQ3	AQ2
Lower Phantom Lake	Waukesha	765800	AQ1	AQ1
Merton Millpond	Waukesha	828200	Not Ranking	AQ2
Middle Genesee Lake	Waukesha	778300	Not Ranking	AQ3
Monterey Millpond	Waukesha	854100	Not Ranking	Not Ranking
Moose Lake	Waukesha	778400	Not Ranking	AQ3

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Lake Name	County	WBIC	Current Rank	Original Rank
Nagawicka Lake	Waukesha	828000	AQ1	AQ1
North Lake	Waukesha	850800	AQ2	AQ2
Oconomowoc Lake	Waukesha	849600	AQ1	AQ2
Okauchee Lake	Waukesha	850300	AQ2	AQ2
Ottawa Lake	Waukesha	822200	AQ2	AQ2
Pewaukee Lake	Waukesha	772000	AQ3	AQ2
Phantom Lake	Waukesha	766000	AQ2	AQ1
Pine Lake	Waukesha	779200	AQ3	AQ2
Pretty Lake	Waukesha	779300	AQ3	Not Ranking
Rainbow Springs Lake	Waukesha	768000	Not Ranking	AQ3
Reagan Lake	Waukesha	783700	Not Ranking	AQ3
Reagon Lake	Waukesha	779400	Not Ranking	AQ3
Roxy Pond	Waukesha	767400	Not Ranking	Not Ranking
Saratoga Lake	Waukesha	771600	Not Ranking	Not Ranking
Saylesville Millpond	Waukesha	770100	Not Ranking	AQ3
School Section Lake	Waukesha	825000	Not Ranking	AQ2
Scuppernong Creek Pond	Waukesha	826000	Not Ranking	Not Ranking
Silver Lake	Waukesha	779800	AQ3	AQ2
Spring Lake	Waukesha	770600	Not Ranking	AQ2
Spring Lake	Waukesha	780100	Not Ranking	AQ3
Tamarack Lake	Waukesha	780600	Not Ranking	Not Ranking
Tierney Lake	Waukesha	850500	Not Ranking	Not Ranking
Unnamed	Waukesha	12025	Not Ranking	Not Ranking
Unnamed	Waukesha	742275	Not Ranking	Not Ranking
Unnamed	Waukesha	764300	Not Ranking	Not Ranking
Unnamed	Waukesha	772600	Not Ranking	Not Ranking
Unnamed	Waukesha	785400	Not Ranking	Not Ranking
Unnamed	Waukesha	785700	Not Ranking	Not Ranking
Unnamed	Waukesha	849800	Not Ranking	Not Ranking
Upper Genesee Lake	Waukesha	788500	Not Ranking	AQ3
Upper Nashotah Lake	Waukesha	827500	Not Ranking	AQ2
Upper Nemahbin Lake	Waukesha	827100	Not Ranking	AQ2
Upper Oconomowoc Lake	Waukesha	850100	Not Ranking	Not Ranking
Utica Lake	Waukesha	825800	Not Ranking	AQ3
Waterville Lake	Waukesha	826600	Not Ranking	AQ3
Willow Springs Lake	Waukesha	770500	Not Ranking	AQ3
Wood Lake	Waukesha	766200	Not Ranking	AQ3

Source: SEWRPC

Table 4.11
Comparison of SEWRPC 2024 Aquatic Areas and 1997 Aquatic Areas: Streams

Stream Name	WBIC	1997 Assessment		2024 Assessment	
		Maximum Aquatic Area Rank	Number of Ranking Reaches	Maximum Aquatic Area Rank	Number of Ranking Reaches
Milwaukee River	15000	AQ1	12	AQ1	4
North Branch Cedar Creek	22500	AQ3	1	AQ1	1
East Branch Milwaukee River	36900	AQ2	1	AQ1	1
Sugar Creek	752100	AQ3	1	AQ1	1
Mukwonago River	765500	AQ1	3	AQ1	4
Jericho Creek	768300	AQ2	1	AQ1	1
Pebble Brook	769500	AQ3	1	AQ1	2
Genesee Creek	769800	AQ2	1	AQ1	3
Whitewater Creek	813900	AQ3	1	AQ1	1
Bluff Creek	816100	AQ1	1	AQ1	1
Scuppernong River	817600	AQ2	1	AQ1	1
Oconomowoc River	848200	AQ1	6	AQ1	4
Root River	2900	AQ3	5	AQ2	2
Menomonee River	16000	AQ3	7	AQ2	1
Cedar Creek	21300	AQ1	5	AQ2	4
North Branch Milwaukee River	27100	AQ2	1	AQ2	1
Wallace Creek	27600	AQ2	1	AQ2	1
Stony Creek	28700	AQ3	1	AQ2	1
Fox River	742500	AQ1	7	AQ2	3
White River	751200	AQ2	1	AQ2	1
Honey Creek	751500	AQ3	2	AQ2	1
Spring Brook	752400	AQ3	1	AQ2	1
Spring Valley Creek	756200	AQ3	1	AQ2	2
Mill Brook	769400	AQ2	1	AQ2	1
Spring Brook	770300	AQ2	1	AQ2	1
Pebble Creek	771300	AQ3	1	AQ2	1
Turtle Creek	790300	AQ2	3	AQ2	1
Bark River	813500	AQ1	3	AQ2	3
Scuppernong Creek	825600	AQ2	1	AQ2	2
Little Oconomowoc River	851400	AQ3	1	AQ2	1
Ashippun River	853800	AQ3	4	AQ2	1
Pike River	1300	AQ3	1	AQ3	1
Pigeon Creek	20500	AQ2	1	AQ3	1
Unnamed	22000	Not Ranking	0	AQ3	2
Quas Creek	34900	AQ3	1	AQ3	1
Des Plaines River	734000	AQ3	2	AQ3	1
North Branch Nippersink Creek	742700	AQ3	1	AQ3	1
West Branch Nippersink Creek	744400	AQ3	1	AQ3	1
Pewaukee River	771700	AQ3	1	AQ3	1
Darien Creek	791800	AQ3	1	AQ3	1
Kohlsville River	865400	AQ3	1	AQ3	1
Allenton Creek	867100	AQ2	1	AQ3	1
Pike Creek	1200	AQ3	1	Not Ranking	0
Husher Creek	3500	AQ3	1	Not Ranking	0
Unnamed	6200	AQ3	1	Not Ranking	0
Goldendale Creek	18900	AQ3	1	Not Ranking	0
Unnamed	23300	AQ3	1	Not Ranking	0
Unnamed	34000	AQ1	1	Not Ranking	0
Silver Creek	35500	AQ3	1	Not Ranking	0
Kewaskum Creek	39800	AQ3	1	Not Ranking	0
Fish Creek	44700	AQ3	1	Not Ranking	0
Kilbourn Road Ditch	736900	AQ3	1	Not Ranking	0
Brighton Creek	737400	AQ3	1	Not Ranking	0

Table continued on next page

Stream Name	WBIC	1997 Assessment		2024 Assessment	
		Maximum Aquatic Area Rank	Number of Ranking Reaches	Maximum Aquatic Area Rank	Number of Ranking Reaches
Salem Branch	737500	AQ3	1	Not Ranking	0
Bassett Creek	748200	AQ3	1	Not Ranking	0
Palmer Creek	748300	AQ3	1	Not Ranking	0
Peterson Creek	748500	AQ3	1	Not Ranking	0
New Munster Creek	748900	AQ3	1	Not Ranking	0
Spring Creek	753900	AQ3	1	Not Ranking	0
Southwick Creek	758600	AQ2	1	Not Ranking	0
Potawatomi Creek	758700	AQ2	1	Not Ranking	0
Van Slyke Creek	758800	AQ2	1	Not Ranking	0
Eagle Creek	759500	AQ3	2	Not Ranking	0
Muskego Canal	761800	AQ3	1	Not Ranking	0
Mill Creek	769700	AQ3	1	Not Ranking	0
Brandy Brook	771400	AQ3	1	Not Ranking	0
Unnamed	772100	AQ3	1	Not Ranking	0
Poplar Creek	772800	AQ3	1	Not Ranking	0
Little Turtle Creek	791700	AQ3	1	Not Ranking	0
Ladd Creek	792400	AQ3	1	Not Ranking	0
Steel Brook	817800	AQ3	1	Not Ranking	0
Rosenow Creek	848900	AQ3	1	Not Ranking	0
Mason Creek	851100	AQ2	1	Not Ranking	0
Rubicon River	856500	AQ3	2	Not Ranking	0
East Branch Rock River	861400	AQ3	2	Not Ranking	0
Limestone Creek	866800	AQ3	1	Not Ranking	0
Wayne Creek	865800	AQ3	1	Not Ranking	0
North Branch Menomonee River	5033314	AQ3	1	Not Ranking	0

Source: WDNR and SEWRPC

Table 4.12
2015-2025 Wisconsin Wildlife Action Plan Species of Greatest Conservation Need

Ecological Landscape	Natural Community	Taxa	Common Name	Scientific Name
Southeast Glacial Plains	Small Lake	Birds	Black Tern	*Chlidonias niger*
		Herptiles	Blanding's Turtle	*Emydoidea blandingii*
			Eastern Ribbonsnake	*Thamnophis saurita*
			Northern Cricket Frog	*Acris crepitans*
		Mammals	Big Brown Bat	*Eptesicus fuscus*
			Little Brown Bat	*Myotis lucifugus*
			Northern Long-eared Bat	*Myotis septentrionalis*
			Silver-haired Bat	*Lasionycteris noctivagans*
		Insects	Mottled Darner	*Aeshna clepsydra*
			Unicorn Clubtail	*Arigomphus villosipes*
			Giant Diving Beetle	*Cybister fimbriolatus*
			Double-striped Bluet	*Enallagma basidens*
			Pronghorn Clubtail	*Gomphus graslinellus*
			A Predaceous Diving Beetle	*Hygrotus farctus*
			A Predaceous Diving Beetle	*Ilybius confusus*
			Slatly Skimmer	*Libellula incesta*
			Acuminate Water Boatman	*Ramphocorixa acuminata*
			A Predaceous Diving Beetle	*Thermonectus basilaris*
	Warmwater Rivers	Birds	Black-crowned Night Heron	*Nycticorax nycticorax*
			Yellow-crowned Night Heron	*Nyctanassa violacea*
		Fish	Black Buffalo	*Ictiobus niger*
			Gravel Chub	*Erimystax x-punctatus*
			Lake Sturgeon	*Acipenser fulvescens*
			Redfin Shiner	*Lythrurus umbratilis*
			River Redhorse	*Moxostoma carinatum*
			Starhead Topminnow	*Fundulus dispar*
		Herptiles	Blanding's Turtle	*Emydoidea blandingii*
			Eastern Massasauga	*Sistrurus catenatus*
			Northern Cricket Frog	*Acris crepitans*
			Queensnake	*Regina septemvittata*
		Mammals	Big Brown Bat	*Eptesicus fuscus*
			Eastern Pipistrelle	*Perimyotis subflavus*
			Little Brown Bat	*Myotis lucifugus*
			Northern Long-eared Bat	*Myotis septentrionalis*
			Silver-haired Bat	*Lasionycteris noctivagans*
		Insects	Pecatonica River Mayfly	*Acanthametropus pecatonica*
			Fox Small Square-gilled Mayfly	*Cercobrachys fox*
			Wisconsin Small Square-grilled Mayfly	*Cercobrachys lilliei*
			Winnebago Small Square-grilled Mayfly	*Cercobrachys winnebago*
			Smoky Rubyspot	*Hetaerina titia*
			A Brush-Legged Mayfly	*Homoeoneuria ammophila*
			Slatly Skimmer	*Libellula incesta*
			A Small Minnow Mayfly	*Paracloeodes minutus*
			A Common Burrower Mayfly	*Pentagenia vittigera*
			Douglas Stenelmis Riffle Beetle	*Stenelmis douglasensis*
			A Riffle Beetle	*Stenelmis fuscata*
			A Riffle Beetle	*Stenelmis musgravei*
			A Riffle Beetle	*Stenelmis quadrimaculata*
			Seaside Grasshopper	*Trimerotropis maritima*
		Mussels and Clams	Elktoe	*Alasmidonta marginata*
			Slippershell Mussel	*Alasmidonta viridis*
			Mapleleaf	*Quadrula quadrula*
			Buckhorn	*Tritogonia verrucosa*
			Ellipse	*Venustaconcha ellipsiformis*

	Warmwater Streams	Fish	Gravel Chub	*Erimystax x-punctatus*
			Lake Chubsucker	*Erimyzon sucetta*
			Least Darter	*Etheostoma microperca*
			Longear Sunfish	*Lepomis megalotis*
			Ozark Minnow	*Notropis nubilus*
			Pugnose Shiner	*Notropis anogenus*
			Redfin Shiner	*Lythrurus umbratilis*
			Slender Madtom	*Noturus exilis*
			Starhead Topminnow	*Fundulus dispar*
		Herptiles	Blanding's Turtle	*Emydoidea blandingii*
			Northern Cricket Frog	*Acris crepitans*
			Plains Gartersnake	*Thamnophis radix*
			Queensnake	*Regina septemvittata*
		Mammals	Big Brown Bat	*Eptesicus fuscus*
			Eastern Pipistrelle	*Perimyotis subflavus*
			Little Brown Bat	*Myotis lucifugus*
			Northern Long-eared Bat	*Myotis septentrionalis*
			Silver-haired Bat	*Lasionycteris noctivagans*
		Insects	Robust Dubiraphian Riffle Beetle	*Dubiraphia robusta*
			Double-striped Bluet	*Enallagma basidens*
			Swamp Darner	*Epiaeschna heros*
			Pronghorn Clubtail	*Gomphus graslinellus*
			Smoky Rubyspot	*Hetaerina titia*
			A Brush-Legged Mayfly	*Homoeoneuria ammophila*
			A Predaceous Diving Beetle	*Ilybius confusus*
			A Small Minnow Mayfly	*Paracloeodes minutus*
			A Riffle Beetle	*Stenelmis sexlineata*
		Mussels and Clams	Elktoe	*Alasmidonta marginata*
			Slippershell Mussel	*Alasmidonta viridis*
			Mapleleaf	*Quadrula quadrula*
			Buckhorn	*Tritogonia verrucosa*
			Ellipse	*Venustaconcha ellipsiformis*
Southern Lake Michigan Coastal	Lake Michigan	Fish	Lake Sturgeon	*Acipenser fulvescens*
		Mammals	Big Brown Bat	*Eptesicus fuscus*
			Little Brown Bat	*Myotis lucifugus*
		Insects	Hairy-Necked Tiger Beetle	*Cicindela hirticollis rhodensis*
			Seaside Grasshopper	*Trimerotropis maritima*
	Warmwater Streams	Fish	Longear Sunfish	*Lepomis megalotis*
			Redfin Shiner	*Lythrurus umbratilis*
			Striped Shiner	*Luxilus chrysocephalus*
		Herptiles	Blanding's Turtle	*Emydoidea blandingii*
			Plains Gartersnake	*Thamnophis radix*
			Queensnake	*Regina septemvittata*
		Mammals	Big Brown Bat	*Eptesicus fuscus*
			Eastern Pipistrelle	*Perimyotis subflavus*
			Little Brown Bat	*Myotis lucifugus*
		Insects	Double-striped Bluet	*Enallagma basidens*
			Swamp Darner	*Epiaeschna heros*
			Pronghorn Clubtail	*Gomphus graslinellus*
			Smoky Rubyspot	*Hetaerina titia*
			A Hydroporus Diving Beetle	*Heterosternuta wickhami*
			Plains Emerald	*Somatochlora ensigera*
		Mussels and Clams	Slippershell Mussel	*Alasmidonta viridis*
			Ellipse	*Venustaconcha ellipsiformis*
			Rainbowshell	*Villosa iris*

Source: WDNR and SEWRPC

Table 4.13
Comparison of SEWRPC 2024 Aquatic Areas and 2022 WDNR High-Quality Waters: Lakes

Lake Name	County	WBIC	Aquatic Area	High Quality Water
Camp Lake	747100	Kenosha	AQ2	Not HQW
Lake Mary	743000	Kenosha	AQ2	Not HQW
Lilly Lake	740900	Kenosha	Not Ranking	HQW
Silver Lake	747900	Kenosha	AQ3	HQW
Powers Lake	744200	Kenosha/Walworth	AQ3	Not HQW
Tombeau Lake	743800	Kenosha/Walworth	AQ3	Not HQW
Huiras Lake	9600	Ozaukee	AQ3	HQW
Mud Lake	22100	Ozaukee	AQ1	HQW
Browns Lake	750300	Racine	Not Ranking	HQW
Lake Denoon	761300	Racine/Waukesha	AQ3	Not HQW
Waubeesee Lake	760900	Racine	AQ1	Not HQW
Wind Lake	761700	Racine	AQ3	Not HQW
Booth Lake	740400	Walworth	Not Ranking	HQW
Como Lake	757900	Walworth	AQ3	Not HQW
Geneva Lake	758300	Walworth	AQ1	HQW
Green Lake	755800	Walworth	AQ3	Not HQW
Lake Beulah	766600	Walworth	AQ1	HQW
Lake Wandawega	740700	Walworth	AQ3	HQW
Lulu Lake	768800	Walworth	AQ1	HQW
Middle Lake	755700	Walworth	AQ2	HQW
Mill Lake	755600	Walworth	AQ2	Not HQW
North Lake	741200	Walworth	AQ2	Not HQW
Peters Lake	741400	Walworth	AQ3	Not HQW
Pickerel Lake	767100	Walworth	AQ2	Not HQW
Pleasant Lake	741500	Walworth	AQ2	HQW
Turtle Lake	795100	Walworth	AQ2	HQW
Whitewater Lake	816800	Walworth	AQ2	HQW
Cedar Lake	25300	Washington	AQ1	HQW
Druid Lake	855200	Washington	Not Ranking	HQW
Friess Lake	853200	Washington	AQ2	Not HQW
Gilbert Lake	25600	Washington	AQ2	Not HQW
Green Lake	28100	Washington	AQ2	HQW
Little Cedar Lake	25100	Washington	AQ2	Not HQW
Little Friess Lake	853100	Washington	AQ2	Not HQW
Lowes Lake	852900	Washington	AQ2	Not HQW
Mueller Lake	778900	Washington	AQ3	Not HQW
Pike Lake	858300	Washington	AQ2	HQW
Silver Lake	36200	Washington	AQ2	HQW
Ashippun Lake	854300	Waukesha	AQ3	Not HQW
Beaver Lake	774400	Waukesha	AQ3	HQW
Big Muskego Lake	762400	Waukesha	AQ1	Not HQW
Eagle Spring Lake	768600	Waukesha/Walworth	AQ1	HQW
Fowler Lake	849400	Waukesha	Not Ranking	HQW
Golden Lake	775900	Waukesha	Not Ranking	HQW
Lac La Belle	848800	Waukesha	AQ3	Not HQW
Little Muskego Lake	762700	Waukesha	Not Ranking	HQW
Lower Genesee Lake	778100	Waukesha	AQ3	Not HQW
Lower Nashotah Lake	827300	Waukesha	AQ3	HQW
Lower Nemahbin Lake	827000	Waukesha	AQ3	Not HQW
Lower Phantom Lake	765800	Waukesha	AQ1	Not HQW
Nagawicka Lake	828000	Waukesha	AQ1	HQW
North Lake	850800	Waukesha	AQ2	Not HQW
Oconomowoc Lake	849600	Waukesha	AQ1	HQW
Okauchee Lake	850300	Waukesha	AQ2	Not HQW
Ottawa Lake	822200	Waukesha	AQ2	HQW
Pewaukee Lake	772000	Waukesha	AQ3	Not HQW

Table continued on next page

Lake Name	County	WBIC	Aquatic Area	High Quality Water
Phantom Lake	766000	Waukesha	AQ2	Not HQW
Pine Lake	779200	Waukesha	AQ3	HQW
Pretty Lake	779300	Waukesha	AQ3	HQW
Silver Lake	779800	Waukesha	AQ3	Not HQW
Spring Lake	770600	Waukesha	Not Ranking	HQW
Upper Nemahbin Lake	827100	Waukesha	Not Ranking	HQW

Source: WDNR and SEWRPC

Table 4.14
Comparison of SEWRPC 2024 Aquatic Areas and 2022 WDNR High-Quality Waters: Streams

Stream Name	WBIC	Aquatic Area	High Quality Water
Milwaukee River	15000	AQ1	HQW
North Branch Cedar Creek	22500	AQ1	HQW
East Branch Milwaukee River	36900	AQ1	HQW
Sugar Creek	752100	AQ1	Not HQW
Mukwonago River	765500	AQ1	HQW
Jericho Creek	768300	AQ1	HQW
Pebble Brook	769500	AQ1	Not HQW
Genesee Creek	769800	AQ1	HQW
Whitewater Creek	813900	AQ1	HQW
Bluff Creek	816100	AQ1	HQW
Scuppernong River	817600	AQ1	HQW
Unnamed	821200	AQ1	Not HQW
Oconomowoc River	848200	AQ1	HQW
South Branch Genesee River	3000069	AQ1	HQW
Root River	2900	AQ2	Not HQW
Menomonee River	16000	AQ2	Not HQW
Cedar Creek	21300	AQ2	Not HQW
Unnamed	26300	AQ2	Not HQW
North Branch Milwaukee River	27100	AQ2	HQW
Wallace Creek	27600	AQ2	Not HQW
Stony Creek	28700	AQ2	Not HQW
Fox River	742500	AQ2	Not HQW
White River	751200	AQ2	Not HQW
Honey Creek	751500	AQ2	HQW
Spring Brook	752400	AQ2	HQW
Spring Valley Creek	756200	AQ2	Not HQW
Como Creek	757600	AQ2	HQW
Harris Creek	758500	AQ2	Not HQW
Mill Brook	769400	AQ2	Not HQW
Spring Brook	770300	AQ2	HQW
Pebble Creek	771300	AQ2	HQW
Turtle Creek	790300	AQ2	HQW
Bark River	813500	AQ2	HQW
Scuppernong Creek	825600	AQ2	HQW
Little Oconomowoc River	851400	AQ2	Not HQW
Ashippun River	853800	AQ2	Not HQW
Pike River	1300	AQ3	Not HQW
Root River Canal	4300	AQ3	Not HQW
Underwood Creek	16700	AQ3	Not HQW
Pigeon Creek	20500	AQ3	Not HQW
Unnamed	22000	AQ3	Not HQW
Quas Creek	34900	AQ3	Not HQW
Sauk Creek	49500	AQ3	Not HQW
Unnamed	49600	AQ3	Not HQW
Des Plaines River	734000	AQ3	Not HQW
North Branch Nippersink Creek	742700	AQ3	Not HQW
West Branch Nippersink Creek	744400	AQ3	Not HQW
Lightbody Creek	758400	AQ3	Not HQW
Muskego Creek	762500	AQ3	Not HQW
Unnamed	767600	AQ3	Not HQW
Unnamed	768400	AQ3	Not HQW
Pewaukee River	771700	AQ3	HQW
Darien Creek	791800	AQ3	Not HQW
Unnamed	792800	AQ3	Not HQW
Unnamed	818600	AQ3	Not HQW
Unnamed	821400	AQ3	HQW

Table continued on next page

Stream Name	WBIC	Aquatic Area	High Quality Water
Battle Creek	848300	AQ3	Not HQW
Unnamed	853000	AQ3	Not HQW
Coney River	853400	AQ3	Not HQW
Kohlsville River	865400	AQ3	Not HQW
Allenton Creek	867100	AQ3	HQW
Unnamed	867200	AQ3	Not HQW
Unnamed	5031399	AQ3	Not HQW
Little Menomonee River	17600	Not Ranking	HQW
Little Turtle Creek	791700	Not Ranking	HQW
East Branch Rock River	861400	Not Ranking	HQW
Rosenow Creek	848900	Not Ranking	HQW
Steel Brook	817800	Not Ranking	HQW
Brandy Brook	771400	Not Ranking	HQW
Tichigan Creek	763700	Not Ranking	HQW
Palmer Creek	748300	Not Ranking	HQW
Van Slyke Creek	758800	Not Ranking	HQW

Source: WDNR and SEWRPC

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2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

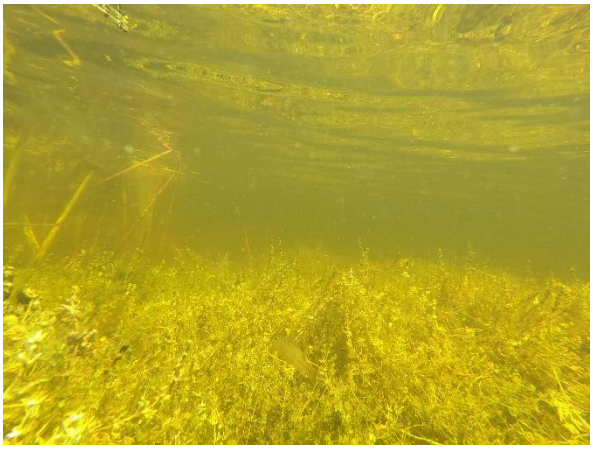
Chapter 4

FIGURES

Figure 4.1
Aquatic Plant Communities in Southeastern Wisconsin Lakes

Water Lillies on Gilbert Lake, Washington County

Submergent Plants in Fowler Lake, Waukesha County

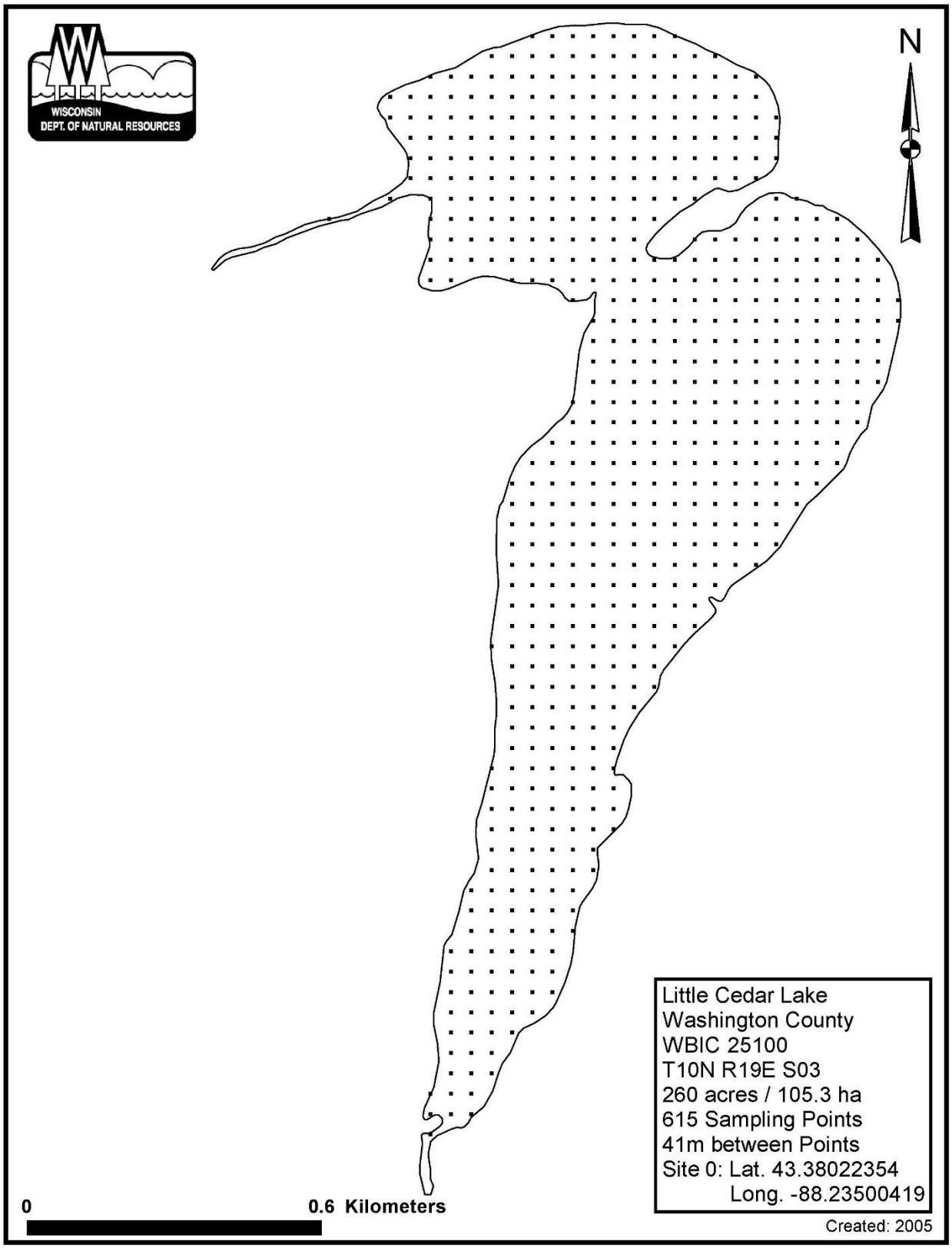


Muskgrass Bed in School Section Lake, Waukesha County

Milfoil in Lake Wandawega, Walworth County

Source: SEWRPC

Figure 4.2
Example of WDNR Aquatic Plant Sampling Map: Little Cedar Lake, Washington County



Source: SEWRPC

Figure 4.3
Examples of Sensitive and Tolerant Aquatic Plant Species

Sensitive Species: Bladderworts, Large-Leaf Pondweed, and Watershield

Tolerant Species: Curly-Leaf Pondweed, Eurasian Watermilfoil, Sago Pondweed

Source: Christian Fischer, Michael Kurz, Paul Skawinski, and SEWRPC

Figure 4.4
Example Fish Species for Lake Fishery Classifications

Complex-Warm-Clear

Credit: UW-Madison

Bluegill | Walleye | Largemouth Bass

Complex-Cool-Clear

Credit: UW-Madison

Smallmouth Bass | Walleye | Largemouth Bass

Complex-Warm-Dark

Credit: UW-Madison

Black Crappie | Walleye | Muskellunge

Complex-Two-Story

Credit: UW-Madison

Cisco | Walleye | Largemouth Bass

Complex-Cool-Dark

Credit: UW-Madison

Yellow Perch | Walleye | Northern Pike

Simple-Warm-Dark

Credit: UW-Madison

Bluegill | Black Crappie | Largemouth Bass

Simple-Cool-Clear

Credit: UW-Madison

Bluegill | Smallmouth Bass | Largemouth Bass

Simple-Riverine

Credit: UW-Madison

Common Carp | Central Mudminnow | Largemouth Bass

Simple-Harsh

Credit: UW-Madison

Yellow Bullhead | Central Mudminnow | Largemouth Bass

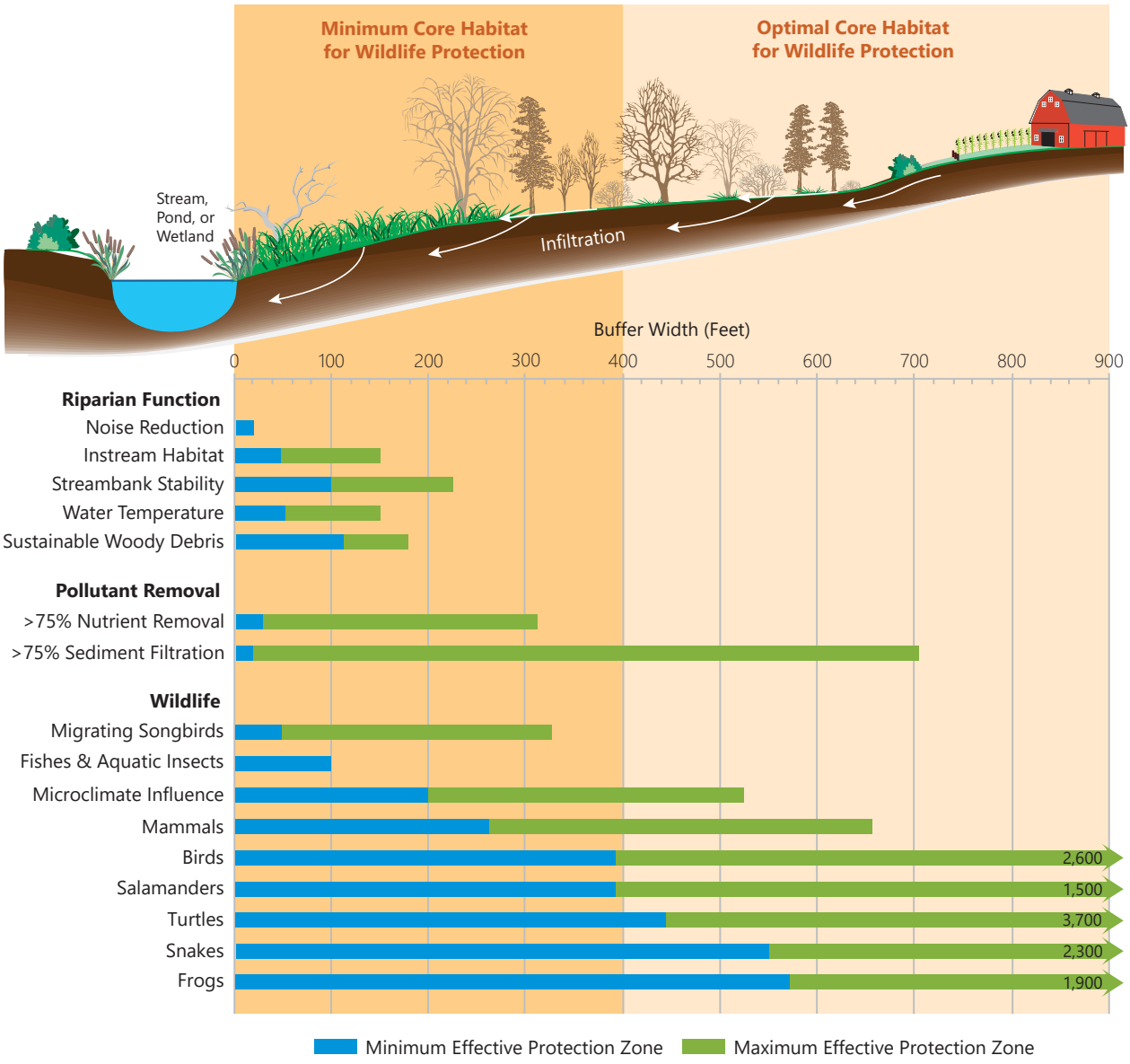
Simple-Trout Pond

Credit: UW-Madison

Rainbow Trout | Bluegill | Largemouth Bass

Source: UW-Madison, Rypel et al., 2019, and SEWRPC

Figure 4.5
Buffer Widths Providing Specific Conservation Functions



Source: SEWRPC

Figure 4.6
Examples of Lakes with Extensive Vegetative Buffers on Shorelines

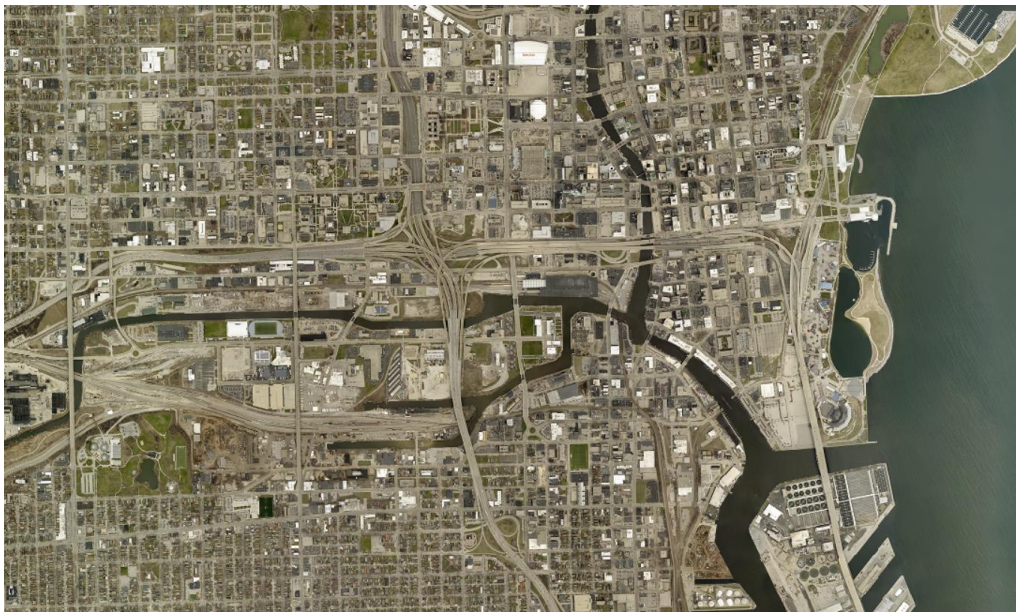
Gilbert Lake, Washington County

Swan Lake, Walworth County

Source: SEWRPC

Figure 4.7
Example of Connectivity Between Aquatic Habitats

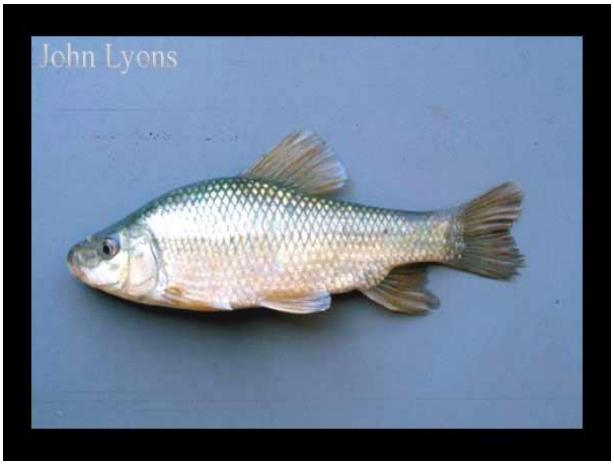
Free-Flowing Oconomowoc River Connecting North Lake and Oconomowoc Lake



Connections Between Menomonee River and Milwaukee River and Lake Michigan

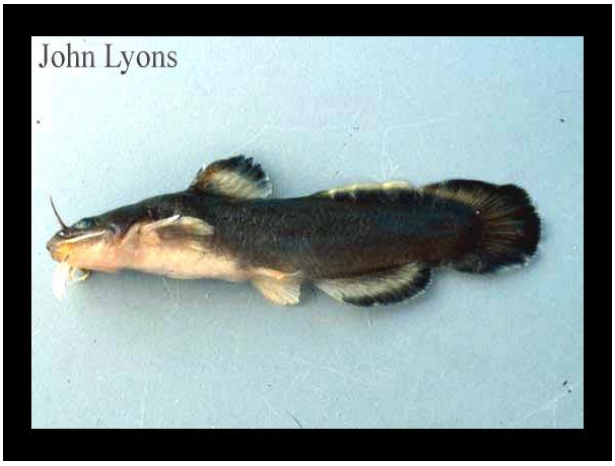
Source: SEWRPC

Figure 4.8
Examples of Rare Aquatic Species Observed in Southeastern Wisconsin

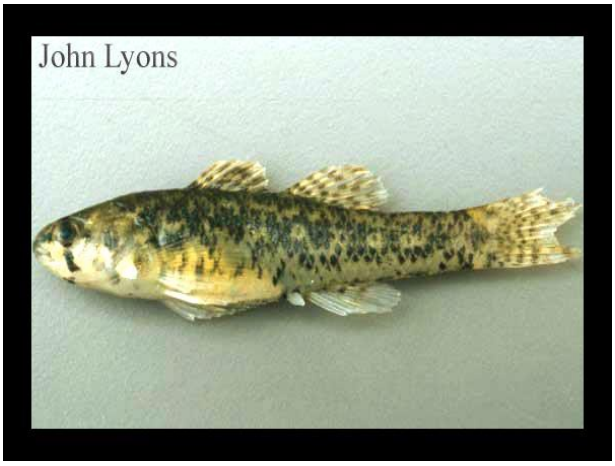


Lake Chubsucker (*Erimyzon sucetta*)[a]

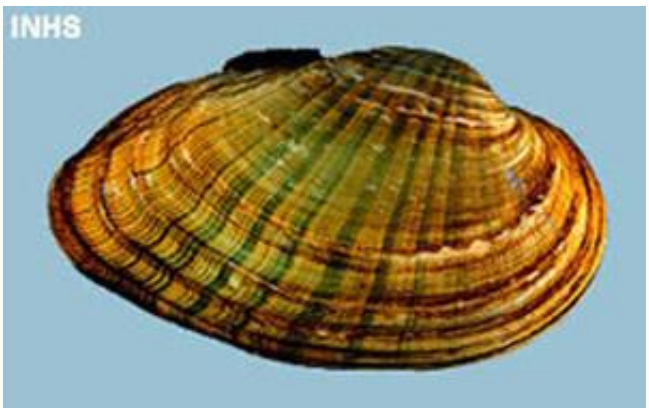
Pugnose Shiner (*Notropis anogenus*)[a]



Slender Madtom (*Noturus exilis*)[a]



Least Darter (*Etheostoma microperca*)[a]



Ellipse (*Venustaconcha ellipsiiformis*)

Blanding's Turtle (*Emydoidea blandingii*)[b]

[a]*Photo by John Lyons.*
[b]*Photo by Gregor Schuurman.*

Source: Wisconsin Department of Natural Resources, University of Wisconsin Sea Grant, and SEWRPC

Figure 4.9
Example of Lower and Higher Sinuosity Stream Reaches: Turtle Creek in Walworth County

Lower Sinuosity: Turtle Creek Upstream of Lake Comus

Higher Sinuosity: Turtle Creek Downstream of Lake Comus

Source: SEWRPC

Figure 4.10
Macroinvertebrates and their Sensitivity to Water Pollution

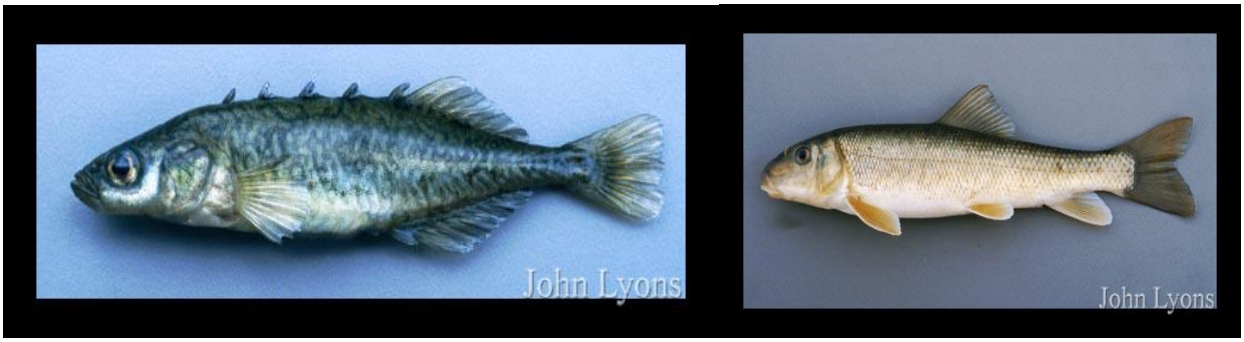
Sensitive to Water Pollution: Spiny Crawler Mayfly, Rolled-Winged Stonefly, and Spotted Sedge Caddisfly

Tolerant of Water Pollution: Non-Biting Midges, Proboscis-Bearing Leeches, and Waterlouse

Source: SEWRPC

Figure 4.11 StreamFish
Examples of Fish in Cold, Cool, and Warmwater Streams of Southeastern Wisconsin

Coldwater Streams: Brook Trout and Slimy Sculpin



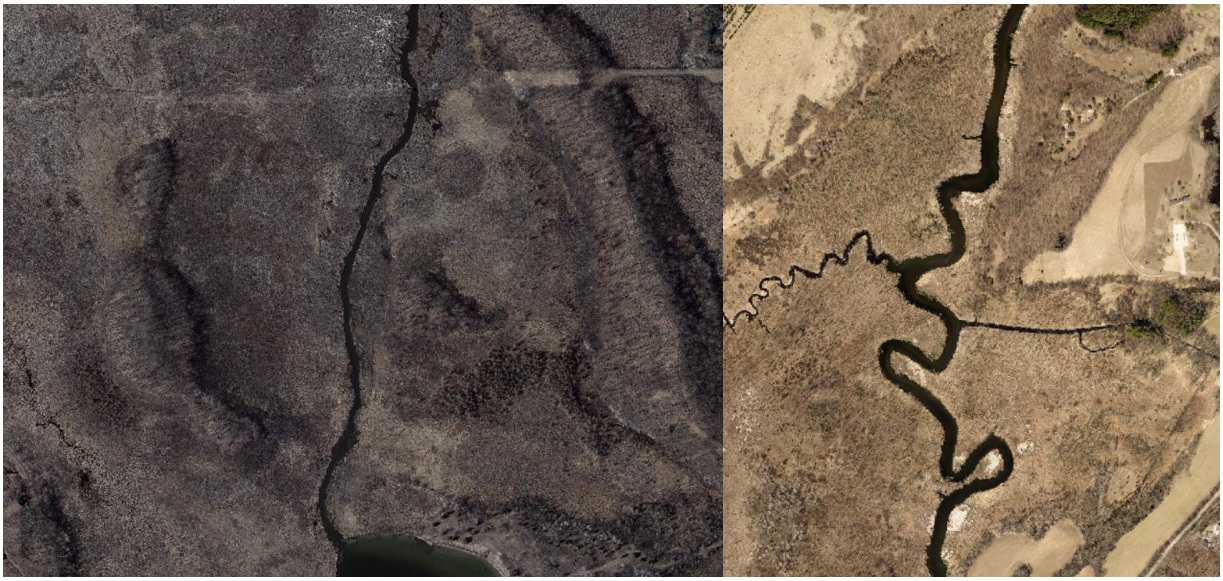
Coolwater Streams: Brook Stickleback and White Sucker

Warmwater Streams: River Darter, River Redhorse, and Stonecat

Source: University of Wisconsin – Sea Grant and SEWRPC

Figure 4.12
Examples of Poorly and Well-Buffered Stream Reaches

Poorly Buffered Streams: Bark River in Village of Hartland and Honey Creek in Town of Troy



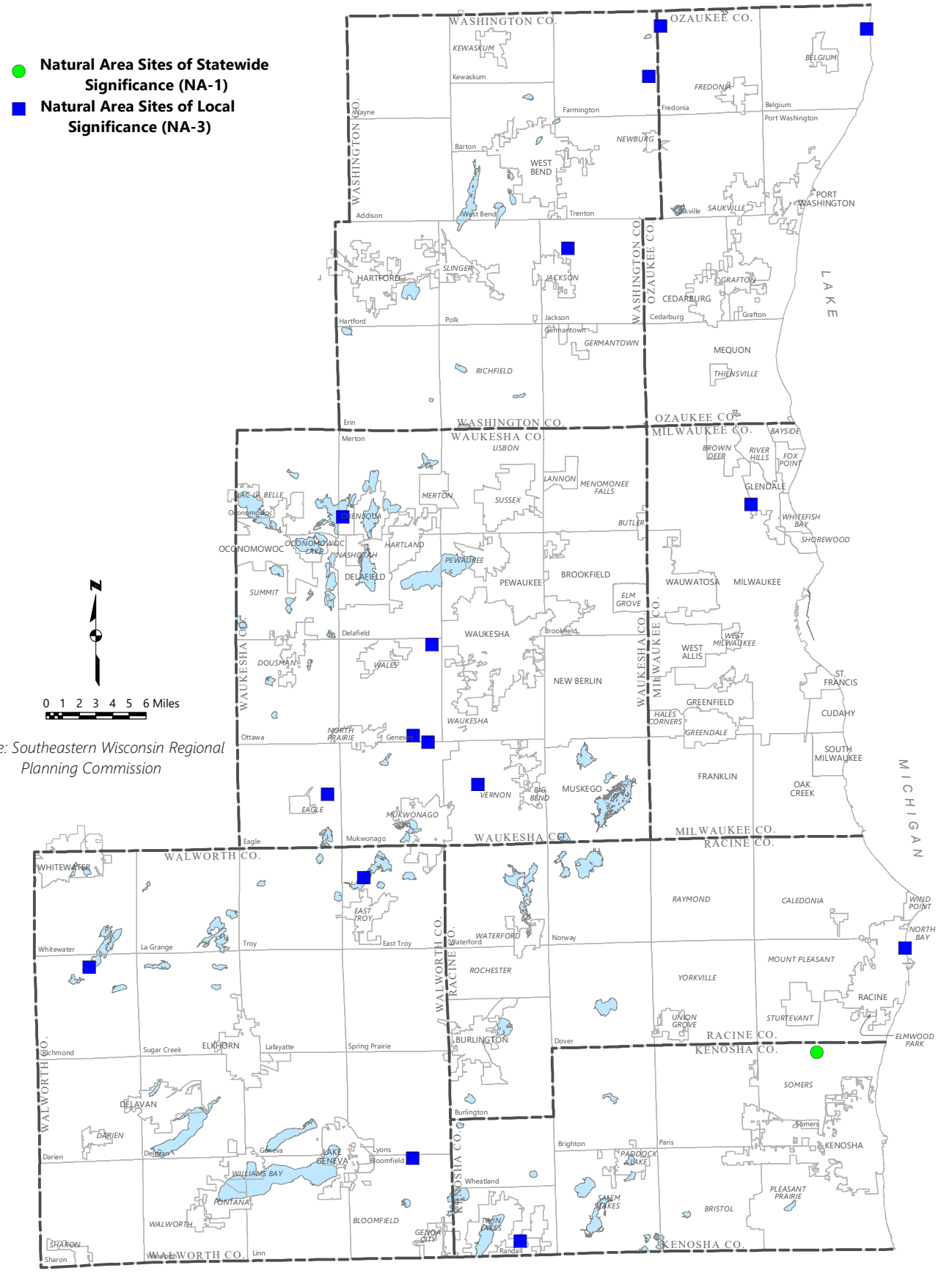
Well-Buffered Streams: Mukwonago River in Town of Troy and Oconomowoc River in Town of Erin

Source: SEWRPC

Chapter 4

MAPS

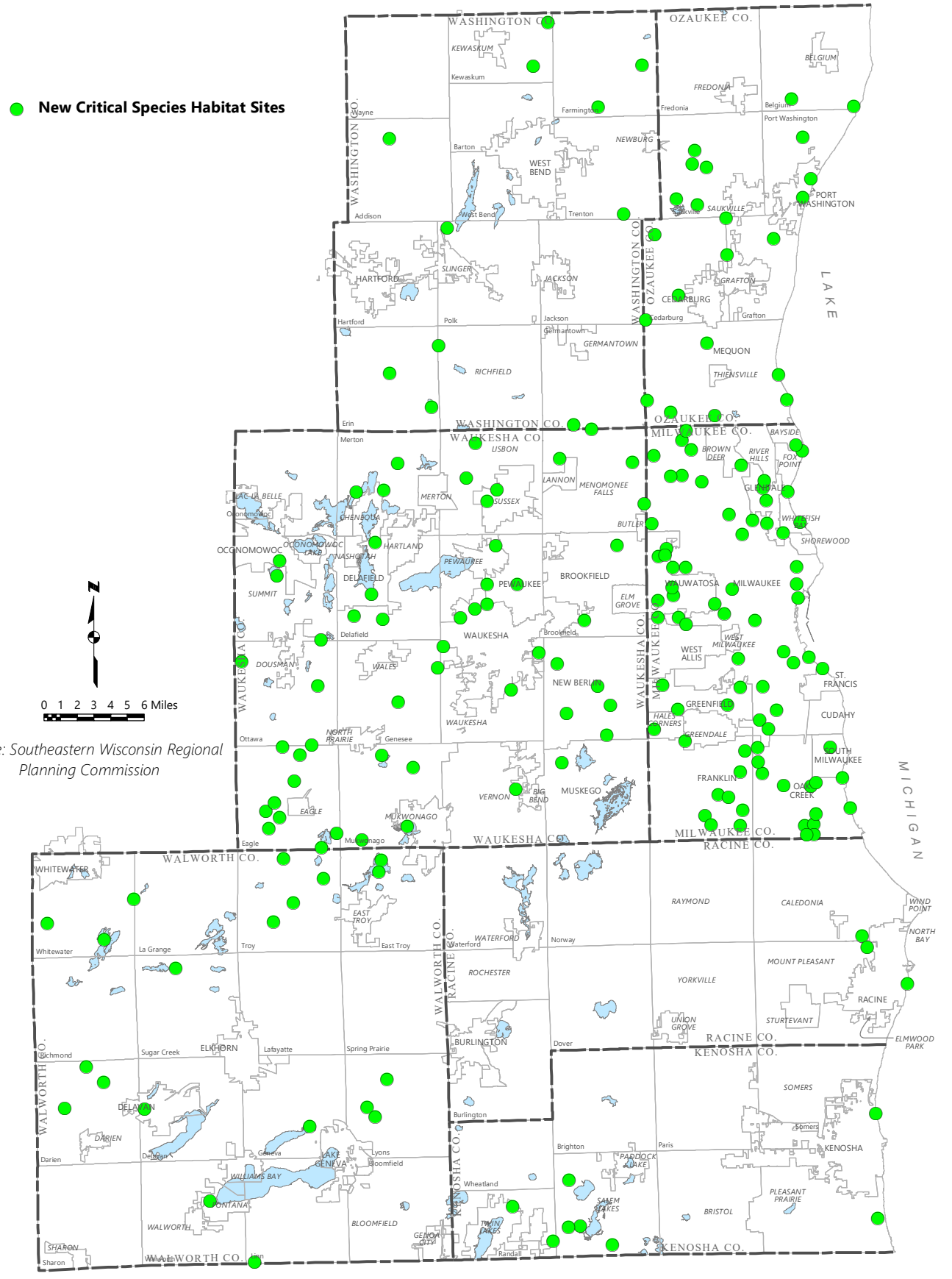
Map 4.1
New Natural Area Sites in Southeastern Wisconsin: 2024



Source: Southeastern Wisconsin Regional Planning Commission

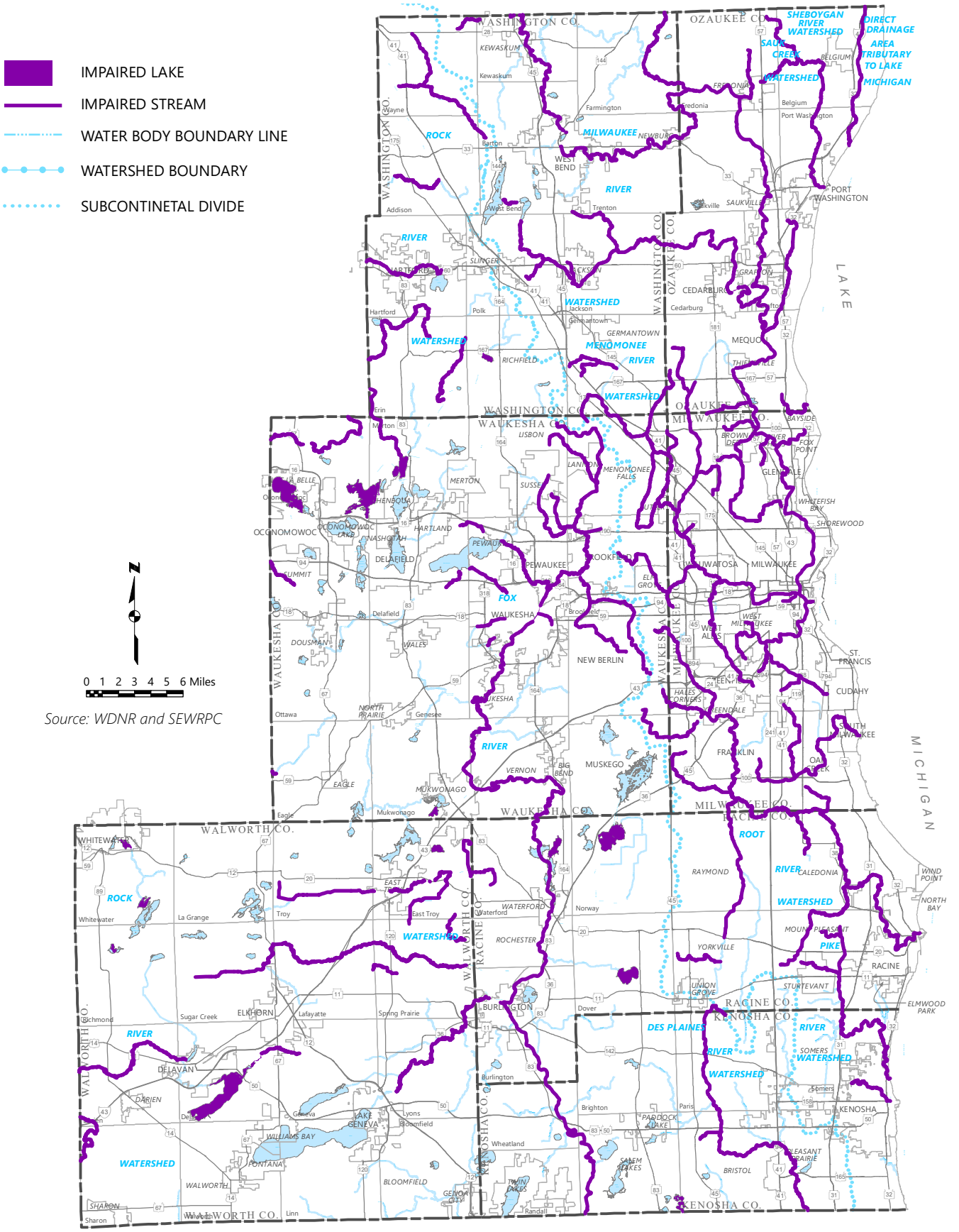
Map Document: (M:\Special_Projects\800-2738\Chapter_1\Map_1_Southeastern_Wisconsin_Region.mxd)
10/31/2024 -- 9:19:05 AM

Map 4.2
New Critical Species Habitat Sites Identified Since 2010



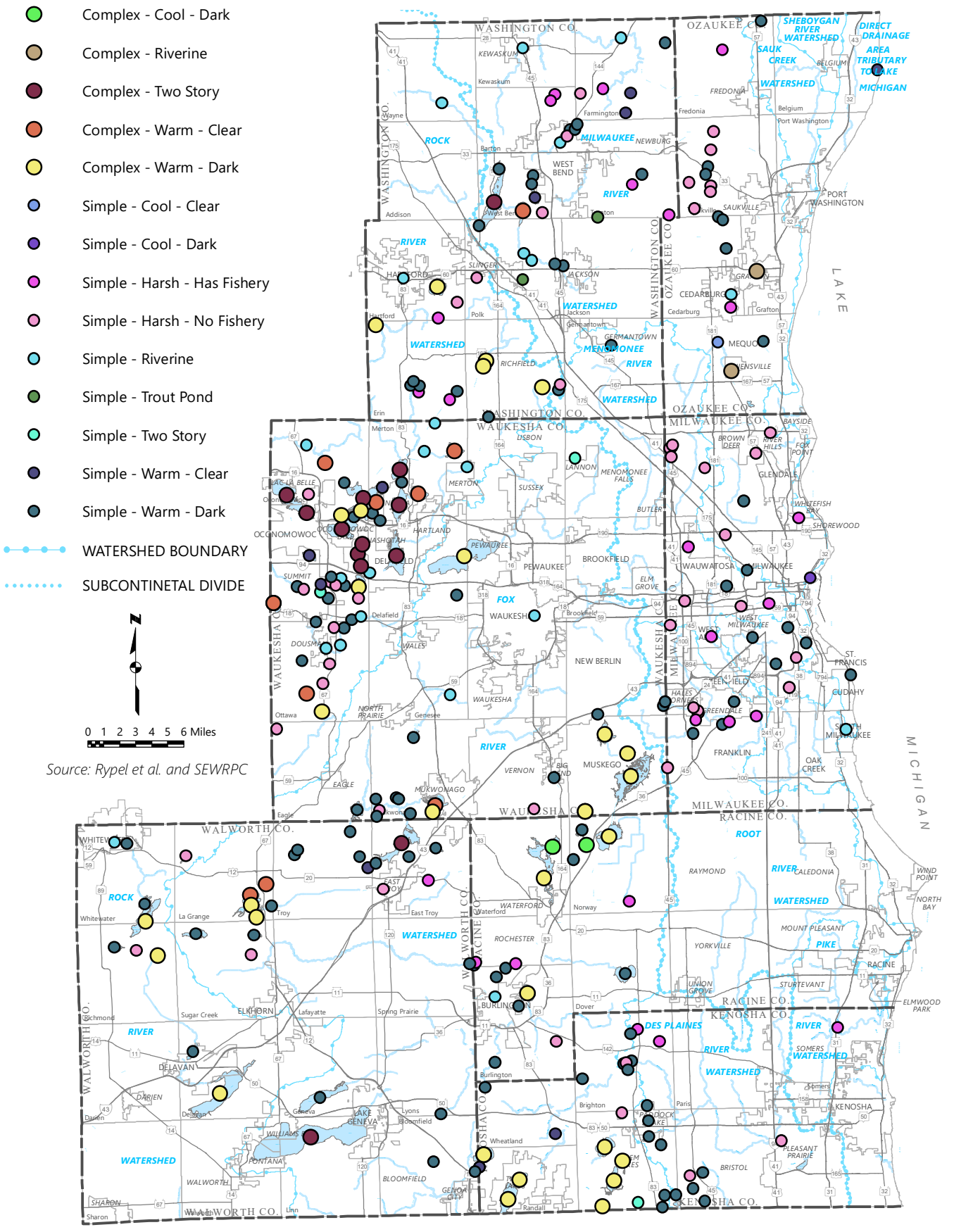
Source: Southeastern Wisconsin Regional Planning Commission

Map 4.3
Impaired Waters in Southeastern Wisconsin: 2022



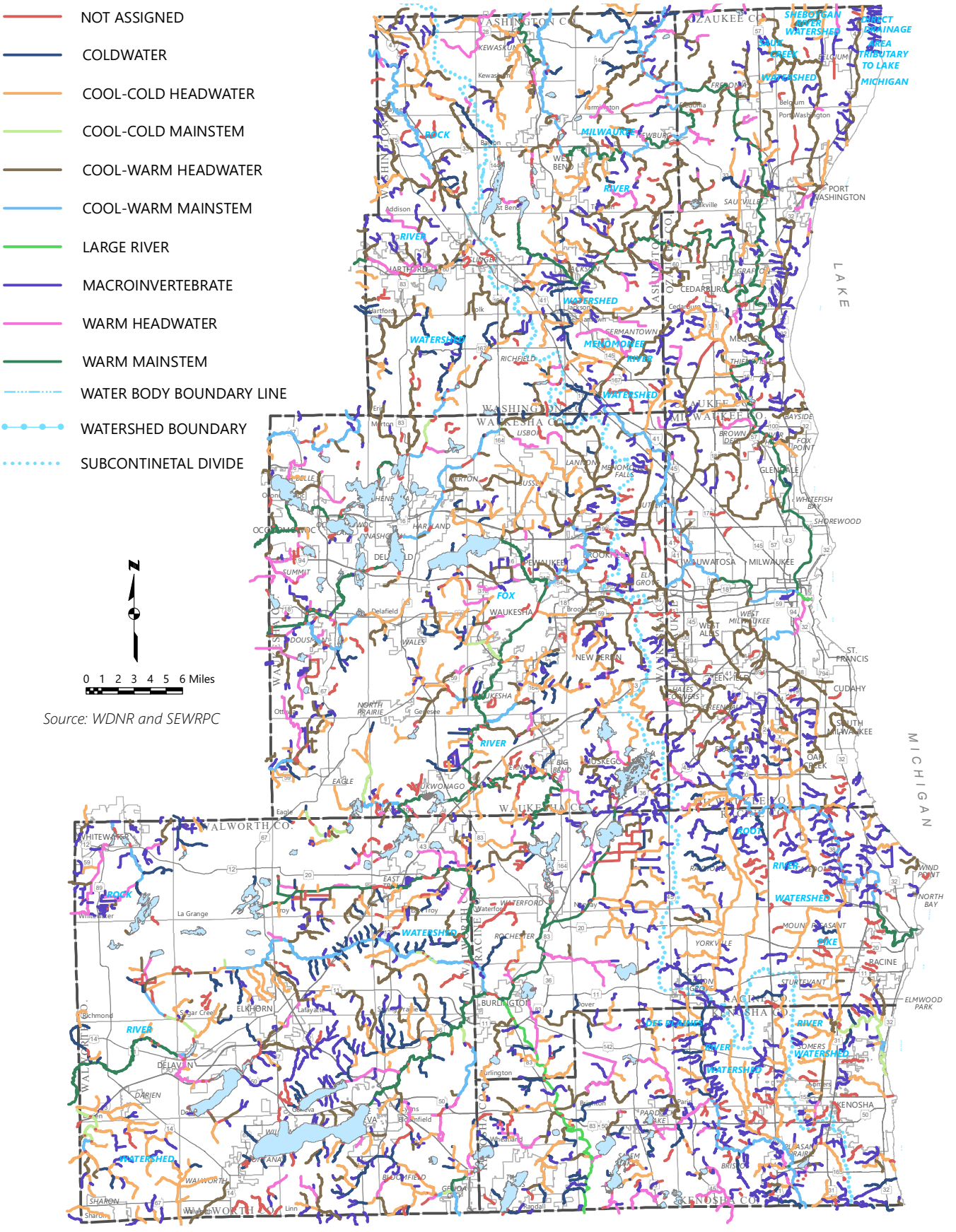
Source: WDNR and SEWRPC

Map 4.4
Lake Fishery Classifications for Southeastern Wisconsin



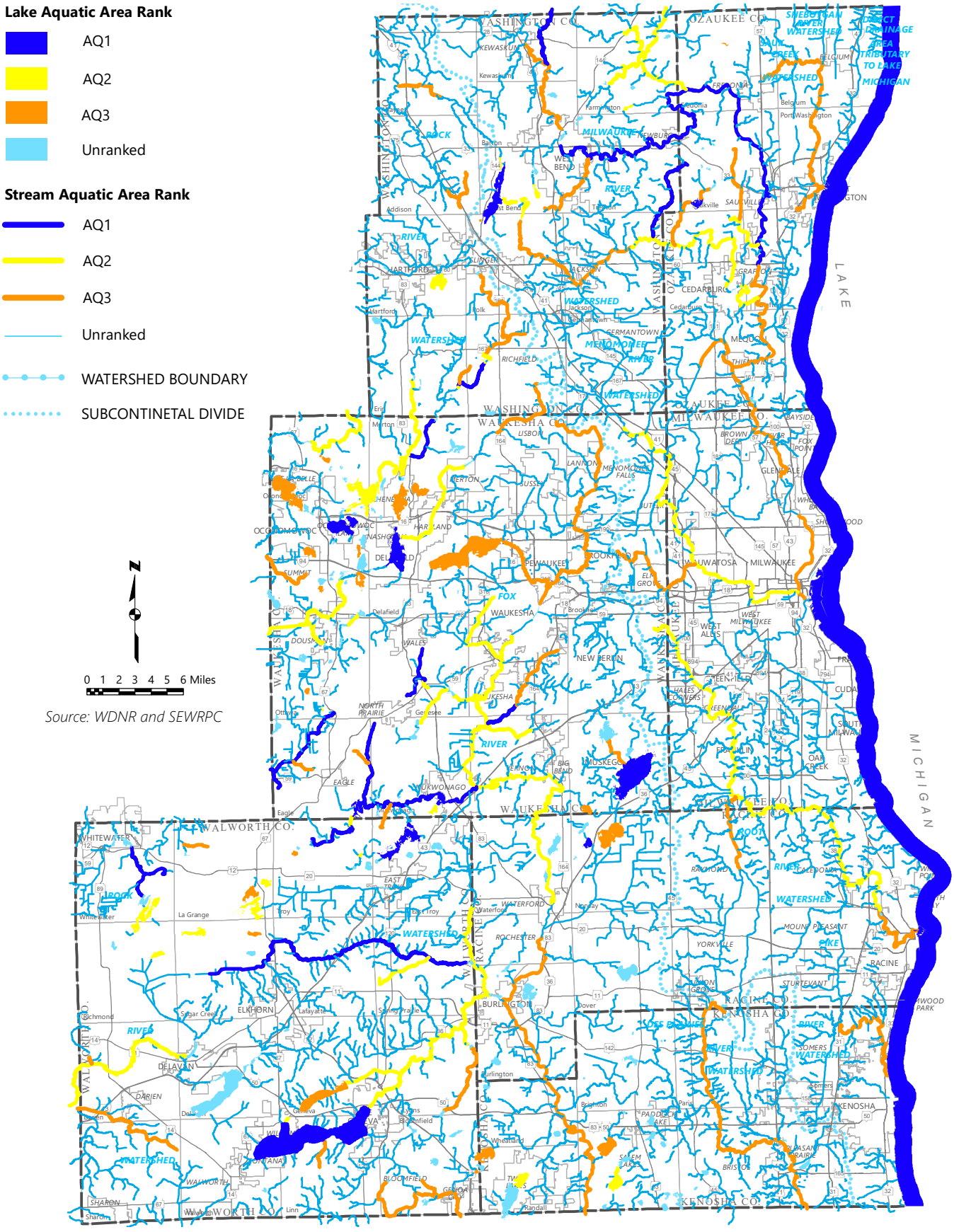
Source: Rypel et al. and SEWRPC

Map 4.5
Stream Natural Communities in Southeastern Wisconsin



Source: WDNR and SEWRPC

Map 4.6
Aquatic Areas of Southeastern Wisconsin: 2024



Source: WDNR and SEWRPC

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 5-Changes in Endangered, Threatened, and Special Concern Species Status

5.1 INTRODUCTION

This chapter defines changes in the status of endangered, threatened, and special concern plant and animal species in the Southeastern Wisconsin regional area as compared to the 2010 Amendment.

5.2 RARE SPECIES

The vertebrate animal (mammal, bird, reptile, amphibian, and fish) and vascular plant species found in Southeastern Wisconsin that were officially listed by the Wisconsin Department of Natural Resources, Bureau of Natural Heritage Conservation, on the "Wisconsin Natural Heritage Working List," were identified in the original 1997 plan and the 2010 Amendment. This compilation of species is intended to be dynamic, to change to more accurately reflect the state of the most up-to-date ecological information. Since preparation of the 2010 Amendment, the Bureau of Natural Heritage Conservation has updated its list periodically, adding or removing species and changing the status of other species as more knowledge is obtained about native species, as species become more or less rare, and as the degree of endangerment increases or decreases. Accordingly, the regional list should be updated to reflect these changes. Currently, 18 vertebrate animal species of the Region are listed as endangered; 23 are listed as threatened; and 42 are listed as special concern. Table 5.1 lists the revisions that have been made in the status of the Region's critical vertebrate animal species.

Of the 324 vascular plant species that are listed on the "Wisconsin Rare Vascular Plant Working List", a total of 147 species, or 45 percent, were found to be growing as natives, at least historically, in the southeastern Wisconsin Region. Much of the historical information concerning presence of plant species in the Region was found on the web sites of the herbaria of the University of Wisconsin-Madison (www.botany.wisc.edu/herbarium) and the University of Wisconsin-Stevens Point

(www.wisplants.uwsp.edu). Based, then, on the most recent information, Tables 5.2, 5.3, and 5.4 list those critical plant species determined to be, at least historically, part of the regional flora. Specifically, it includes 26 endangered plant species, 29 threatened plant species, and 90 special concern plant species. These changes in totals are due to a combination of factors, including changes in species classification by the Bureau of Endangered Resources, newly discovered regional species, and the most recent revisions in the taxonomic nomenclature classifying species.

However, recent and reliable records only include 112 (76 percent) of these plant species as having a good probability of remaining in the Region today. Accordingly, it is estimated that 35, or 24 percent, of these critical plant species have been extirpated from the Region. To date, this total of plant species no longer expected to be found in the Region includes seven endangered species, eight threatened species, and 20 special concern species. Of the 112 listed plant species for which there are current records, 18 species, or 16 percent, are classified as endangered; 20 species, or 18 percent, are classified as threatened; and 70 species, or 63 percent, are classified as special concern.

In addition, a number of species may have relatively extensive and apparently stable statewide populations but may still be of high concern on a regional level. New information concerning uncommon species abundances and distribution in the Region has led to a reconsideration of their status. A total of 401 plant species considered to be regionally uncommon were listed in the 2010 Amendment. Additional field surveys revealed that some species originally listed as uncommon were more abundant and/or widespread than suspected, while others, not listed, were less common than first thought. Accordingly, the list of regionally uncommon plant species was adjusted to reflect these new data. Table 5.5 lists 477 species native to the Region classified as uncommon by the Commission that are determined to exist at such low densities at so few locations in the Region, or whose habitat is threatened, as to be vulnerable to local extirpation, and, therefore, all populations are noteworthy. It should be noted that although regionally uncommon plant species are not considered critical species for purposes of this report, they occur in such low numbers or in such restricted locations in the Region that their status should be monitored, and their locations tracked.

Local Species of Conservation Need

Several organizations have defined species of local conservation interest within the Region. Similar to the regionally uncommon species defined above, these species are rare or declining within a specific geographic area. However, the species may be occasional to abundant elsewhere in the Region, to the

extent that the species is not designated as regionally uncommon. Locally, preservation of existing habitat and expansion and restoration of potentially suitable habitat for these species may be a priority for conservation organizations. It is recommended that organizations develop a list of these species which can be shared with partner groups and stakeholders to help guide management and monitoring of these locally rare or declining species. Once the species of interest are identified, it is recommended that groups develop conservation actions and monitoring protocols to be included within ecological restoration and management plans which when implemented will benefit the species in question. This effort, which seeks to maintain the remaining biodiversity of the Region, is consistent with the goals and objectives of this plan.

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 5

TABLES

Table 5.1
Recent Changes in the Status of Wisconsin Designated Rare Animal Species as Listed in Tables 42-46 in Planning Report Number 42

Animal Group	Scientific Name	Common Name	Previous status	Current Status
Mammals	*Eptesicus fuscus*	Big Brown Bat	Not Listed	Threatened
	Lasionycteris noctivagans	Silver-haired Bat	Not Listed	Special Concern
	Lepus townsendii	White-tailed Jackrabbit	Special Concern	Not listed
	Myotis lucifugus	Little Brown Bat	Not Listed	Threatened
	Myotis septentrionalis	Northern Long-eared Bat	Not Listed	Threatened
	Perimyotis subflavus	Eastern Pipistrelle (Tri-colored Bat)	Not Listed	Threatened
	Peromyscus maniculatus bairdii	Prairie Deer Mouse	Not Listed	Special Concern
Birds	*Ardea herodias*	Great blue heron	Special Concern	Not listed
	Anus acuta	Northern Pintail	Special Concern	Not listed
	Aythya affinis	Lessar Scaup	Special Concern	Not listed
	Aythya americana	Redhead	Special Concern	Not listed
	Bartramia longicauda	Upland Sandpiper	Special Concern	Threatened
	Bubulcus ibis	Cattle egret	Special Concern	Not listed
	Catharus fuscescens	Veery	Special Concern	Not listed
	Childonias niger	Black tern	Special Concern	Endangered
	Circus cyaneus	Northern harrier	Special Concern	Not listed
	Cistothorus platensis	Sedge wren	Special Concern	Not listed
	Colinus virginianus	Northern Bobwhite	Not Listed	Special Concern
	Dendroica tigrina	Cape May Warbler	Special Concern	Not listed
	Empidonax flaviventrus	Yellow-bellied flycatcher	Special Concern	Not listed
	Empidonax traillii	Willow flycatcher	Special Concern	Not listed
	Empidonax virescens	Acadian Flycatcher	Not Listed	Threatened
	Falco columbarius	Merlin	Special Concern	Not listed
	Gallinula chloropus	Common moorhen	Special Concern	Not listed
	Haliaeetus leucocephalus	Bald Eagle	Special Concern	Not listed

	Hylocichla mustelina	Wood thrush	Special Concern	Not listed
	Loxia curvirostra	Red crossbill	Special Concern	Not listed
	Melanerpes erythrocephalus	Red-headed Woodpecker	Not Listed	Special Concern
	Pandion haliaetus	Osprey	Threatened	Not listed
	Progne subis	Purple Martin	Not Listed	Special Concern
	Seiurus motacilla	Louisiana Waterthrush	Special Concern	Not listed
	Setophaga cerulea	Cerulean Warbler	Not Listed	Threatened
	Sturnella magna	Eastern Meadowlark	Not Listed	Special Concern
	Tyrannus verticalis	Western Kingbird	Special Concern	Not listed
	Tyto alba	Barn owl	Endangered	Not listed
	Vermivora pinus	Blue-winger warbler	Special Concern	Not listed
	Vermivora ruficapilla	Nashville warbler	Special Concern	Not listed
	Vireo griseus	White-eyed vireo	Special Concern	Not listed
	Wilsonia canadensis	Canada warbler	Special Concern	Not listed
	Xanthocephalus xanthocephalus	Yellow-headed Blackbird	Not Listed	Special Concern
Herptiles	*Emydoidea blandingii*	Blanding's Turtle	Threatened	Special Concern
	Rana catesbeiana	Bullfrog	Special Concern	Not listed
	Thamnophis butleri	Butler's garter snake	Threatened	Special Concern
	Thamnophis radix	Plains Gartersnake	Not Listed	Special Concern
Fish	*Acipenser fulvescens*	Lake Sturgeon	Not Listed	Special Concern
	Aphredoderus savanus	Pirate Perch	Special Concern	Not listed
	Moxostoma valenciennesi	Greater redhorse	Threatened	Not listed
	Opsopoeodus emiliae	Pugnose Minnow	Special Concern	Not listed

Source: WDNR and SEWRPC

Table 5.2
Endangered Plant Species of the Southeastern Wisconsin Region: 2021 (Latest State Revision: January 2021)

Species Name	Common Name	Listed in 2010 amendment	Notes
Agalinis skinneriana	Pale false foxglove	Yes	Very rare
Armoracia lacustris	Lake cress	Yes	Possibly extirpated from Region
Asclepias purpurascens	Purple milkweed	Yes	Rare
Astragalus neglectus	Cooper's milk vetch	No	Possibly extirpated from Region
Botrychium campestre	Prairie moonwort	No	One known location in the Region
Camassia scilloides	Wild hyacinth	Yes	One known location in the Region
Carex crus-corvi	Crow-spur sedge	Yes	Very few locations
Carex laevivaginata	Smooth-Sheath Sedge	No	Very few locations
Carex lupuliformis	Hop-like sedge	Yes	Very few locations
Diarrhena obovata	Obovate Beakgrain	No	Very few locations, possibly introduced
Eleocharis quadrangulata	Angled spike-rush	Yes	Possibly extirpated from Region
Erigenia bulbosa	Harbinger-of-spring	Yes	Possibly extirpated from Region
Fimbristylis puberula	Chestnut sedge	Yes	One known location in the Region
Lespedeza leptostachya	Prairie bush clover	Yes	Likely extirpated
Muhlenbergia richardsonis	Soft-leaf muhly	Yes	Four populations in Region
Phlox glaberrima	Smooth phlox	Yes	May be locally common
Plantago cordata	Heart-leaved plantain	Yes	One known population in Region
Platanthera leucophaea	Prairie white-fringed orchid	Yes	Very rare
Polygala incarnata	Pink milkwort	Yes	One known population in Region
Prenanthes aspera	Rough white lettuce	Yes	Likely extirpated from the Region
Prenanthes crepidinea	Great White-Lettuce	No	Three populations
Pterospora andromeda	Pine-drops, giant bird's-nest	Yes	One known population in Region
Ruellia humilis	Wild petunia	Yes	Few locations
Solidago caesia	Blue-stemmed goldenrod	Yes	May be locally common
Trisetum melicoides	Purple false oats	Yes	One known location in the Region

Species Formerly Listed in the 2010 Amendment to PR. No. 42 as Endangered

Species Name	Common Name	Reason for delisting or other changes
Collinsonia canadensis	Canada horse-balm	Considered extirpated by the Wisconsin Department of Natural Resources
Conioselinum chinense	Hemlock-Parsley	Likely extirpated from the Region, has not been observed since the 1960s
Ranunculus cymbalaria	Alkali buttercup	Reduced to Threatened status by Wisconsin Department of Natural Resources

Source: SEWRPC

Table 5.3
Threatened Plants of the Southeastern Wisconsin Region: 2021 (Latest State Revision January 2021)

Species Name	Common Name	Listed in 2010 Amendment	Notes
Agalinis gattingeri	Round-stemmed false foxglove	Yes	Possibly extirpated from Region
Amerorchis rotundifolia	Small round-leaved orchis, one-leaf orchis	Yes	Possibly extirpated from Region
Asclepias lanuginose	Woolly milkweed	Yes	Possibly extirpated from Region
Asclepias ovalifolia	Dwarf milkweed	Yes	Very few sites
Asclepias sullivantii	Sullivant's milkweed	Yes	Grows in mesic and wet-mesic prairies
Besseya bullii	Kittentails	Yes	Species of oak savannas
Calamovilfa longifolia var. magna	Sand reed grass	Yes	Lake Michigan Dunes and Beaches
Carex formosa	Handsome sedge	Yes	Species of rich mesic forest
Carex garberi	Garber's sedge	Yes	Possibly extirpated from Region
Cirsium hillii	Hill's thistle	Yes	One population in Region
Cypripedium arietinum	Ram's-head lady's-slipper	Yes	Extremely Rare
Cypripedium candidum	Small white lady's-slipper	Yes	A species of wet-mesic prairies and fens
Drosera linearis	Linear-leaved sundew	Yes	One population in Region
Echinacea pallida	Pale purple coneflower	Yes	Possibly extirpated from Region, commonly planted
Eleocharis rostellata	Beaked spike-rush	Yes	Calcareous fens
Elymus lanceolatus subsp. psammophilus[a]	Thickspike wheatgrass	Yes	Lake Michigan Dunes and Beaches
Eurybia furcata[b]	Forked aster	Yes	May be locally common
Fraxinus quadrangulate	Blue ash	Yes	Very few sites
Hypericum sphaerocarpum	Roundfruit St. John's-wort	Yes	Very few sites
Orobanche fasciculata	Clustered broomrape	Yes	Possibly extirpated from Region
Platanthera flava	Tubercled orchid	Yes	Very few sites
Polytaenia nuttallii	Prairie parsley	Yes	No recent records; may be extirpated from Region
Ranunculus cymbalaria	Seaside crowfoot	No	Few locations, often found in roadside ditches
Ribes oxyacanthoides	Canadian gooseberry	Yes	Possibly extirpated from Region
Triantha glutinosa[c]	False asphodel	Yes	Fens
Trichophorum cespitosum[d]	Tufted bulrush	Yes	Fens and swales
Trillium nivale	Snow trillium	Yes	Blooming very early in mesic forests
Valeriana uliginosa	Marsh valerian	Yes	One population in Region

Species Formerly Listed in the 2010 Amendment to Planning Report 42 as Threatened

Species Name	Common Name	Reason for Delisting
Agastache neptoides	Yellow giant hyssop	Delisted by Wisconsin Department of Natural Resources
Arnoglossum plantagineum	Prairie indian plantain	Reduced to special concern status by Wisconsin Department of Natural Resources
Gentiana alba	Cream gentian	Reduced to special concern status by Wisconsin Department of Natural Resources
Iris lacustris	Dwarf lake iris	Extirpated from Region
Parthenium integrifolium	Wild quinine	Delisted by Wisconsin Department of Natural Resources
Poa paludigena	Bog bluegrass	Reduced to special concern status by Wisconsin Department of Natural Resources

[a] Formerly known as Elytrigia dasystachya subsp. psammophila

[b] Formerly known as Aster furcatus

[c] Formerly known as Tofieldia glutinosa

[d] Formerly known as Scirpus cespitosus

Source: Wisconsin Department of Natural Resources and the Southeastern Wisconsin Regional Planning Commission

Table 5.4
Special Concern Plant Species of the Southeastern Wisconsin Region: 2021 (Latest State Revision: January 2021)

Species Name	**Common Name**	**Listed in 2010 Amendment**	**Notes**
Adlumia fungosa	Climbing fumitory	Yes	Likely extirpated
Agrimonia parviflora	Swamp agrimony	Yes	Locally common
Ammannia robusta	Grand red-stem	No	Recent addition to the flora
Anticlea elegans	White camas	No	Formerly listed as uncommon
Aplectrum hyemale	Puttyroot orchid	Yes	Rich Woods
Arnoglossum plantagineum	Prairie Indian plantain	No	Listed as threatened in the 2010 amendment
Arnoglossum reniforme	Great Indian plantain	Yes	Cacalia muhlenbergii in the 2010 amendment
Artemisia dracunculus	Dragon sage-wort	Yes	Possibly extirpated from Region
Artemisia frigida	Prairie sagebrush	Yes	Possibly extirpated from Region
Asclepias hirtella	Tall green milkweed	Yes	Dry to mesic prairies
Boechera dentata	Toothed cress	Yes	Arabis shortii in the 2010 amendment
Cakile edentula var. lacustris	Sea-rocket	Yes	Lake Michigan beaches
Carex digitalis var. digitalis	Narrow-leaved wood sedge	No	wooded ravines
Carex gracilescens	Slender wood sedge	Yes	Mature and recovering woodlands
Carex livida	Livid sedge	Yes	very few occurrences
Carex suberecta	Prairie straw sedge	Yes	Fens and marshes
Carex swanii	Downy green sedge	Yes	Very few populations
Carex sychnocephala	Many-headed sedge	Yes	Very few populations
Carex torreyi	Red-sheathed green sedge	Yes	Very few populations
Clinopodium arkansanum	Low calamint	Yes	Satureja arkansana in the 2010 amendment
Coreopsis lanceolata	Coreopsis	Yes	Very few populations
Cuscuta coryli	Hazel dodder	No	Very few populations
Cuscuta glomerata	Rope dodder	No	Locally common
Cuscuta pentagona	Prairie dodder	No	dry sandy prairies and barrens
Cuscuta polygonorum	Knotweed dodder	No	low areas
Cypripedium parviflorum var. makasin	Small yellow lady's-slipper	Yes	Calcareous wetlands
Desmodium perplexum	Tick-trefoil	No	Oak openings and woodlands
Dichanthelium wilcoxianum	Wilcox's panic grass	Yes	Panicum wilcoxianum in the 2010 amendment
Eclipta prostrata	Yerba de Tajo	No	
Eleocharis compressa var. compressa	Flat-stemmed spike-rush	Yes	mesic to wet-mesic prairies
Eleocharis flavescens var oilvacea	Wrinkle-sheathed spike-rush	Yes	Bogs
Eleocharis quinqueflora	Matted spike-rush	Yes	Fens and shores
Epilobium densum	Downy willow-herb	Yes	E. strictum in the 2010 amendment
Equisetum palustre	Marsh horsetail	Yes	Few populations remain
Euphorbia polygonifolia	Seaside spurge	Yes	Great Lakes dunes and beaches
Galium brevipes	Short-stalked bedstraw	No	Likely extirpated

Glycyrrhiza lepidota	Wild licorice	Yes	Right of ways and pastures, possibly naturalized
Gymnocladus dioicus	Kentucky coffeetree	Yes	Often near streams, now widely planted
Houstonia caerulea	Bluets	Yes	Few populations remain
Hydrastis canadensis	Golden seal	Yes	Locally common
Hydrophyllum appendiculatum	Maple-leaved waterleaf	Yes	Few populations remain
Iodanthus pinnatifidus	Purple rocket	No	Possibly extirpated from Region
Jeffersonia diphylla	Twinleaf	Yes	Locally common
Juglans cinerea	Butternut	Yes	Locally common
Juncus marginatus	Grass-leaved rush	Yes	Few occurrences
Malaxis brachypoda	White adders-mouth	Yes	M. monophyllos var. brachypoda; possibly extirpated from Region
Minuartia dawsonensis	Rock stitchwort	No	Few occurrences
Myosotis laxa	Bay forget-me-not	No	Few occurrences
Nuphar advena	Yellow pond-lily	No	Locally common
Nyssa sylvatica	Black gum, sour gum, tupelo, pepperidge	Yes	Few populations remain
Oenothera serrulata	Toothed evening-primrose	Yes	Locally common
Packera plattensis	Prairie ragwort	Yes	Senicio plattensis in the 2010 amendment
Paronychia canadensis	Tall forked chickweed	No	Very rare in open woods
Penstemon hirsutus	Hairy beard-tongue	Yes	Few native occurrences
Penstemon pallidus	Pale beard-tongue	Yes	Very rare
Phegopteris hexagonoptera	Broad beech fern	Yes	Rich Woods
Phemeranthus rugospermus	Prairie fame-flower	Yes	Talinum rugospermum in the 2010 amendment
Platanthera hookeri	Hooker's orchid	Yes	Possibly extirpated from Region
Platanus occidentalis	Sycamore	Yes	Few native occurrences
Poa paludigena	Bog blue grass	No	Possibly extirpated from Region
Poa sylvestris	Forest blue grass	No	One location in Region
Polystichum acrostichoides	Christmas fern	Yes	Rare in mesic forests, usually on slopes
Potamogeton diversifolius	Common snail-seed pondweed	No	Recent addition to the flora
Potamogeton oakesianus	Oakes's pondweed	No	One location in Region
Ptelea trifoliata	Hoptree, wafer-ash	Yes	Not common in shrub thickets
Quercus muehlenbergii	Chinkapin oak	Yes	Sporadic distribution dry rocky woods but also floodplains
Rhus aromatica	Fragrant sumac	No	Few native occurrences
Salix sericea	Silky willow	No	Very rare
Schoenoplectus heterochaetus	Slender bulrush	No	Possibly extirpated from Region
Scirpus georgianus	Bristleless dark-green bulrush	No	Recent addition to the flora
Scirpus pallidus	Pale bulrush	No	Recent addition to the flora
Scleria triglomerata	Tall nut-rush	Yes	Not common in wet-mesic prairie
Scleria verticillata	Low nut-rush	Yes	Locally common in fens
Scutellaria ovata	Heart-leaved skullcap	Yes	locally common in mature woods
Sisyrinchium albidum	Common blue-eyed-grass	No	locally common in prairies, oak openings, and old field
Sisyrinchium angustifolium	Short blue-eyed-grass	Yes	Not common
Spiranthes lucida	Shining lady's-tresses	No	Previously listed as Uncommon
Spiranthes magnicamporum	Great Plains lady's-tresses	No	Wet prairies and fens
Spiranthes ovalis var erostellata	October lady's tresses	No	Locally abundant in old fields, shrub thickets, and oak woodland

Stuckenia filiformis subsp. alpina	fine-leaved pondweed	No	cold lakes and fast moving streams
Symphyotrichum dumosum	Bushy aster	No	One location in Region
Thalictrum revolutum	Waxy meadow rue	Yes	Locally abundant
Thaspium trifoliatum	Meadow parsnip	Yes	Possibly extirpated from Region
Tomanthera auriculata	Eared false foxglove	Yes	Very Rare
Triglochin palustris	Slender bog arrow-grass	Yes	Fens, springs, and clay seepage bluffs
Utricularia resupinata	Northern bladderwort	No	Very rare in the Region
Valeriana edulis var. ciliata	Common valerian	No	Locally common in fens and wet-mesic prairie
Verbena simplex	Narrow-leaved vervain	Yes	Very rare in dry open wood
Viburnum prunifolium	Black haw	Yes	Locally common in dry-mesic woods
Viola rostrata	Long-spurred violet	Yes	Possibly extirpated from Region

Species Formerly Listed in the 2010 Amendment to Planning Report No 42 as Special Concern

Species Name	**Common Name**	**Reason For Delisting**
Arethusa bulbosa	Swamp-pink	No longer listed by Wisconsin Department of Natural Resources
Calamagrostis stricta	Slim-stem reed grass	No longer listed by Wisconsin Department of Natural Resources
Cardamine pratensis	Cuckoo flower	No longer listed by Wisconsin Department of Natural Resources
Carex crawei	Crawe sedge	No longer listed by Wisconsin Department of Natural Resources
Carex gynocrates	Northern bog sedge	No longer listed by Wisconsin Department of Natural Resources
Carex pallescens	Pale sedge	No longer listed by Wisconsin Department of Natural Resources
Carex richardsonii	Richardson's sedge	No longer listed by Wisconsin Department of Natural Resources
Carex tenuiflora	Sparse-flowered sedge	No longer listed by Wisconsin Department of Natural Resources
Ceratophyllum echinatum	Spiny hornwort	No longer listed by Wisconsin Department of Natural Resources
Cirsium flodmanii	Flodman's thistle	Now considered non-native
Corallorhiza odontorhiza	Late coralroot orchid	No longer listed by Wisconsin Department of Natural Resources
Cypripedium pubescens	Large yellow lady's-slipper	No longer listed by Wisconsin Department of Natural Resources
Cypripedium reginae	Showy lady's-slipper	No longer listed by Wisconsin Department of Natural Resources
Deschampsia caespitosa	Tufted hair grass	No longer listed by Wisconsin Department of Natural Resources
Diplazium pycnocarpon	Glade fern	No longer listed by Wisconsin Department of Natural Resources
Dryopteris clintoniana	Clinton's wood fern	No longer listed by Wisconsin Department of Natural Resources
Equisetum variegatum	Variegated horsetail	No longer listed by Wisconsin Department of Natural Resources
Eupatorium sessilifolium	Woodland boneset	No longer listed by Wisconsin Department of Natural Resources
Festuca paradoxa	Cluster fescue	No longer listed by Wisconsin Department of Natural Resources
Gentianopsis procera	Lesser fringed gentian	No longer listed by Wisconsin Department of Natural Resources
Hasteola suaveolens	Sweet Indian plantain	No longer listed by Wisconsin Department of Natural Resources
Hibiscus moscheutos	Rose mallow	Now considered non-native
Liatris spicata	Marsh blazing-star	No longer listed by Wisconsin Department of Natural Resources
Lithospermum latifolium	American gromwell	No longer listed by Wisconsin Department of Natural Resources
Medeola virginiana	Indian cucumber-root	No longer listed by Wisconsin Department of Natural Resources
Myriophyllum farwellii	Farwell's water-milfoil	No longer listed by Wisconsin Department of Natural Resources
Ophioglossum pusillum	Northern adder's-tongue	No longer listed by Wisconsin Department of Natural Resources
Opuntia humifusa	Eastern prickly-pear cactus	No longer listed by Wisconsin Department of Natural Resources
Orobanche uniflora	Cancer-root	No longer listed by Wisconsin Department of Natural Resources

Panax quinquefolius	Wild ginseng	No longer listed by Wisconsin Department of Natural Resources
Platanthera dilatata	White bog orchid	No longer listed by Wisconsin Department of Natural Resources
Platanthera orbiculata	Large round-leaved orchid	No longer listed by Wisconsin Department of Natural Resources
Polygala cruciata	Cross milkwort	No longer listed by Wisconsin Department of Natural Resources
Solidago ohioensis	Ohio goldenrod	No longer listed by Wisconsin Department of Natural Resources
Taxus canadensis	Canada yew	No longer listed by Wisconsin Department of Natural Resources
Trichophorum alpinum	Alpine cotton-grass	*Scirpus hudsonianus* in the 2010 amendment
Triglochin matitima	Bog arrow-grass	No longer listed by Wisconsin Department of Natural Resources
Trillium recurvatum	Red trillium	No longer listed by Wisconsin Department of Natural Resources
Utricularia purpurea	Spotted bladderwort	No longer listed by Wisconsin Department of Natural Resources

Source: Wisconsin Department of Natural Resources and SEWRPC

Table 5.5
Uncommon Plants of the Southeastern Wisconsin Region: January 2021

Species Name	Common Name	Listed in 2010 Amendment to PR-42	Notes
Acer spicatum	Mountain maple	Yes	North of Tension Zone
Acorus americanus	Sweet flag	Yes	
Agalinis aspera	Rough false foxglove	Yes	
Agastache nepetoides	Yellow giant hyssop	No	Listed as special concern in the 2010 amendment
Agastache scrophulariifolia	Purple giant hyssop	Yes	
Agrostis perennans	Thin grass	Yes	
Agrostis scabra	Rough bent grass	No	Recent addition to the Regional Flora
Aletris farinosa	Colicroot	Yes	Regionally restricted to the Carol Beach area
Amelanchier arborea	Downy Juneberry	Yes	
Amelanchier interior	Inland shadblow	Yes	
Amelanchier sanguinea	Round-leaved serviceberry	Yes	
Amelanchier spicata	Dwarf serviceberry	Yes	
Ammophila breviligulata	Beachgrass	Yes	Locally common in dunes
Amorpha canescens	Leadplant	Yes	Dry prairies
Amorpha fruticosa	False Indigo bush	Yes	
Anaphalis margaritacea	Pearly everlasting	Yes	
Andromeda polifolia	Bog-rosemary	Yes	Bogs
Androsace occidentalis	Rock jasmine	Yes	
Anemone patens	Pasqueflower	Yes	
Arabis pycnocarpa	Hairy rock cress	No	Rock outcrops and rocky woodlands
Aralia hispida	Bristly sarsaparilla	Yes	
Aralia racemosa	Spikenard	Yes	Rich woods
Arctostaphylos uva-ursi	Kinnickinnick	Yes	Likely extirpated from Region
Arethusa bulbosa	Dragon's-mouth Orchid	No	Listed as special concern in the 2010 amendment
Arisaema dracontium	Green dragon	Yes	Low woods
Aristida basiramea	Triple-awn grass	Yes	
Aristida longespica	False arrow-feather	Yes	Synonym = Aristida intermedia
Aristida oligantha	Plains three-awn grass	No	Known from only a few stations
Aristida purpurascens	Arrow-feather	Yes	
Arnoglossum atriplicifolium	Indian plantain	Yes	Cacalia atriplicifolia in the 2010 amendment
Artemisia serrata	Saw-toothed sagebrush	Yes	
Asclepias amplexicaulis	Sand milkweed	Yes	
Asclepias tuberosa	Butterflyweed	Yes	
Asclepias viridiflora	Short green milkweed	Yes	
Asplenium rhizophyllum	Walking fern	Yes	Camptosorus rhizophyllus in the 2010 amendment
Astragalus canadensis	Canadian milk vetch	Yes	
Aureolaria grandiflora	Yellow false foxglove	Yes	Oak openings and woodlands
Aureolaria pedicularia	Clammy false foxglove	Yes	

Azolla cristata	Water fern	No	Very rare, Waukesha County
Baptisia alba	White wild indigo	Yes	Prairie remnants
Baptisia bracteata	Cream wild indigo	Yes	Dry prairies
Bartonia virginica	Yellow screwstem	No	Very rare, Waukesha County
Berula erecta	Low water parsnip	Yes	
Bidens beckii	Water marigold	Yes	Megalodonta beckii in the 2010 amendment
Blephilia ciliata	Ohio horse mint	Yes	
Blephilia hirsuta	Wood mint	Yes	
Boechera divaricarpa	Purple rock cress	No	No recent records, possibly extirpated from the Region
Boltonia asteroides	False aster	Yes	Boltonia latisquama in the 2010 amendment
Bouteloua hirsuta	Hairy grama	No	No recent records, possibly extirpated from the Region
Brasenia schreberi	Water shield	Yes	
Bromus kalmii	Prairie brome	No	
Bromus latiglumis	Ear-leaved brome	Yes	Bromus altissimus in the 2010 amendment
Bulbostylis capillaris	Hair-sedge	Yes	
Calamagrostis stricta	Northern reed grass	No	Listed as special concern in the 2010 amendment
Calla palustris	Water arum	Yes	
Callitriche palustris	Common water-starwort	Yes	
Calopogon oklahomensis	Oklahoma grass pink orchid	Yes	
Calopogon tuberosus	Grass pink orchid	Yes	
Calystegia spithamaea	Low bindweed	Yes	Convolvulus spithameus in the 2010 amendment
Cardamine diphylla	Crinkleroot	Yes	Dentaria diphylla in the 2010 amendment
Cardamine parviflora	Small-flowered bitter cress	No	Two populations in the Region
Cardamine pratensis	Cuckoo-flower	No	Listed as special concern in the 2010 amendment
Carex alopecoidea	Brown-headed fox sedge	Yes	
Carex annectens	Yellow fox sedge	Yes	
Carex aurea	Golden sedge	Yes	
Carex brevior	Plains oval sedge	Yes	
Carex bromoides	Brome hummock sedge	No	Edges of ephemeral ponds in hardwood swamp
Carex canescens	Gray bog sedge	Yes	
Carex cephaloidea	Rough clustered sedge	Yes	
Carex chordorrhiza	Cordroot sedge	Yes	
Carex communis	Common beech sedge	Yes	
Carex conjuncta	Green-headed fox sedge	No	One historic Regional occurrence
Carex conoidea	Prairie gray sedge	Yes	
Carex crawei	Early fen sedge	No	Listed as special concern in the 2010 amendment
Carex crawfordii	Crawford's oval sedge	Yes	
Carex crinita	Fringed sedge	No	Added to the Regional flora
Carex cryptolepis	Small yellow sedge	Yes	
Carex diandra	Bog panicled sedge	Yes	
Carex disperma	Soft-leaf sedge	Yes	
Carex eburnea	Ivory sedge	Yes	
Carex echinata	Large-fruited star sedge	Yes	

Carex flava	Large yellow sedge	No	Few populations in the Region
Carex gravida	Long-awned bracted sedge	Yes	
Carex grayi	Common bur sedge	Yes	
Carex gynocrates	Northern bog sedge	No	One historic Regional occurrence
Carex haydenii	Cloud sedge	Yes	
Carex hitchcockiana	Hairy gray sedge	Yes	
Carex jamesii	Grass sedge	Yes	
Carex laxiculmis	Spreading sedge	Yes	
Carex laxiflora	Beech wood sedge	Yes	
Carex leptonervia	Few-nerved wood sedge	Yes	
Carex limosa	Muck sedge	Yes	
Carex magellanica	Boreal bog sedge	Yes	
Carex meadii	Mead's stiff sedge	Yes	
Carex muhlenbergii	Sand bracted sedge	Yes	
Carex muskingumensis	Swamp oval sedge	Yes	
Carex oligocarpa	Few-fruited gray sedge	Yes	
Carex pallescens	Pale green sedge	No	Listed as special concern in the 2010 amendment
Carex peckii	Peck's oak sedge	Yes	
Carex plantaginea	Plantain-leaved wood sedge	Yes	
Carex richardsonii	Prairie hummock sedge	No	Listed as special concern in the 2010 amendment
Carex siccata	Running savanna sedge	Yes	
Carex tenuiflora	Sparse-flowered sedge	No	Two populations in the Region
Carex tribuloides	Awl-fruited oval sedge	Yes	
Carex tuckermanii	Tuckerman's sedge	Yes	
Carex typhina	Cattail sedge	Yes	
Carex umbellata	Early oak sedge	Yes	
Carex vesicaria	Tufted lake sedge	No	Few Regional observations
Carex viridula	Green yellow sedge	No	Few Regional observations
Carex woodii	Wood's stiff sedge	Yes	
Castilleja coccinea	Indian paintbrush	Yes	
Castilleja sessiliflora	Downy painted cup	Yes	
Ceanothus herbaceus	Ceanothus herbaceus	No	One Regional observation
Cephalanthus occidentalis	Buttonbush	Yes	
Ceratophyllum echinatum	Spiny hornwort	No	Listed as special concern in the 2010 amendment
Chamaecrista fasciculata	Partridge pea	Yes	Cassia fasciculata in the 2010 amendment
Chenopodium capitatum	Strawberry blite	No	Two historic populations
Chenopodium leptophyllum	Narrow-leaved goosefoot	Yes	
Chenopodium standleyanum	Woodland goosefoot	Yes	
Chimaphila umbellata	Pipsissewa	Yes	Rare in sandy oak woods
Cinna latifolia	Wood reed	No	One historic Regional occurrence
Circaea alpina	Small enchanter's-nightshade	Yes	
Cladium mariscoides	Twig-rush	Yes	
Clinopodium vulgare	Dogmint, wild basil	Yes	Satureja vulgaris in the 2010 amendment

Clintonia borealis	Bluebead lily	Yes	
Coeloglossum viride	Bracted orchid	Yes	Habenaria viridis var. bracteata in the 2010 amendment
Conopholis americana	Cancer root	Yes	
Coptis trifolia	Goldthread	Yes	
Corallorhiza maculata	Spotted coral-root	Yes	
Corallorhiza odontorhiza	Late coral-root	No	Listed as special concern in the 2010 amendment
Corallorhiza trifida	Early coral-root	Yes	
Corispermum americanum	Bugseed	No	Lake Michigan Beaches
Corispermum pallasii	Bugseed	No	Lake Michigan Beaches
Cornus canadensis	Bunchberry	Yes	
Cornus drummondii	Rough-leaved dogwood	No	Native status is under review
Cornus rugosa	Round-leaved dogwood	Yes	
Corydalis micrantha	Slender corydalis	Yes	
Corydalis sempervirens	Pale corydalis	Yes	
Corylus cornuta	Beaked hazelnut	Yes	Possibly extirpated
Cryptogramma stelleri	Slender cliff brake	Yes	very rare, outcrops in Racine County
Cuscuta cephalanthi	Buttonbush dodder	No	
Cynoglossum virginianum var. boreale	Wild comfrey	Yes	Cynoglossum boreale in the 2010 amendment
Cyperus diandrus	Umbrella flat sedge	Yes	
Cypripedium acaule	Mocassin flower	Yes	Few extant populations
Cypripedium parviflorum var. pubescens	Large yellow lady's-slipper	No	Listed as special concern in the 2010 amendment
Cypripedium reginae	Showy lady's-slipper	No	Listed as special concern in the 2010 amendment
Cystopteris fragilis	Fragile fern	No	Rock outcrops
Cystopteris tenuis	Upland brittle bladderfern	No	Rock outcrops
Dalea candida	White prairie clover	Yes	Petalostemum candidum in the 2010 amendment
Dalea purpurea	Purple prairie clover	Yes	Petalostemum purpureum in the 2010 amendment
Dendrolycopodium obscurum	Ground-pine	No	Lycopodium obscurum
Deparia acrostichoides	Silvery spleenwort	Yes	
Deschampsia caespitosa	Tufted hairgrass	No	Listed as special concern in the 2010 amendment
Desmodium cuspidatum	Bracted tick-trefoil	Yes	
Desmodium glabellum	Smooth tick-trefoil	Yes	
Desmodium nudiflorum	Bare-stemmed tick-trefoil	Yes	
Dicentra canadensis	Squirrel-corn	Yes	
Dicentra cucullaria	Dutchman's breeches	Yes	
Dichanthelium acuminatum var. lindheimeri	Western panic grass	Yes	Panicum lindheimeri in the 2010 amendment
Dichanthelium boreale	Northern panic grass	Yes	Panicum boreale in the 2010 amendment
Dichanthelium columbianum	Hemlock panic grass	No	Two recent observations
Dichanthelium depauperatum	Starved panic grass	Yes	Panicum depauperatum
Dichanthelium linearifolium	Slender-leaved panic grass	Yes	Panicum linearifolium in the 2010 amendment
Dichanthelium perlongum	Long-stalked panic grass	Yes	Panicum perlongum in the 2010 amendment

Dichanthelium villosissimum var. praecocius	Long-haired panic grass	No	Prairies
Diphasiastrum digitatum	Trailing ground-pine	Yes	Lycopodium digitatum in the 2010 amendment
Diphasiastrum tristachyum	Ground-cedar	Yes	Lycopodium tristachyum in the 2010 amendment
Dirca palustris	Leatherwood	Yes	Dirca palustris in the 2010 amendment
Drosera intermedia	Spatulate-leaved sundew	Yes	
Drosera rotundifolia	Round-leaved sundew	Yes	
Dryopteris clintoniana	Clinton's wood fern	No	Listed as special concern in the 2010 amendment
Dryopteris goldiana	Goldie's fern	Yes	
Echinochloa walteri	Salt-marsh cockspur grass	Yes	
Ellisia nyctelea	Aunt Lucy	Yes	
Elodea nuttallii	Slender waterweed	No	Few recent observations
Elymus curvatus	Awnless wild rye	No	One historic Regional occurrence
Elymus riparius	Riverbank wild rye	Yes	
Equisetum pratense	Meadow horsetail	Yes	
Equisetum scirpoides	Dwarf scouring-rush	Yes	
Equisetum sylvaticum	Wood horsetail	Yes	
Equisetum variegatum	Variegated scouring-rush	No	Listed as special concern in the 2010 amendment
Erigeron pulchellus	Robin's fleabane	Yes	
Eriophorum gracile	Slender cotton-grass	Yes	
Eriophorum tenellum	Conifer Cottongrass	No	Recent addition to the Regional Flora
Eriophorum vaginatum	Dense cotton-grass	Yes	Eriophorum spissum in the 2010 amendment
Eriophorum virginicum	Rusty cotton-grass	No	Few Regional observations
Eriophorum viridicarinatum	Tall cotton-grass	Yes	
Eryngium yuccifolium	Rattlesnake master	Yes	Prairie remnants
Euonymus obovatus	Running strawberry-bush	Yes	Tentatively included here, perhaps introduced
Eupatorium sessilifolium	Upland boneset	No	Listed as special concern in the 2010 amendment
Euphorbia glyptosperma	Smooth creeping spurge	No	Few recent records
Euphorbia serpyllifolia	Thyme-leaved spurge	No	Few recent records
Euthamia caroliniana	Slender goldenrod	Yes	Solidago tenuifolia in the 2010 amendment
Euthamia gymnospermoides	Great Plains flattopped goldenrod	Yes	Solidago gymnospermoides in the 2010 amendment
Festuca paradoxa	Cluster fescue	No	Listed as special concern in the 2010 amendment
Festuca saximontana	Rocky Mt. fescue	Yes	
Fimbristylis autumnalis	Autumn sedge	Yes	
Floerkea proserpinacoides	False mermaid	Yes	
Galearis spectabilis	Showy orchis	Yes	Orchis spectabilis in the 2010 amendment, no recent observations
Galium lanceolatum	Lance-leaved wild licorice	Yes	No recent observations
Gaultheria hispidula	Creeping snowberry	Yes	
Gaultheria procumbens	Wintergreen	Yes	
Gaylussacia baccata	Huckleberry	Yes	
Gentiana alba	Cream gentian	No	Listed as special concern in the 2010 amendment
Gentiana puberulenta	Downy gentian	Yes	

Gentianella quinquefolia	Stiff gentian	No	
Gentianopsis crinita	Fringed gentian	Yes	
Gentianopsis virgata	Lesser fringed gentian	No	Listed as special concern in the 2010 amendment
Geranium bicknellii	Northern cranesbill	Yes	
Geranium robertianum	Herb-Robert	Yes	
Geum rivale	Purple avens	Yes	
Geum triflorum	Prairie smoke	Yes	
Geum vernum	Spring avens	No	Disturbed mesic forests
Gleditsia triacanthos	Honey locust	Yes	
Glyceria borealis	Northern manna grass	Yes	
Glyceria canadensis	Rattlesnake grass	Yes	
Goodyera pubescens	Downy rattlesnake-plantain	Yes	
Gymnocarpium dryopteris	Oak fern	Yes	
Hasteola suaveolens	Sweet Indian plantain	No	Listed as special concern in the 2010 amendment
Helianthemum bicknellii	Rockrose	Yes	
Helianthemum canadense	Common rockrose	No	Sand prairies and savannas
Helianthus occidentalis	Western sunflower	No	Prairies
Helianthus pauciflorus	Prairie sunflower	Yes	H. lateriflorus in the 2010 amendment
Hesperostipa spartea	Porcupine grass	Yes	Stipa spartea in 2010 amendment
Heuchera richardsonii	Alumroot	Yes	
Hieracium longipilum	Long-haired hawkweed	Yes	
Hieracium scabrum	Rough hawkweed	Yes	
Hieracium umbellatum	Northern hawkweed	Yes	
Hippuris vulgaris	Mare's-tail	Yes	
Homalosorus pycnocarpos	Narrow-leaved spleenwort	No	Listed as special concern in the 2010 amendment
Houstonia longifolia	Long-leaved bluets	Yes	
Huperzia lucidula	Shining club-moss	Yes	Lycopodium lucidulum in the 2010 amendment
Hypericum boreale	Northern St. John's-wort	Yes	
Hypericum canadense	Canadian St. John's-wort	No	Two historic observations
Hypericum kalmianum	Kalm's St. John's-wort	Yes	
Hypericum majus	Sand St. John's-wort	Yes	
Hypericum pyramidatum	Great St. John's-wort	Yes	
Impatiens pallida	Pale jewelweed	Yes	
Ionactis linariifolius	Flax-leaved aster	Yes	Aster linariifolius in 2010 amendment
Juncus acuminatus	Sharp-fruited rush	Yes	
Juncus alpinoarticulatus	Northern green rush	Yes	
Juncus greenei	Greene's rush	Yes	
Juncus interior	Inland rush	Yes	
Juniperus horizontalis	Trailing juniper	Yes	
Kalmia polifolia	Bog laurel	Yes	
Koeleria macrantha	June grass	Yes	Koeleria cristata
Lactuca floridana	Blue lettuce	Yes	
Lactuca ludoviciana	Western wild lettuce	Yes	

Lathyrus japonicus	Beach pea	Yes	
Lathyrus ochroleucus	Pale vetchling	Yes	
Lathyrus venosus	Veiny pea	No	
Lechea stricta	Bushy pinweed	Yes	
Lechea tenuifolia	Slender-leaved pinweed	No	Very few historic stations
Liatris cylindracea	Cylindrical blazing star	Yes	
Liatris ligulistylis	Showy blazing star	Yes	
Liatris spicata	Marsh blazing star	No	Listed as special concern in the 2010 amendment
Lilium philadelphicum	Wood lily	Yes	
Lindernia dubia	False pimpernel	Yes	
Linnaea borealis	Twinflower	Yes	
Linum sulcatum	Grooved yellow flax	Yes	
Linum virginianum	Small yellow flax	Yes	Linum medium in 2010 amendment
Liparis liliifolia	Purple twayblade	Yes	
Liparis loeselii	Green twayblade	Yes	
Lipocarpha micrantha	Dwarf bulrush	Yes	
Lithospermum canescens	Hoary puccoon	Yes	
Lithospermum caroliniense	Hairy puccoon	Yes	
Lithospermum incisum	Fringed puccoon	No	Dry hill prairies
Lithospermum latifolium	Broad-leaved puccoon	No	Listed as special concern in the 2010 amendment
Lobelia cardinalis	Cardinal flower	Yes	
Lonicera canadensis	American fly honeysuckle	Yes	
Lonicera oblongifolia	Swamp fly honeysuckle	Yes	
Lonicera villosa	Mountain fly honeysuckle	Yes	
Lupinus perennis	Wild lupine	Yes	
Lycopodiella inundata	Common club-moss	Yes	Lycopodium inundatum in the 2010 amendment
Lycopodium clavatum	Running ground-pine	Yes	
Lysimachia hybrida	River loosestrife	Yes	
Lysimachia lanceolata	Lance-leaved loosestrife	Yes	
Lysimachia quadrifolia	Whorled loosestrife	Yes	
Lysimachia terrestris	Swamp candles	Yes	
Maianthemum trifolium	Three-leaved false Solomon's-seal	Yes	Smilacina trifolia in 2010 amendment, Bogs
Malaxis unifolia	Green adder's-mouth	Yes	
Medeola virginiana	Indian cucumber-root	No	Listed as special concern in the 2010 amendment, possibly extirpated
Melampyrum lineare	Cow-wheat	Yes	
Menyanthes trifoliata	Bogbean	Yes	
Milium effusum	Wood millet	Yes	
Mimulus glabratus	Yellow monkey flower	Yes	
Minuartia michauxii	Rock sandwort	Yes	Arenaria stricta in 2010 amendment
Mirabilis albida	White four-o-clock	No	Dry habitats such as sandy prairies and barrens
Mitchella repens	Partridgeberry	Yes	
Mitella nuda	Naked mitrewort	Yes	

Moehringia lateriflora	Grove sandwort	Yes	Arenaria lateriflora in 2010 amendment
Monarda punctata	Horse mint	Yes	
Moneses uniflora	One-flowered pyrola	Yes	
Monotropa hypopithys	Pinesap	Yes	
Morus rubra	Red mulberry	No	Few recent observations
Muhlenbergia sylvatica	Woodland satin grass	Yes	
Muhlenbergia tenuiflora	Slender satin grass	Yes	
Myriophyllum alterniflorum	Alternate-leaved water-milfoil	No	High quality water bodies
Myriophyllum farwellii	Farwell's water-milfoil	No	Few recent observations
Myriophyllum heterophyllum	Various-leaved water-milfoil	Yes	
Myriophyllum verticillatum	Whorled water-milfoil	No	Few recent observations
Najas guadalupensis	Southern naiad	Yes	
Nelumbo lutea	American lotus	Yes	A few lakes in the Region
Nemopanthus mucronatus	Mountain holly	Yes	Found in bogs
Neottia cordata	Heartleaf twayblade	Yes	Listera cordata in the 2010 amendment
Nuttallanthus canadensis	Blue toadflax	Yes	Linaria canadensis in 2010 amendment
Oenothera clelandii	Sand evening-primrose	Yes	
Oenothera perennis	Small sundrops	Yes	
Oenothera villosa	Hairy evening-primrose	Yes	
Onosmodium bejariense	Marbleseed	Yes	No recent observations
Ophioglossum pusillum	Northern adder's-tongue fern	No	Previously listed as special concern, no recent records
Opuntia macrorhiza	plains prickly-pear	No	Very local in sand prairies and barrens
Orobanche uniflora	One-flowered broomrape	No	Previously listed as special concern
Orthilia secunda	One-sided shinleaf	Yes	Pyrola secunda in the 2010 amendment
Oryzopsis asperifolia	Rough-leaved rice grass	Yes	
Oxalis violacea	Violet wood sorrel	Yes	Dry prairies and oak openings
Panax quinquefolius	Ginseng	No	Previously listed as special concern
Panax trifolius	Dwarf ginseng	Yes	
Parthenium integrifolium	Wild quinine, feverfew	No	Previously listed as special concern
Paspalum setaceum	Thin paspalum	No	Rare in dry sand prairies
Patis racemosa	Black-seeded rice grass	Yes	Oryzopsis racemosus in 2010 amendment
Pellaea glabella	Purple cliff brake	Yes	
Penstemon gracilis	Slender beard-tongue	No	Sand prairies and rock outcrops, very rare in the Region
Petasites frigidus var. palmatus	Arctic Sweet-colt's-foot	No	Recent addition to the Regional Flora, one known population
Phegopteris connectilis	Long beech fern	Yes	
Phyla lanceolata	Fog fruit	Yes	Floodplains
Picea mariana	Black spruce	Yes	
Pinus banksiana	Jack pine	No	Native stands restricted to dry sandy woodlands
Pinus resinosa	Red pine	No	Native stands restricted to dry sandy woodlands
Pinus strobus	White pine	Yes	Few native stands, extensively planted
Platanthera clavellata	Club-spur orchid	Yes	
Platanthera dilatata	Tall white bog-orchid	No	Previously listed as special concern
Platanthera huronensis	Tall northern bog orchid	Yes	Synonym = Platanthera hyperborea

Platanthera lacera	Ragged-fringed orchid	Yes	
Platanthera orbiculata	Round-leaved orchid	No	Previously listed as special concern
Platanthera psycodes	Purple-fringed orchid	Yes	
Poa alsodes	Grove blue grass	Yes	
Poa languida	Weak blue grass	Yes	
Poa saltuensis	woodland bluegrass	No	Recent addition to the Regional Flora
Pogonia ophioglossoides	Rose pogonia	Yes	Bogs
Polygala cruciata	Cross milkwort	No	Previously listed as special concern
Polygala paucifolia	Gaywings, fringed polygala	Yes	
Polygala polygama	Purple milkwort	Yes	
Polygala sanguinea	Field milkwort	Yes	
Polygala verticillata	Whorled milkwort	Yes	
Polygonella articulata	Jointweed	Yes	
Polygonum tenue	Slender knotweed	Yes	
Polymnia canadensis	Leafcup	Yes	
Polypodium virginianum	Polypody	Yes	Two locations in Region
Pontederia cordata	Pickerel weed	Yes	
Populus balsamifera	Balsam poplar	Yes	Near lake Michigan
Potamogeton epihydrus	Ribbon-leaved pondweed	Yes	
Potamogeton pusillus	Small pondweed	Yes	
Potamogeton robbinsii	Fern pondweed	Yes	
Potamogeton strictifolius	Stiff pondweed	Yes	
Prenanthes racemosa	Glaucous white lettuce	Yes	Prairie remnants
Prosepinaca palustris	Mermaid weed	Yes	
Prunus pensylvanica	Pin cherry, bird cherry	No	Few recent observations
Prunus pumila	Beach plum	no	Recent addition to the Regional Flora
Pseudognaphalium macounii	Clammy cudweed	Yes	Synonym = Gnaphalium macounii
Pyrola americana	Round-leaved shinleaf	Yes	Synonym = Pyrola rotundifolia
Pyrola asarifolia	Pink shinleaf	Yes	
Pyrola chlorantha	Green shinleaf	No	Sandy woods and ravines
Ranunculus rhomboideus	Prairie crowfoot	Yes	
Rhamnus alnifolia	Alder buckthorn	Yes	
Rhododendron groenlandicum	Labrador-tea	Yes	Ledum groenlandium in 2010 amendment
Rhynchospora alba	White beak-rush	Yes	
Rhynchospora capillacea	Hair beak-rush	Yes	
Rhynchospora capitellata	Clustered beak-rush	No	New addition, found on clay seepage bluffs
Ribes hirtellum	Northern gooseberry	Yes	
Ribes lacustre	Swamp black currant	Yes	
Ribes triste	Swamp red currant	Yes	
Rosa arkansana	Sunshine rose	Yes	
Rubus curtipes	Short-stalk dewberry	Yes	part of R. flagellaris complex
Rubus flagellaris	Common dewberry	Yes	
Rubus hispidus	Swamp dewberry	Yes	

Rubus plicatifolius	Plait-leaf dewberry	Yes	part of R. flagellaris complex
Rubus stipulatus	Big Horseshoe Lake dewberry	Yes	Part of R. setosus complex
Rudbeckia fulgida	Easter coneflower	Yes	Commonly planted
Rudbeckia subtomentosa	Sweet black-eyed Susan	Yes	Commonly planted
Rumex fueginus	Golden dock	Yes	Synonym = Rumex maritimus
Ruppia cirrhosa	Ditch-grass, widgeon-grass	Yes	Very rare, known from four lakes in the Region
Sagittaria cristata	Crested arrowhead	Yes	One population in the Region
Sagittaria graminea	Grass-leaved arrowhead	No	Two populations in the Region
Sagittaria rigida	Stiff arrowhead	No	Few recent observations
Salix candida	Sage willow	Yes	
Salix humilis	Prairie willow	Yes	
Salix lucida	Shining willow	No	
Salix myricoides	Blue-leaved willow, bayberry willow	No	
Salix serissima	Autumn willow	Yes	
Sambucus racemosa	Red-berried elder	Yes	Sambucus pubens
Samolus parviflorus	Water pimpernel	Yes	Few records Statewide
Sanicula canadensis	Canadian black snakeroot	Yes	
Sanicula trifoliata	Beaked black snakeroot	Yes	
Sarracenia purpurea	Pitcher plant	Yes	
Sceptridium dissectum	Cut-leaved grape fern	Yes	Synonym = Botrychium dissectum
Sceptridium multifidum	Leathery grape fern	Yes	Synonym = Botrychium multifidum
Scheuchzeria palustris	Arrow-grass	Yes	Bogs
Schizachne purpurascens	False melic	Yes	
Schoenoplectus purshianus	Pursh's tufted bulrush	Yes	Synonym = Scirpus purshianus
Schoenoplectus smithii	Smith's tufted bulrush	No	Synonym = Scirpus smithii
Schoenoplectus subterminalis	Water bulrush	Yes	Synonym = Scirpus subtermnialis
Scirpus microcarpus	Reddish bulrush	No	Few populations in the Region
Scutellaria leonardii	Small skullcap	Yes	
Selaginella rupestris	Dwarf spike-moss	No	One population in the Region from sand prairie
Shepherdia canadensis	Buffaloberry	Yes	Lake Michigan Bluffs
Sicyos angulatus	Bur cucumber	Yes	No recent observations
Silene stellata	Starry campion	Yes	
Silphium laciniatum	Compass plant	Yes	
Sisyrinchium montanum	Blue-Eyed Grass	No	Lake Michigan Bluffs, one population in Region
Sisyrinchium strictum	Mountain blue-eyed-grass	Yes	Recent observation in Ozaukee and Washington Counties
Smilax herbacea	Smooth Carrion-Flower	No	One historic Regional occurrence
Solidago bicolor	Silverrod	Yes	
Solidago hispida	Hairy goldenrod	Yes	
Solidago ohioensis	Ohio goldenrod	No	Previously listed as special concern
Solidago ptarmicoides	Stiff aster	Yes	Synonym = Aster ptarmicoides, Oligoneuron album
Sorbus americana	American mountain-ash, dogberry	Yes	

Sorbus decora	Showy mountain-ash, dogberry	Yes	
Sparganium androcladum	Branched burreed	Yes	
Sparganium emersum	Dwarf burreed	Yes	
Sparganium natans	Small burreed	no	Known from two lakes in the Region
Spiraea tomentosa	Hardhack, steeplebush	Yes	Very few stations
Spiranthes casei	Case's lady's-tresses orchid	Yes	
Spiranthes lacera	Slender lady's-tresses	Yes	
Spiranthes romanzoffiana	Hooded lady's-tresses	Yes	
Sporobolus heterolepis	Prairie dropseed	Yes	Prairie remnants
Staphylea trifolia	Bladdernut	Yes	
Streptopus lanceolatus	Rosy twisted-stalk	Yes	Few locations
Symphoricarpos albus	Snowberry	Yes	
Symphyotrichum ciliolatum	Northern heart-leaved aster	Yes	Synonym = Aster ciliolatus
Symphyotrichum cordifolium	Heart-leaved aster	Yes	Synonym = Aster cordifolius
Symphyotrichum falcatum	White prairie aster	Yes	Synonym = Aster falcatus
Symphyotrichum ontarionis	Ontario aster	Yes	Synonym = Aster ontarionis
Symphyotrichum praealtum	Willow aster	Yes	Synonym = Aster praealtus
Symphyotrichum prenanthoides	Crooked-stem aster	Yes	Synonym = Aster prenanthoides
Symphyotrichum sericeum	Silky aster	No	Few recent observations
Taxus canadensis	Canada yew	no	Previously listed as special concern, no recent records
Tephrosia virginiana	Goat's-rue	Yes	No recent observations
Thalictrum thalictroides	Rue-anemone	Yes	Synonym = Anemonella thalictroides
Tomostima reptans	Common whitlow cress	No	Formerly known as Draba reptans, sandy gravelly soils
Tradescantia bracteata	Bracted Spiderwort	No	Recent addition to the Regional Flora
Trichophorum alpinum	Alpine cotton-grass	No	Previously listed as special concern
Trichophorum clintonii	Clinton's bulrush	Yes	Synonym = Scirpus clintonii
Trichostema brachiatum	False pennyroyal	Yes	
Triglochin maritima	Common bog arrow-grass	No	Previously listed as special concern
Triodanus perfoliata	Venus's looking-glass	No	sand prairies and barrens
Triplasis purpurea	Sand grass	No	Lake Michigan Beaches
Tsuga canadensis	Eastern hemlock	No	Cool Lake Michigan ravines
Ulmus thomasii	Cork elm, rock elm	Yes	Few Stations
Utricularia cornuta	Horned bladderwort	Yes	
Utricularia gibba	Humped bladderwort	Yes	
Utricularia minor	Small bladderwort	Yes	
Utricularia purpurea	Purple bladderwort	No	Previously listed as special concern
Vaccinium angustifolium	Early low blueberry	Yes	
Vaccinium corymbosum	High-bush blueberry	No	Recent addition to the Regional Flora
Vaccinium macrocarpon	Large cranberry	Yes	
Vaccinium myrtilloides	Canada blueberry	Yes	
Vaccinium oxycoccos	Small cranberry	Yes	
Valerianella chenopodifolia	Great Lakes corn salad	No	Historic record, possibly extirpated from the State

Veronica americana	American brooklime	Yes	
Vicia caroliniana	Wood vetch	Yes	
Viola adunca	Sand violet	Yes	
Viola canadensis	Canada violet	No	Few recent records
Viola nephrophylla	Northern bog violet	Yes	
Viola pedata	Bird's-foot violet	Yes	
Viola pedatifida	Prairie violet	Yes	
Viola renifolia	Kidney-leaved violet	Yes	
Viola sagittata	Arrow-leaved violet	Yes	
Vitis aestivalis	Summer grape	Yes	
Vulpia octoflora	Six-weeks fescue, slender fescue	No	Few recent records
Waldsteinia fragarioides	Barren strawberry	Yes	Few recent records
Wolffia borealis	Northern watermeal	No	
Wolffia brasiliensis	Brazilian watermeal	Yes	
Zannichellia palustris	Horned pondweed	Yes	
Zizania aquatica	Wild rice	Yes	
Zizania palustris	Northern wild rice	Yes	
Zizia aptera	Heart-leaved golden Alexanders	Yes	

Species formerly listed in the 2010 Amendment to Planning Report 42 as Uncommon

Species Name	Common Name	Reason for Delisting
Ammannia robusta	Grand red-stem	Added as special concern by Wisconsin Department of Natural Resources
Asclepias hirtella	Tall green milkweed	Added as special concern by Wisconsin Department of Natural Resources
Asplenium platyneuron	Ebony spleenwort	More common and widespread
Aster hesperius	Western lined aster	Now included in *Symphyotricum lanceolatum*
Beckmannia syzigachne	American slough grass	Introduced to Wisconsin
Carex atherodes	Hairy-leaved lake sedge	More common and widespread
Carex digitalis	Narrow-leaved wood sedge	Added as special concern by Wisconsin Department of Natural Resources
Carex molesta	Field oval sedge	More common and widespread
Cuscuta coryli	Hazel dodder	Added as special concern by Wisconsin Department of Natural Resources
Cuscuta polygonorum	Knotweed dodder	Added as special concern by Wisconsin Department of Natural Resources
Cyperus squarrosus	Awned flat sedge	More common and widespread
Desmodium glabellum	Smooth tick-trefoil	Included in *Desmodium perplexum*, added special concern by Wisconsin Department of Natural Resources
Desmodium paniculatum	Panicled tick-trefoil	Does not occur in the southeastern Wisconsin Region
Galium brevipes	Limestone swamp bedstraw	Added as special concern by Wisconsin Department of Natural Resources
Gaura biennis	Biennial gaura	More common and widespread
Helianthus divaricatus	Woodland sunflower	More common and widespread
Juncus bufonius	Toad rush	More common and widespread
Lechea intermedia	Pinweed	Does not occur in the southeastern Wisconsin Region
Lycopus virginicus	Virginia water-horehound	More common and widespread

Muhlenbergia cuspidata	Prairie satin grass	Does not occur in the southeastern Wisconsin Region
Monotropa uniflora	Indian pipe	More common and widespread
Paronychia canadensis	Tall forked chickweed	Added as special concern by Wisconsin Department of Natural Resources
Penstemon digitalis	Foxglove	Introduced to Wisconsin
Pilea fontana	Bog clearweed	More common and widespread
Plantago purshii	Woolly plantain	Introduced to Wisconsin
Platanthera obtusata	Blunt-leaf orchid	Does not occur in the southeastern Wisconsin Region
Poa sylvestris	Forest bluegrass	Added as special concern by Wisconsin Department of Natural Resources
Persicaria arifolia	Halberd-leaved tear-thumb	More common and widespread
Potamogeton oakesianus	Oakes's pondweed	Added as special concern by Wisconsin Department of Natural Resources
Sisyrinchium angustifolium	Short blue-eyed-grass	Added as special concern by Wisconsin Department of Natural Resources
Spiranthes lucida	Shining ladies'-tresses	Added as special concern by Wisconsin Department of Natural Resources
Spiranthes magnicamporum	Great Plains ladies'-tresses	Added as special concern by Wisconsin Department of Natural Resources
Stuckenia filiformis	Fine-leaved pondweed	Both subspecies added as special concern by Wisconsin Department of Natural Resources
Valeriana edulis	Common valerian	Added as special concern by Wisconsin Department of Natural Resources
Viola affinis	Leconte's violet	More common and widespread
Wolffia punctata	Dotted watermeal	now included in Wolffia brasiliensis
Vitis vulpina	Frost grape	Does not occur in the southeastern Wisconsin Region
Zygadenus elegans	White camas	Anticlea elegans added as special concern by Wisconsin Department of Natural Resources

Source: Wisconsin Department of Natural Resources and SEWRPC

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 6-Changes to Site Boundaries and Ranks

6.1 INTRODUCTION

To remain relevant, the Natural Areas Plan must be periodically reviewed and revised to incorporate changes in the regional landscape. Chapter 3 of this report documented both the progress that had been made in implementing the proposals set forth in both the original 1997[1] plan and the 2010[2] Amendment, and losses and degradation of natural areas and critical species habitat sites since preparation of that report. Chapter 4 listed those newly inventoried sites that should be added as natural areas and critical species habitat sites. Additionally, the updated plan should incorporate new data on the natural landscape of the Region that reflect changes that have taken place in many of the sites originally inventoried since completion of the 2010 Amendment. This re-evaluation of natural areas uses more complete and current information and employs the basic principles and concepts of the previously adopted plan, to enable a better comparison to other similar sites in the Region, and thus to a better scientific evaluation of the quality of the site. Because it should not be assumed that the boundaries of natural areas should necessarily remain static, these changes often result in refinements in the delineation of the areal extent of sites. As discussed in Chapter 3, losses of portions of natural areas are to be expected. However, expansion of boundaries may also take place through such factors as proper management techniques of surrounding marginal habitat; examination of the most recent, highest quality color aerial photography that makes natural boundaries more apparent; and additional field investigations.

[1]*SEWRPC Planning Report No. 42,* A Regional Natural Areas and Critical Species Habitat and Protection Plan for Southeastern Wisconsin*, 1997*.

[2]*SEWRPC Planning Report No. 42,* Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region*, 2010*.

Specifically, this work element included re-inventorying existing sites in the field; re-evaluating existing sites considering updated information; and analyzing boundaries for any necessary adjustments using the most recent (year 2022) color aerial photography. In addition, pertinent data acquired through other, but related, Commission field work, such as wetland and environmental corridor delineations of areas not previously considered as potential natural areas, has led to evaluation of these sites as proposed natural areas, or, at other times, has resulted in the discovery of new critical species sites.

6.2 RESULTS OF SITE RE-EVALUATION

A total of 14 natural areas and critical species habitat sites were upgraded in classification through a thorough re-evaluation of their status (Table 6.1). This includes eight critical species habitat areas upgraded to NA-3 status, three NA-3 quality sites upgraded to NA-2 status, and three NA-2 quality sites upgraded to NA-1 status.

Boundary adjustments

The original natural area boundaries have recently been reviewed and adjusted to fit the more accurate orthophotography. Measurements of the acreages of the revised natural areas using GIS software will naturally differ from the original acreages due to the more accurate placement of the boundaries of these features on current orthophotography.

Natural Areas of Statewide or Greater Significance (NA-1)

After reviewing the most recent aerial photography, a total of 22 NA-1 quality sites showed a net change in their areal extent (Table 6.2). Fifteen of these sites showed net increases, while seven decreased in mapped areas. The largest increase, 176 acres, occurred in the Chiwaukee Prairie State Natural Area, where recent management, including prescribed burning and brush removal, has effectively restored what had been adjacent marginal habitat. The greatest loss in mapped area was 60 acres at Cherry Lake Sedge Meadow in Racine County. Much of the area removed from the boundary was disturbed and degraded upland and wetland habitat. In total, there was a net gain of 226 acres of Natural Areas of Statewide or Greater Significance.

Natural Areas of Statewide or Greater Significance (NA-2)

A total of 38 NA-2 quality areas showed a net change in their areal extent (Table 6.3). Twenty of these sites showed net increases, while eighteen decreased in mapped area. The largest increase, 53 acres, occurred in

the Loew's Lake Wetland Complex with the addition of adjacent high-quality wetlands. The largest decrease, 319 acres, was at New Munster Bog Island State Natural Area. Much of the surrounding poor quality wetland was removed from the NA-2 boundary and added to the New Munster Wildlife Area Critical Species Habitat Area. There was a net loss of 279 acres of Natural Areas of Statewide or Greater Significance.

Natural Areas of Statewide or Greater Significance (NA-3)

A total of 95 NA-3 quality sites showed a net change in their areal extent (Table 6.4). Thirty-two of these sites showed net increases, while 63 decreased in mapped area. The largest increase—52 acres—occurred in the Turtle Lake Fen and Habitat Area, where additional areas of moderate-quality sedge meadow were added to the boundary. Overall, there was a net loss of 277 acres of NA-3 acres due to boundary adjustments.

Critical Species Habitat Sites

A total of 24 Critical Species Habitat sites showed a net change in their areal extent (Table 6.5). All twenty-four of these sites showed a net decrease in mapped area. The greatest area lost —185 acres—occurred in the Bong State Recreation area with the exclusion of several areas outside public ownership not suitable to rare species present. There was an overall net loss of 325 acres of Critical Species habitat due to boundary revisions.

6.3 SUMMARY

Therefore, based upon the factors previously outlined, all natural area sites showed a net decrease of 330 acres, or one percent, through boundary revisions, while critical species habitat area sites showed a net decrease of 325 acres, or three percent through boundary revisions.

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2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 6

TABLES

Table 6.1
Natural Areas and Critical Species Habitat Sites Listed in the 2010 Amendment to Planning Report Number 42 Upgraded in Rank

Area Name	Location	Former Rank	Revised Rank	Reason for Upgrade
Grant Park Woods	Milwaukee County T5N-R22E Section 1, 12 City of St. Francis	NA-3	NA-2	Additional surveys revealed greater diversity and higher ecological quality
Wood Creek Woods	Milwaukee County T5N-R22E Section 20 City of Oak Creek	CSH	NA-3	Additional surveys revealed greater diversity and higher ecological quality
Cambridge Avenue Woods	Milwaukee County T7N-R22E Section 9 City of Milwaukee	CSH	NA-3	Additional surveys revealed greater diversity and higher ecological quality
Mee-Kwon Park Woods	Ozaukee County T9N-R21E Section 10 City of Mequon	CSH	NA-3	Additional surveys revealed greater diversity and higher ecological quality
Port Washington Clay Banks	Ozaukee County T10N-R22E Section 3, 10 City of Port Washington	CSH	NA-3	Additional surveys revealed greater diversity and higher ecological quality
Kettle Moraine Oak Opening-South	Walworth County T4N-R16E Section 4 Town of LaGrange	NA-2	NA-1	Additional surveys revealed greater diversity and higher ecological quality on adjacent lands
Army Lake Lowland and Oak Woodland	Walworth County T4N-R18E Section 8, 9. 16, 17 Town of East Troy	NA-3	NA-2	Additional surveys revealed greater diversity and higher ecological quality on adjacent lands
Eagle Centre Prairie State Natural Area	Waukesha County T5N-R17E Section 22, 27 Village of Eagle	NA-3	NA-2	Additional surveys revealed greater diversity and higher ecological quality
Mukwonago River State Natural Area	Waukesha County T5N-R18E Section 25, 36 Village of Mukwonago	NA-2	NA-1	Additional surveys revealed greater diversity and higher ecological quality

Area Name	Location	Former Rank	Revised Rank	Reason for Upgrade
Big Bend Woods	Waukesha County T5N-R19E Section 22, 23 Town of Vernon	NA-2	NA-1	Additional surveys revealed greater diversity and higher ecological quality
Utica Lake Tamaracks and Adjacent Wetlands	Waukesha County T6N-R17E Section 4 Town of Ottawa	CSH	NA-3	Additional surveys revealed greater diversity and higher ecological quality
Stephenson Shrub Fen	Waukesha County T6N-R17E Section 11 Town of Ottawa	CSH	NA-3	Additional surveys revealed greater diversity and higher ecological quality
Nashotah Park Woods	Waukesha County T8N-R18E Section 31 Town of Merton	CSH	NA-3	Oak woodlands and openings recently restored
Campground Woods	Waukesha County T08N-R20E Section 07, 18 Village of Menomonee Falls	CSH	NA-3	Recent restoration practices revealed greater diversity and higher ecological quality

Source: Southeastern Wisconsin Regional Planning Commission

Table 6.2
Changes in Mapped Aereal Extent of Natural Areas of Statewide Significance (NA-1) Designated in the 2010 Amendment to PR No. 42

Site Name	Location	Net Change in Mapped Area (Acres)	2010 Acreage	Notes
Kenosha Sand Dunes and Low Prairie	Kenosha County T1N-R23E Section 8 City of Kenosha	-4	99	Adjust Boundaries
Chiwaukee Prairie State Natural Area	Kenosha County T1N-R23E Section 31 Village of Pleasant Prairie	176	308	Combined several natural areas within the lake plain prairie complex
Sapa Spruce Bog State Natural Area	Ozaukee County T1N-R21E Section 30 Town of Saukville	3	63	Adjust Boundaries
Fairy Chasm State Natural Area	Ozaukee County T9N-R22E Section 33 City of Mequon	2	80	Adjust Boundaries
Kurtz Woods State Natural Area	Ozaukee County T10N-R21E Section 1 Town of Grafton	1	70	Adjust Boundaries
Riveredge Creek and Ephemeral Pond State Natural Area	Ozaukee County T11N-R21E Section 7 Town of Saukville	13	100	Included adjacent high quality habitat
Cedarburg Bog State Natural Area	Ozaukee County T11N-R21E Section 29 Town of Saukville	14	2063	Adjust Boundaries
Huiras Lake Woods and Bog	Ozaukee County T12N-R21E Section 9 Town of Fredonia	-1	440	Adjust Boundaries
Cherry Lake Sedge Meadow State Natural Area	Racine County T3N-R19E Section 10 Village of Rochester	-60	190	Removed adjacent poor quality uplands and wetlands
Renak-Polak Maple-Beech Woods State Natural Area	Racine County T4N-R22E Section 14 Village of Caledonia	-1	138	Adjust Boundaries
Bluff Creek Fens	Walworth County T4N-R15E Section 13 Town of Whitewater	4	79	Adjust Boundaries
Bluff Creek Woods	Walworth County T4N-R15E Section 13 Town of Whitewater	71	371	Included adjacent high quality habitat
Young Prairie State Natural Area	Walworth County T4N-R16E Section 5 Town of LaGrange	2	54	Included adjacent high quality wet-mesic prairie
Lulu Lake and Eagle Spring Lake Wetland Complex and Adjacent Uplands	Walworth County T4N-R17E Section 1 Town of Troy	50	1071	Included adjacent high quality habitat
Pickerel Lake Fen State Natural Area	Walworth County T4N-R17E Section 13 Town of Troy	8	273	Included adjacent high quality habitat
Beulah Bog State Natural Area	Walworth County T4N-R18E Section 7 Town of East Troy	-1	72	Adjust Boundaries

Site Name	Location	Net Change in Mapped Area (Acres)	2010 Acreage	Notes
Murphy Lake--McConville Lake Wetland Complex	Washington County T9N-R18E Section 21 Town of Erin	2	887	Adjust Boundaries
Aurora Road Fen	Washington County T11N-R18E Section 35 Town of Addison	-2	22	Removed areas disturbed by fill
Smith Lake Fen and Swamp	Washington County T12N-R19E Section 26 Town of Barton	-9	179	Removed disturbed areas
Kettle Moraine Fen and Low Prairie State Natural Area	Waukesha County T5N-R17E Section 10 Town of Eagle	3	150	Adjust Boundaries
Upper Mukwonago River	Waukesha County T5N-R18E Section 31 Town of Mukwonago	10	215	Included adjacent high quality habitat
Genesee Oak Opening and Fen State Natural Area	Waukesha County T6N-R18E Section 28 Town of Genesee	4	96	Adjust Boundaries

Source: SEWRPC.

Table 6.2
Changes in Mapped Aereal Extent of Natural Areas of Regional or Countywide Significance (NA-2) Designated in the 2010 Amendment to Planning Report Number 42

Site Name	Location	Net Change in Mapped Area (Acres)	2010 Acreage	Notes
New Munster Bog Island State Natural Area	Kenosha County T1N-R19E Section 2, 3, 10, 11 Town of Wheatland	-319	384	Invasive Species
Merkt Woods	Kenosha County T1N-R21E Section 8,17 Village of Bristol	-1	83	Development
Bristol Woods	Kenosha County T1N-R21E Section 21, 22 Village of Bristol	-6	181	Development
Mud Lake Sedge Meadow	Kenosha County T1N-R21E Section 32, 33 Village of Bristol	-18	55	Invasive Species
Petrifying Springs Woods	Kenosha County T2N-R22E Section 2, 11 Village of Somers	7	197	Added adjacent floodplain forest of good-quality
Root River Wet-Mesic Woods--West	Milwaukee County T5N-R21E Section 35, 36 City of Franklin	-6	273	Invasive Species (EAB)
Pigeon Creek Low and Mesic Woods	Ozaukee County T9N-R21E Section 10 City of Mequon	1	82	Development
Donges Bay Gorge	Ozaukee County T9N-R22E Section 13 City of Mequon	1	22	Adjust Boundaries
Abbott Woods and Ravine	Ozaukee County T10N-R22E Section 21, 28 Town of Grafton	2	31	Adjust Boundaries
Kinnamon Conifer Swamp	Ozaukee County T11N-R21E Section 18, 19 Town of Saukville	2	391	Adjust Boundaries
Max's Bog	Ozaukee County T11N-R21E Section 20 Town of Saukville	3	30	Adjust Boundaries
Milwaukee River Mesic Woods	Ozaukee County T11-R21E Section 3 Town of Saukville T12N-R21E Section 34 Town of Fredonia	-2	382	Development
Harrington Beach Lacustrine Forest	Ozaukee County T12N-R23E Section 19 Town of Belgium	6	197	Refinement
Brock Lake Fen	Racine County T3N-R19E Section 15, 16, 21 Village of Rochester	-70	231	Removed poor quality areas dominated by invasive species
Leda Lake Fen-Meadow	Racine County T3N-R19E Section 20, 21, 29 Village of Rochester	-39	222	Removed poor quality areas dominated by invasive species
Waubeesee Oak Woods and Tamarack Relict	Racine County T4N-R20E Section 7 Town of Norway	-2	187	Adjust Boundaries
Wind Lake Shrub-Fen	Racine County T4N-R20E Section 9 Town of Norway	-10	21	Invasive Species
County Line Riverine Woods	Racine County T4N-R21E Section 1 Town of Raymond	-1	141	Adjust Boundaries
Bluff Creek Prairie	Walworth County T4N-R15E Section 23 Town of Whitewater	2	21	Adjust Boundaries
LaGrange Oak Woods	Walworth County T4N-R16E Section 8, 17, 18, 20 Town of LaGrange	-25	768	Removed poor quality areas planted to conifers
Swan Lake Wetland Complex	Walworth County T4N-R17E Section 12, 13 Town of Troy T4N-R18E Section 18 Town of East Troy	3	167	Adjust Boundaries

Upper Mukwonago River Wetland Complex	Walworth County T4N-R17E Section 3, 9, 10 Town of Troy	20	338	Added adjacent high quality habitat
Adams Lake Fen and Marsh	Walworth County T17N-R04E Section 19 Town of Troy	25	65	Added adjacent high quality habitat
Holy Hill Woods	Washington County T9N-R18E Section 2, 11, 14 Town of Erin	-3	259	Adjust Boundaries
Loew's Lake Wetland Complex	Washington County T9N-R18E Section 24, 25, 26, 34, 35 Town of Erin	53	481	Added adjacent high quality habitat
Glacier Hills Park Bogs and Upland Woods	Washington County T9N-R19E Section 7, 17, 18 Village of Richfield	5	60	Added adjacent high quality habitat
Colgate Fen-Meadow	Washington County T9N-R19E Section 26, 35 Village of Richfield	6	23	Added adjacent high quality habitat
Big Cedar Lake Bog	Washington County T10N-R19E Section 6 Town of Polk	-3	89	Development
Mud Lake Upland Woods	Washington County T10N-R19E Section 19 Town of Polk	-3	56	Development
Wayne Swamp	Washington County T12N-R18E Section 13, 14, 23, 24 Town of Wayne T12N-R19E Sections 18, 19	-7	1147	Invasive Species and wetland disturbance
North Branch Woods	Washington County T12N-R20E Section 25 Town of Farmington	4	180	Adjust Boundaries
Eagle Fen and Spring	Waukesha County T5N-R17E Section 3 Town of Eagle T6N-R17E Section 34 Town of Ottawa	36	190	Added adjacent high quality habitat
Eagle Dry Prairie and Grotjan's Fen	Waukesha County T5N-R17E Sections 19, 20, 29, 30 Town of Eagle	1	60	Adjust Boundaries
Spring Lake Sedge Meadow and Fens	Waukesha County T5N-R18E Section 3, 4, 9 Town of Mukwonago	-1	224	Adjust Boundaries
Brown Lake Wetlands, Woods, and Prairie	Waukesha County T5N-R18E Section 30 Town of Mukwonago	50	148	Added adjacent high quality habitat
Ottawa Oak Woods and Dry Prairies	Waukesha County T5N-R17E Section 2,3 Town of Eagle T6N-R17E Section 25,26, 27, 34, 35, 36 Town of Ottawa	10	996	Added adjacent high quality habitat
Ashippun River Lowlands	Waukesha County T8N-R17E Section 9, 10, 15, 16 Town of Oconomowoc	-5	248	Adjust Boundaries
Lake Keesus Fen-Meadow	Waukesha County T8N-R18E Section 10, 11, 14 Town of Merton	5	141	Adjust Boundaries

Source: SEWRPC

Table 6.4
Changes in Mapped Areal Extent of Natural Areas of Local Significance (NA-3) Designated in SERWPC Planning Report Number 42

Site Name	Location	Net Change in Acreage	2010 Acreage	Notes
Silver Lake Wetlands	T1N, R20E Section 8 Town of Salem	-33	101	Removed poor quality areas
Montgomery Lake Marsh	T1N, R20E Section 11 Town of Salem	-21	52	Removed poor quality areas
Center Lake Woods and Wetlands	T1N, R20E Sections 21, 22 Town of Salem	-48	72	Invasive Species
Des Plaines River Wetlands	T1N, R20E Sections 21, 22 Town of Salem	-15	66	Invasive Species
Lake Russo Prairie Remnant	T1N, R22E Section 7 Village of Pleasant Prairie	-4	6	Removed poor quality areas
Bain Station Railroad Prairie	T1N, R22E Section 9 Village of Pleasant Prairie	-1	4	Refinement
Des Plaines River Lowlands	T1N, R22E Sections 17, 18, 19, 20 Village of Pleasant Prairie	-138	413	Invasive Species
Dyer Lake Sedge Meadow	T2N, R19E Section 30 Town of Wheatland	-12	40	Removed poor quality areas
Section 11 Wetlands and Oak Woods	T2N, R20E Sections 11, 12 Town of Brighton	-10	130	Removed poor quality areas
Root River Bike Trail Woods	T5N, R21E Section 15 City of Franklin	1	108	
Elm Road Woods	T5N, R21E Section 36 City of Franklin	6	20	Refinement
Barloga Woods	T5N, R22E Section 18 City of Oak Creek	7	64	Refinement
West Branch Root River Woods	T6N, R21E Section 7 City of West Allis	6	12	Refinement
Blue Mound Country Club Woods	T7N, R21E Section 17 City of Wauwatosa	-1	17	Refinement
Jacobus Park Woods	T7N, R21E Section 27	2	11	Refinement

Site Name	Location	Net Change in Acreage	2010 Acreage	Notes
	City of Wauwatosa			
Granville Low Woods	T8N, R21E Section 6 City of Milwaukee	-2	50	Development
McGovern Park Woods	T8N, R21E Section 35 City of Milwaukee	-1	14	Refinement
Schlitz Audubon Center/Doctors Park Woods and Beach	T8N, R22E Sections 9, 10 Village of Bayside	21	72	Added clay bluffs
Kletzsch Park Woods	T8N, R22E Section 19 City of Glendale	1	13	Refinement
Highland Road Woods	T9N, R21E Section 11 City of Mequon	3	53	Development
Solar Heights Low Woods	T9N, R21E Sections 20, 21 City of Mequon	-1	116	Invasive Species
Ville du Parc Riverine Forest	T9N, R22E Sections 18, 19 City of Mequon	-1	111	Development
Cedar Heights Gorge	T10N, R22E Section 3 Town of Grafton	3	9	Refinement
Ulao Lowland Forest	T10N, R22E Sections 4, 5, 8, 9, 17 Town of Grafton	-1	342	Refinement
Hawthorne Drive Forest	T11N, R22E Section 6 Town of Port Washington	-1	55	Development
Spring Lake Marsh	T12N, R21E Section 2 Town of Fredonia	6	21	Added adjacent wetland
Pioneer Road Lowlands	T12N, R21E Sections 8, 17 Town of Fredonia	-4	93	Development / Quarry
Evergreen Road Bog	T12N, R21E Section 14 Town of Fredonia	1	44	Development
Waubeka Low Woods	T12N, R21E Sections 31, 32 Town of Fredonia	-1	162	Development
Belgium Swamp-North	T12N, R22E Section 27 Town of Belgium	-2	152	Development
Belgium Swamp-South	T12N, R22E Section 34 Town of Belgium	1	148	
Wadewitz Woods	T3N, R19E Sections 2, 3 Village of Rochester	-2	204	Refinement

Site Name	Location	Net Change in Acreage	2010 Acreage	Notes
Rowntree Road Woods	T3N, R19E Sections 11, 12 Village of Rochester	-26	77	Development
Honey Lake Leatherleaf Bog	T3N, R19E Sections 19, 20 Town of Burlington	-1	63	Development
Fox River Riverine Forest	T3N, R19E Sections 21, 22, 28 Town of Burlington	-8	131	Development
Wehmhoff Park Upland Woods and Wetlands	T3N, R19E Section 29 Town of Burlington	-1	80	Development
Hoods Creek Woods	T3N, R22E Section 3 Village of Mt. Pleasant	-2	72	Development
Sylvania Railroad Prairie	T3N, R22E Sections 20, 30 Village of Mt. Pleasant	-7	11	Invasive Species / Woody Encroachment
Van Valin Woods	T4N, R19E Section 2 Town of Waterford	1	26	
Tichigan Wet Prairie	T4N, R19E Section 10 Town of Waterford	-7	16	Invasive Species, Woody Encroachment
Tabor Woods	T4N, R22E Sections 13, 14 Village of Caledonia	-7	106	Development
Salt Box Road Railroad Prairie	T1N, R15E Sections 29, 30 Town of Sharon	-1	12	Invasive Species/Woody Encroachment
North Shore Woods	T1N, R16E Section 11 Village of Fontana-on-Geneva Lake	-3	38	Development
Wychwood	T1N, R17E Sections 2, 3, 4 Town of Linn T2N, R17E Section 35 Town of Geneva	-19	226	Development
Peninsula Woods	T1N, R17E Sections 5, 6 Town of Linn	-2	37	Development
Williams Bay Lowlands	T1N, R17E Section 6 Village of Williams Bay	1	16	
Hafs Road Marsh	T1N, R18E Sections 1, 2, 11 Town of Bloomfield	-3	109	Development
Lake Ivanhoe Sedge Meadow	T1N, R18E Sections 3, 10 Town of Bloomfield	-40	150	Invasives

Site Name	Location	Net Change in Acreage	2010 Acreage	Notes
Bloomfield Sedge Meadow and Tamarack Relict	T1N, R18E Section 7, 8, 18 Town of Bloomfield	-25	171	Invasives
Pell Lake Railroad Prairie	T1N, R18E Sections 8, 17 Town of Bloomfield	-1	9	Invasives
Darien Oak Woods	T2N, R15E Sections 9, 10, 15, 16 Town of Darien	-9	308	Development
Turtle Creek Sedge Meadow and Fen	T2N, R15E Sections 17, 18 Town of Darien	10	171	Refinement
Lake Geneva Tamarack Relict	T2N, R18E Sections 28, 29 Town of Lyons	-5	163	Refinement
Ivanhoe Creek Fen	T2N, R18E Section 35 Town of Lyons	4	30	Refinement
Lake Loraine Woods—East	T3N, R15E Section 8 Town of Richmond	-1	74	Refinement
Turtle Lake Fen and Habitat Area	T3N, R15E Section 14 Town of Richmond	52	21	Added adjacent wetland
Baywood Road Sedge Meadow	T3N, R16E Section 2 Town of Sugar Creek T4N, R16E Section 35 Town of LaGrange	-1	27	Development
Lake Wandawega Marsh	T3N, R16E Section 6 Town of Sugar Creek	-3	83	Refinement
Granzeau Woods	T3N, R17E Section 12 Town of Lafayette	-1	133	Refinement
Sugar Creek Wetlands	T3N, R17E Section 17 Town of Lafayette	-4	74	Invasive Species
Lone Tree Trail Oak Woods	T4N, R15E Sections 23, 24, 25, 26 Town of Whitewater	6	265	Refinement
Nordic Trail Oak Woods	T4N, R16E Sections 2, 3, 10, 11, 15 Town of LaGrange	-3	493	Refinement
Skoponong (Duffin Road) Prairie	T4N, R16E Sections 4, 9 Town of LaGrange	2	8	Refinement
Big Spring Road Prairie	T4N, R16E Sections 6, 7 Town of LaGrange	-15	93	Agriculture
Potter Lake Tamaracks	T4N, R18E Sections 10, 15 Town of East Troy	-7	22	Invasive Species

Site Name	Location	Net Change in Acreage	2010 Acreage	Notes
Abells Corners Sedge Meadow and Tamarack Relict	T3N, R17E Section 18 Town of Lafayette	-4	42	Refinement
Donegal Road Woods	T9N, R18E Sections 13, 24 Town of Erin T9N, R19E Section 18 Village of Richfield	1	140	Development
Little Oconomowoc River Woods and Wetlands	T9N, R18E Section 33 Town of Erin	1	226	Refinement
Schoessow Woods	T9N, R20E Section 24 Village of Germantown	-1	51	Development
USH 41 Swamp	T9N, R20E Sections 28, 33 Village of Germantown	-3	253	Refinement
STH 60 Swamp	T10N, R18E Sections 14, 23 Town of Hartford	-1	31	Refinement
Pike Lake Wetlands-South	T10N, R18E Sections 23, 26 Town of Hartford	-1	37	Refinement
Sherman Road Swamp	T10N, R20E Section 25 Town of Jackson	-11	96	Invasive Species
Sandy Knoll Wetlands	T11N, R20E Sections 5, 6 Town of Trenton	5	47	Refinement
Lange Hardwoods	T12N, R19E Section 28 Town of Barton	-1	53	Development
Wildwood Hardwood Swamp	T12N, R19E Sections 33, 34 Town of Barton	-4	98	Development
Milwaukee River Swamp	T12N, R20E Sections 1, 2, 11, 12 Town of Farmington	10	547	
Lizard Mound Woods	T12N, R20E Sections 31, 32 Town of Farmington	-5	29	Selective logging
Green Lake Bog	T12N, R20E Section 34 Town of Farmington	5	19	Added additional wetland
Mailman Road Railroad Prairie	T5N, R17E Section 14 Town of Eagle	1	9	Boundary adjustment
STH 59 Oak Woods and Prairies	T5N, R17E Sections 20, 21 Town of Eagle	36	218	Boundary adjustment
Malek Wetland	T5N, R17E Sections 32, 33 Town of Eagle	19	96	Boundary adjustment

Site Name	Location	Net Change in Acreage	2010 Acreage	Notes
Eagle Spring Lake Bog, Woods, and Prairie	T5N, R17E Section 36 Town of Eagle T4N, R17E Section 1 Town of Troy	3	66	Boundary adjustment
Rainbow Springs Woods, Wetlands, and Prairies	T5N, R18E Sections 31, 32 Town of Mukwonago T4N, R18E Sections 5, 6 Town of East Troy	34	683	Boundary adjustment
Scuppernong Springs Dry Prairie and Xeric Woods	T6N, R17E Section 34 Town of Ottawa	4	46	Boundary adjustment
Fruits Pond Fen	T6N, R19E Section 4 City of Waukesha	-9	16	Invasvie Species
Pebble Creek Railroad Prairie	T6N, R19E Sections 7, 8 Town of Waukesha	-6	7	Development
Laura Lake Swamp	T7N, R17E Sections 20, 21 Town of Summit	-1	278	Development
Hartland Railroad Prairie	T7N, R18E Section 2 Village of Hartland	-1	4	Development
Nashotah House Woods	T7N, R18E Sections 6, 7 City of Delafield Village of Nashotah	22	101	Boundary adjustment
Bishops Woods	T7N, R20E Sections 25, 36 City of Brookfield	-4	44	Development
Raasch Tamarack Swamp	T8N, R17E Sections 16, 17 Town of Oconomowoc	-3	96	Boundary adjustment
Lisbon Low Woods	T8N, R19E Sections 10, 11 Town of Lisbon	-3	261	Development
Sussex Swamp	T8N, R19E Sections 11, 12 Town of Lisbon	-2	148	Development
Zuba Woods	T8N, R20E Sections 16, 17 Village of Lannon	9	117	Boundary adjustment

Source: Southeastern Wisconsin Regional Planning Commission

Table 6.5
Changes in Mapped Areal Extent of Critical Species Habitat Sites designated in the 2010 Amendment to Planning Report Number 42

Site Name	Location	Net Change in Mapped Area (Acres)	2010 Acreage	Notes
Bong State Recreation Area	Kenosha County T2N-R20E Sections 3, 4, 7, 9,15, 16, 17, 18, 19, 20, 21, 22, 23 Town of Brighton Racine County T2N-R19E Sections 12, 13 Town of Burlington	-182	5,021	Adjust Boundaries
Berryville Woods	Kenosha County T2N-R23E Section 5 Town of Somers	-1	3	Adjust Boundaries
Meyers Woods	Milwaukee County T5N-R22E Section 19 City of Oak Creek	-2	10	Development
Oak Creek Bluffs and Beach—South	Milwaukee County T5N-R22E Section 36 T5N, R23E Section 31 City of Oak Creek	-10	24	Adjust Boundaries
Hart Park/Psychiatric Hospital Woods	Milwaukee County T7N-R21E Section 22 City of Wauwatosa	-3	41	Development
Heinen Woods	Ozaukee County T12N-R21E Section 26 Town of Fredonia	-2	32	Adjust Boundaries
Burlington Crevasse Filling	Racine County T2N R19E Section 4 Town of Burlington	-10	34	Adjust Boundaries
Karcher Sedge-Carr	Racine County T2N R19E Sections 21, 22 Town of Burlington	-5	249	Adjust Boundaries
Campbell Woods	Racine County T3N R22E Section 35	-3	43	Adjust Boundaries
Maple Road Gravel Pit	Racine County T4N R19E Section 28 Town of Waterford	-7	102	Adjust Boundaries
Wind Lake	Racine County T4N R20E Sections 3, 4, 8, 9 Town of Norway	-8	58	Adjust Boundaries
Waubeesee Lake	Racine County T4N R20E Section 8 Town of Norway	-1	16	Adjust Boundaries

Site Name	Location	Net Change in Mapped Area (Acres)	2010 Acreage	Notes
North Bay Ravine and Beach	Racine County T4N R23E Section 33 Village of Caledonia	-1	2	Adjust Boundaries
Turtle Valley Wildlife Area	Walworth County T3N R15E Sections 23, 24, 26 Town of Richmond T3N R16E Sections 18, 19 Town of Sugar Creek	-3	2,042	Adjust Boundaries
Lauderdale Lakes Woods	Walworth County T4N R16E Section 35 Town of LaGrange	-3	28	Adjust Boundaries
Camp Timberlee	Walworth County T4N, R17E Section 17 Town of Troy	-2	65	Adjust Boundaries
Friedens Creek Woods	Washington County T10N R20E Section 7 Town of Jackson	-2	12	Adjust Boundaries
Vernon Marsh	Waukesha County T5N R18E Sections 11, 12, 13, 14, 23, 24 Town of Mukwonago T5N R19E Sections 5, 6, 7, 8, 18 Town of Vernon	-62	4156	Adjust Boundaries
Greenwald Woods	Waukesha County T5N R18E Section 23 Town of Mukwonago	-10	58	Adjust Boundaries
Schanke Property	Waukesha County T6N R18E Section 17 Town of Genesee	-1	32	Adjust Boundaries
Dog Trial Area	Waukesha County T6N R17E Section 27 Town of Ottawa	-1	181	Adjust Boundaries
Kostello Property	Waukesha County T6N R20E Section 10 City of New Berlin	-1	11	Adjust Boundaries
Brookfield Oak Woods	Waukesha County T7N R20E Section 20 City of Brookfield	-1	4	Adjust Boundaries
Rademan's Woods	Waukesha County T8N, R20E Section 16 Village of Menomonee Falls	-4	22	Adjust Boundaries

Source: SEWRPC

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 7-Recommended Changes to the Plan

7.1 INTRODUCTION

This chapter will discuss and outline recommended changes to the Plan and strategies, practices, and programs that can be employed to protect Natural Areas and Aquatic Areas within Southeastern Wisconsin. Section 8 of the 2010 Amendment set forth a recommended natural areas and critical species habitat area protection and management plan for the southeastern Wisconsin Region. The plan was designed with two basic objectives in mind: 1) maintaining the integrity of the remaining biodiversity of the Region; and 2) preserving and protecting the remaining significant geological and archaeological sites of the Region. Since preparation of the 2010 Amendment, new information relating to recommended protection of natural sites has been acquired, which, in addition to the newly identified sites, requires a revision of the protection recommendations.

7.2 RECOMMENDED CHANGES TO THE AMENDED PLAN PROPOSALS

The protective ownership proposals recommended in the original plan were based on the best information available at that time to the Commission staff. Since then, several sites have been acquired by agencies other than those recommended in the 2010 Amendment. The recommended ownership for these sites has been changed to the current owner in recognition of these acquisitions. See Table 7.1 which includes both the 2010 recommendations and the revised protective ownership for individual sites.

7.3 RECOMMENDED PROTECTIVE OWNERSHIP OF NEWLY IDENTIFIED SITES

The plan recommends that each site identified in the inventory be protected and preserved to the maximum extent practicable as urban and rural development in the Region proceeds. The plan recommended the following priorities for public-interest acquisitions, given existing constraints on the financial resources of the public and private agencies responsible for such acquisition:

- The highest acquisition priority is recommended to be accorded to natural area sites of statewide or greater significance (NA-1 sites).
- The second-highest acquisition priority is recommended to be accorded to those natural areas of countywide or regional significance (NA-2 sites) and those natural areas of local significance (NA-3 sites) which lie within Commission-delineated primary environmental corridors; which support endangered, threatened, or special concern plant or animal species; or which have already been at least partly placed under public or private protective ownership or conservation easement.
- The third-highest acquisition priority is recommended to be accorded to those critical species habitat sites which are located wholly or partly outside a designated natural area, but which either are located within a Commission-delineated primary environmental corridor or are already at least partly under public or private protective ownership or conservation easement.

A total of 17 natural areas have been identified since the preparation of 2010 Amendment. Seven of these sites are already under protective ownership: Sydney Woods in Milwaukee County; North Beach Dunes in Racine County; Lake Ivanhoe Fen-South and Natureland Park Fen in Walworth County; Jackson Marsh Springs in Washington County; and Hidden Knoll Dry Prairie and Sigurdson Fen in Waukesha County. Ten of these natural areas are not currently under complete protective ownership (Table 7.2). This includes one site of NA-1 quality and nine of NA-3 quality. Eleven of the 17 sites lie entirely within Commission-delineated primary environmental corridors, and the remaining six are located entirely outside of such corridors.

A total of 111 critical species habitat area sites have been identified since preparation of the 2010 Amendment that are not currently under protective ownership (Table 7.3). 22 of the 111 sites lie entirely within Commission-delineated primary environmental corridors, and 36 are located entirely outside of such corridors. 53 of the 111 sites are partially included within Commission delineated environmental corridors.

A total of 85 critical species habitat area sites identified since preparation of the 2010 Amendment are already completely protected by a variety of public and private organizations (Table 7.4). 20 of the 85 sites lie entirely within Commission-delineated primary environmental corridors, and 40 are located entirely

outside of such corridors. 25 of the 85 fully protected sites are partially included within Commission delineated environmental corridors.

7.4 RECOMMENDED STRATEGIES TO PROTECT NATURAL AREAS

The following section provides recommendations and strategies to help protect natural areas against threats, such as climate change and invasive species.

Climate Change

The Wisconsin Initiative on Climate Change Impacts (WICCI) Plants and Natural Communities Working Group provided recommendations for mitigating climate change impacts within natural communities in the 2020 Report to the Governor's Task Force on Climate Change[1]. The specific issues and recommended strategies to mitigate impacts are summarized below:

More intense and frequent rainfall

- Promote farmer-led watershed initiatives that utilize non-invasive cover crops, plant vegetative buffer strips, plant perennial crops and forage, and utilize no-till planting
- Increase wetland restoration in headwater and floodplain wetlands and provide local governments with incentives and technical support for planning and design
- Encourage the use of stormwater infrastructure to promote the health and functionality of wetlands and reduce flooding in developed areas. Examples include the use of bioswales, rain gardens, rain barrels and pervious pavers.
- Reconnect wetlands and riparian areas to historic floodplains
- Remove obstructions and impediments to streamflow that alter channel morphology

Wetter overall climate, especially in winter and spring

- Develop guidance for prescribed burning outside of the traditional burn season as the optimal burn window is likely to shift with a changing climate
- Encourage responsible prescribed fire policy, legislation, and partnerships in fire dependent natural communities.

[1] *Wisconsin Initiative on Climate Change Impacts. 2020. Report to the Governor's Task Force on Climate Change. Reports and links to working group findings can be found at https://wicci.wisc.edu/*

- Encourage the practice of cultural burning on public lands in cooperation with tribal communities

More summer droughts, longer periods between rain events

- Encourage native buffer plantings along lakes, rivers, wetlands, and adjacent steep slopes
- Increase the use of prescribed fire as a management tool in fire dependent natural communities

Invasive species will benefit from warmer temperatures and increased atmospheric carbon dioxide

- Promote the use of citizen science platforms that track and map invasive species across the Region
- Model the spread of emerging invasive species from other regions and engage in outreach that promotes recognition, reporting, and control of these species
- Early detection and rapid response will be key to controlling new and emerging populations of invasive species

Warmer temperatures

- Prioritize acquisition and management of properties containing northern relict communities
- Utilize prescribed fire as a management tool in fire dependent natural communities

Mild winters with less snow

- Manage deer populations to reduce negative impacts of deer browse. Deer survival will improve with less extreme cold, and desirable native hardwood species will be increasingly exposed to browsing with less snow over the winter.

Increasing winter rain and freezing rain

- Encourage agricultural practices that retain fall crop residues, utilize cover crop plantings, and limit winter manure spreading to promote healthy lakes and clean waters.
- Minimize the use of road salt, and encourage the use of mixes and brines that promote healthy lakes and clean waters

Increasing extreme storms, wave action, and water level changes on the Great Lakes

- Protect and restore coastal wetlands and adjacent natural communities on public and private lands to limit shoreline losses and losses of important wildlife habitat such as spawning beds and migratory bird stopover sites.
- Utilize green infrastructure, living shorelines, and nature-based solutions to reduce shoreline erosion and slumping

Increasing atmospheric carbon dioxide

- Natural communities mitigate climate change by sequestering carbon

- Promote forest management that improves carbon sequestration
- Convert cropland adjacent to natural areas to diverse native plantings

7.5 RECOMMENDED STRATEGIES TO PROTECT AQUATIC AREAS

The following section provides recommended strategies, practices, and programs to help protect aquatic areas within Southeastern Wisconsin. This section is divided into subsections that address lake and stream morphology and watershed characteristics, water quality, aquatic plants, aquatic animals, riparian buffers, and habitat connectivity.

Morphology and Watershed Characteristics

The morphology and watershed characteristics are essential for prioritizing protection strategies for lakes and streams. Understanding the sources of water, pollutant sources, critical habitat areas, and barriers to dispersal and passage are key for protecting and managing waterbodies. Critical factors to consider when prioritizing protection strategies include:

- Lakes
    - Stratification status
        - Stratification refers to a condition when the temperature difference (and associated density difference) between a lake's surface waters (the epilimnion) and the deep waters (the hypolimnion) is great enough to form thermal layers that can impede mixing of gases and dissolved substances between the two layers. Stratified lakes typically can buffer against poor water quality better than continually mixed lakes.
    - Residence time
        - Residence time is how long water spends in the lake and is calculated by dividing the lake volume by the flow out of the lake. Lakes with longer residence times may have a longer buffer against water quality issues but once those issues arise they may take longer to resolve.
    - Watershed:lake area ratio
        - Lakes with higher ratios are typically considered more vulnerable to human influence and prone to water quality problems. As a rule of thumb, lakes with a

watershed/lake ratio greater than 10:1 often experience some water quality issues.[2] If this ratio is higher than 10:1, lake organizations should consider focusing on watershed issues particularly if the watershed is highly developed or rapidly developing.

- Hydrology
  - A lake's hydrology defines its primary water sources and often its primary pollutant sources as well. Drainage lakes receive most of their water from a large tributary and thus protecting the flow and quality of the tributary stream will help protect the lake. Seepage and spring lakes are highly influenced by groundwater, so protecting groundwater recharge areas around the lake can help protect water levels and quality in the lake. Two-story lakes are deep enough to sustain a band of cold, well-oxygenated water that supports forage fish like cisco (*Coregonus artedi*). Consequently, these lakes have more protective water quality standards to help maintain high dissolved oxygen concentrations.
- Watershed and shoreline land use
  - Lakes with developed watersheds are typically more susceptible to water quality issues than lakes with natural land uses in their watersheds. The predominant type of land uses can help inform appropriate best management practices to reduce pollutant loads.
  - For lakes with small watersheds, shoreline development is often the predominant source of pollutants to the lake. In all lakes, highly developed shorelines can cause decreased water quality and loss of habitat for aquatic organisms.
- Access
  - Access points are primary avenues by which invasive species can be introduced to a lake. Monitoring boat traffic and participating in programs such as Clean Boats, Clean Waters can help reduce the risk of invasive species introductions.[3]

- Streams
  - Streamflow

[2]*Uttormark, Paul D. and Mark L. Hutchins,* Input Output Models as Decision Criteria for Lake Restoration*, University of Wisconsin Water Resources Center, 1978*

[3] *For more information on Clean Boats, Clean Waters, see the following link: https://dnr.wisconsin.gov/topic/lakes/cbcw.*

- The volume of water flowing in the stream helps define its aquatic communities, with smaller streams supporting more macroinvertebrates and small fish while large rivers can support large, predatory fish. Additionally, some streams only flow intermittently while others flow continually. Understanding streamflow dynamics can help set goals for appropriate biotic community conditions.

- Water temperature
  - The water temperature also helps to dictate what species may occur within a stream, with salmonids like native brook trout preferring cold temperatures and other species, such as bass, preferring warm temperatures. Coldwater streams often have significant groundwater contributions, so protecting groundwater recharge areas near the streams help protect the stream itself. Similarly, maintaining shade from tree canopies can also help maintain cooler water in these streams.
- Gradient and sinuosity
  - High-gradient streams, which are streams that have significant elevation drops over short distances, can be susceptible to head-cutting, incising, and bank erosion particularly during high streamflow periods. Increasing groundwater infiltration and slowing the flow of water can help to maintain stability in these ravine stream systems.
  - High quality low-gradient streams, which have small elevation drops, are typically characterized by meanders. These meanders provide riffle, run, and pool habitats that can support a greater diversity of aquatic animals, In instances where low-gradient streams have been ditched or channelized, restoring streams to follow their original meanders and streambeds can help enhance aquatic habitat (see Figure 7.Remeandering). However, any restoration work should ensure that upstream activities will not lead to sediment accumulations in the restored reaches.
- Watershed land use
  - Streams with developed watersheds are typically more susceptible to water quality issues than streams with predominant natural land uses in their watersheds. The predominant type of land uses can help inform appropriate best management practices to reduce pollutant loads.
- Road crossings

- Road crossings can affect streamflow, animal passage, and act as sources for pollutants and invasive species to the stream. Limiting road crossings and ensuring that necessary crossings are adequately designed to allow water and animal passage can improve stream health.

Water Quality

Water quality is one of the key parameters used to determine the overall health of a waterbody. The importance of good water quality can hardly be overestimated as it impacts nearly every facet of the natural balances and relationships that exist in a lake or stream between the abiotic and biotic elements present.

Monitoring

Because of the importance water quality plays in the functioning of an aquatic ecosystem, careful monitoring of this element represents a fundamental management tool. Water quality monitoring helps quantify the waterbody's current condition, understand long term change, and provides insight into why changes are occurring. At a minimum, water quality should be analyzed for the following parameters:

- Field measurements
  - Water clarity (i.e., Secchi depth for lakes or transparency tube for streams)
  - Water temperature (profiled over the water depth range for lakes)
  - Dissolved oxygen (profiled over the water depth range for lakes)
  - Specific conductance
  - pH

- Laboratory samples
  - Total phosphorus
  - Total nitrogen
  - Chlorophyll-*a* (for lakes only)
  - Total suspended solids
  - Chloride

Lake and stream organizations should participate in water quality monitoring programs, such as the Citizen Lake Monitoring Network for lakes and the Water Action Volunteers for streams.[4,5] These programs provide training and equipment for volunteers to monitor water quality on their nearby waterbodies. The data collected through these programs is submitted to a WDNR database and can be visualized using WDNR webtools, such as the Surface Water Data Viewer and the Water Explorer.[6,7]

Pollutant Load Reduction

Water quality is greatly affected by influences on the sources of water, surface water and groundwater contributing to the lake or stream. There are two components to pollution reduction in streams and lakes: 1) reduce pollution sources and 2) enhance pollution removal processes in the watershed and water body. Pollution sources can be reduced by using best management practices for the specific types of land use in the watershed, with certain practices being more effective in agricultural settings while other practices are more effective in urban areas.

Best management practices for agricultural areas include:

- Enrolling eligible lands in nutrient management plans
- Minimization of soil disturbance leading to erosion while using heavy equipment
- Practices that retain soil year-round, such as crop covers
- Minimize livestock access to waterbodies
- Implement storage practices for sillage, manure or other high nutrient substances with low potential for runoff or leakage
- Employing grassed waterways and water and sediment control basins to reduce soil runoff
- Removing tile drains when feasible and treating tile drainage using saturated buffers when removal is not feasible
- Convert marginal farmland into wetlands or woodlands where feasible

Urban development brings significant changes to the landscape, including alterations of water flow and chemistry. These changes have historically included modification of the drainage pattern, hardening of

[4] For more information on the Citizen Lake Monitoring Network, visit the following link: https://dnr.wisconsin.gov/topic/lakes/clmn.
[5] Water Action Volunteers is a program co-sponsored by University of Wisconsin – Madison and the WDNR. More information on the Water Action Volunteers can be found at this link: https://wateractionvolunteers.org/.
[6] See the following link to the WDNR Surface Water Data Viewer: https://dnr.wisconsin.gov/topic/SurfaceWater/swdv.
[7] See the following link to the WDNR Water Explorer: https://dnr-wisconsin.shinyapps.io/WaterExplorer/.

surface, alteration of groundwater infiltration, and introduction of pollutants to waterways. The hydrologic changes generally increase the volume and rate of runoff from precipitation events, which exacerbates increases in pollutant loading from urban land uses. Historically, managing runoff volume and rate increases would often involve construction of storm sewer, open channel systems, and/or straightening streams to convey stormwater as quickly and efficiently as possible to streams. These changes increase the speed with which the water from a storm event reaches a stream or lake, increasing its flashiness or in other words causing quick high peaks in powerful water flow followed by longer periods of low flow. Increases in flashiness can cause flooding, water quality impairment, erosion, and environmental degradation. These negative effects have driven the development of alternative approaches to stormwater management.

Current stormwater management practices seek to mitigate runoff using a variety of measures focusing on mimicking natural processes, especially those of detention, retention, infiltration, and filtration. Best management practices for urban land use include (see Figure 7.UrbanBMPs):

- Stormwater management modifications, including rain gardens, bioswales, and pervious pavement
- Minimize fertilizer and pesticide use
- Proper disposal of trash and pet waste
- Minimize lawn watering, especially post fertilizer or pesticide application
- Remove leaf litter and yard waste from shoreline areas and ensure proper disposal (i.e. pickup or composting in uplands)
- Direct downspouts to grassy areas and away from pavement
- Avoid coal-tar based asphalt sealants
- Minimize chloride use

Implementing practices that reduce non-point source pollutant loading throughout the watershed, educational programming, and broadening/deepening public support have the greatest potential for improving the health of a waterbody. Reducing pollutant loads often takes coordination at regional, County, municipality, and local scales. Strong partnerships that adopt programmatic approaches, such County land and water conservation plans, meaningfully contribute to long-lasting pollutant reduction. The following suggestions are provided to enhance communication, education, and outreach regarding pollutant reduction practices:

- Host or sponsor educational workshops and tours, demonstration projects, and information exchange forums focusing on emerging best management practices
- Engage and possibly subsidize agricultural producers to implement practices that improve water quality. Provide information, technical support, tools and equipment, and financial support
- Promote engagement by the farming community in decision-making and equip farmers with monitoring tools and methods
- Target action-oriented messages about water quality and conservation practices to key groups
- Produce and distribute newsletters, exhibits, fact sheets, and/or web content to improve communication around these issues

Aquatic Plants

Native aquatic plants are a foundational part of the aquatic food web, converting sediments and inorganic nutrients present in the water into organic compounds that are directly available as food to other aquatic organisms. Aquatic plants also serve several other valuable functions in a lake ecosystem, including:

- Improving water quality by filtering excess nutrients from the water
- Providing habitat for invertebrates and fish
- Stabilizing lake bottom substrates
- Supplying food for waterfowl and various lake-dwelling animals

Even though aquatic plants may hinder human use or access to a lake, aquatic plants should not be eliminated or even significantly reduced in abundance because they support many beneficial functions. For example, emergent (e.g., bulrush) and floating-leaf plants (e.g., lily pads) provide shade, habitat, and food for fish and other important aquatic organisms. They also help prevent damage to the lakeshore by dampening the power of waves that would otherwise erode the shoreline. Submergent species (e.g. pondweeds) also provide food and habitat for macroinvertebrates, fish, and waterfowl. Given these benefits, large-scale removal of native plants that may be perceived as a nuisance should be avoided when developing plans for aquatic plant management.

As described in chapter 4, the WDNR has established the point-intercept survey protocol as the standard for surveying the aquatic plant community of an entire lake. This protocol uses an established grid of points

at uniform distances where each species is provided with a qualitative abundance rating at each point along with an abundance rating for all species combined. Multiple metrics and models have been developed using data from these surveys to assess the health of a lake's aquatic plant community. Lake organizations should consider conducting an aquatic plant survey at least once every ten years if not conducting large-scale aquatic plant management and are required to conduct a survey every five years if conducting large-scale management, e.g. harvesting aquatic plants. For assessing the prevalence of specific species, such as Eurasian watermilfoil, within a specific area or for evaluating responses to a treatment action, lake organizations could use sub-point-intercept surveys that have a higher survey point density within a limited area. Aquatic plant monitoring results should be shared with WDNR biologists who can help discern an appropriate course of action.

Aquatic plant management techniques can be classified in the following groups:

- *Observation* – monitor the aquatic plant community to determine if intervention is required. Many healthy aquatic plant communities, particularly in lakes without invasive species or low nutrient contents, do not require intervention to control or manage excessive plant growth.

- *Prevention* – limit the opportunity for invasive species to establish on a lake by monitoring access points and removing aquatic vegetation clinging to boats and equipment before the watercraft can enter the lake. Participating in programs like Clean Boats, Clean Waters can help prevent invasive species establishment.

- *Physical measures* – includes lake bottom covering. Lake-bottom covers and light screens provide limited control of rooted plants by creating a physical barrier that reduces or eliminates plant-available sunlight. This control is generally not permitted by WDNR.

- *Biological measures* – which include the use of organisms, including herbivorous insects, to feed upon nuisance plant species. A common example in southeastern Wisconsin is using milfoil weevils (*Eurhychiopsis lecontei*) to help control Eurasian watermilfoil.

- *Manual measures* – physical removal of plants by individuals using hand-held rakes or by hand.

- *Mechanical measures* – including harvesting and removing aquatic plants with a machine known as a harvester or by diver-assisted suction harvesting (DASH).
    - Harvesters consist of an adjustable depth cutting apparatus that can remove plants from the surface down to about five feet below the water surface. Mechanical harvesting can be a practical and efficient means of controlling nuisance plant growth as well as reducing in-lake nutrient recycling, sedimentation, and target plant reproductive potential. Harvesting can be an expensive operation and is best suited for large-scale aquatic plant management.
    - DASH is a process where divers identify and pull select aquatic plants by their roots from the lakebed and then insert the entire plant into a suction hose that transports the plant to the lake surface for collection and disposal. This practice is best suited for targeting a specific population or species in a limited area as it can also be an expensive endeavor.

- *Chemical measures* – including use of aquatic herbicides to kill nuisance and invasive aquatic plants. Chemical herbicide treatment is a short-term method to control heavy growths of nuisance aquatic plants. The advantages of using chemical herbicides to control aquatic plant growth include relatively low cost as well as the ease, speed, and convenience of application. However, there are numerous disadvantages including: unknown or conflicting evidence about chemical effects on humans and aquatic organisms, increased risk of algal blooms, adverse effects on non-target aquatic plants, need for repeated treatment to control growth, and genetically inherited resistance to herbicides in some species and populations.

- *Water level manipulation* – lower and raise water levels to change aquatic plant community or help shift lakes from algae-dominated to macrophyte dominated states. Water level manipulation is generally considered to be most effective by using winter lake drawdowns, which expose lake sediment to freezing temperatures to kill roots, seeds, and turions while avoiding conflict with summer recreational uses. Drawdowns are only suitable for lakes where the levels are controlled via an outlet dam. There are several considerations for using drawdowns, including impacts on aquatic organisms and waterfowl, potential encroachment of emergent species (e.g., cattails) into exposed lake sediment, and upsetting members of the public through temporary loss of lake aesthetics.

All control measures are stringently regulated and most require a State of Wisconsin permit. Chemical controls, for example, require a permit and are regulated under Chapter NR 107, "Aquatic Plant

Management," of the *Wisconsin Administrative Code*, while placing bottom covers (a physical measure) requires a WDNR permit under Chapter 30 of the *Wisconsin Statutes*. All other aquatic plant management practices are regulated under Chapter NR 109, "Aquatic Plants: Introduction, Manual Removal and Mechanical Control Regulations," of the *Wisconsin Administrative Code*.

Many lake organizations conduct regular aquatic plant monitoring and management activities on their lakes. In many cases, these activities, particularly conducting aquatic plant surveys and developing aquatic plant management plans, are funded in part through the WDNR Surface Water Grants program.[8] The WDNR Recreational Boating Facilities Grants program can also help lake organizations acquire aquatic plant harvesting equipment.[9]

Aquatic Animals

Aquatic animals, including fish, mussels, and insects, are essential to maintaining aquatic health by assuring an ecological balance, and are also the source of extensive recreation and tourism. As described in chapter 4, fish and macroinvertebrate populations are routinely monitored across Southeastern Wisconsin lakes and streams by biologists from the WDNR, federal agencies, universities, and other organizations. WDNR biologists and others also conduct surveys of freshwater mussel populations and have increasingly utilized citizen scientist observations in this monitoring.[10] Continued monitoring of these populations is essential to evaluating the health of aquatic animal communities, mitigating potential threats, and implementing projects that enhance their quality.

Since aquatic organisms depend on aquatic habitat, it is very important to preserve and improve aquatic habitat whenever possible. Lakes and streams with NHI-listed species or regionally rare species, such as brook trout for coldwater streams and cisco in two-story lakes, should be prioritized for protection to help maintain these populations. As habitat along reaches and the connectedness of the stream system are improved over time, there will be a direct improvement to aquatic organism populations and overall health. Some projects to enhance the abundance and quality of aquatic organisms may include (see Figure 7.AquaticHabitat):

[8] The WDNR Surface Water Grants program are described in detail at the following link: https://dnr.wisconsin.gov/aid/SurfaceWater.html.
[9] For more information on Recreational Boating Facilities Grants, see https://dnr.wisconsin.gov/aid/RBF.html.
[10] See https://wiatri.net/inventory/mussels/ for more information on freshwater mussel monitoring within Wisconsin.

- Ensuring that water quality conditions are suitable for fish and aquatic life, particularly the species suited for that lake or stream based on its natural community
- Protecting existing beds of emergent (e.g., bulrush) and floating-leaf (e.g., water lilies) vegetation by limiting intensive management or recreational use in these areas
- Leaving fallen trees and large branches in the water along shorelines to act as habitat
- Promoting healthy submergent aquatic plant communities that provide food and habitat
- Installing duck boxes, nesting platforms, and other bird habitat enhancement features
- Adding "fish sticks" and "fish cribs" to lake bottoms
- Enforcing bag limits and conducting fish stocking as necessary to maintain healthy gamefish populations
- Optimizing habitat integrity through preservation of riparian buffers, and preservation and protection of spawning areas and riffles
- Restoring streambeds and banks where appropriate
- When possible, removing obstructions (e.g., dams, undersized culverts, unused road crossings) to migration of aquatic life, especially in areas important for fish migration and spawning
- Adding instream pool and riffle habitats to increase spawning habitat and deep water resting places, which allow refuge from warm waters during low-flow summer conditions
- Re-vegetating stream banks to increase shade, keeping stream waters cooler in the summer
- Minimizing habitat disturbance during critical periods in animal life cycles, such as during fish spawning periods or during spring and fall migrations for waterfowl
- Participate in programs like Clean Boats, Clean Waters to reduce risk of invasive species introduction at boat launches

Riparian Buffers

Riparian buffers and other natural features protect water quality, groundwater, fisheries, wildlife, and ecological resilience to invasive species, and reduce potential flooding of structures and harmful effects of climate change (see Figure 4.RiparianBuffers).[11,12] Features such as wetlands, floodplains, and vegetative buffers, can significantly decrease the amount of pollution entering a waterbody (see Figure

[11] *N.E. Seavy and others, "Why Climate Change Makes Riparian Restoration More Important that Ever: Recommendations for Practice and Research,"* Ecological Restoration*, Volume 27(3): pages 330-338, September, 2009; "Association of State Floodplain Managers, Natural and Beneficial Floodplain Functions: Floodplain Management-More Than Flood Loss Reduction, 2008," www.flood.org/NewUrgent/Other.asp.*

[12] *SEWRPC Riparian Buffer Guide, 2010, op. cit.*

7.FunctionalFloodplains). Wetlands and floodplains can help reduce downstream flood elevations and can reduce stream power and thereby reduce erosion, by spreading the energy of the flowing water over a broader area or can detain the water in a relatively passive manner. Vegetative buffers and vegetation in shallow nearshore areas can have similar effects of slowing water down and they can help protect shorelines from erosion. If properly employed, these areas can enhance water quality by acting to mitigate sediment, nutrient, and other pollutants from surface runoff before entering waterways.

The regulatory shoreland setback of 75 feet from the ordinary high-water mark is sufficient to provide highly productive habitat and significant pollution reduction (as high as 75 percent in some regions). Additionally, there are significant wildlife benefits to 400-foot minimum and 900-foot optimum riparian buffers.[13] Riparian buffers and other natural features provide the broadest value in their natural state but can still provide valuable service when developed in compatible open space uses. They can be restored or artificially enhanced along manipulated drainage ways as part of projects that help stabilize eroding beds and banks. Examples of artificial buffers include grassed waterways, vegetative strips, and gardens located along shorelines. Such buffers are generally constructed to intercept runoff shortly before it enters a river or lake. They function in a similar way to natural buffers (i.e., slowing runoff); however, they do need to be carefully designed and should use native plants to ensure that they function well in the longer term. Artificial buffers can enhance water quality without significant adverse effect to residential and agricultural land use purposes.

As indicated by the generally low Riparian Buffer scores for even the ranking Aquatic Areas (see Tables AQ.LakesCurrentRanks and AQ.StreamCurrentRanks in Chapter 4), many southeastern Wisconsin lakes and rivers lack adequate buffers along their shorelines. The WDNR has recently established a shoreline monitoring protocol that assesses each parcel along a lake shoreline to evaluate impacts from human use to the riparian buffer zone, bank zone, and nearshore littoral zone.[14] At the time of this publication, few southeastern Wisconsin lakes have been surveyed using this protocol but the findings from those surveyed generally concur with the low Riparian Buffer scores for the Region's lakes.[15] Lake organizations should

[13] *Ibid.*

[14] *Hein et al.,* Lake Shoreland and Shallows Habitat Monitoring Field Protocol*, Wisconsin Department of Natural Resources EGAD# 3400-2020-19, 2020.*

[15] *Lakes with shoreline conditions evaluated using this protocol can be viewed at the following link: https://www.arcgis.com/apps/dashboards/e60c681037ff491389dd9199d6427d73.*

consider surveying their shorelines using this methodology to identify areas for improvement and to help encourage riparian property owners to establish vegetative buffers and other best management practices.

Several programs exist that can help fund the establishment of riparian buffers along lake and stream shorelines. For small projects on residential properties, the WDNR Healthy Lakes & Rivers Grant program provides funding to individual landowners to establish 350 square-foot native plantings in riparian areas.[16] For larger projects, such as buffers and grassed waterways on agricultural properties, funding is available through WDNR Surface Water Restoration and Targeted Runoff Management grants, the DATCP Soil and Water Resources Management and Farmland Preservation grant programs, and multiple USDA programs, most notably the Environmental Quality Incentives Program.

Habitat Connectivity

A healthy wildlife population is the ultimate indication of a healthy watershed. This is largely because wildlife populations require large, well-connected natural areas, which are also associated with high water quality and good aquatic habitat. Preserving, restoring and enhancing buffers and environmental corridors, including the waterways themselves, is paramount as these are their habitat. Maintaining or creating connections between sections of habitat is vital to most wildlife populations. Fragmentation (i.e. breaking wildlife habitat into pieces) prevents the movement of wildlife from one natural area to another, which can limit the abilities of animals to access critical feeding or spawning grounds. Additionally, fragmentation is a major threat to genetic diversity of wildlife populations by reducing their contact with other populations. In aquatic habitats, fragmentation is mostly common associated with physical impediments like dams and road crossings, particularly if the culverts under the road crossings are perched or undersized. However, fragmentation can also occur if poor water quality conditions (e.g., low dissolved oxygen concentrations) create barriers to dispersal even if no physical barrier exists. For amphibians and terrestrial animals that are reliant upon water for feeding or spawning, roads and urban development can also fragment habitat by limiting access between their terrestrial and aquatic habitats.

Projects that enhance the habitat connectivity for aquatic organisms include:

- Limiting development within primary environmental corridors, particularly those in riparian areas

[16] *See https://healthylakeswi.com/grants/ for more information.*

- Preserving natural areas and critical habitat areas, such as those identified in this plan, through acquisition and/or conservation easements
- Removing obstructions (e.g., dams, perched and undersized culverts, unused roads) to migration of aquatic life with connections between Aquatic Areas (e.g., river connection to Lake Michigan) as high priority
- Installing fish passageways around otherwise impassable barriers (e.g., dams)[17]
- Ensuring that newly constructed road crossings over water are designed adequately to allow passage of fish and aquatic organisms[18]
- Installing road signage warning drivers about frequently used animal crossing areas
- Developing wildlife road underpasses in crossing areas, such as between a wetland and a river
- Ensuring that water quality conditions are suitable for aquatic life

7.6 OTHER PLAN ELEMENTS

Butler's Garter Snake

Since the 2010 Amendment, Butler's garter snake (*Thamnophis butleri*) was reclassified from a State-designated threatened species to a State-designated special concern species. The 2010 Amendment recommended protecting at least 55 Tier 3 habitat sites. Tier 3 habitat sites were identified as having potentially suitable conditions to maintain the long-term viability of the species in the State.[19,20] However, 199 such sites were identified in the Region, and the plan did not specify which sites were recommended for protection. It is therefore recommended that the known Butler's garter snake populations be protected and managed not as Teir 3 sites, but as Critical Species Habitat Sites. These known populations were mapped and included within critical species habitat boundaries proposed in earlier chapters, if not already included within a natural area boundary.

[17] *For an excellent example of a fish passageway, see the Mequon-Thiensville Fishway project at the following link: https://www.ozaukeecounty.gov/1255/What-is-a-Fishway.*

[18] *For more information on designing and enhancing wildlife road crossings, see the following link: https://wiatri.net/inventory/witurtles/volunteer/mortalityPrev.cfm.*

[19] *Bureau of Endangered Resources, Wisconsin Department of Natural Resources, March 31, 2005. Butler's Gartersnake Conservation Plan.*

[20] *Hyde, T.R., R. Paloski, R. Hay, and P. Miller (eds.). 2007. Population and Habitat Viability Assessment for Butler's Gartersnake (Thamnophis butleri) in Wisconsin: Workshop Report. IUCN/SSC Conservation Breeding Specialist Group, Apple Valley, MN.*

ADID Wetlands

The Region's Advance Identification (ADID) wetlands have not been updated since 2005. It is recommended that ADID wetlands be updated to include those wetlands located within 2020 primary environmental corridors. Additionally, those wetlands located outside of the primary environmental corridor but within a natural area are recommended to be designated as ADID wetlands. Refer to the 2010 Amendment and the Commission's ADID wetlands viewer page for current accepted boundaries.[21]

Interactive Webtool

As part of this amendment, the Commission published an interactive web tool which allows users access to a greater depth of information regarding Natural Areas and associated plan elements. User defined scale aerial maps can be created depicting natural areas, aquatic sites, critical species habitat sites, environmental corridors, archeological sites, geologic features, and management strategies. This webtool allows the user to find individual natural area and aquatic area sites, multiple sites, and sites among counties or entire watersheds. For example, this tool allows multiple overlays of natural area and/or aquatic area sites and environmental corridors (primary, secondary, and isolated natura resources areas). This tool also provides access to the Natural Area profiles that were developed for all 478 natural areas sites in the region and include information on natural community types, threats, and recommendations for management (see below for more details). The webtool can be accessed through the Commission's Regional Natural Areas planning website found at the following URL:

- https://www.sewrpc.org/Regional-Planning/Natural-Areas

Natural Areas Site Profiles

Working with the Technical Advisory Committee a template one-page design was developed for individual site profiles to be developed for each natural area site. These site profiles were specifically designed to condense information formerly only presented in multiple tables throughout the original 1997 plan, 2010 Amendment, and within this current Amendment, so information about each natural area site would be easier to find, understand, and share. As shown in Figure 7.SiteProfile the site profile includes its name and rank, level of protection, level of threat, size, ownership, whether or not it has a management plan, number of native plant species and critical species. In addition, each provides a brief summary description, history,

[21]*Advanced Identification of Wetland Disposal Areas (ADID) can be viewed at the following link: https://www.sewrpc.org/Info-and-Data/ADID-Wetlands*

and management, along with key photos of unique communities contained within it, where available. In addition, most site profiles also come with associated one-page detailed map boundary such as shown in Figure 7.SiteProfile. Along with the interactive webtool, these site profiles are envisioned to the primary conveyance of site-specific information for natural areas throughout the Region and can be found on the Commission's Regional Natural Areas planning website and interactive webtool to view and download, as needed, at the following URL:

- https://www.sewrpc.org/Regional-Planning/Natural-Areas

Updated Amendment Process

It is proposed that the Natural Areas Plan be amended on a regular five-to-ten-year cycle to ensure that changes to individual sites are incorporated into the plan and shared with the public in a relevant timeframe. The information found in the Natural Areas Plan is regularly included in local, county, and regional planning efforts undertaken by the Commission and other units of government. Having the most accurate and up-to-date information is of paramount importance to local planning efforts. Updates to individual sites will be tracked, digitized, and shared publicly as a "proposed changes" layer housed within the interactive webtool previously mentioned.

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2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 7

TABLES

Table 7.1
Recommended Changes to Protective Ownership Proposals Presented in the 2010 Amendment to Planning Report Number 42

County	Site Name	Classification Code	Recommended protective Ownership	
			2010 Amendment	Revised
Washington	Ziegler Woods	NA-3	Wisconsin Department of Natural Resources	Cedar Lakes Conservation Foundation
Washington	Silver Creek Marsh	NA-3	Washington County	City of West Bend
Washington	Lizard Mound Woods	NA-3	Washington County	Wisconsin Department of Natural Resources
Washington	Schoenbeck Woods		Washington County	Ozaukee Washington Land Trust
Milwaukee	Wood Creek Woods	NA-3	City of Oak Creek	Milwaukee County Parks
Milwaukee	Wil-O-Way Woods	NA-3	Milwaukee County Parks	Wisconsin Department of Natural Resources
Kenosha	Carol Beach Oak Woods	CSH	None	The Nature Conservancy
Kenosha	Nedweski Parcel	CSH	None	City of Kenosha
Milwaukee	Trestle Ravine Woods	CSH	None	City of St. Francis
Milwaukee	Hawthorn Glen	CSH	Milwaukee County Parks	City of Milwaukee
Ozaukee	Kinnamon Conifer Swamp	NA-2	Ozaukee County	Ozaukee Washington Land Trust
Ozaukee	Max's Bog	NA-2	Private Conservation Organization	Wisconsin Department of Natural Resources
Ozaukee	South Conifer Swamp	NA-2	Private Conservation Organization	Wisconsin Department of Natural Resources
Ozaukee	Highland Road Woods	NA-3	Local Government	Ozaukee Washington Land Trust
Ozaukee	Pigeon Creek Maple Woods	NA-3	Ozaukee County	Private Conservation Organization
Ozaukee	Knollwood Road Bog	NA-3	Private Conservation Organization	Wisconsin Department of Natural Resources
Ozaukee	Garvey Woods	CSH	Private Conservation Organization	Local Government
Ozaukee	Mequon Nature Preserve (Includes Stauss and Gengler's Woods)	CSH	Private Conservation Organization	Local Government
Racine	Rosewood Railroad Prairie	CSH	Racine County	Wisconsin Department of Natural Resources
Racine	Kansasville Railroad Prairie	NA-3	Racine County	Wisconsin Department of Natural Resources
Racine	Union Grove Railroad Prairie	NA-3	Racine County	Wisconsin Department of Natural Resources
Racine	Sylvania Railroad Prairie	NA-3	Racine County	Wisconsin Department of Natural Resources
Racine	Waxdale Railroad Prairie	CSH	None	Village of Mt. Pleasant
Walworth	Comus Lake Wetland Complex	NA-2	Wisconsin Department of Natural Resources	Lake Comus Protection & Rehabilitation District
Walworth	East Troy Tamaracks	NA-3	Wisconsin Department of Natural Resources	Private Conservation Organization
Washington	North Branch Woods	NA-2	Washington County	Milwaukee Metropolitan Sewerage District
Washington	Little Oconomowoc River Woods and Wetlands	NA-3	Washington County	Private Conservation Organization
Washington	Coney-Oconomowoc Nature Preserve (CTH J Swamp)	NA-3	Private Conservation Organization	Local Government

Washington	Kowalske Swamp	NA-3	None	Local Government
Washington	Sherman Road Swamp	NA-3	None	Local Government
Washington	Milwaukee River Swamp	NA-3	Local Government	Private Conservation Organization
Waukesha	Browns Lake Wetlands, Woods, and Prairies	NA-2	Waukesha County	Private Conservation Organization
Waukesha	Genesee Lake Road Bog	NA-2	Waukesha County	Private Conservation Organization
Waukesha	Ottawa Limestone Outcrop	NA-3	Private Conservation Organization	Wisconsin Department of Natural Resources
Waukesha	Davis Marlow Grassland	CSH	Waukesha County	Private Conservation Organization
Milwaukee	Bradley Woods	NA-3	City of Milwaukee	Private Conservation Organization

Source: SEWRPC

Table 7.2
Recommended Protective Ownership of Newly Identified Natural Areas Sites in Southeastern Wisconsin That are not Completely Protected

Site Name	Location	Proposed Rank	Proposed Acquisition Agency	Acres Protected	Acres Proposed to be Acquired	Total Acres
Basset Creek Wetlands	Kenosha County T1N R19E Section 34 Village of Twin Lakes, Town of Randall	NA-3	Private Conservation Organization	0	41	41
Heide Prairie	Kenosha County T2N R22E Section 3 Village of Somers	NA-1	Private Conservation Organization	0	11	11
Awana Road Swamp	Ozaukee County T12N R21E Section 6 Town of Fredonia	NA-3	Private Conservation Organization	0	17	17
Sauk Trail Road Ravine	Ozaukee County T12N R23E Section 7 Town of Belgium	NA-3	Private Conservation Organization	0	8	8
Beulah Bluff Oak Woodland and Tamaracks	Walworth County T04N R18E Section 8 Town of East Troy	NA-3	Kettle Moraine Land Trust	8	27	35
Hoy-Anderle Woods	Washington County T12N R20E Section 24 Town of Farmington	NA-3	Milwaukee Metropolitan Sewerage District	22	14	36
Holiday Road Fen and Oak Woodland	Waukesha County T05N R18E Section 01 Town of Mukwonago	NA-3	Private Conservation Organization	0	17	17
Faulkner Road Fen	Waukesha County T5N R19E Section 16 Village of Vernon	NA-3	Private Conservation Organization	0	5	5
Saylesville Road Fen	Waukesha County T6N R18E Section 35 Town of Genesee	NA-3	Private Conservation Organization	0	2	2
Party Island Oak Woodland and Dry Prairie	Waukesha County T8N R18E Section 30 Town of Merton	NA-3	Private Conservation Organization	0	1	1

Source: Southeastern Wisconsin Regional Planning Commission

Table 8.3
Recommended Ownership of Newly Identified Critical Species Habitat Sites in Southeastern Wisconsin not currently protected

Site Name	Location	Proposed Acquisition Agency	Area Protected (Acres)	Area Proposed to be Acquired (Acres)	Total Site Size (acres)
New Munster Wildlife Area	Kenosha County T01N R19E Section 02 Village of Mount Pleasant	Wisconsin Department of Natural Resources	714	258	972
Ice House Trail Wetlands	Kenosha County T01N R19E Section 15 Village of Twin Lakes and Town of Randall	Village of Twin Lakes and Town of Randall	51	65	116
314th Woods and Wetlands	Kenosha County T1N R19E Section 36 Town of Randall	Town of Randall	7	21	28
Peat Lake Habitat Area	Kenosha County T01N R20E Section 19 Village of Salem Lakes	Wisconsin Department of Natural Resources	205	3	208
Camp Lake Tamaracks	Kenosha County T1N R20E Section 29 Village of Salem Lakes	Kenosha County and Wisconsin Department of Natural Resources	45	77	122
Trevor Creek Woods	Kenosha County T01N R20E Section 34 Village of Salem Lakes	Private Conservation Organization	0	6	6
Root River East Branch Woods	Milwaukee County T05N R21E Section 01 City of Franklin	Milwaukee County	3	4	7
Root River Section 18 Woods	Milwaukee County T05N R21E Section 02 City of Oak Creek	Milwaukee County	5	1	6
West Drexel Habitat Area	Milwaukee County T5N R21E Section 13 City of Franklin	None	0	0	6
Scott Woods	Milwaukee County T05N R21E Section 23 City of Franklin	None	0	9	9
Root River Pkwy Section 14	Milwaukee County T05N R21E Section 36 City of Franklin	Milwaukee County	36	2	38
Oak Creek Parkway Habitat Area	Milwaukee County T05N R22E Section 02 City of Oak Creek	Milwaukee County	63	8	71
Johnstone Park Wetlands	Milwaukee County T05N R22E Section 06 City of Oak Creek	Milwaukee County	18	15	33
Falk Park Habitat Area	Milwaukee County T5N R22E Section 7 City of Oak Creek	Milwaukee County	39	61	100
Oak Creek Habitat Area	Milwaukee County T05N R22E Section 15 City of Oak Creek	Milwaukee County Parks	305	82	387
Springbrook Marsh	Milwaukee County T05N R22E Section 17 City of Oak Creek	None	0	0	3
Oak Creek 15	Milwaukee County T05N R22E Section 24 City of Oak Creek	Milwaukee County	130	16	146
Oak Creek Low Woods and Wetlands	Milwaukee County T05N R22E Section 26 City of Oak Creek	Milwaukee County	61	74	135

Crayfish Creek Woods	Milwaukee County T5N R22E Section 34 City of Oak Creek	City of Oak Creek	1	1	2
Oak Creek 14	Milwaukee County T05N R22E Section 34 City of Oak Creek	Milwaukee County	52	2	54
Root River Habitat Area	Milwaukee County T06N R21E Section 07 City of Greenfield and City of West Allis	Milwaukee County	320	4	324
Konkel Park Habitat Area	Milwaukee County T06N R21E Section 26 City of Greenfield	City of Greenfield	15	7	22
Oak Leaf Habitat Area	Milwaukee County T06N R22E Section 23 City of Cudahy, City of St. Francis, City of South Milwaukee	Milwaukee County	426	2	428
Hopkins Hollow	Milwaukee County T07N R21E Section 01 City of Milwaukee	Milwaukee Metropolitan Sewerage District	24	1	25
Underwood Parkway Thicket	Milwaukee County T7N R21E Section 20 City of Wauwatosa	Milwaukee County	44	3	47
Underwood Creek Habitat Area	Milwaukee County T7N R21E Section 30 City of Wauwatosa	Milwaukee County	80	6	86
Milwaukee River Greenway	Milwaukee County T07N R22E Section 09 City of Milwaukee and Village of Shorewood	Milwaukee County	111	5	116
Hilltop Farm Woods	Milwaukee County T08N R21E Section 04 City of Milwaukee	Private Conservation Organization	0	17	17
Little Menomonee River Habitat Area	Milwaukee County T08N R21E Section 05 City of Milwaukee	Milwaukee County	713	8	721
Melody View Preserve	Milwaukee County T08N R21E Section 16 City of Milwaukee	Milwaukee County	14	4	18
Menomonee River Habitat Area	Milwaukee County T08N R21E Section 31 City of Milwaukee	Milwaukee County	79	1	80
Fox Point Clay Bluffs and Beach	Milwaukee County T08N R22E Section 21 Village of Fox Point	Private Conservation Organization	0	8	8
Lemke Farm Woods	Ozaukee County T08N R21E Section 32 City of Mequon	City of Mequon	12	1	13
Mee Kwon Park Habitat Area	Ozaukee County T09N R21E Section 10 City of Mequon	Ozaukee County	9	8	17
Mequon Wetland Habitat Area	Ozaukee County T09N R21E Section 30 City of Mequon	Milwaukee Metropolitan Sewerage District	9	22	31
Baehr Road Wetlands and Meadows	Ozaukee County T09N R21E Section 35 City of Mequon	City of Mequon	46	131	177
Mequon Beach Habitat Area	Ozaukee County T09N R22E Section 20 City of Mequon	Private Conservation Organization	0	2	2

Maple Road Wetlands	Ozaukee County T10N R21E Section 01 Town of Grafton	None	0	0	4
Decker Corner Habitat Area	Ozaukee County T10N R21E Section 6 Town of Cedarburg	Milwaukee Metropolitan Sewerage District	0	21	21
Cedar Creek Wetlands	Ozaukee County T10N R21E Section 14 Village of Grafton and Town of Cedarburg	None	0	0	42
Bridge Road Wetlands and Meadows	Ozaukee County T10N R21E Section 28 Town of Cedarburg	None	0	0	22
Ulao Meadows	Ozaukee County T10N R22E Section 8 Town of Grafton	None	0	0	61
Daly Lake Wetlands	Ozaukee County T11N R21E Section 17 Town of Saukville	Ozaukee County	15	54	69
Gough Lake Wetlands and Woods	Ozaukee County T11N R21E Section 17 Town of Saukville	Ozaukee County	155	3	158
Cedarburg Wetlands and Meadows Habitat Area	Ozaukee County T11N R21E Section 21 Town of Cedarburg and Town of Saukville	Wisconsin Department of Natural Resources	127	183	310
Center Road Woods and Wetlands	Ozaukee County T11N R21E Section 21 Town of Saukville	None	0	0	12
Cedarburg Wetlands and Meadows	Ozaukee County T11N R21E Section 30 Town of Saukville	University of Wisconsin-Milwaukee	19	3	22
Sauk Creek Shady Lane	Ozaukee County T11N R22E Section 09 Town of Port Washington	None	0	0	5
Interurban Trail Woods	Ozaukee County T11N R22E Section 21 City of Port Washington	City of Port Washington	34	9	43
South Branch Sauk Creek Ravine Woods	Ozaukee County T11N R22E Section 33 City of Port Washington	City of Port Washington	1	3	4
Six Mile Road Grassland	Ozaukee County T12N R22E Section 32 Town of Belgium	None	0	0	19
Riverpark Bluff Woods	Racine County T04N R23E Section 31 Village of Caledonia	None	0	0	1
State Line Wetlands	Walworth County T01N R17E Section 31 Town of Linn	None	0	0	1
Turtle Creek Wetland	Walworth County T02N R15E Section 02 Town of Darien	Wisconsin Department of Natural Resources	171	110	281
Mallard Habitat Area	Walworth County T02N R15E Section 04 Town of Darien	Private Conservation Organization	206	150	356
Turtle Creek Bike Trail Wetland	Walworth County T02N R15E Section 17 Town of Darien	Wisconsin Department of Natural Resources	0	23	23
Springs Park Wetlands	Walworth County T02N R16E Section 18 City of Delavan	City of Delavan	10	1	11

Dam Road Wetlands	Walworth County T02N R17E Section 22 Town of Geneva	Wisconsin Department of Natural Resources	138	82	220
Ore Creek Wet-Mesic Prairie	Walworth County T2N R18E Section 9 Town of Lyons	Wisconsin Department of Natural Resources	4	19	23
Sheridan Springs Road Habitat Area	Walworth County T02N R18E Section 20 Town of Lyons	Private Conservation Organization	0	33	33
CTH O Woods	Walworth County T03N R16E Section 04 Town of Sugar Creek	Private Conservation Organization	0	2	2
Bluff Creek Sedge Meadow	Walworth County T04N R15E Section 13 Town of Whitewater	Wisconsin Department of Natural Resources	1	2	3
Clover Valley State Wildlife Area	Walworth County T4N R15E Section 19 Town of Whitewater	Wisconsin Department of Natural Resources	272	95	367
Scout Road Tract	Walworth County T04N R17E Section 04 Town of Troy	The Nature Conservancy	16	6	22
Pine Rd Woods	Walworth County T04N R17E Section 22 Town of Troy	None	0	0	2
Section 28 Wetlands	Walworth County T04N R17E Section 28 Town of Troy	Private Conservation Organization	0	88	88
Island Drive Bog	Walworth County T04N R18E Section 04 Town of East Troy	Public Trust Lands	9	0	9
Lake Beulah Woodland	Walworth County T04N R18E Section 09 Town of East Troy	Town of East Troy	0	11	11
Dublin Road Sedge Meadow	Washington County T09N R18E Section 15 Town of Erin	Private Conservation Organization	0	42	42
Loew's Lake Woods	Washington County T09N R18E Section 25 Town of Erin	Wisconsin Department of Natural Resources	116	33	149
CTH CC Woods	Washington County T09N R19E Section 07 Village of Richfield	None	0	0	9
STH 175 Wetlands and Meadows	Washington County T09N R20E Section 32 Village of Germantown	None	0	0	39
Mueller Woods	Washington County T10N R19E Section 06 Town of Addison	Private Conservation Organization	0	80	80
CTH M Pond and Wetlands	Washington County T11N R20E Section 34 Town of Trenton	None	0	0	19
Stony Creek Wetlands	Washington County T12N R19E Section 01 Town of Kewaskum	Private Conservation Organization	0	28	28
Green Lake Wetlands	Washington County T12N R20E Section 33 Town of Farmington	Private Conservation Organization	0	44	44
Ottawa Oak Woods and Pine Plantations	Waukesha County T05N R17E Section 02 Town of Ottawa and Town of Eagle	Wisconsin Department of Natural Resources	1304	85	1389
Wilton Road Ponds	Waukesha County T5N R17E Section 15 Town of Eagle	Wisconsin Department of Natural Resources	12	15	27
Grotjen Oak Woods and Wetlands	Waukesha County T05N R17E Section 20 Town of Eagle	Wisconsin Department of Natural Resources	25	23	48

Eagle Spring Lake Marsh	Waukesha County T05N R17E Section 35 Town of Eagle	Wisconsin Department of Natural Resources	8	2	10
Phantom Lake Marsh	Waukesha County T05N R18E Section 27 Town of Mukwonago	Local Government	0	20	20
Martin's Upland Woods	Waukesha County T05N R19E Section 14 Village of Vernon	Private Conservation Organization	0	45	45
Ice Age Trail Riparian Habitat	Waukesha County T06N R17E Section 13 Town of Ottawa	Wisconsin Department of Natural Resources	16	51	67
Retzer Wetlands and Meadows Habitat Area	Waukesha County T06N R18E Section 01 City of Waukesha and Town of Genesee	Waukesha County	178	24	202
Pebble Creek Habitat Area	Waukesha County T06N R18E Section 12 Town of Genesee, Village of Waukesha, City of Waukesha	Local Government	35	89	124
Genesee Wetlands and Meadows	Waukesha County T06N R18E Section 15 Town of Genesee	Wisconsin Department of Natural Resources	162	290	452
Pewaukee River Wetlands and Meadows Habitat Area	Waukesha County T06N R19E Section 15 City of Pewaukee, Village of Pewaukee	Waukesha County	270	426	696
Bypass Wetlands and Meadows	Waukesha County T6N R19E Section 22 City of Waukesha and Village of Waukesha	City of Waukesha	386	139	525
West Cleveland Avenue Habitat Area	Waukesha County T6N R20E Section 7 City of New Berlin	City of New Berlin	19	75	94
Malone Park Habitat Area	Waukesha County T06N R20E Section 15 City of New Berlin	City of New Berlin	47	10	57
Muskego Creek Wetlands	Waukesha County T06N R20E Section 27 City of New Berlin	None	0	0	9
Anderson Woods	Waukesha County T6N R20E Section 29 City of New Berlin	None	0	0	3
South Moorland Road Woods	Waukesha County T06N R20E Section 34 City of New Berlin	Local Government	0	39	39
Olympia Meadows	Waukesha County T07N R17E Section 09 City of Oconomowoc	None	0	0	26
University Lake School Woods	Waukesha County T7N R18E Section 4 City of Delafield	None	0	0	10
Frog Hollow Oak Woods	Waukesha County T07N R18E Section 21 City of Delafield	Private Conservation Organization	0	3	3
Highland View Habitat Area	Waukesha County T7N R18E Section 28 Town of Delafield	Private Conservation Organization	23	31	54
Simmons Wetland Habitat	Waukesha County T07N R19E Section 03 City of Pewaukee, Village of Pewaukee, and Town of Lisbon	Waukesha County	50	189	239

Busse Habitat Area	Waukesha County T07N R19E Section 14 City of Pewaukee	None	0	0	59
Woodburn Wetlands	Waukesha County T7N R19E Section 28 City of Waukesha	City of Waukesha	3	31	34
Lilly Heights Park Wetlands	Waukesha County T07N R20E Section 02 City of Brookfield	City of Brookfield	52	18	70
Deer Creek Habitat	Waukesha County T7N R20E Section 33 City of Brookfield	City of Brookfield	8	39	47
Westshore Road Woods	Waukesha County T8N R18E Section 20 Town of Merton	Private Conservation Organization	0	3	3
Merton Ptelea Site	Waukesha County T08N R18E Section 21 Town of Merton	None	0	0	2
Bark River Greenway	Waukesha County T08N R19E Section 04 Town of Lisbon	Waukesha County	0	25	25
Bugline Habitat Area	Waukesha County T08N R19E Section 17 Town of Lisbon	Town of Lisbon	35	190	225
Sussex Marsh	Waukesha County T08N R19E Section 22 Village of Sussex and Town of Lisbon	Village of Sussex	11	40	51
Sussex Meadows	Waukesha County T08N R19E Section 28 Village of Sussex and Town of Lisbon	Village of Sussex	24	7	31
Devonwood Wetlands	Waukesha County T8N R20E Section 4 Village of Menomonee Falls and Village of Germantown	Village of Menomonee Falls	6	3	9
Lannon Road Ptelea Site	Waukesha County T08N R20E Section 07 Village of Menomonee Falls	None	0	0	1
River Trail Habitat Area	Waukesha County T08N R20E Section 25 Village of Menomonee Falls	Local Government	0	1	1
Regional Total			**7,605**	**3,973**	**11,933**

Source: SEWRPC

Table 7.4
Newly Identified Critical Species Habitat Sites in Southeastern Wisconsin that are Completely Protected

Site Name	Location	Proposed Acquisition Agency	Area Protected (Acres)	Area Proposed to be Acquired (Acres)	Total Site Size (acres)
Veterans Park Wetlands	Kenosha County T1N R19E Section 15 Town of Randall and Town of Wheatland	Kenosha County	35	0	35
Old Oaks Park	Kenosha County T01N R20E Section 07 Village of Salem Lakes	Village of Salem Lakes	25	0	25
Carol Beach Recovering Prairie and Wetland	Kenosha County T1N R23E Section 30 Village of Pleasant Prairie	Wisconsin Department of Natural Resources	19	0	19
Alford Beach	Kenosha County T2N R23E Section 30 City of Kenosha	City of Kenosha	31	0	31
Root River Habitat Area-South	Milwaukee County T05N R21E Section 04 City of Franklin and Village of Greendale	Milwaukee County	206	0	206
Froemming Woods and Grasslands	Milwaukee County T5N R21E Section 22 City of Franklin	Milwaukee County	316	0	316
Oakwood Golf Course	Milwaukee County T05N R21E Section 25 City of Franklin	Milwaukee County	34	0	34
Rainbow Airport	Milwaukee County T05N R21E Section 27 City of Franklin	Milwaukee County	37	0	37
Root River Pkwy Section 13	Milwaukee County T05N R21E Section 27 City of Franklin	Milwaukee County	54	0	54
South Shore Metro Dunes	Milwaukee County T05N R22E Section 13 City of South Milwaukee and City of Oak Creek	Milwaukee Metropolitan Sewerage District	22	0	22
Riverton Meadows	Milwaukee County T05N R22E Section 15 City of Oak Creek	Milwaukee County	4	0	4
Barloga Recovering Woods	Milwaukee County T5N R22E Section 18 City of Oak Creek	Milwaukee County	70	0	70
Bender Beach	Milwaukee County T05N R22E Section 25 City of Oak Creek	Milwaukee County	1	0	1
Jackson Park Woods	Milwaukee County T06N R21E Section 12 City of Milwaukee	Milwaukee County	26	0	26
Zablocki Park Habitat Area	Milwaukee County T6N R21E Section 24 City of Greenfield	Milwaukee County	7	0	7
Root River Pkwy Section 5	Milwaukee County T06N R21E Section 29 City of Greenfield	Milwaukee County	7	0	7

Hales Corners Park Woods	Milwaukee County T06N R21E Section 31 Village of Hales Corners	Milwaukee County	6	0	6
Baran Park Woods	Milwaukee County T6N R22E Section 8 City of Milwaukee	Milwaukee County	5	0	5
Humbolt Park	Milwaukee County T06N R22E Section 09 City of Milwaukee	Milwaukee County	14	0	14
South Shore Park	Milwaukee County T06N R22E Section 10 City of Milwaukee	Milwaukee County	5	0	5
Bay View Clay Banks	Milwaukee County T06N R22E Section 14 City of St. Francis	Milwaukee County	15	0	15
Wilson Park	Milwaukee County T6N R22E Section 19 City of Milwaukee	Milwaukee County	30	0	30
Holler Park Woods	Milwaukee County T06N R22E Section 29 City of Milwaukee	Milwaukee County	11	0	11
Copernicus Park Woods	Milwaukee County T06N R22E Section 31 City of Milwaukee	Milwaukee County	11	0	11
Maitland Park	Milwaukee County T06N R22E Section 31 City of Milwaukee	Milwaukee County	16	0	16
Grantosa Creek	Milwaukee County T07N R21E Section 05 City of Milwaukee and City of Wauwatosa	Milwaukee County	6	0	6
Currie Park	Milwaukee County T7N R21E Section 7 City of Wauwatosa	Milwaukee County	76	0	76
Menomonee River Pkwy Section 6	Milwaukee County T07N R21E Section 08 City of Wauwatosa	Milwaukee County	8	0	8
Cooper Park	Milwaukee County T07N R21E Section 16 City of Milwaukee	Milwaukee County	1	0	1
Menomonee River Pkwy Section 7	Milwaukee County T07N R21E Section 17 City of Wauwatosa	Milwaukee County	3	0	3
Monarch Trail	Milwaukee County T07N R21E Section 20 City of Wauwatosa	UWM Innovation Park	20	0	20
Washington Park	Milwaukee County T7N R21E Section 23 City of Milwaukee	Milwaukee County	38	0	38
Menomonee River PCA No. 11	Milwaukee County T07N R21E Section 26 City of Wauwatosa	Milwaukee County	2	0	2
Mitchell Boulevard Park	Milwaukee County T07N R21E Section 26 City of Milwaukee	Milwaukee County	4	0	4
Cannon Park Woods	Milwaukee County T7N R21E Section 29 City of Milwaukee	Milwaukee County	2	0	2
Chippewa Park Woods	Milwaukee County T7N R21E Section 30 City of Wauwatosa	Milwaukee County	6	0	6

Hank Aaron Trail Hoptree Site	Milwaukee County T07N R21E Section 33 City of Milwaukee	Department of Natural Resources	1	0	1
Estabrook Woods	Milwaukee County T07N R22E Section 04 City of Milwaukee and Village of Shorewood	Milwaukee County	80	0	80
Caesar's Woods	Milwaukee County T07N R22E Section 21 City of Milwaukee	Milwaukee County	3	0	3
Veterans Park	Milwaukee County T7N R22E Section 28 City of Milwaukee	Milwaukee County	7	0	7
Mitchell Park Woods	Milwaukee County T07N R22E Section 31 City of Milwaukee	Milwaukee County	8	0	8
Kohl Park Woods	Milwaukee County T08N R21E Section 04 City of Milwaukee	Milwaukee County	67	0	67
Dretzka Park	Milwaukee County T8N R21E Section 7 City of Milwaukee	Milwaukee County	177	0	177
Servite Park	Milwaukee County T08N R21E Section 09 City of Milwaukee	Milwaukee County and City of Milwaukee	20	0	20
Brown Deer Park Pond	Milwaukee County T08N R21E Section 13 City of Milwaukee	Milwaukee County	13	0	13
Uihlein Park	Milwaukee County T8N R21E Section 22 City of Milwaukee	Milwaukee County	16	0	16
McGovern Park Lagoons	Milwaukee County T08N R21E Section 35 City of Milwaukee	Milwaukee County	7	0	7
Schlitz Meadows	Milwaukee County T08N R22E Section 09 Village of Bayside	Schlitz Audubon Center	65	0	65
Doctors Park	Milwaukee County T8N R22E Section 10 Village of Fox Point and Village of Bayside	Milwaukee County	19	0	19
Kletzch Park Habitat Area	Milwaukee County T8N R22E Section 19 City of Glendale	Milwaukee County	21	0	21
Milwaukee River 1	Milwaukee County T08N R22E Section 19 City of Glendale	Milwaukee County	13	0	13
Milwaukee River 2	Milwaukee County T08N R22E Section 30 City of Glendale	Milwaukee County	10	0	10
Lincoln Creek Woods	Milwaukee County T08N R22E Section 31 City of Milwaukee	Milwaukee County	20	0	20
Lincoln Park Woods	Milwaukee County T08N R22E Section 31 City of Glendale and City of Milwaukee	Milwaukee County	165	0	165
Big Bay Woods	Milwaukee County T08N R22E Section 33 Village of Whitefish Bay	Milwaukee County and Village of Whitefish Bay	6	0	6
Virmond Park Habitat Area	Ozaukee County T9N R22E Section 28 City of Mequon	Ozaukee County	45	0	45

Wasaukee-Pioneer Hardwood Swamp	Ozaukee County T10N R21E Section 31 Town of Cedarburg	Ozaukee Washington Land Trust	49	0	49
Forest Beach Pond	Ozaukee County T12N R22E Section 36 Town of Belgium	Ozaukee Washington Land Trust	1	0	1
Quarry Park Woods	Racine County T3N R23E Section 06 Village of Mount Pleasant	Racine County	4	0	4
Samuel Myers Beach	Racine County T03N R23E Section 16 City of Racine	City of Racine	5	0	5
Fontana Bike Trail Wetlands	Walworth County T1N R16E Section 14 Village of Fontana	Wisconsin Department of Transportation	1	0	1
Lyons Wildlife Area	Walworth County T02N R18E Section 20 Town of Lyons	Wisconsin Department of Natural Resources	8	0	8
Rice Lake Esker Woods	Walworth County T04N R15E Section 35 Town of Whitewater	Wisconsin Department of Natural Resources	5	0	5
Pickerel Lake Road Oak Opening	Walworth County T04N R17E Section 11 Town of Troy	The Nature Conservancy	44	0	44
Allenton Wetlands	Washington County T11N R18E Section 06 Town of Addison	Wisconsin Department of Natural Resources	101	0	101
Kettle Moraine Drive Meadows	Washington County T12N R19E Section 23 Town of Kewaskum	Wisconsin Department of Natural Resources	16	0	16
Saxonia Property	Washington County T12N R20E Section 24 Town of Farmington	Friends of Saxonia House	1	0	1
Road X Kettle	Waukesha County T05N R17E Section 03 Town of Eagle	Wisconsin Department of Natural Resources	1	0	1
CTH ZZ Grasslands	Waukesha County T05N R17E Section 04 Town of Eagle and Town of Ottawa	Wisconsin Department of Natural Resources	120	0	120
Scuppernong Marsh Low Prairie	Waukesha County T05N R17E Section 21 Town of Eagle	Wisconsin Department of Natural Resources	14	0	14
Old World Woods	Waukesha County T05N R17E Section 28 Town of Eagle	Wisconsin Department of Natural Resources	17	0	17
Eagle Esker Grassland	Waukesha County T05N R17E Section 29 Town of Eagle	Wisconsin Department of Natural Resources	76	0	76
Mukwonago River Pine Plantation and Barrens	Waukesha County T05N R17E Section 36 Town of Mukwonago	Private Conservation Organization	45	0	45
Schnitzler Road Oak Woods	Waukesha County T05N R18E Section 04 Town of Mukwonago	Private Conservation Organization	36	0	36
Albert Thiesen Donation	Waukesha County T05N R18E Section 11 Town of Mukwonago	Waukesha County Land Conservancy	52	0	52
Davis Oak Woods	Waukesha County T5N R18E Section 32 Town of Mukwonago	Wisconsin Department of Natural Resources	6	0	6

Paradise Valley Marsh	Waukesha County T06N R17E Section 06 Town of Ottawa	Wisconsin Department of Natural Resources	587	0	587
East Broadway Woods and Thicket	Waukesha County T06N R19E Section 01 City of Waukesha	City of Waukesha	3	0	3
Indian Mound Camp	Waukesha County T07N R17E Section 16 Village of Summit	Forest County Potawatomi Community	5	0	5
Henrietta Lake Marsh	Waukesha County T7N R17E Section 36 Village of Summit	University of Wisconsin-Waukesha	2	0	2
Scenic Drive Ponds	Waukesha County T07N R18E Section 29 Town of Delafield	Wisconsin Department of Natural Resources	20	0	20
Silvernail Wetlands	Waukesha County T07N R19E Section 28 City of Waukesha	Waukesha County	26	0	26
Northview Butternuts	Waukesha County T07N R19E Section 29 City of Waukesha	City of Waukesha	1	0	1
Ice Age Trail Skunk Cabbage Seep and Woods	Waukesha County T08N R18E Section 10 Town of Merton	Waukesha County	20	0	20
River's Edge Park Woods	Waukesha County T08N R20E Section 12 Village of Menomonee Falls	Village of Menomonee Falls	3	0	3

Source: SEWRPC

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Chapter 7

FIGURES

Figure 7.AquaticHabitat

Examples of Habitat Enhancement Projects for Organisms Using Aquatic Habitats

Re-creation or Re-connection of Wetland and Upland Habitats

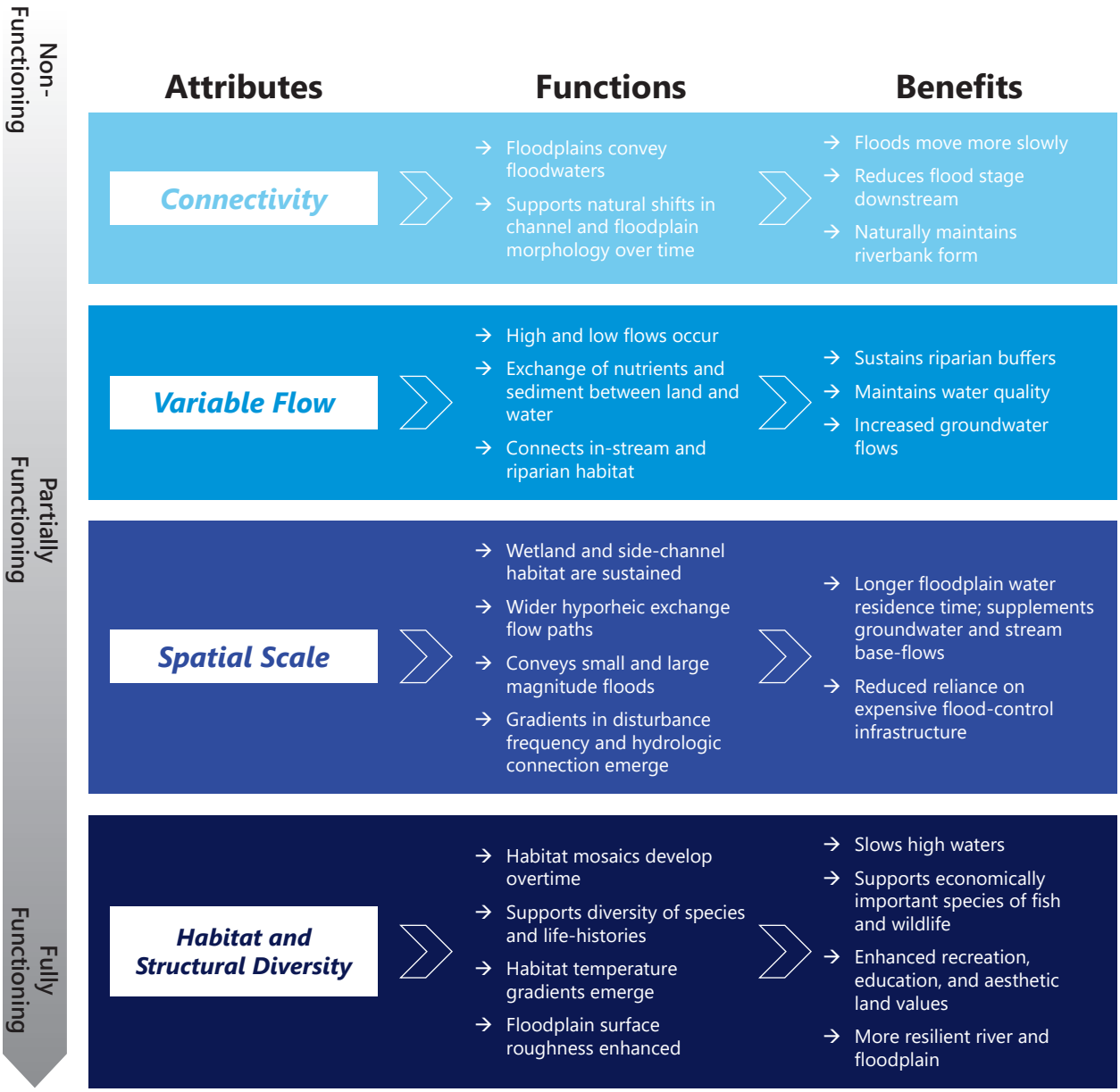
Removing Obstacles and/or Placing Signage Can Improve Safety and Effectiveness of Travel Between Habitats

Coarse Wood Pieces Provide Habitat for Fish

Boxes and Nesting Platforms Enhance Bird Habitat

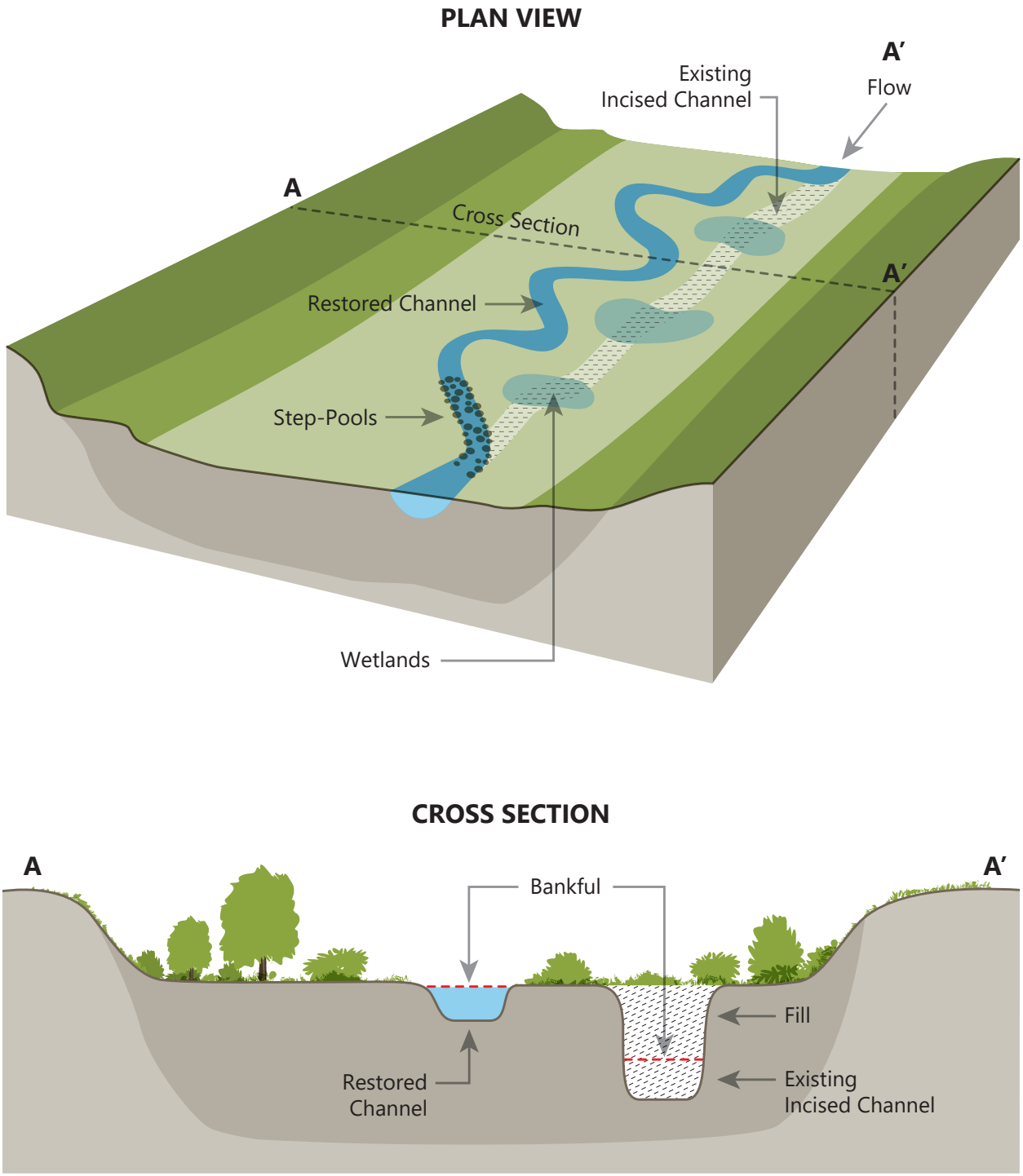
Source: Partners in Amphibian and Reptile Conservation, Habitat Management Guidelines for Amphibians and Reptiles of the Midwestern United States, Technical Publication HMG-1, 2012; Lake Pewaukee Sanitary District; and SEWRPC

Figure 7.FunctionalFloodplains
Attributes, Functions, and Benefits of Ecologically Functional Floodplains



Source: Modified from Jonathon Loos and Eileen Shader, Reconnecting Rivers to Floodplains: Returning Natural Functions to Restore Rivers and Benefit Communities, *2016 and SEWRPC*

Figure 7.Remeandering
Potential Stream Restoration Design Elements to Improve Sinuosity and Stream Function



Note: The example shown in this schematic includes a raised elevation for the restored channel bed when compared to the existing channel. Any changes to channel bed elevation would need to consider upstream and downstream channel elevation profiles and elevations of road culverts and other fixed structures.

Source: Modified from W. Harman, R. Starr, M. Carter, et al., A Function-Based Framework for Stream Assessments and Restoration Projects, *US Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds, Washington, DC, EPA 843-K-12-006, p. 36, 2012 and SEWRPC*

Cudahy Nature Preserve: Natural Area of County-Wide or Regional Significance (NA-2)

Level of Protection: High (Conservation Ownership with Site Management Plan)
Level of Threat: Medium (Invasive Species)

Size	47 Acres
Ownership	Milwaukee County
Site Management Plan	Yes
Number of Native Plant Species	178
Endangered, Threatened, or Special Concern Species	Yes, Plant and Animal

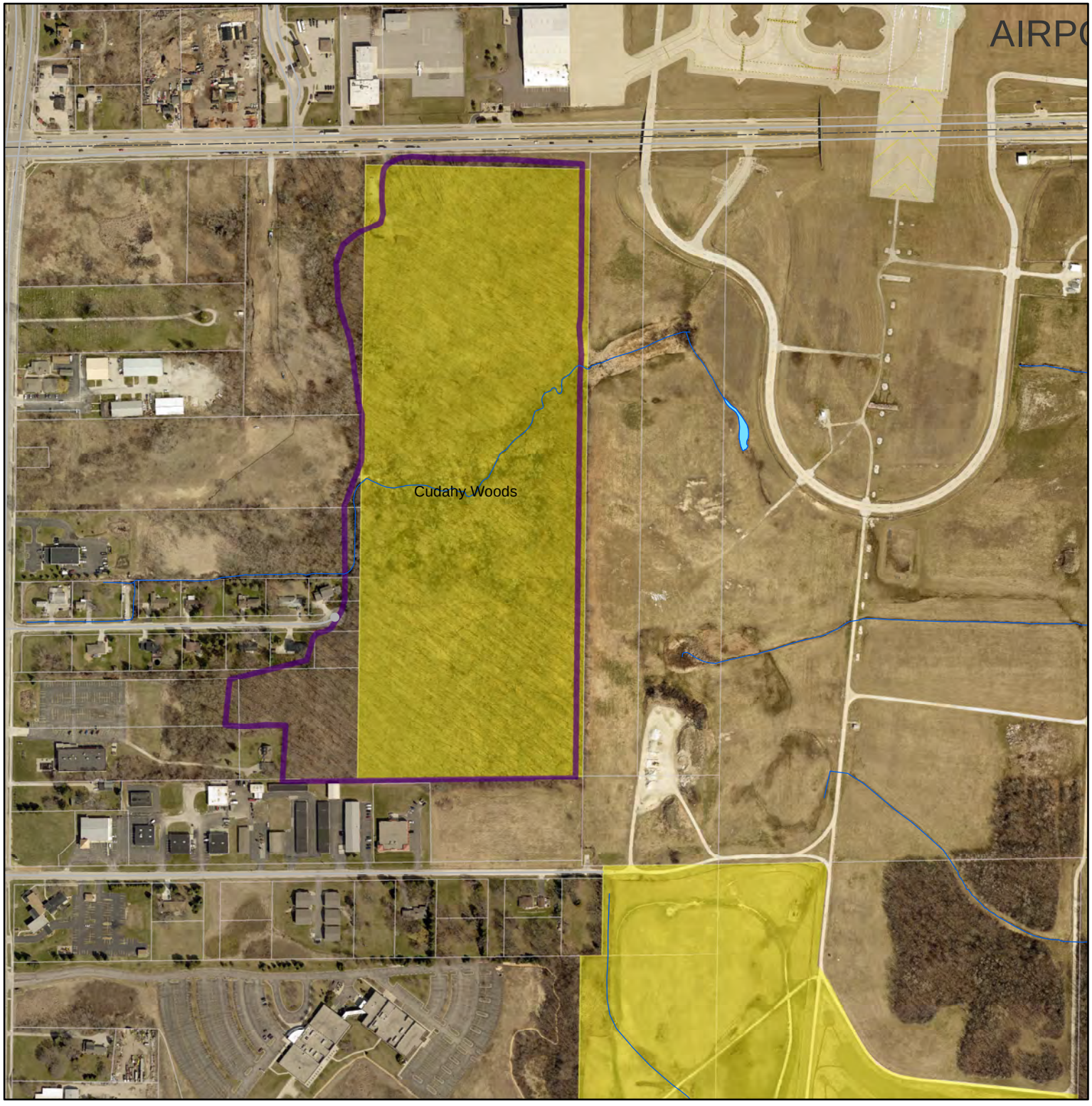
Cudahy Nature Preserve, also a State Natural Area known as Cudahy Woods, consists of a relatively large remnant tract of white oak-red oak dry-mesic forest, beech-maple northern hardwood forest, and hardwood swamp with skunk cabbage seeps. It harbors a rich ground flora that includes trout lilies (*Erythronium albidum* and *E. americanum*), Spring cress (*Cardamine bulbosa* and C. *douglassii*), toothwort (*Cardamine concatenata*), and many other species that have been extirpated from most of the surrounding area. American cancer root (*Conopholis americana*) and Beech drops (*Epifagus virginiana)*, both fully parasitic plants that lack chlorophyll, are two of the more unique members of the Cudahy Woods plant community. They respectively depend on the presence of oaks (*Quercus* sp.) and American beech (*Fagus americana*) as hosts. The woods also supports many bird species during migration and the breeding season.

Invasive species are the primary threats to the long-term preservation of biodiversity at Cudahy Nature Preserve. There are ongoing efforts to control garlic mustard (*Alliaria petiolata*), but perhaps the greatest threats the woods' diverse and irreplaceable spring ephemeral community are exotic "bulb" species, which are actively displacing spring ephemerals in parts of the woods. Siberian squill (*Scilla siberica*) and Bossier's glory-of-the-snow (S. *luciliae*) are the most problematic, but snowdrops (*Galanthus nivale*) also poses a threat. Other invasive species present in or at the margins of the woods and warranting consideration for eradication include bush honeysuckle (*Lonicera x bella*) and common buckthorn (*Rhamnus cathartica*).

Acquisition and afforestation of adjacent properties to the west and south of the woods, which already contain some mature oaks and wetland areas, would buffer the core remnant community from surrounding development and further enhance wildlife values.

Left: White trout lily, a spring ephemeral wildflower, carpets portions of Cudahy Nature Preserve in early spring. **Right**: Invasive Bossier's glory-of-the-snow expanding in a portion of the woods. Credit: SEWRPC staff – Dan Carter

Figure 1
Cudahy Woods Natural Area Site No. 5 (NA-2)



NATURAL AREA

SURFACE WATER

STREAM

PARCEL BOUNDARY

Lands Considered to be Protected Through Public or Private Ownership Interest

(Defined as lands owned in fee simple by Federal, State, County, and local governments; public school districts; utility, sewerage, and lake districts; and lands owned fee simple by private organizations, including land trusts, schools, conservation clubs, campgrounds and other compitable groups (some of these lands may be vulnerable to development); and, lands protected by conservation easements.)

N

0 250 500 Feet

Note: the lands within the boundaries and/or highlighted are not open to public access (for any purpose) unless otherwise noted onsite.

Figure 7.UrbanBMPs
Examples of Stormwater Management Modifications

Bioswale Capturing Runoff from
Parking Lots at Drexel Town Square

Porous Pavement Infiltrating Runoff from
Parking Lot at Drexel Town Square

Rain Garden Capturing Runoff
at the Oak Creek City Hall and Library

Source: SEWRPC

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2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 8-Preliminary Plan Recommendations

8.1 INTRODUCTION

SEWRPC Planning Report Number 42, A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, published in 1997, presented an inventory of the best remaining, known remnants of the natural landscape of southeastern Wisconsin, together with a set of recommendations for the protection and management of such areas. This report documents 1) changes that have occurred in the natural landscape since that time, 2) progress that has been made in implementing plan recommendations, and 3) a new set of plan implementation recommendations

8.2 SUMMARY OF UPDATES

Through updates as discussed herein, the total number of natural areas and critical species habitat sites, and their areal extent, have been revised (Table 8.1). The total number of NA-1 quality sites did not change from the previous amendments, but the associated area increased from 11,220 acres to 11,859 acres. The total number of NA-2 quality sites decreased from 126 to 107 but the area increased from 20,722 acres to 21,444 acres. This was due to several sites downgraded from NA-1 status and NA-3 sites upgraded to NA-2. The total number of NA-3 quality sites has increased slightly from 326 to 329, and the associated area decreased from 32,374 acres to 29,336 acres. Thus, the overall number of natural areas identified in the Region has decreased from 494 sites to 478 sites, and the associated area from 64,316 acres to 62,639 acres. The number of critical species habitat sites increased from 256 sites to 412 sites, and the associated area from 17,168 acres to 38,194 acres. In addition, one archeological site encompassing one acre, was added to the inventory. The site is already under protective ownership by the City of Waukesha. Finally, while several sites have diminished in areal extent, four natural areas of regional significance (NA-2)— Friendship Lake Marsh, CTH NN Sedge Meadow, and Harris Marsh and Oak Woods in Kenosha County, and Schroeder

Road Marsh in Racine County- and sixteen natural areas of local significance (NA-3) were lost. Only four critical species habitat areas—Hamilton Woods in Kenosha County, Oak Creek Powerplant Woods in Milwaukee County, Wood Duck Woods in Racine County, and Anderson Road in Walworth County have been totally lost to development or degradation.

47 critical species habitat sites totaling 1,008 acres are considered lost as the sites no longer contain a confirmed observation of a State or Federally listed species. For these 47 sites, the species that initially triggered designation has since been delisted. Prior to removing the critical species habitat site designations, Commission staff reviewed the most up-to-date information found in the Wisconsin Department of Natural Resources Natural Heritage Inventory Database, historic Commission vegetation inventories, and publicly available citizen science observation data. If no additional rare species records were confirmed from the area, the sites were considered lost. It is highly recommended that such sites, especially those found on public lands, be revisited to determine if additional rare species are present.

8.3 RECOMMENDED PLAN

The following section provides a recommended plan framework consistent with the original objectives, principles, and standards. Recommended updates to the plan consist of four main elements: natural areas and critical species habitat sites, significant aquatic areas, significant geological sites, and significant archaeological sites. The major recommendations of the updated plan are summarized below.

Natural Areas and Critical Species Habitat Sites

The inventory phase of the study resulted in the identification of 478 Natural Area sites as well as 412 Critical Species Habitat sites located wholly or partially outside the boundaries of the identified Natural Areas. The plan recommends that each of these 890 sites be protected and preserved to the maximum extent practicable as urban and rural development in the Region proceeds. It is recommended that 802 sites, or 90 percent of the total, be placed in public or private protective ownership and that the other 88 sites be protected, insofar as it is possible, without protective ownership. Plan recommendations with respect to each of the identified Natural Area sites and Critical Species Habitat sites are presented by county on Maps 8.1 through 8.7. The plan recommends the following priorities for public-interest acquisition, given existing constraints on the financial resources of the public and private agencies proposed to be responsible for such acquisition:

- Natural Area sites of statewide or greater significance (NA-1 sites highest acquisition) are the highest acquisition priority. All 42 of the identified NA-1 sites are recommended for protective ownership under the plan. The 42 NA-1 sites encompass 18.5 square miles, or about 0.7 percent of the total area of the Region. Of the 18.5-square-mile area concerned, about 14.8 square miles, or 80 percent, have already been placed under protective public or private ownership. This includes eight sites where protective acquisition of the entire site has been completed. Under the plan, the remaining 3.7 square miles would similarly be placed under protective ownership to ensure permanent preservation. This includes the expansion of such ownership for 31 sites where protective acquisition of a part of the site has been completed, and the acquisition of three sites where protective acquisition has not yet been initiated.
- The second-highest acquisition priority are Natural Areas of countywide or regional significance (NA-2 sites) and those Natural Areas of local significance (NA-3 sites) which lie within Commission-delineated primary environmental corridors; which support endangered, threatened, or special concern plant or animal species; or which have already been at least partially placed in public or private protective ownership. Included in this priority group are all 107 of the NA-2 sites, plus 320 of the identified 329 NA-3 sites. The acreage within the 427 sites recommended for acquisition encompasses about 78.3 square miles, or about 3 percent of the total area of the Region. Of that total, about 42.3 square miles, or 54 percent, have already been placed under protective public or private ownership. This includes 78 sites where protective acquisition of the entire site has been completed. Under the plan, the remaining 36 square miles would similarly be placed under protective ownership to ensure permanent preservation. This includes the expansion of such ownership for 258 sites already partially in protective ownership, plus the acquisition of 91 sites where protective acquisition has not yet been initiated.
- That the third-highest acquisition priority are Critical Species Habitat sites which are not wholly contained within a designated Natural Area, but which either are located within a Commission delineated primary environmental corridor or are already at least partially in public or private protective ownership. A total of 330 of the identified 412 Critical Species Habitat sites are included in this priority group. These 330 sites encompass about 56.3 square miles, or 2.1 percent of the total area of the Region. Of that total, about 43.1 square miles, or 77 percent, have already been placed under protective public or private ownership. This includes 141 sites where protective acquisition of the entire site has been completed. Under the plan, the remaining 13.2 square miles would similarly be placed under protective ownership to ensure

permanent preservation. This includes the expansion of such ownership for 132 sites already partially in protective ownership, plus the acquisition of 57 sites where protective acquisition has not yet begun.

- That the fourth-highest acquisition priority be accorded to those activities intended to reestablish relatively large tracts of grasslands and forest interiors within the Region for the purpose of enhancing habitat for area sensitive species.

Upon implementation of these site acquisition recommendations, 469 Natural Area sites, or 98 percent of the 478 Natural Area sites found within the Region, would be in protective public or private ownership. In addition, of the 412 Critical Species Habitat sites not wholly located within a Natural Area, 330 sites, or 80 percent, would be in protective ownership. The updated plan also reiterates the following recommendations made in the original plan: 1) the adjustment of Commission-delineated primary environmental corridor boundaries to fully encompass inventoried Natural Areas and Critical Species habitat sites; 2) the reflection of the Natural Area and Critical Species Habitat inventory findings in the administration of Federal, State, and local wetland regulatory programs; 3) the potential modification of State law and administrative rules to ensure that State agency actions attendant to the approval of sanitary sewer extensions or private sewage disposal systems do not result in the destruction of Natural Areas or Critical Species habitat sites recommended for preservation and protection; and the proper consideration of Natural Areas and Critical Species Habitat sites in the preparation of land use and other development plans by and in the related regulatory activities of county and local units of government. The plan recognizes a need to properly manage Natural Areas and Critical Species Habitat sites to ensure that the critical species and natural communities concerned can flourish. Without proper management, such areas may be significantly altered over time and their natural values diminished or lost. The plan further recognizes that management techniques appropriate for one type of natural area or critical species habitat area may not be appropriate for others and that management measures must be developed and applied on a site-by-site basis. Accordingly, the plan recommends that the public agencies and private conservancy organizations proposed to be responsible for site preservation and protection respectively prepare and implement detailed management plans specific to each site. The individual site profiles, linked through the Natural Areas Webtool mentioned in previous chapters, contains site specific management recommendations and management recommendations generalized to natural community type. These recommendations will be updated on a continual basis to reflect best practices and new information gathered from subsequent field visits.

Geological Site Plan Element

Under the plan, all 87 of the designated Geological Areas identified during the inventory phase of the study are recommended to be protected and preserved (Map 8.8). More specifically, the plan, as developed by the Advisory Committee, recommends the following:

- Geological Areas whose acquisition has been recommended under prior State, regional, or county plans and Geological Areas which have been recommended for protective ownership as Natural Areas or Critical Species Habitat sites are the highest priority for acquisition. A total of 54 Geological Areas fall into this priority group. About 32.0 square miles within these 56 sites are located within Natural Areas or Critical Species Habitat sites recommended to be preserved, or within another Geological Area. An additional 35.1 square miles within these 56 sites have been recommended to be acquired for protective ownership under existing plans. Of the 35.1 square miles proposed to be acquired, about 24.0 square miles, or 68 percent, were already under protective ownership.
- The second highest priority are 21 Geological Areas which have not been recommended for protective acquisition under other plans and are classified as GA-1 sites or are located within a primary environmental corridor. A total of 268 acres, or just over 0.4 square miles is generally recommended for protective ownership at these 21 sites.
- That the remaining 10 Geological Areas be protected and preserved to the maximum extent practicable, without public-interest acquisition. The preservation of these sites should be considered in the preparation of land use plans and other development plans by county and local units of government

Archaeological Site Plan Element

The plan recommends the protection and preservation of the 15 archaeological sites in the Region which have been listed on the National Register of Historic Places. Five of these sites are currently held by public or private agencies in protective ownership, and a sixth site is partially held in protective ownership. Under the plan, the remaining nine sites would be protected and preserved to the maximum extent practicable, without public-interest acquisition, relying largely on protection afforded to National register sites under Federal and State law and on county and local planning and zoning.

8.4 PLAN IMPLEMENTATION

This report presents recommendations directed toward the concerned Federal, State, county, and local units and agencies of government, as well as private conservancy organizations, to implement the recommended natural areas and critical species habitat protection and management plan. Recommended actions include formal adoption or endorsement of the plan; integration of the plan findings and recommendations into the work program of each agency—including, at the county and local levels, integration into land use and other development plans; acquisition of Natural Areas, Critical Species Habitat sites, and Geological Areas as recommended in the plan; and proper management of all sites which are placed under protective ownership. Under the plan, the permanent protection of Natural Areas, Critical Species Habitat sites, and Geological Areas depends in large measure on site acquisition and management by numerous public and private agencies. Site-specific recommendations directed toward State agencies, counties, local units of government, and private conservation organizations are set forth in the plan. The plan recommends that the Wisconsin Department of Natural Resources assume responsibility for ownership and management of 200 individual Natural Areas, Critical Species Habitat sites, Geological Areas, grassland, and forest interior sites in the Region. The plan recommends that the seven counties comprising the Region assume responsibility for ownership and management of 257 sites; cities, villages, towns, school districts, and other local units of government assume responsibility for 162 sites; and private conservancy organizations assume responsibility for 207 sites. The Wisconsin Department of Transportation, University of Wisconsin, and Federal agencies would be responsible for ownership and management of 11 sites.

The total cost of land acquisition recommended under the plan is estimated at $474.8 million. These costs would be distributed as follows: Federal Government $75 million or 16 percent, State government $139.3 million, or 29 percent; county governments $152.3 million, or 32 percent; local governments $32.1 million, or 7 percent; and private conservancy organizations $76.2 million, or 16 percent.

8.5 PUBLIC COMMENT

[to be completed following public meetings in Mid-December 2024]

SEWRPC Planning Report No. 42

2ND AMENDMENT TO THE NATURAL AREAS AND CRITICAL SPECIES HABITAT MANAGEMENT AND PROTECTION PLAN FOR THE SOUTHEASTERN WISCONSIN REGION

Chapter 8

TABLES

Table 8.1
Summary of Known Natural Area and Critical Species Habitat Sites in Southeastern Wisconsin: 2023

		County							Region
		Kenosha	Milwaukee	Ozaukee	Racine	Walworth	Washington	Waukesha	
NA-1 Areas	Number of Sites	6	1	6	4	8	8	10	42
	Combined Area (acres)	757	33	2,848	390	2,261	3,264	2,339	11,859
	Percent of County or Region	0.4	<0.1	1.9	0.2	0.6	1.2	0.6	0.7
	Mean Size (acres)	126	33	475	98	283	408	234	282
NA-2 Areas	Number of Sites	5	11	12	9	14	28	28	107
	Combined Area (acres)	563	1,012	1,731	1,231	3,180	5,763	7,964	21,444
	Percent of County or Region	0.3	0.7	1.2	0.6	0.9	2.1	2.1	1.3
	Mean Size (acres)	113	92	144	137	227	206	284	200
NA-3 Areas	Number of Sites	15	42	35	33	60	58	86	329
	Combined Area (acres)	1,125	2,152	3,269	2,306	4,875	7,955	7,654	29,336
	Percent of County or Region	0.6	1.4	2.2	1.1	1.3	2.9	2.1	1.7
	Mean Size (acres)	75	51	93	70	81	137	89	89
Total Natural Areas	Number of Sites	26	54	53	46	82	94	124	478
	Combined Area (acres)	2,445	3,197	7,848	3,927	10,316	16,982	17,957	62,639
	Percent of County or Region.	2.2	1.9	5.1	2.6	2.8	6.1	4.8	3.8
	Mean Size (acres)	94	59	148	85	126	181	145	131
Critical Species Habitat Areas	Number of Sites	31	124	33	35	55	25	109	412
	Combined Area (acres)	6,750	6,604	2,066	1,550	4,993	906	15,106	38,194
	Percent of County or Region	3.8	4.3	1.4	0.7	1.4	0.3	4.1	2.2
	Mean Size (acres)	218	53	63	44	91	36	139	93

Note: Because some natural areas are located within more than one County, regional totals may differ from the sums of county totals.

Source: SEWRPC

Table 8.2
Summary of Proposed Updates

	County														Region	
	Kenosha		Milwaukee		Ozaukee		Racine		Walworth		Washington		Waukesha			
Newly Identified Areas																
	No.	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**
Natural Areas	2	52	1	7	2	25	1	10	3	50	2	70	6	40	17	254
Critical Species Habitat	12	1,614	78	4,677	24	1152	4	20	23	1560	13	598	59	5,771	213	15,392
Total	14	1,666	79	4,684	26	1,177	5	30	26	1610	15	668	65	5,811	230	15,646
Existing Areas Changing Classification																
	No.	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**
NA to X[a]	8	572	1	38	0	0	6	342	1	66	1	8	3	120	20	1,139
NA to CSH	1	48	3	160	1	76	4	544	2	12	0	0	1	98	12	930
NA to NA	3	307	6	575	3	152	10	1,101	2	222	1	17	10	935	35	3,309
CSH to X	9	150	5	38	4	101	7	51	6	26	5	221	11	159	47	746
CSH to NA	0	0	2	66	2	76	0	0	0	0	1	34	4	396	9	572
Total	21	1,077	17	877	10	405	27	2,038	11	326	8	280	29	1,708	123	6,696
Boundary Revisions[b]																
	No	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**	**No.**	**Acres**
Natural Areas	18	-434	14	108	25	48	10	-5	17	15	15	9	15	11	114	-248
Critical Species Habitat	2	-183	3	-15	1	-2	7	-35	3	-8	1	-2	7	-80	24	-325
Total	20	-617	17	93	26	46	17	-40	20	7	16	7	22	-69	138	-573

[a]X refers to a Lost site in that in no longer meets the Criteria for a natural area or critical species habitat site

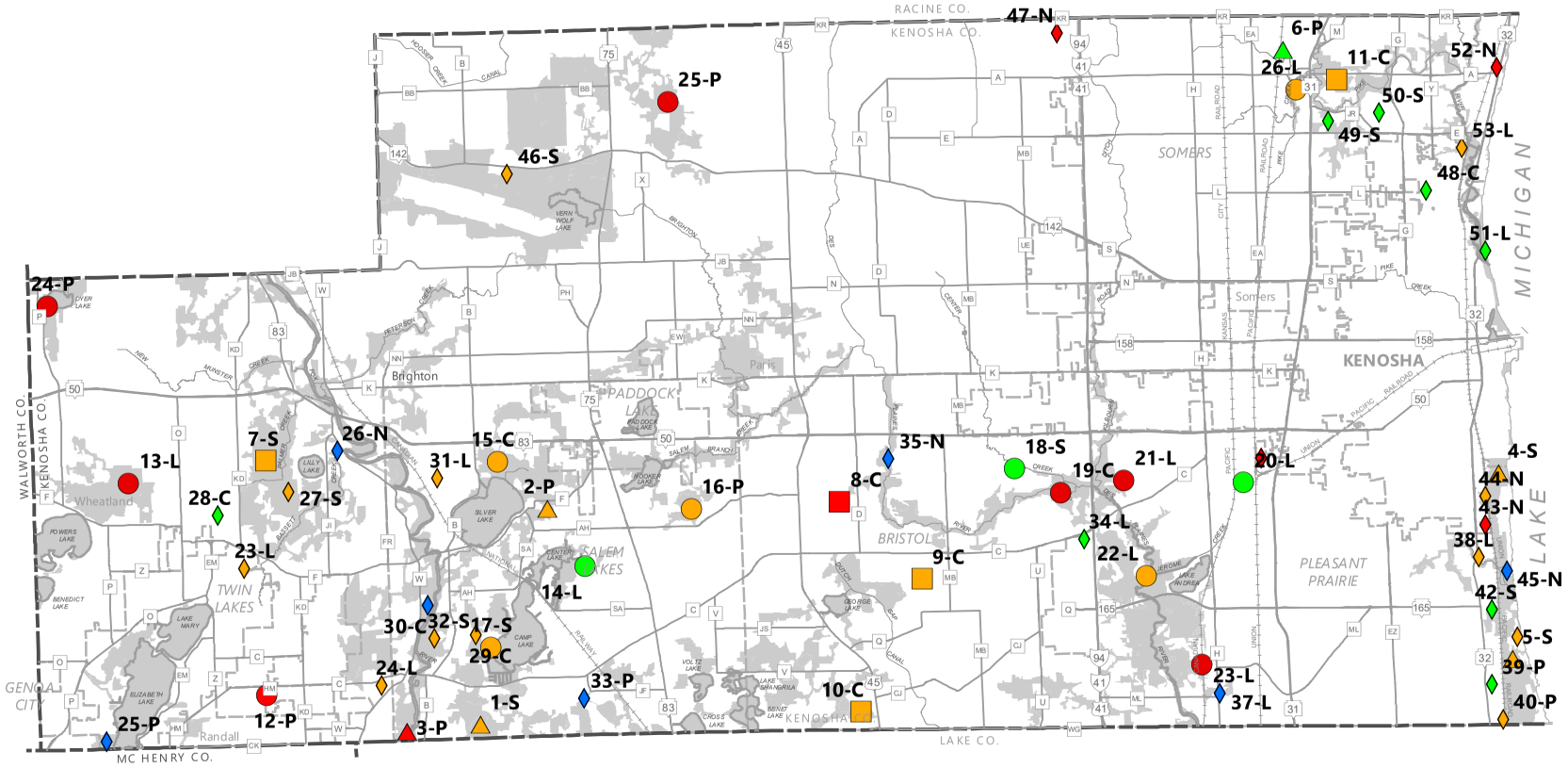
[b]Net gains or loss through boundary revision.

Source: Southeastern Wisconsin Regional Planning Commission

Chapter 8

MAPS

Map 8.1
Recommendations for Natural Areas and Critical Species Habitats in Kenosha County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	♦
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	♦
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	♦
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	(NONE)	♦

RECOMMENDED OWNERSHIP KEY:

S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

2020 Primary Environmental Corridors

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

Map Document: M:\Special_Projects\800-2738\Chapter_2\Map_2.1_Plan_Rec_NA_CSH_Kenosha_Co.mxd)
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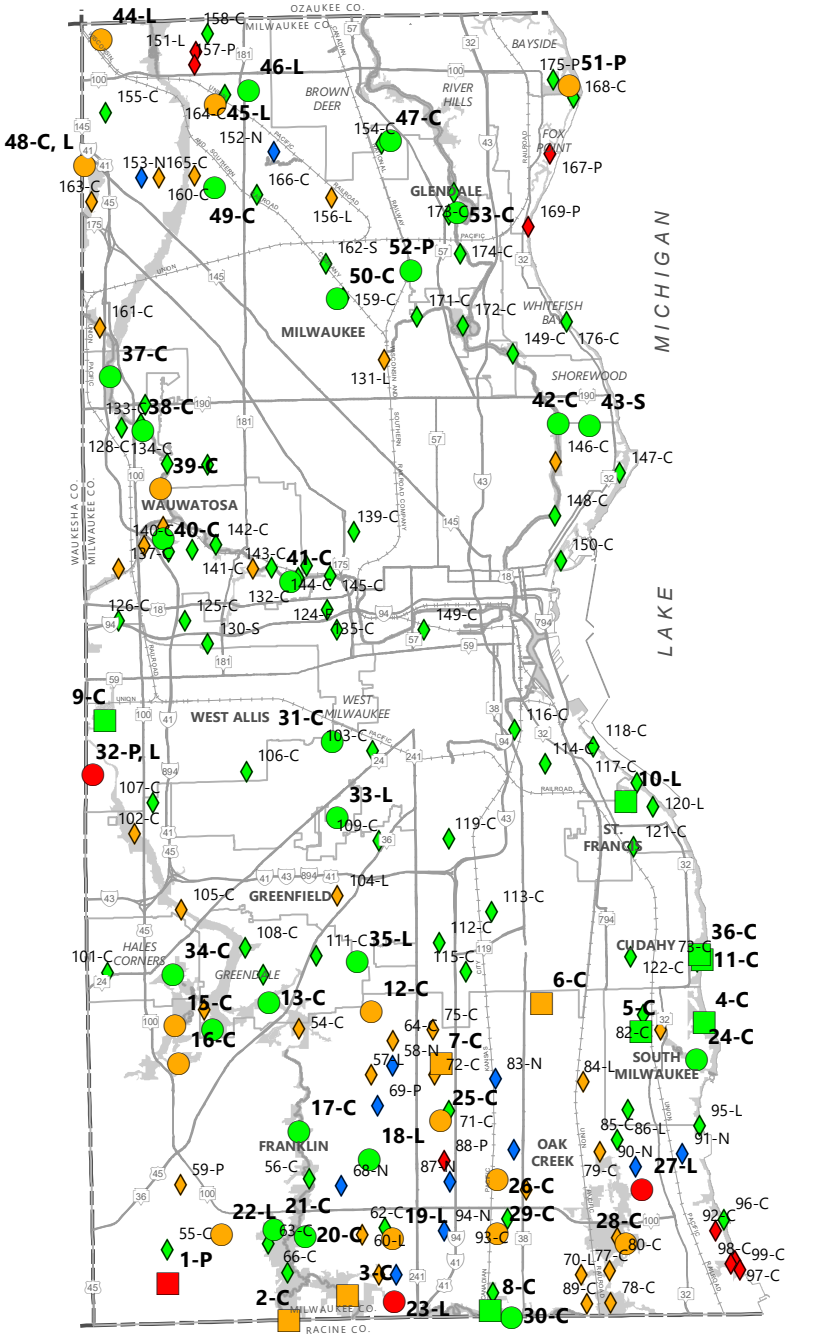
Site Name	Ref_2024_NU
Peat Lake State Natural Area	1
Silver Lake Bog State Natural Area	2
Stopa Fen	3
Kenosha Sand Dunes and Low Prairie	4
Chiwaukee Prairie State Natural Area	5
Heide Prairie	6
New Munster Bog Island State Natural Area	7
Merkt Woods	8
Bristol Woods	9
Mud Lake Sedge Meadow	10
Petrifying Springs Woods	11
Basset Creek Wetlands	12
Powers Lake Tamarack Relict	13
Center Lake Woods and Wetlands	14
Silver Lake Wetlands	15
Montgomery Lake Marsh	16
Camp Lake Marsh	17
Benedict Prairie	18
Des Plaines River Wetlands	19
Bain Station Railroad Prairie	20
Lake Russo Prairie Remnant	21
Des Plaines River Lowlands	22
Pleasant Railroad Prairie	23
Ice House Trail Wetlands	23
Dyer Lake Sedge Meadow	24
314th Woods and Wetlands	24
Section 11 Wetlands and Oak Woods	25
Elizabeth Lake Lowlands	25
Pike River Bottomland Woods	26
Kotrba Wetland	26
New Munster Wildlife Area	27
Veterans Park Wetlands	28
Camp Lake Tamaracks	29
Fox River Park Low Woods and Sedge Meadow	30
Old Oaks Park	31
Peat Lake Habitat Area	32
Trevor Creek Woods	33
CTH C Low Prairie Remnant	34
Louvain Old Field	35
Bain Station Low Prairie	36
Piela Property	37
Barnes Creek	38
Bourque Low Prairie	39
Carol Beach Oak Woods	40
Carol Beach Parcel #2	41
Carol Beach Recovering Prairie and Wetland	42
Martin Band Parcel	43
Nedweski Parcel	44
Pleasant Prairie PCA #8	45
Bong State Recreation Area	46
Poisl Woods	47
Kenosha Bike Trail Prairie	48
Parkside Ski Trail Woods	49
Parkside Woods	50
Alford Beach	51
Berryville Woods	52
Poerio Park Woods	53

Source: Southeastern Wisconsin Regional Planning Commission.

Map 8.2
2024 Plan Recommendations for Natural Areas and Critical Species habitiat Sites in Milwaukee County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	(NONE)	◆

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission
Last Updated: mm/dd/yyyy

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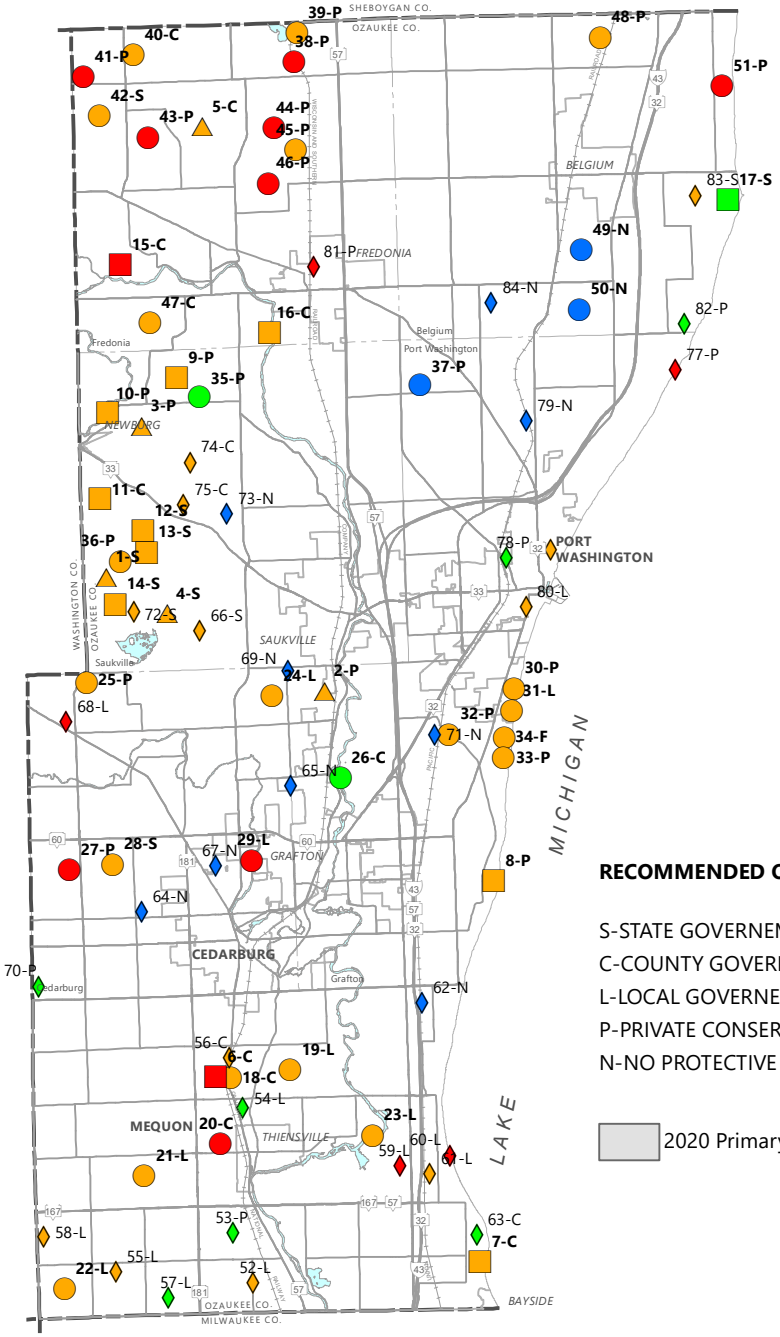
Map Key 8.2

Site Name	Site Number
Adams Prairie	1
Root River Canal Woods	2
Root River Wet-Mesic Woods-West	3
Grant Park Woods	4
Rawson Park Woods	5
Cudahy Woods	6
Falk Park Woods	7
Root River Wet-Mesic Woods-East	8
Greenfield Park Woods	9
St. Francis Seminary Woods	10
Warnimont Bluff Fens State Natural Area	11
Grobschmidt Park Wetlands and Upland Woods	12
Root River Low and Upland Woods	13
Mangan Woods	14
Whitnall Park Woods-South	15
Monastery Lake Wetlands	16
Root River Bike Trail Woods	17
Franklin (Puetz Road) Woods	18
Fitzsimmons Road Woods	19
60th Street Woods	20
Root River Parkway Prairie	21
Ryan Creek Woods	22
Elm Road Woods	23
Oak Creek Parkway Woods	24
Barloga Woods	25
Wood Creek Woods	26
Wedge Woods	27
Oak Creek Low Woods	28
Ryan Road Woods	29
Root River Riverine Forest	30
Mitchell's Woods	31
West Branch Root River Woods	32
Glenwood School Woods	33
Whitnall Park Woods-North	34
Grootemaat Woods	35
Warnimont Park Woods	36
Menomonee River Swamp - South	37
Menomonee River Parkway Woods	38
Blue Mound Country Club Woods	39
Wil-O-Way Woods	40
Jacobus Park Woods	41
Cambridge Avenue Woods	42
Downer Woods	43
Granville Low Woods	44
Bradley Woods	45
Convent Woods	46
Brown Deer Park Woods	47
Harbinger Woods	48
Haskell Noyes Park Woods	49
McGovern Park Woods	50
Schlitz Audubon Center/Doctors Park Woods and Beach	51
Sydney Woods	52
Kletzsch Park Woods	53
Root River Pkwy Section 9	54
Franklin Oak Woods and Oak Savanna	55
Froemming Woods and Grasslands	56
Countryside Woods	57
35th Street Woods	58
Shooting Star Prairie and Shrubland (Carity Prairie)	59

Map 8.3
Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Ozaukee County



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N-NO PROTECTIVE OWNERSHIP RECOMMENDED

2020 Primary Environmental Corridors

CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission
Last Updated: mm/dd/yyyy

Map Key 8.3

Site	Site Number
Sapa Spruce Bog State Natural Area	1
Kurtz Woods State Natural Area	2
Riveredge Creek and Ephemeral Pond State Natural Area	3
Cedarburg Bog State Natural Area	4
Huiras Lake Woods and Bog	5
Pigeon Creek Low and Mesic Woods	6
Donges Bay Gorge	7
Abbott Woods and Ravine	8
St. Finbar's Road Bog	9
Riveredge Mesic Woods	10
Kinnamon Conifer Swamp	11
Max's Bog	12
South Conifer Swamp	13
Cedarburg Beech Woods State Natural Area	14
Janik's Woods	15
Milwaukee River Mesic Woods	16
Harrington Beach Lacustrine Forest	17
Mee-kwon Park Woods	18
Highland Road Woods	19
Pigeon Creek Maple Woods	20
Solar Heights Low Woods	21
Triple Woods	22
Ville du Parc Riverine Forest	23
Mole Creek Swamp/Pleasant Valley Park Woods	24
Cedar-Sauk Low Woods	25
Bratt Woods	26
Sherman Road Woods	27
Five Corners Swamp	28
Cedar Creek Forest	29
Cedar Heights Gorge	30
Port Washington Clay Banks	31
Ulao Lowland Forest	32
Lion's Den Gorge	33
U.S. FWS Clay Bluffs	34
Hansen's Lake Wetland	35
Knollwood Road Bog	36
Hawthorne Drive Forest	37
Spring Lake Beech Forest	38
Spring Lake Marsh	39
Beekeeper Bog	40
Awana Road Lowlands	41
Department of Natural Resources Lowlands	42
Pioneer Road Lowlands	43
Cedar Valley Swamp	44
Evergreen Road Bog	45
Kohler Road Woods	46
Waubeka Low Woods	47
Cedar Grove Swamp	48
Belgium Swamp-North	49
Belgium Swamp-South	50
Sauk Trail Road Ravine	51
Baehr Road Wetlands and Meadows	52
Garvey Woods	53
Highland Woods	54
Lemke Farm Woods	55
Mee Kwon Park Habitat Area	56
Mequon Nature Preserve	57
Mequon Wetland Habitat Area	58
Eastbrook Road Woods	59
Mequon Beach Habitat Area	60

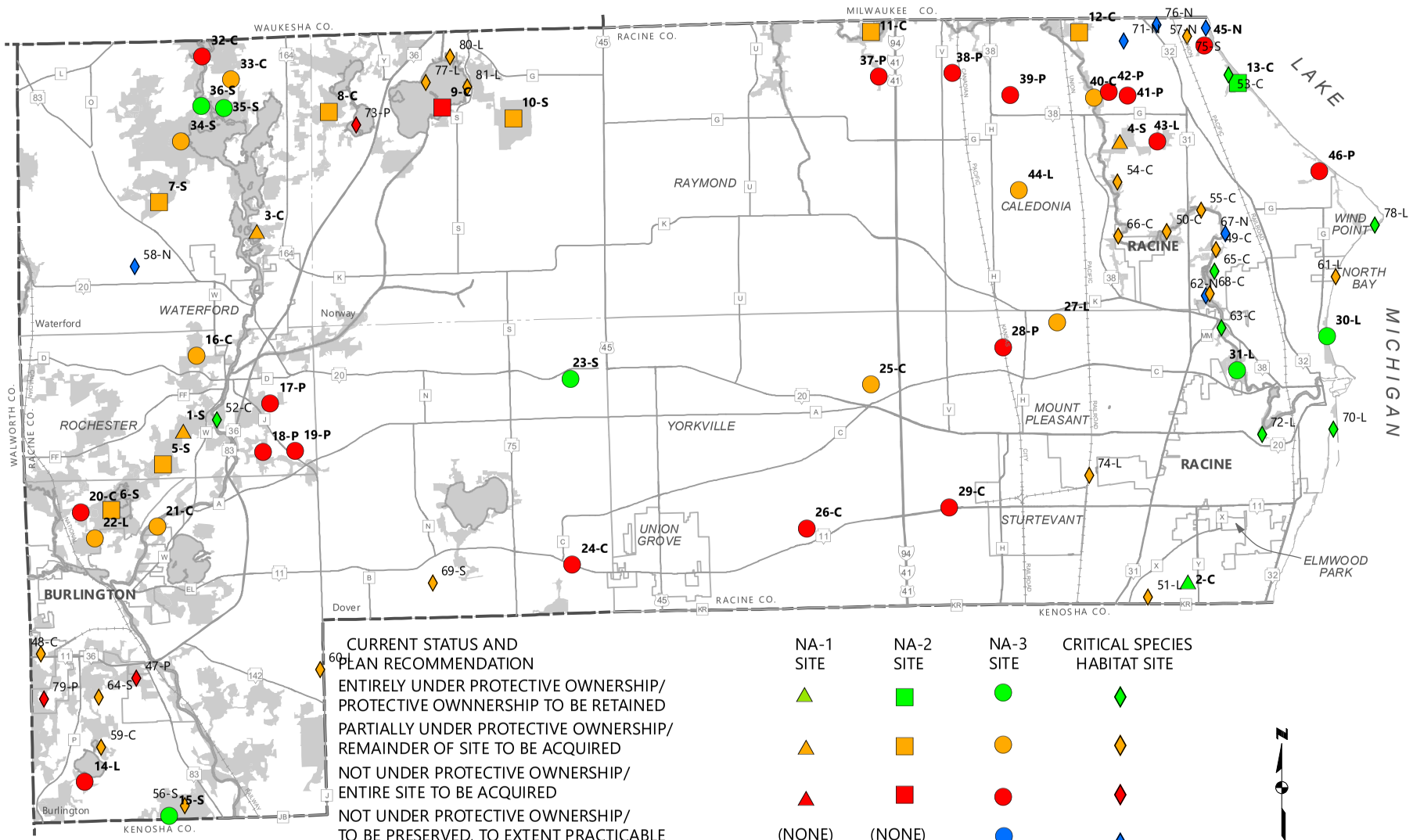
Mequon Wetland	61
Union Pacific R.O.W.	62
Virmond Park Habitat Area	63
Bridge Road Wetlands and Meadows	64
Cedar Creek Wetlands	65
Cedarburg Wetlands and Meadows Habitat Area	66
Cedarburg Woods-West	67
Decker Corner Habitat Area	68
Maple Road Wetlands	69
Wasaukee-Pioneer Hardwood Swamp	70
Ulao Meadows	71
Cedarburg Wetlands and Meadows	72
Center Road Woods and Wetlands	73
Daly Lake Wetlands	74
Gough Lake Wetlands and Woods	75
Interurban Trail Woods	76
Port Washington Beach and Dunes	77
Sauk Creek Nature Preserve	78
Sauk Creek Shady Lane	79
South Branch Sauk Creek Ravine Woods	80
Heinen Woods	81
Forest Beach Pond	82
Harrington Beach Old Fields	83
Six Mile Rd Grassland	84

Source: Southeastern Wisconsin Regional Planning Commission

Chippewa Park Woods	126
Cooper Park	127
Currie Park	128
Grantosa Creek	129
Hank Aaron Trail Hoptree Site	130
Hopkins Hollow	131
Menomonee River PCA #11	132
Menomonee River Pkwy Section 6	133
Menomonee River Pkwy Section 7	134
Mitchell Boulevard Park	135
Monarch Trail	136
Underwood Creek Habitat Area	137
Underwood Parkway Thicket	138
Washington Park	139
Underwood Parkway Woods	140
County Grounds Woods	141
Harwood Avenue Woods	142
Hart Park/Psychiatric Hospital Woods	143
Hawthorn Glen	144
Doyne Park Woodland	145
Milwaukee River Greenway	146
Lake Park Woods	147
Caesar's Woods	148
Estabrook Woods	149
Mitchell Park Woods	149
Veterans Park	150
Research Center Woods	151
Brynwood Country Club Woods	152
West Granville Mesic Woods	153
Brown Deer Park Pond	154
Dretzka Park	155
Greentree Road Woods and Open Space	156
Hilltop Farm Woods	157
Kohl Park Woods	158
McGovern Park Lagoons	159
Melody View Preserve	160
Menomonee River Habitat Area	161
Army Reserve Woods and Open Space	162
Menomonee River Swamp-North	163
Servite Park	164
Little Menomonee River Habitat Area Section	165
Uihlein Park	166
Fox Point Bluffs and Ravines	167
Doctors Park	168
Fox Point Clay Bluffs and Beach	169
Kletzch Park Habitat Area	170
Lincoln Creek Woods	171
Lincoln Park Woods	172
Milwaukee River 1	173
Milwaukee River 2	174
Schlitz Meadows	175
Big Bay Woods	176

Source: Southeastern Wisconsin Regional Planning Commission

Map 8.4
2024 Plan Recommendations for Natural Areas and Critical Species Habitiat Sites in Racine County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	▲	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

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N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission
Last Updated: mm/dd/yyyy

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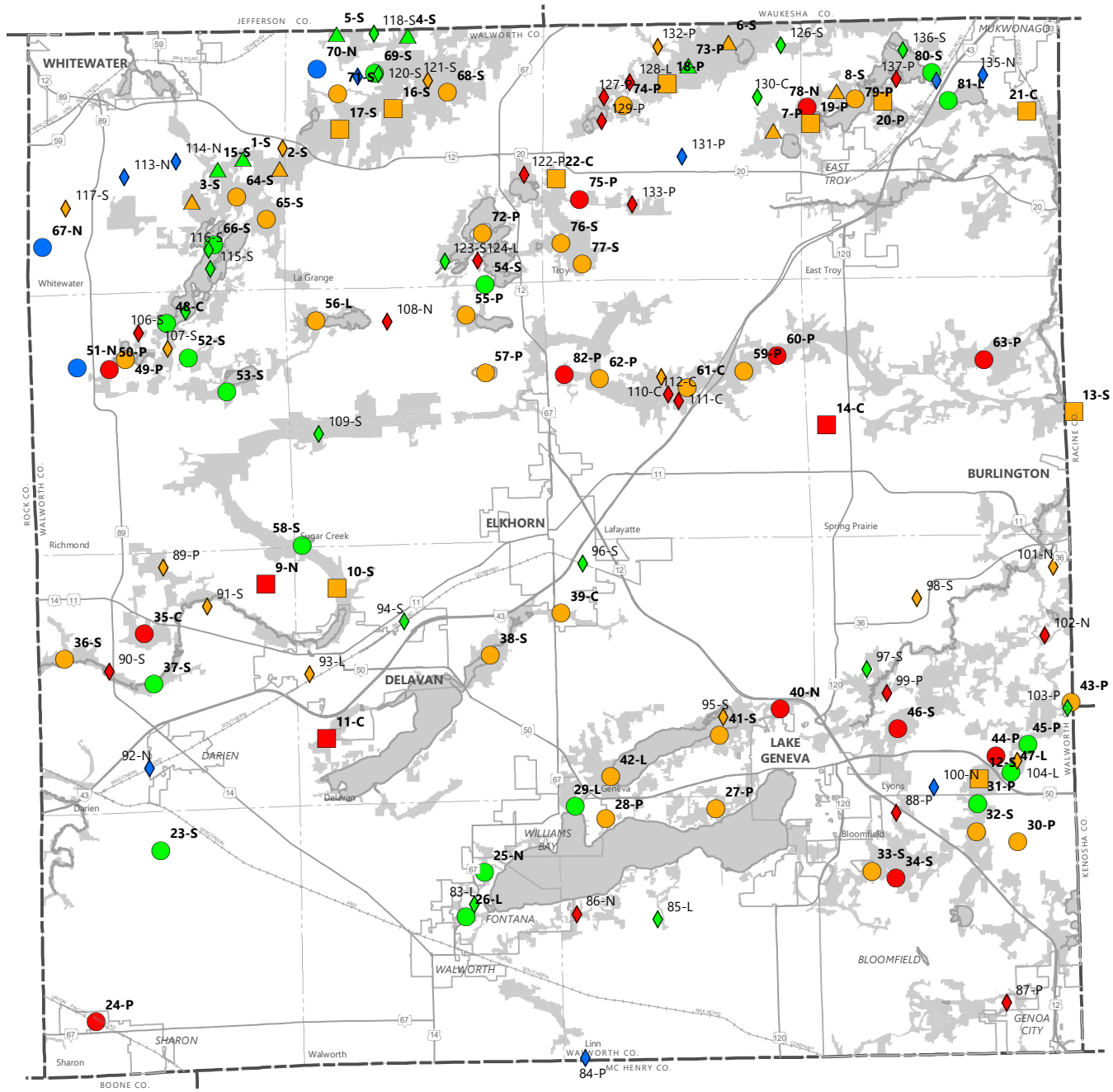
Map Key 8.4

Site	Site Number
Cherry Lake Sedge Meadow State Natural Area	1
Sanders Park Hardwoods State Natural Area	2
Elm Island Bog-Island Oak Woods	3
Renak-Polak Maple-Beech Woods State Natural Area	4
Brock Lake Fen	5
Leda Lake Fen-Meadow	6
Tichigan Fen, Springs, and Woods	7
Waubeesee Oak Woods and Tamarack Relict	8
Wind Lake Shrub-Fen	9
Wind Lake Tamarack Swamp	10
County Line Riverine Woods	11
Hunts Woods	12
Cliffside Park Woods and Clay Banks	13
Bohner Lake Lowlands	14
Karcher Springs State Natural Area	15
Wadewitz Woods	16
Rowntree Road Woods	17
Eagle Creek Woods	18
English Settlement Prairie	19
Honey Lake Leatherleaf Bog	20
Fox River Riverine Forest	21
Wehmhoff Park Upland Woods and Wetlands	22
Dover Wildlife Area Wetlands	23
Kansasville Railroad Prairie	24
Ives Grove Woods	25
Union Grove Railroad Prairie	26
Hoods Creek Woods	27
Franksville Railroad Prairie	28
Sylvania Railroad Prairie	29
North Beach Dunes	30
Colonial Park Woods	31
Norris Marsh and Slough	32
Van Valin Woods	33
Tichigan Marsh	34
Tichigan Low Woods	35
Tichigan Wet Prairie	36
Kimmel Woods	37
Seven Mile Road Woods	38
Zirbes Woods	39
Caledonia Low Woods	40
Foley Road Woods-East	41
Foley Road Woods-West	42
Tabor Woods	43
Nicholson Wildlife Refuge	44
Power Plant Ravine Woods	45
Dominican Ravine	46
Burlington Crevasse Filling	47
Burlington Railroad Prairie	48
Caledonia Low Woods-South	49
Caledonia Sanitary Sewer Right-of-Way	50
Campbell Woods	51
Case-Eagle Park	52
Cliffside Park Old Field	53
Forked Aster Site	54
Four Mile Road Woods	55
Karcher Sedge-Carr	56
Lakeside Woods	57
Maple Road Gravel Pit	58
Margis Wildlife Area	59
Mount Tom Woods	60
North Bay Ravine and Beach	61
Riverpark Bluff Woods	62

Quarry Park Woods	63
Ranger Mac Fen and Wetland	64
River Bend Upland Woods	65
Root River Bluff	66
Root River Ravine Woods	67
Root River Strip Woods	68
Rosewood Railroad Prairie	69
Samuel Myers Beach	70
Sherwood Property	71
Washington Park Woods	72
Waubeesee Lake	73
Waxdale Railroad Prairie	74
WEPCO Oak Woods	75
WEPCO Woods	76
Wind Lake	77
Wind Point	78
Burlington Hills Woods	79
Wind Lake Wet Meadow	80
Landon Wetland	81

Source: Southeastern Wisconsin Regional Planning Commission

Map 8.5
2024 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Walworth County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	▲	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

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N-NO PROTECTIVE OWNERSHIP RECOMMENDED

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

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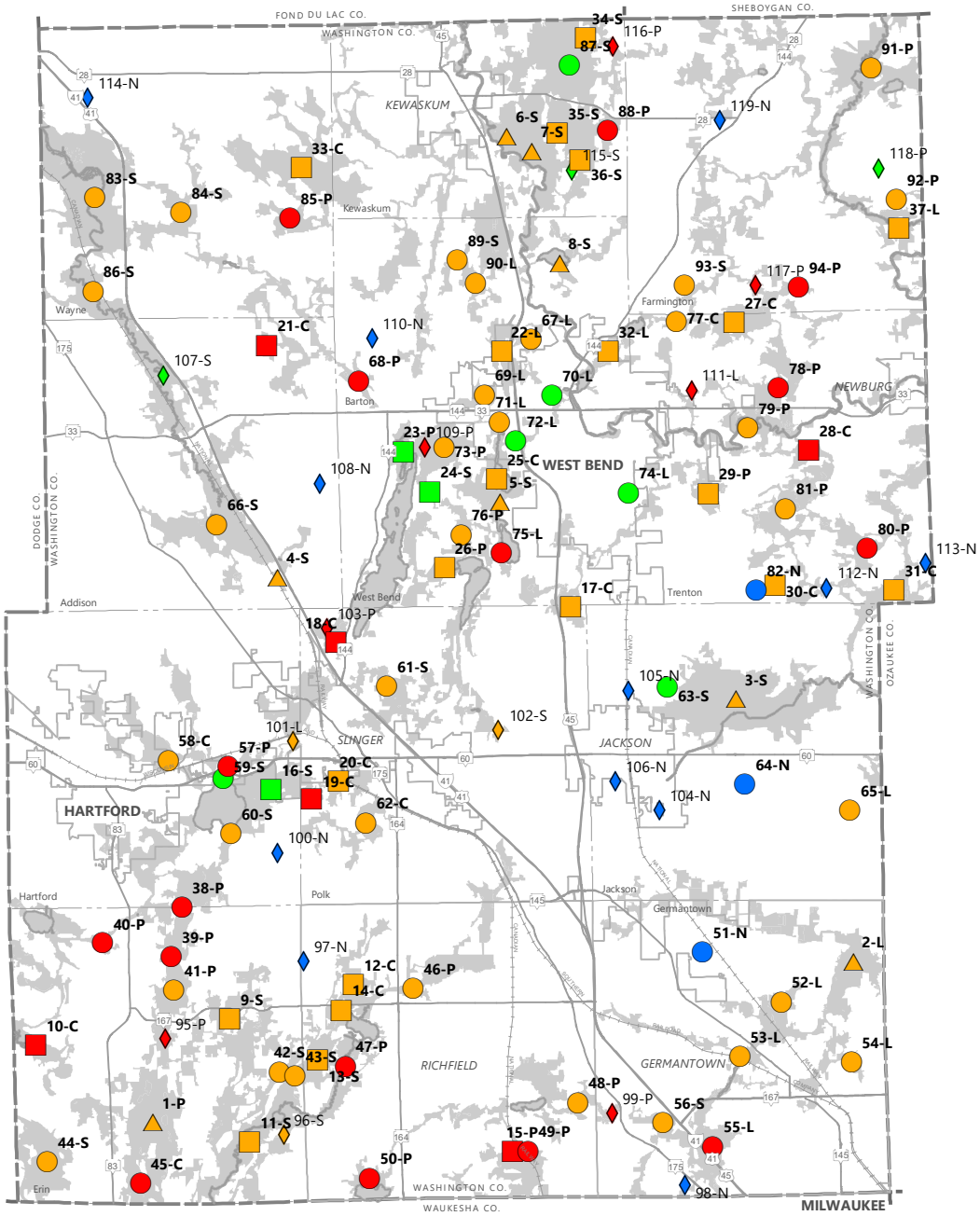
Map Key 8.5

Site	Site Number
Bluff Creek Fens	1
Bluff Creek Woods	2
Clover Valley Fen State Natural Area	3
Kettle Moraine Oak Opening-South	4
Young Prairie State Natural Area	5
Lulu Lake and Eagle Spring Lake Wetland Complex and Adjacent Uplands	6
Pickerel Lake Fen State Natural Area	7
Beulah Bog State Natural Area	8
Voskuil Dry Prairie	9
Comus Lake Wetland Complex	10
Delavan Prairie-Fen	11
Lake Ivanhoe Fen and Sedge Meadow	12
Honey Lake Marsh and Sedge Meadow	13
Spring Prairie Fen	14
Bluff Creek Prairie	15
Muir Oak Woods and Duffin Road Fen	16
LaGrange Oak Woods	17
Upper Mukwonago River Wetland Complex	18
Swan Lake Wetland Complex	19
Army Lake Lowland and Oak Woodland	20
Thiede Road Tamarack Swamp	21
Adams Lake Fen and Marsh	22
CTH C Lowland	23
Salt Box Road Railroad Prairie	24
North Shore Woods	25
Fontana Prairie and Fen	26
Wychwood	27
Peninsula Woods	28
Williams Bay Lowlands	29
Hafs Road Marsh	30
Lake Ivanhoe Fen-South	31
Lake Ivanhoe Sedge Meadow	32
Bloomfield Sedge Meadow and Tamarack Relict	33
Pell Lake Railroad Prairie	34
Darien Oak Woods	35
Turtle Creek Sedge Meadow and Fen	36
Creek Road Fen	37
Lake Lawn Wetland Complex	38
Jackson Creek Wetlands	39
Oak Hill Cemetery Woods	40
Warbler Trail Wetlands	41
Lake Como Wetlands	42
Tri-County Tamarack Swamp	43
Cranberry Road Bog	44
Peterson Fen	45
Lake Geneva Tamarack Relict	46
Ivanhoe Creek Fen	47
Natureland Park Fen	48
Lake Loraine Marsh	49
Lake Loraine Woods-East	50
Lake Loraine Woods-West	51
Lake No. 10	52
Turtle Lake Fen and Habitat Area	53
Baywood Road Sedge Meadow	54
Lake Wandawega Marsh	55
North Lake Marsh	56
Silver Lake	57
CTH P Sedge Meadow	58
Pallottine Maple Woods	59
Granzeau Woods	60

Horn Dry Prairies	126	Scout Road Tract	132
Harmony Hills Savanna	127	Section 28 Wetlands	133
Doyles Lake Prairies	128	Anderson Bog	134
Camp Timberlee	129	Eastwood Estates Woods	135
Pickerel Lake Road Oak Opening	130	Island Drive Bog	136
Pine Rd Woods	131	Lake Beulah Woodland	137

Source: Southeastern Wisconsin Regional Planning Commission

Map 8.6
2024 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Washington County



CURRENT STATUS AND PLAN RECOMMENDATION	NA-1 SITE	NA-2 SITE	NA-3 SITE	CRITICAL SPECIES HABITAT SITE
ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	(NONE)	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	(NONE)	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

RECOMMENDED OWNERSHIP KEY:

S-STATE GOVERNEMNT
C-COUNTY GOVERNEMNT
L-LOCAL GOVERNEMNT
P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission
Last Updated: mm/dd/yyyy

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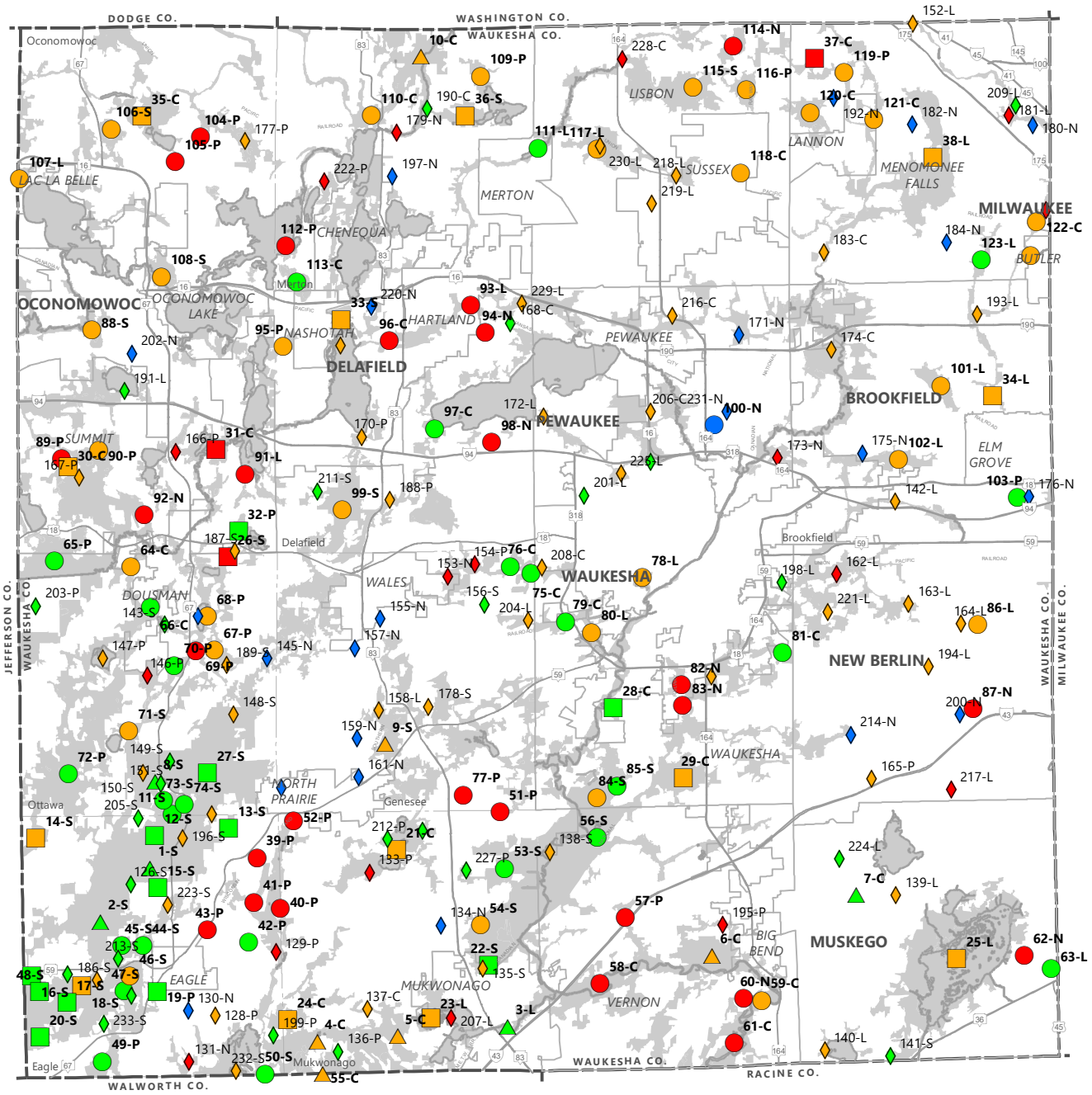
Map Key 8.6

Site	Site Number
Murphy Lake - McConville Lake Wetland Complex	1
Germantown Swamp	2
Jackson Swamp	3
Aurora Road Fen	4
Paradise Lake Fen	5
Kewaskum Maple - Oak Woods State Natural Area	6
Milwaukee River Floodplain Forest State Natural Area	7
Smith Lake Fen and Swamp	8
Holy Hill Woods	9
Toland Swamp	10
Loew's Lake Wetland Complex	11
Daniel Boone Bogs and Upland Woods	12
Friess Lake Tamarack Swamp	13
Glacier Hills Park Bogs and Upland Woods	14
Colgate Fen - Meadow	15
Pike Lake Woods	16
Mud Lake Swamp	17
Big Cedar Lake Bog	18
Mud Lake Upland Woods	19
Mud Lake Wiregrass Meadow	20
St. Anthony Beech Woods	21
Blue Hills Woods	22
Gilbert Lake Wetlands and Uplands	23
Hacker Road Bog	24
Silverbrook Lake Woods	25
Little Cedar Lake Wetlands	26
Sandy Knoll Swamp	27
Myra Wetlands	28
Schoenbeck Woods	29
Bellin Bog	30
Reinartz Cedar Swamp	31
Lac Lawrann Conservancy Upland Woods and Wetlands	32
Wayne Swamp	33
Kettle Moraine Drive Bog	34
Glacial Trail Forest	35
St. Michael's Woods	36
North Branch Woods	37
CTH E Wetlands	38
Hults Bog and Marsh	39
Erin Sedge Meadow	40
Thompson Swamp	41
Donegal Road Woods	42
St. Augustine Road Sedge Meadow	43
Mason Creek Swamp	44
Little Oconomowoc River Woods and Wetlands	45
Coney-Oconomowoc Nature Preserve Swamp	46
Hubertus Road Sedge Meadow	47
Amy Bell Lake Lowlands	48
Colgate Shrub - Carr	49
Lake Five Woods	50
Faber - Pribyl Woods	51
Hoelz Swamp	52
Lake Park Swamp	53
Schoessow Woods	54
USH 41 Swamp	55
Kleinman Swamp	56
STH 60 Swamp	57
Rubicon Lowlands	58
Pike Lake Sedge Meadow	59
Pike Lake Wetlands - South	60
Slinger Upland Woods	61
Heritage Trails Bog	62
Jackson Marsh Spring	63
Kowalske Swamp	64
Sherman Road Swamp	65
Allenton Swamp	66
Sunset Park Wetlands	67
Kohlsville River Upland Woods and Wetlands	68
Albecker Park Wetlands	69
Regner Park Woods	70
Silver Creek Marsh	71
University Fen	72
CTH Z Upland Woods and Wetlands	73
Muth Woods	74
Silver Lake Fen and Tamaracks	75
Ziegler Woods	76
Sandy Knoll Wetlands	77
Poplar Road Lacustrine Forest	78
Fellenz Hardwood Swamp	79

Paradise Drive Tamarack Swamp	80	Unnamed Wetland No. 1	100
Camp Wowitan Wetlands	81	Unnamed Wetland No. 2	101
Schalla Tamarack Swamp	82	Cedar Creek Fen and Woods	102
Theresa Swamp	83	Mueller Woods	103
Wayne Creek Swamp	84	Chinkapin Oak Woods	104
Stockcar Swamp	85	Friedens Creek Woods	105
Rock River Marsh	86	Lamm Woods	106
Kettle Moraine Drive Woods	87	Allenton Wetlands	107
STH 28 Woods	88	Nabob Upland Woods	108
Lange Hardwoods	89	Gilbert Lake Woodland	109
Wildwood Hardwood Swamp	90	Riesch Woods	110
Milwaukee River Swamp	91	Cameron Property	111
Hoy-Anderle Woods	92	CTH M Pond and Wetlands	112
Lizard Mound Woods	93	Fechter's Woods	113
Green Lake Bog	94	Unnamed Wetland No. 3	114
Dublin Rd Sedge Meadow	95	Kettle Moraine Drive Meadows	115
Loew's Lake Woods	96	Stony Creek Wetlands	116
CTH CC Woods	97	Green Lake Wetlands	117
STH 175 Wetlands and Meadows	98	Saxonia House	118
Wheaton Woods	99	STH 28 Woodland	119

Source: Southeastern Wisconsin Regional Planning Commission

Map 8.7
2024 Plan Recommendations for Natural Areas and Critical Species Habitat Sites in Waukesha County



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ENTIRELY UNDER PROTECTIVE OWNERSHIP/ PROTECTIVE OWNNERSHIP TO BE RETAINED	▲	■	●	◆
PARTIALLY UNDER PROTECTIVE OWNERSHIP/ REMAINDER OF SITE TO BE ACQUIRED	▲	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ ENTIRE SITE TO BE ACQUIRED	(NONE)	■	●	◆
NOT UNDER PROTECTIVE OWNERSHIP/ TO BE PRESERVED, TO EXTENT PRACTICABLE WITHOUT PROTECTIVE OWNERSHIP	(NONE)	(NONE)	●	◆

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P-PRIVATE CONSERVANCY ORGANIZATION
N-NO PROTECTIVE OWNERSHIP RECOMMENDED

N

0 1 2 3 Miles

Source: Southeastern Wisconsin Regional Planning Commission

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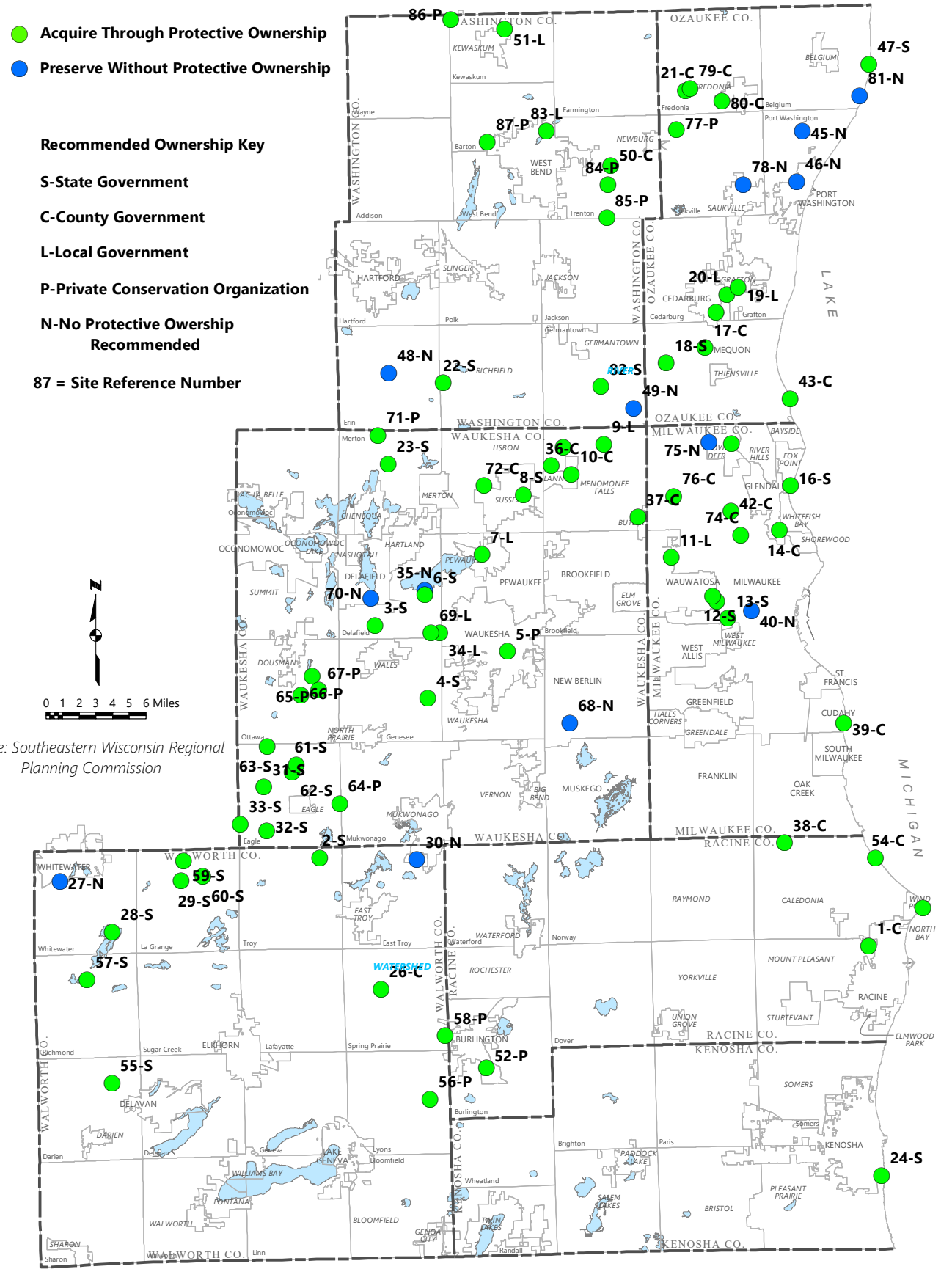
Map Key 8.7

Site	Site Number
Kettle Moraine Fen and Low Prairie State Natural Area	1
Scuppernong Prairie State Natural Area	2
Mukwonago River State Natural Area	3
Upper Mukwonago River	4
Mukwonago Fen, Sedge Meadow, and Tamarack Relict	5
Big Bend Woods	6
Muskego Park Hardwoods State Natural Area	7
Ottawa Lake Fen State Natural Area	8
Genesee Oak Opening and Fen State Natural Area	9
Monches Woods	10
Eagle Fen and Spring	11
Eagle Shrub-Fen	12
Ulrickson Road Dry Prairie	13
Beaver Dam Lake	14
Kettle Moraine Limestone Outcrop	15
Eagle Railroad Prairie	16
Eagle Woods and Dry Prairies	17
Eagle Dry Prairie and Grotjan's Fen	18
Eagle Centre Prairie State Natural Area	19
Fur Farm Pond	20
Spring Lake Sedge Meadow and Fens	21
Vernon Fen	22
Phantom Lake Wetlands	23
Brown Lake Wetlands, Woods, and Prairie	24
Muskego Lake Marsh	25
Henrietta Lake Bog	26
Ottawa Oak Woods and Dry Prairies	27
Fosters Woods	28
Falk Fen and Woods	29
Genesee Lake Road Bog	30
Bark River Marsh	31
Sawyer Road Sedge Meadow	32
Nagawicka Lake Bog and Oak Woods	33
Zion Woods	34
Ashippun River Lowlands	35
Lake Keesus Fen-Meadow	36
Held Maple Woods	37
Menomonee Falls "Tamarack" Swamp	38
Road X Railroad Prairie	39
Holtz Oak Opening	40
Jericho Creek Fen	41
Hidden Knoll Dry Prairie	42
Mailman Road Railroad Prairie	43
Paradise Springs Woods	44
Paradise Creek Prairie	45
STH 59 Oak Woods and Prairies	46
Old World Wisconsin Marsh	47
Stute Springs	48
Malek Wetland	49
Eagle Spring Lake Bog, Woods, and Prairie	50
Holiday Road Fen and Oak Woodland	51
North Prairie Railroad Prairie	52
Vernon Tamarack-Fen	53
Frog Alley Fen	54
Rainbow Springs Woods, Wetlands, and Prairies	55
Vernon Marsh Low Woods	56
Faulkner Road Fen	57
Porter Low Woods	58
River Oaks Woods and Wetlands	59
Reinke Sedge Fen	60
Norris Oak Woods and Wetlands	61
Ryan Road Swamp	62
Luther Parker Cemetery Prairie	63
Utica Lake Tamaracks and Adjacent Wetlands	64
Perkins Property	65
Nelson Oak Woods and Wetlands	66
Ottawa Limestone Outcrop	67
Stephenson Shrub Fen	68
Casper Creek Sedge Meadow	69
Larkin Lake	70
Pretty Lake Tamarack Relict	71
CTH ZC Lowlands	72
Ottawa Lake Prairie	73
Scuppernong Springs Dry Prairie and Xeric Woods	74
Brown's Fen	75
Sigurdson Fen	76
Saylesville Road Fen	77
Fruits Pond Fen	78

Spring Valley Woods	165
Duck Lake	166
Genesee Lake Road Tamaracks	167
Jungbluth Road Railroad Prairie	168
Nagawicka Lake	169
Frog Hollow Oak Woods	170
Swan Farms Woods	171
Meadowbrook Prairie	172
CTH M Shrubland	173
Steinacker Woods and Wetlands	174
Brookfield Oak Woods	175
Elm Grove Road Pond	176
Stonebank Tamarack Relict	177
Genesee Wetlands and Meadows	178
North Lake Low Woods	179
Heritage Woods	180
Thorndell Avenue Woods	181
Rademan's Woods	182
Fox River Woodland	183
Glass-Glick Woods	184
Ottawa Oak Woods and Pine Plantations	185
Grotjen Oak Woods and Wetlands	186
Henrietta Lake Marsh	187
Highland View Habitat Area	188
Ice Age Trail Riparian Habitat	189
Ice Age Trail Skunk Cabbage Seep and Woods	190
Indian Mound Camp	191
Lannon Road Ptelea Site	192
Lilly Heights Park Wetlands	193
Malone Park Habitat Area	194
Martin's Upland Woods	195
Road X Kettle	196
Merton Ptelea Site	197
East Broadway Woods and Thicket	198
Mukwonago River Pine Plantation and Barrens	199
Muskego Creek Wetlands	200
Northview Butternuts	201
Olympia Meadows	202
Paradise Valley Marsh	203
Pebble Creek Habitat Area	204
CTH ZZ Grasslands	205
Pewaukee River Wetlands and Meadows Habitat Area	206
Phantom Lake Marsh	207
Retzer Wetlands and Meadows Habitat Area	208
River's Edge Park Woods	209
River Trail Habitat Area	210
Scenic Drive Ponds	211
Schnitzler Road Oak Woods	212
Scuppernong Marsh Low Prairie	213
Anderson Woods	214
Silvernail Wetlands	215
Simmons Wetland Habitat	216
South Moorland Road Woods	217
Sussex Marsh	218
Sussex Meadows	219
University Lake School Woods	220
West Cleveland Avenue Habitat Area	221
Westshore Road Woods	222
Wilton Road Ponds	223
Badertscher Preserve	224
Woodburn Wetlands	225
Old World Woods	226
Albert Thiesen Donation	227
Bark River Greenway	228
Capital Drive Sedge Meadow and Wet Prairie	229
Bugline Habitat Area	230
Busse Habitat Area	231
Eagle Spring Lake Marsh	232
Eagle Esker Grassland	233

Source: Southeastern Wisconsin Regional Planning Commission

Map 8.8
Recommendations for Geological Sites in the Southeastern Wisconsin Region



Source: Southeastern Wisconsin Regional Planning Commission