

# Southeastern Wisconsin **Regional Planning Commission**



## **Regional Natural Areas Plan Update**

High Quality Waters Workshop

May 3, 2025

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# Regional Natural Areas Plan



➤ Funded in part by the Wisconsin Coastal Management Program and National Oceanic and Atmospheric Administration, Office for Coastal Management under the Coastal Zone Management Act, Grant #s

- NA18NOS4190091
- NA20NOS4190092
- NA22NOS4190085



 **WISCONSIN COASTAL  
MANAGEMENT PROGRAM**



# History

- Planning effort initiated in 1987
  - Requested by Milwaukee County Parks
- In 1989, remaining counties joined the request
- Intensive inventory work followed
- PR 42 adopted in 1997
- Minor amendment adopted in 1998
- Amendment adopted in 2010
- Update initiated in 2019, with target publication date in 2025

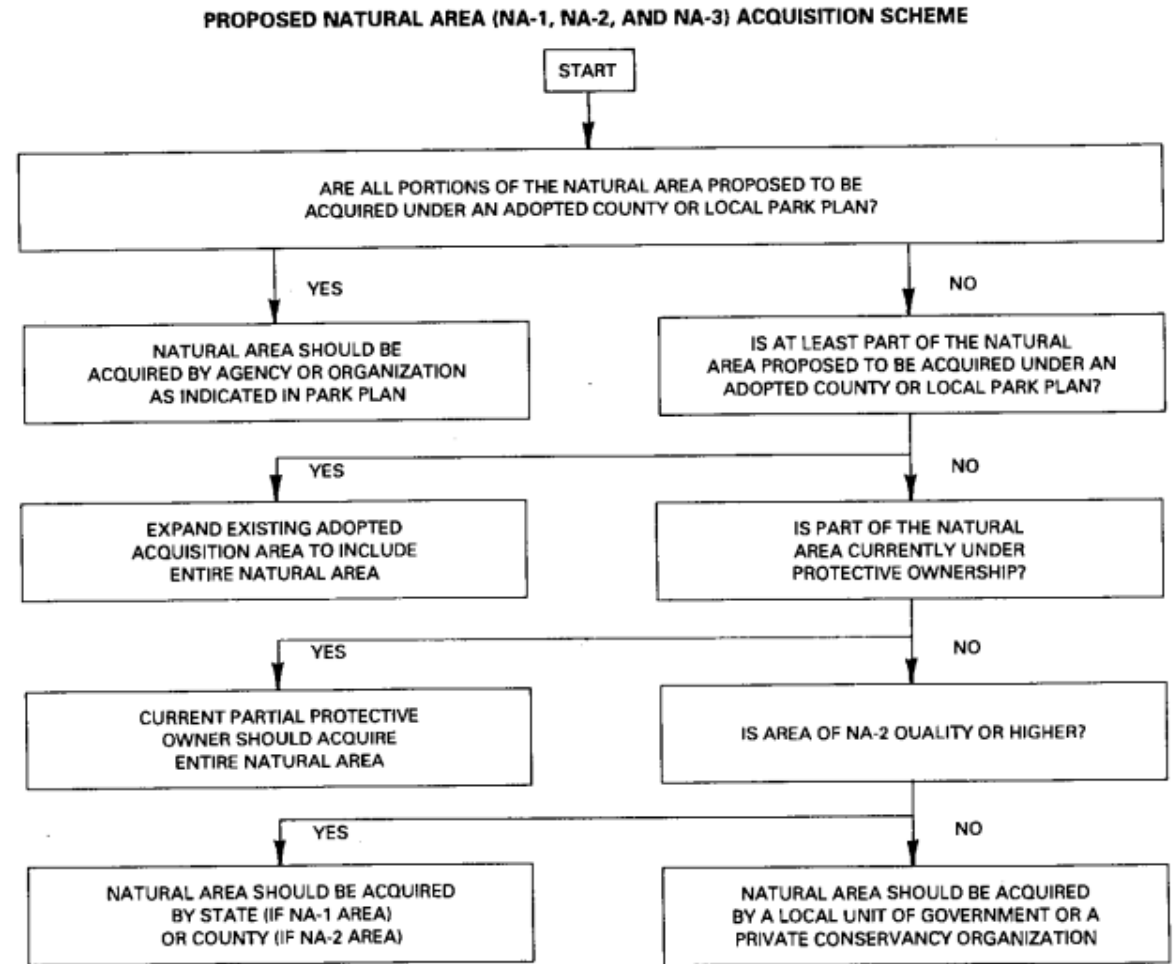


# Plan Recommendations



## ➤ Natural Areas Plan

- Identify the remaining
  - Natural Areas
  - Critical Species Habitat Sites
  - Aquatic Areas
  - Geological Sites
  - Archaeological Sites
- Rank Natural Areas
- Provide prioritized recommendations for acquisition and management



Source: SEWRPC.







# 2025 Amendment- Key elements to improve the plan and its ease of use:

- Provide up-to-date information for inclusion in appropriate local and county planning reports
- Digitize the natural areas inventory of our natural areas to maximize use for and visibility by desired users (public and private)
  - i.e., boundary shapefiles with detailed attributes or mapping applications
- 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



# ●●●●● 2024 Amendment-Objectives



- Identify NA & CSH site changes, which have occurred since the preparation of the original 1997 plan and the 2010 Amendment
- 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.



# ●●●●● 2024 Amendment-Format



- Chapter 1-Introduction
- Chapter 2-Background
- Chapter 3-Status of Implementation
- Chapter 4-New Sites
- Chapter 5-Changes in Listed Species
- Chapter 6-Changes to Site Boundaries and Ranks
- Chapter 7-Recommended Changes to the Plan
- Chapter 8-Preliminary Recommendations
- Chapter 9-Final Recommendations (**to be completed**)
- Appendix A-Site Profiles (posted on Commission's Website and Webtool)





# ●●●●● Natural Areas 2024



## ➤ 478 Natural Areas

- 42 NA-1
- 107 NA-2
- 329 NA-3

## ➤ 412 CSH Sites

## ➤ 87 Geological Sites

## ➤ 15 Archeological Sites

## ➤ 11 Grassland and forest interior re-establishment sites







# NA Summary by County

	PR 42	2010 A	2024	Change
Kenosha	38	41	26	-15
Milwaukee	43	55	53	-2
Ozaukee	48	50	53	+3
Racine	53	55	46	-9
Walworth	74	82	81	-1
Washington	90	93	94	+1
Waukesha	101	118	125	+7
	<b>447</b>	<b>494</b>	<b>478</b>	<b>-16</b>



# Natural Area Site Profiles

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 nivalis*) 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*).

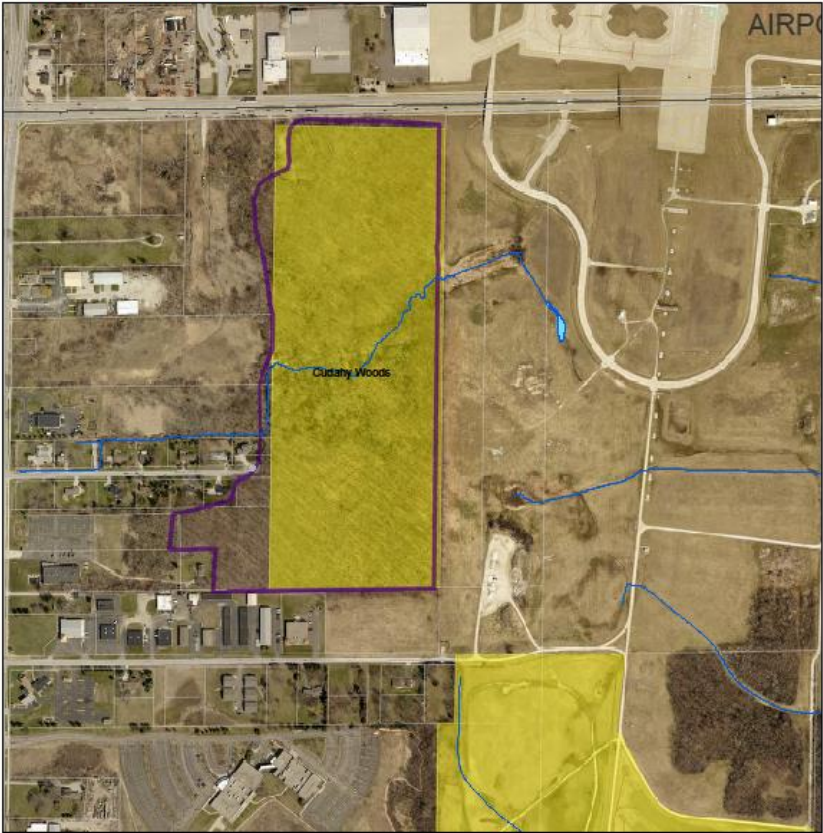
Acquisition and afforestation of adjacent properties to the west and south of the woods, which already contain some mature oaks and wetland areas, would buffer the core remnant community from surrounding development and further enhance wildlife values.



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

DLC  
Rawson Park Woods Natural Area Profile (246040)

Map X  
Cudahy Woods Natural Area Site No. 5 (NA-2)

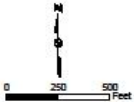


- NATURAL AREA

LANDS CONSIDERED TO BE PROTECTED THROUGH PUBLIC OR PRIVATE OWNERSHIP INTEREST
- SURFACE WATER

STREAM
- PARCEL BOUNDARY

(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 compatible groups (some of these lands may be vulnerable to development); and, lands protected by conservation easements.)



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





# Aquatic Natural Areas: 1997



## ➤ Stream ranking elements

- Water quality, morphology, connectivity, fisheries, critical species, riparian buffer

## ➤ Lake ranking elements

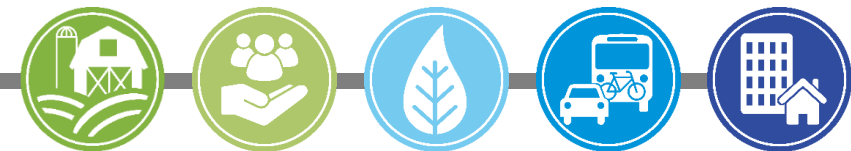
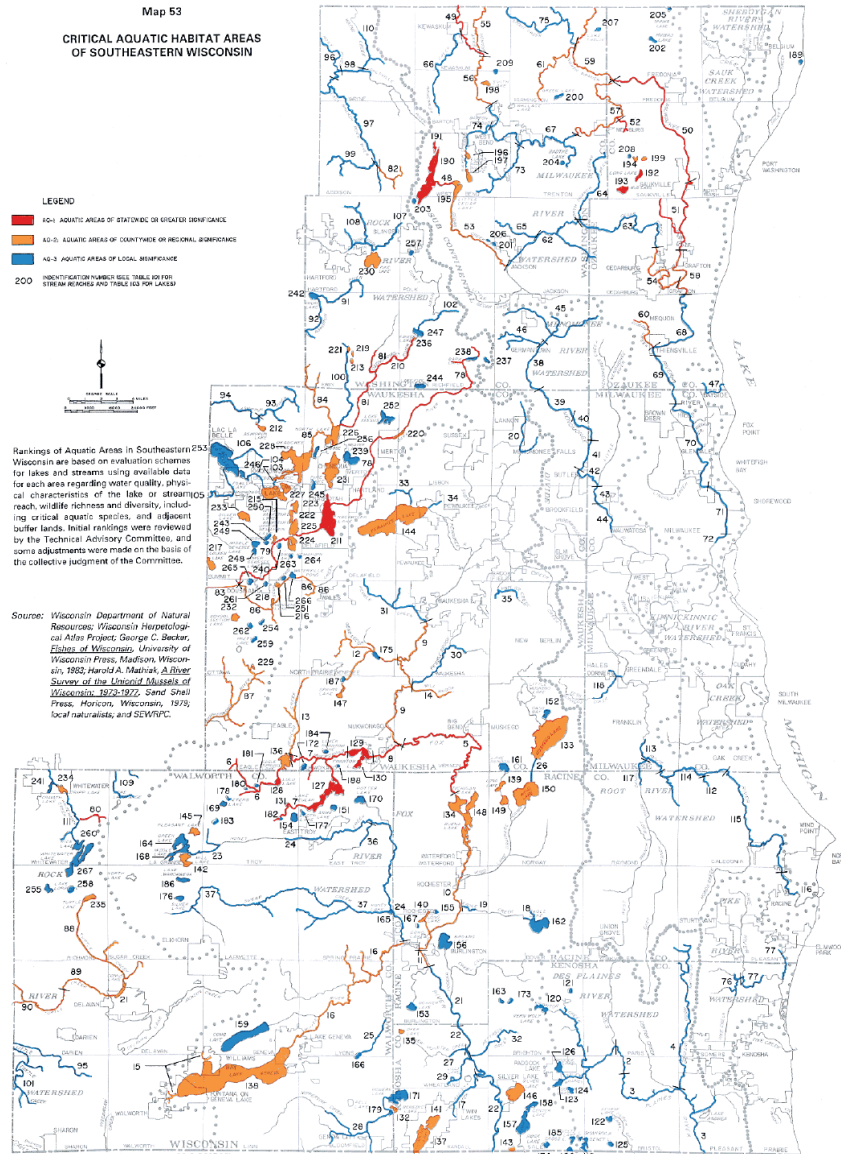
- Trophic state, surface area, connectivity, fisheries, critical species, riparian buffer

## ➤ 118 Critical Stream Reaches

- Bark, Fox, Milwaukee, Mukwonago, and Oconomowoc

## ➤ 148 Critical Lakes

- Beulah, Big Cedar, Nagawicka, and Phantom lakes





# Updating the Aquatic Natural Areas



- 2010 amendment did not include update to aquatic Natural Areas
- Since 1997 publication, several surveys, models, and metrics more widely used:
  - WDNR lake and stream natural community model
  - Floristic quality assessment, Nichols 1999
  - Aquatic plant point-intercept protocol, Hauxwell et al. 2010
  - Aquatic plant bioassessment, Mikulyuk et al. 2017
  - Biotic index for macroinvertebrates, Hilsenhoff et al. 1987
  - Macroinvertebrate index of biotic integrity, Weigel et al. 2003
  - Fisheries indices of biotic integrity, Lyons et al. 1992 – 2012
  - Fishery classification of Wisconsin lakes, Rypel et al. 2019



# ●●●●● Aquatic Natural Areas: Lake Assessment Schemes



➤ Updated assessment scheme with elements not included in the 1997 plan

- Biotic elements have larger impact for assessment

➤ Lake score ( $\leq 100$ ) =

- Morphology ( $\leq 7$ ) + Water Quality ( $\leq 7$ ) + Aquatic Plants ( $\leq 20$ ) + Fisheries ( $\leq 25$ ) + Riparian Buffer ( $\leq 6$ ) + Habitat Connectivity ( $\leq 15$ ) + Rare Species ( $\leq 20$ )





# ●●●●● Aquatic Natural Areas: Stream Assessment Schemes



➤ Stream score ( $\leq 100$ ) =

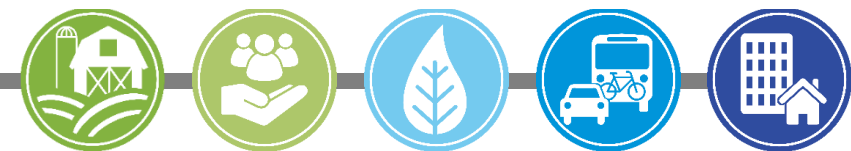
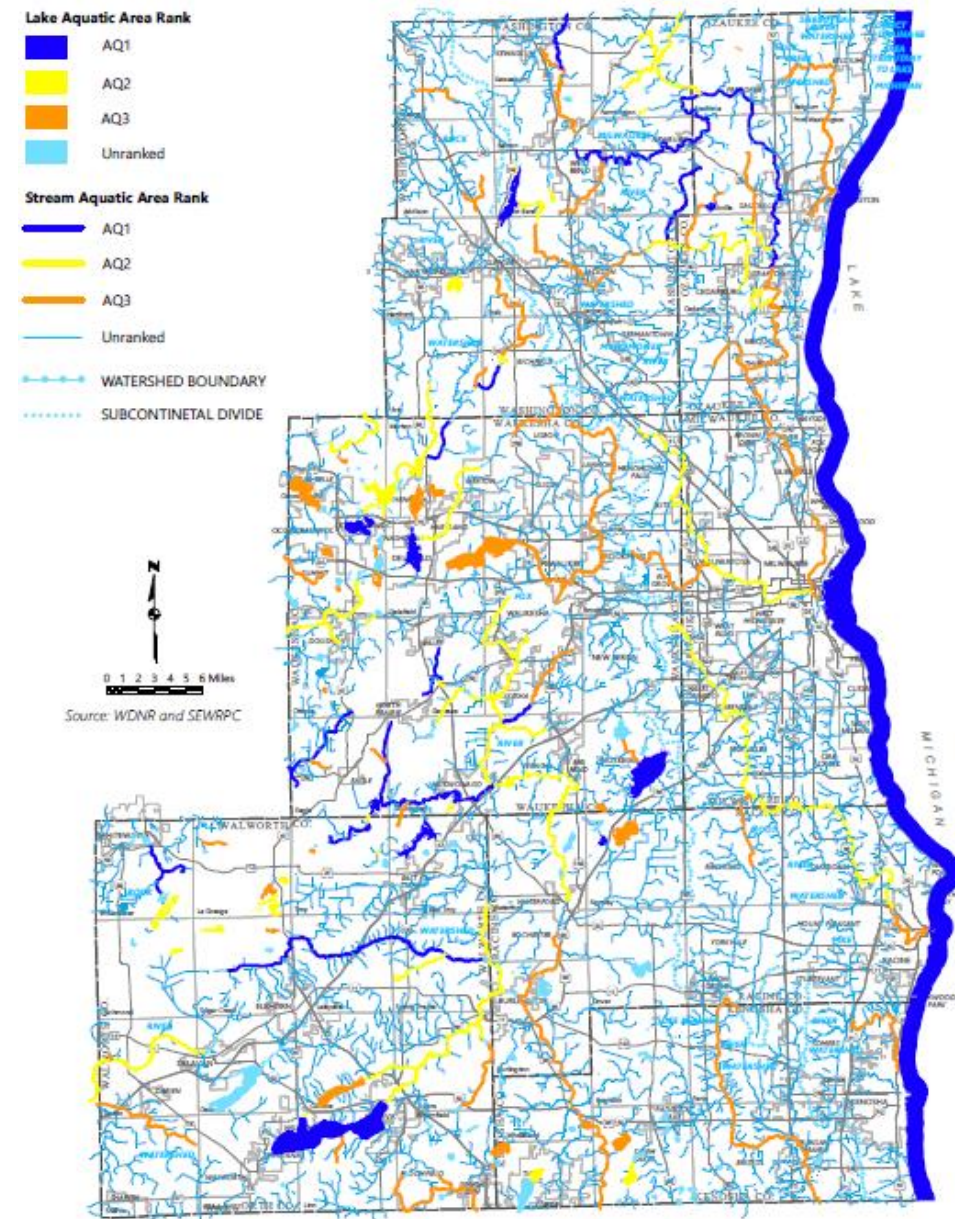
- Morphology ( $\leq 7$ ) + Water Quality ( $\leq 7$ ) + Macroinvertebrates ( $\leq 20$ ) + Fisheries ( $\leq 25$ ) + Riparian Buffer ( $\leq 6$ ) + Habitat Connectivity ( $\leq 15$ ) + Rare Species ( $\leq 20$ )





# ●●●●● Aquatic Natural Areas

- Only highest scoring waterbodies designated as Aquatic Areas
- 54 lakes in Region identified as Aquatic Areas
  - 12 lakes as AQ-1 (including Lake Michigan)
  - 21 lakes as AQ-2
  - 21 lakes as AQ-3
- 91 stream reaches identified as Aquatic Areas
  - 17 reaches as AQ-1
  - 31 reaches as AQ-2
  - 43 reaches as AQ-3
- Aquatic Areas located in every County of the Region



# ●●●●● Aquatic Natural Areas: Comparisons



- Aquatic Area rankings are comparable with other studies of high-quality areas
- Most ranking lakes and streams were designated as Aquatic Areas in 1997 plan
  - Includes two lakes not ranked in original plan: North Lake (Walworth) and Pretty Lake (Waukesha)
- Lake Michigan and several ranking lakes and rivers identified as Conservation Opportunity Areas in the 2015 Wisconsin Wildlife Action Plan
- Many ranking lakes and streams identified as “high-quality waters” by WDNR in 2022
  - Used some similar criteria as updated Aquatic Area assessment schemes



# ●●●●● Aquatic Natural Areas: Comparisons



## ➤ 43% of ranking lakes and 38% of ranking streams are also HQW

- Lakes (HQW and AQ-1)
  - Big Cedar, Beulah, Eagle Spring, Geneva, Nagawicka, Lulu, Mud (Ozaukee), Oconomowoc
- Rivers/Streams (HQW and AQ-1)
  - Bluff, Genesee, Jericho, North Branch Cedar, and Whitewater Creeks
  - East Branch Milwaukee, Milwaukee, Mukwonago, Oconomowoc, South Branch Genesee Rivers

## ➤ Exceptions

- Big Muskego and Lower Phantom are AQ-1, but not ranked as HQW
- Pebble Brook and middle Fox River are top ten stream Natural Areas, but not ranked as HQW





# Natural Areas Explorer Webtool



Natural Areas  
Explorer **DRAFT**

► Relation to Regional Planning

## Natural Areas

### Environmental Corridors

Historic Vegetation

Archeologic Sites

Geologic Features

Management Strategies

Resources & Equity

**DRAFT 11.20.24**



Southeastern  
Wisconsin  
Regional  
Planning  
Commission

## Regional Natural Areas Map

### Cudahy Woods



#### Cudahy Woods

View the full [SITE PROFILE](#)

Natural  
Areas Class:

NA-2

Community  
Type:

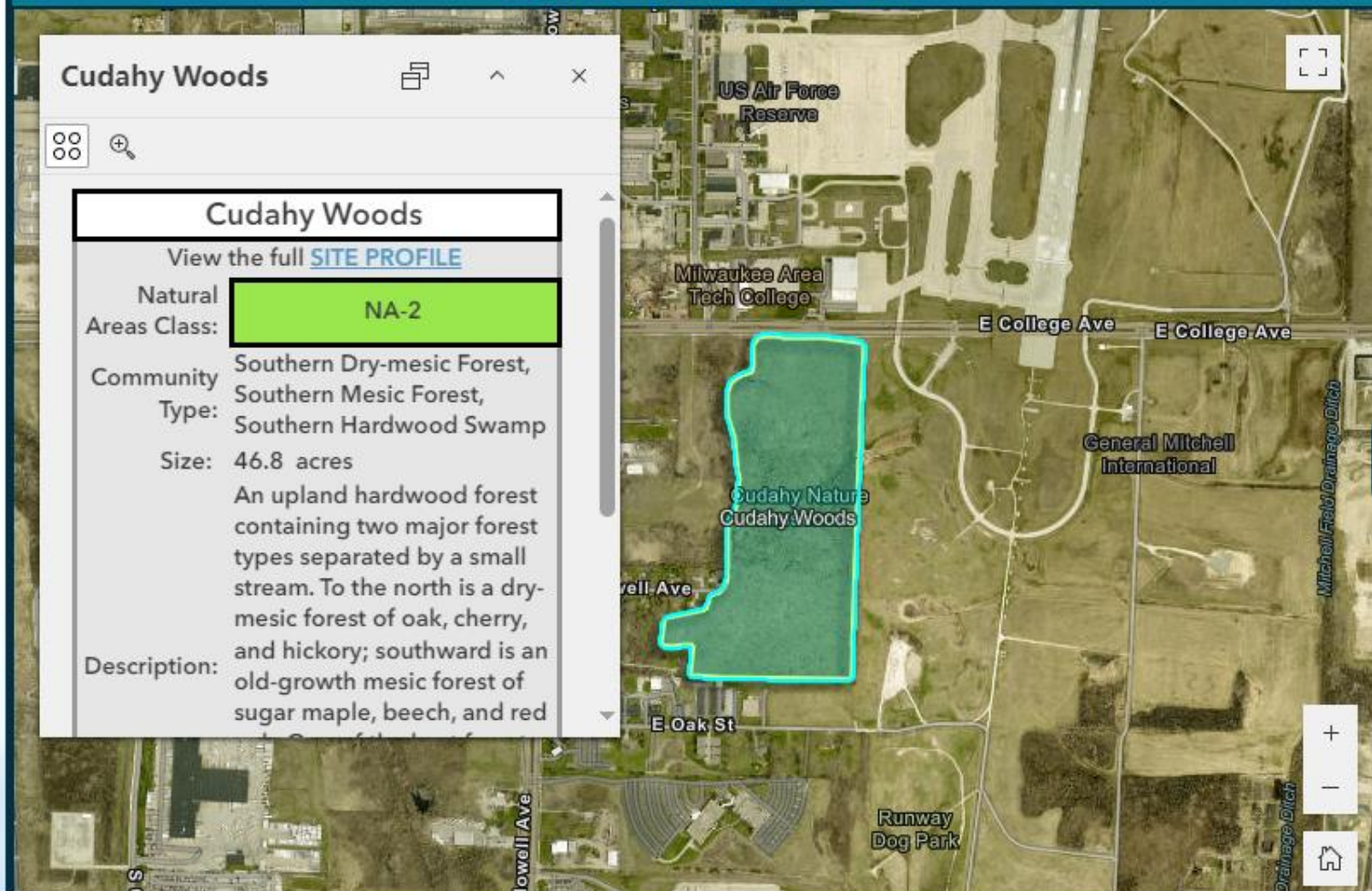
Southern Dry-mesic Forest,  
Southern Mesic Forest,  
Southern Hardwood Swamp

Size:

46.8 acres

Description:

An upland hardwood forest  
containing two major forest  
types separated by a small  
stream. To the north is a dry-  
mesic forest of oak, cherry,  
and hickory; southward is an  
old-growth mesic forest of  
sugar maple, beech, and red



## Interactive Legend

☒ Natural Areas Overview

☒ Natural Areas

NA-1 Statewide

NA-2 County

NA-3 Local

☒ Critical Species Habitat  
Sites

☐ Regional Lakes

☐ Regional Streams





# ●●●●● Timeline for Completion



- Draft complete
- Public meetings complete
- Public comment period closed
- Jan-May 2025-Revise draft and incorporate comments
- Feb 2025- Ch 1-6 approved by Commission's Planning and Research Committee
- August 2025—Planning and Research Committee — review remaining chapters
- September 2025—Commissioner's Quarterly Meeting—review amendment and webtool
- September 2025 Publish final plan upon adoption by the Commissioners



# Thank You

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