

# Southeastern Wisconsin **Regional Planning Commission**

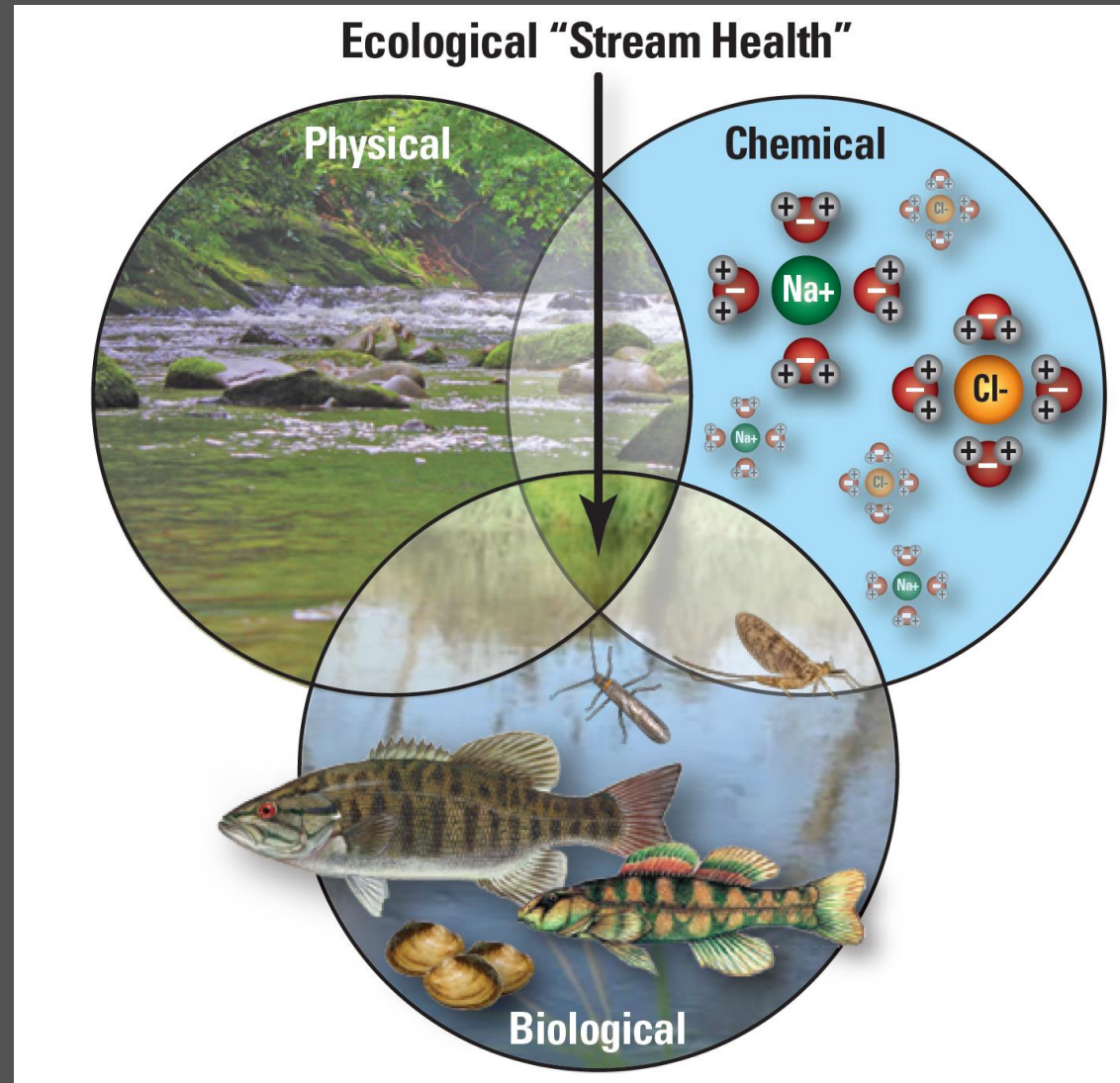


## **Regional Natural Areas Plan Update**

April, 2024

Tom Slawski, Chief Biologist

# Background



Source: Illustrations by Frank Ippolito/www.productionpost.com. Modified from D.M. Carlisle and others, The quality of our Nation's waters—Ecological health in the Nation's streams, 1993–2005: U.S. Geological Survey Circular 1391, 120 p., <http://pubs.usgs.gov/circ/1391/>, 2013.

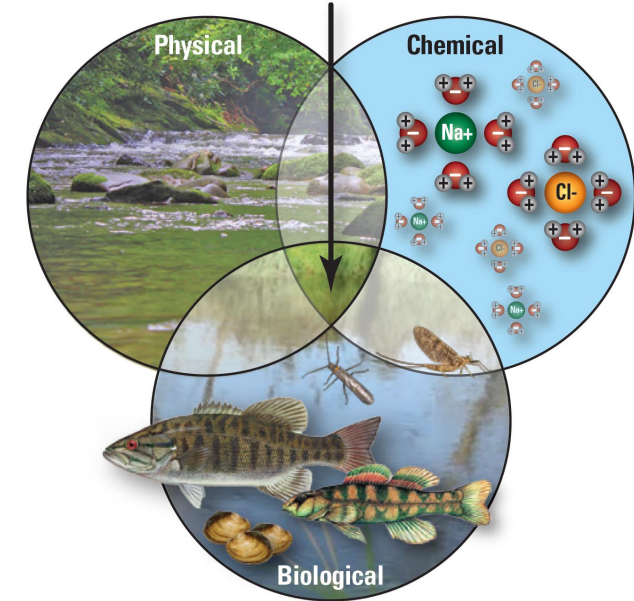


# Dynamics of a Natural Stream Ecosystem

Healthy stream ecosystems support diverse communities of aquatic organisms.



## Ecological "Stream Health"



mussel

Freshwater mussels (Unionidae) live in soft sediments of streams and rivers, where they filter fine particles from the water.

Source: Illustrations by Frank Ippolito/www.productionpost.com. Modified from D.M. Carlisle and others, The quality of our Nation's waters—Ecological health in the Nation's streams, 1993–2005: U.S. Geological Survey Circular 1391, 120 p., <http://pubs.usgs.gov/circ/1391/>, 2013.

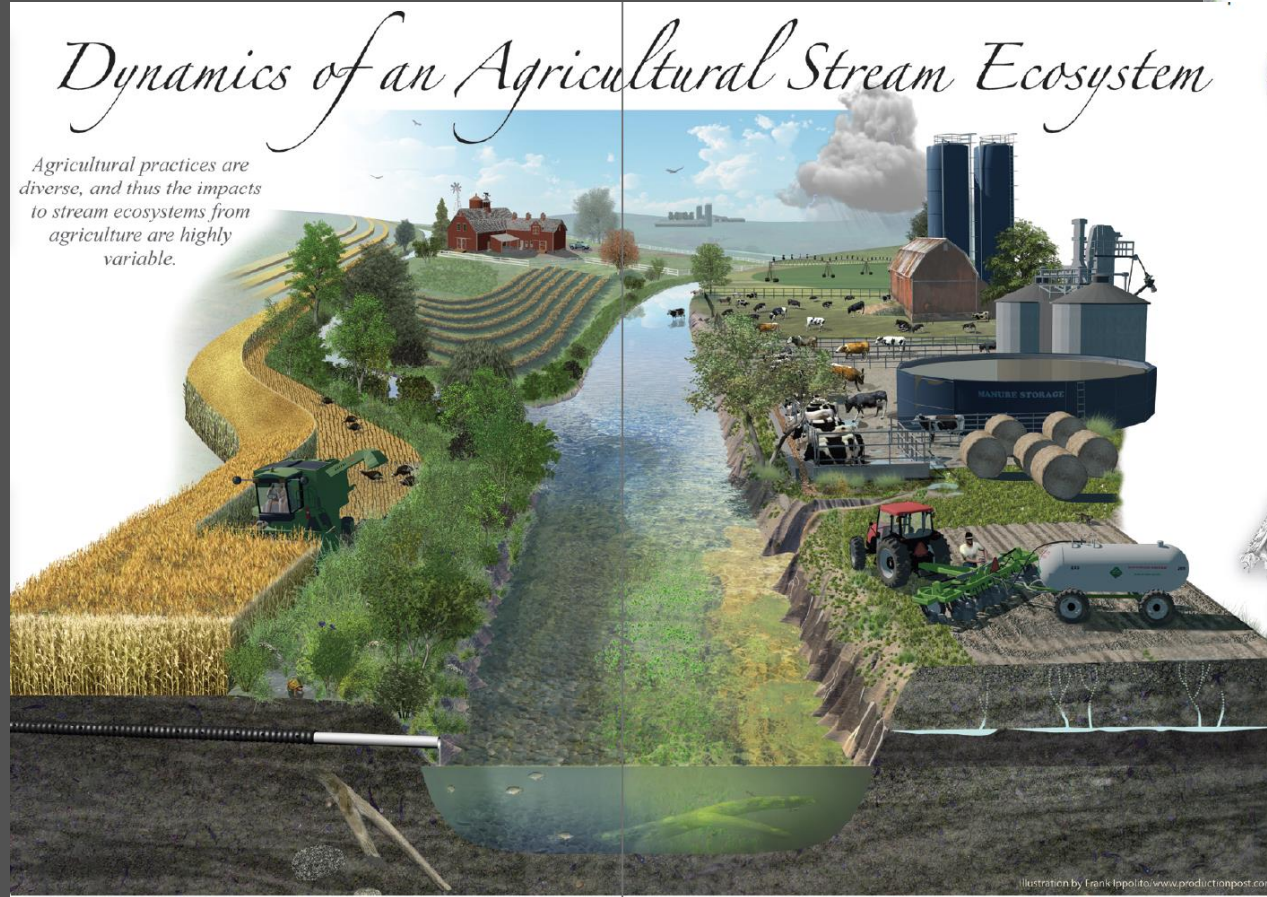
Illustration by Frank Ippolito/www.productionpost.com



# Background

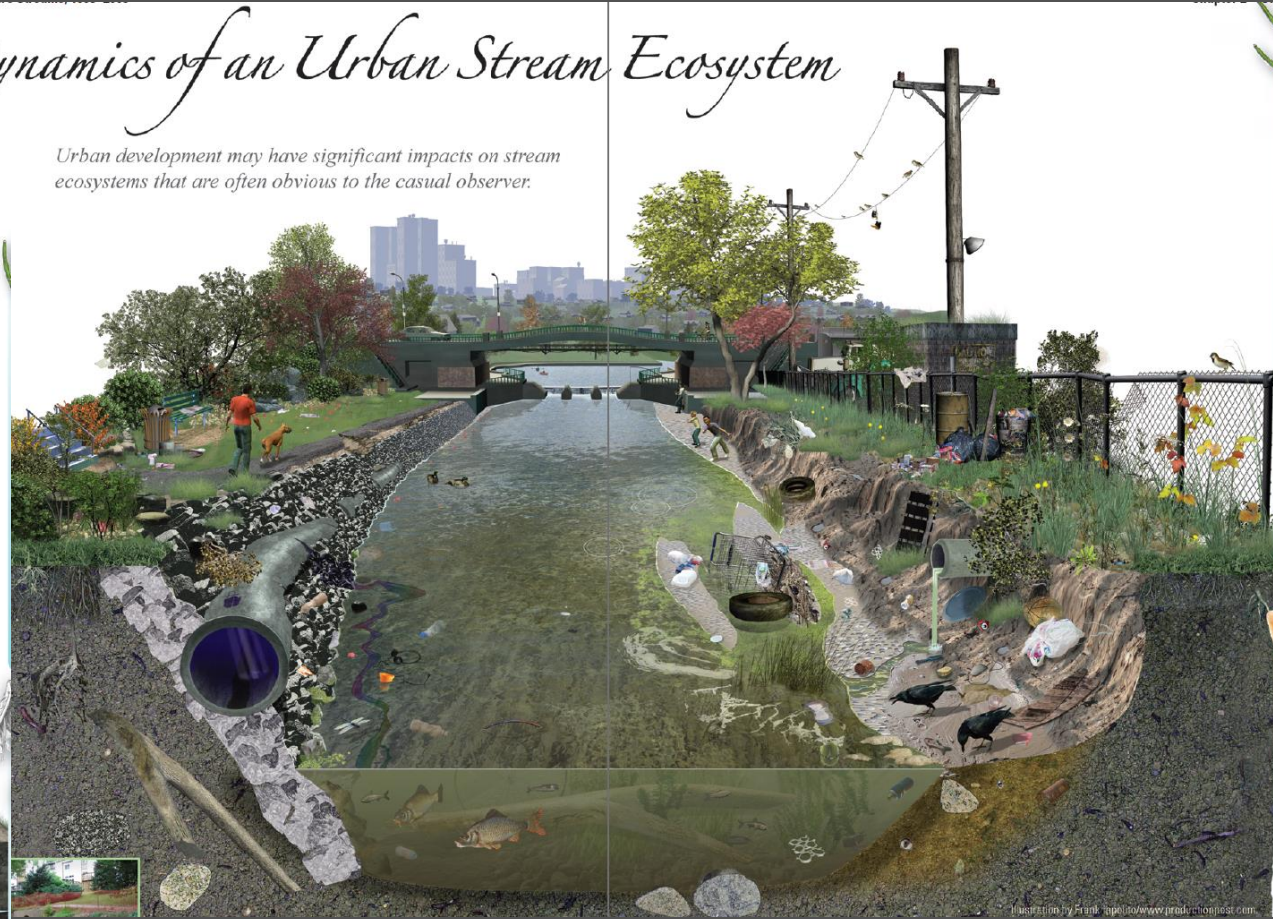
## *Dynamics of an Agricultural Stream Ecosystem*

*Agricultural practices are diverse, and thus the impacts to stream ecosystems from agriculture are highly variable.*



## *Dynamics of an Urban Stream Ecosystem*

*Urban development may have significant impacts on stream ecosystems that are often obvious to the casual observer.*



Source: Illustrations by Frank Ippolito/www.productionpost.com. Modified from D.M. Carlisle and others, The quality of our Nation's waters—Ecological health in the Nation's streams, 1993–2005: U.S. Geological Survey Circular 1391, 120 p., <http://pubs.usgs.gov/circ/1391/>, 2013.

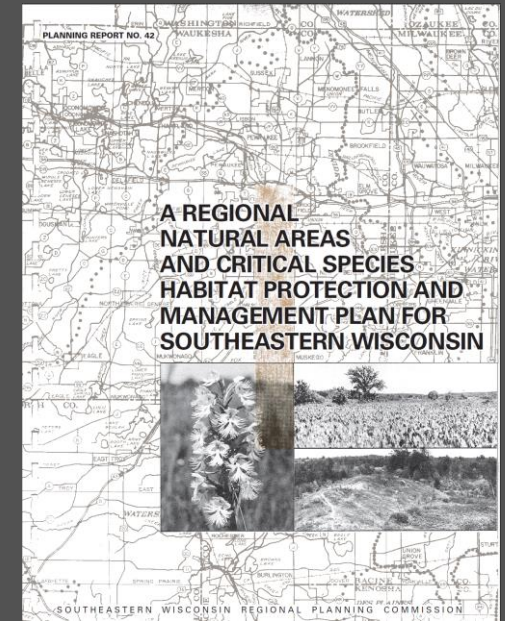


# Background

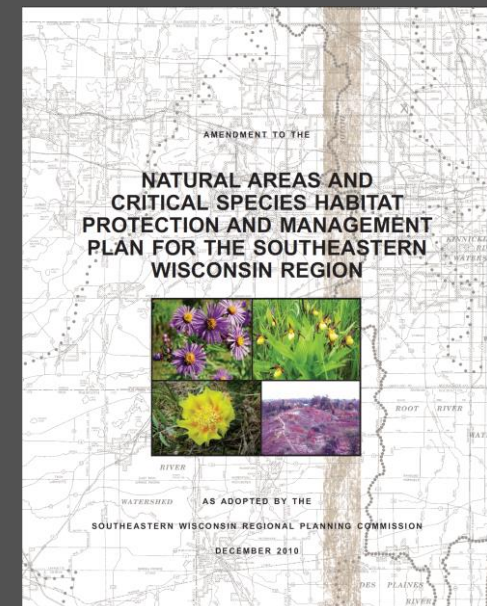
August 1989-Natural Area Protection and Management Planning Program Prospectus—**Identified 3 serious problems:**

1. Loss of significant natural areas
2. Loss of rare, threatened, and endangered species
3. Need to identify and delineate natural areas and critical habitats for rare, threatened, and endangered species

**1997**



**2010**



# Background

## 494 Natural Areas Cover 101 Square Miles as of 2010

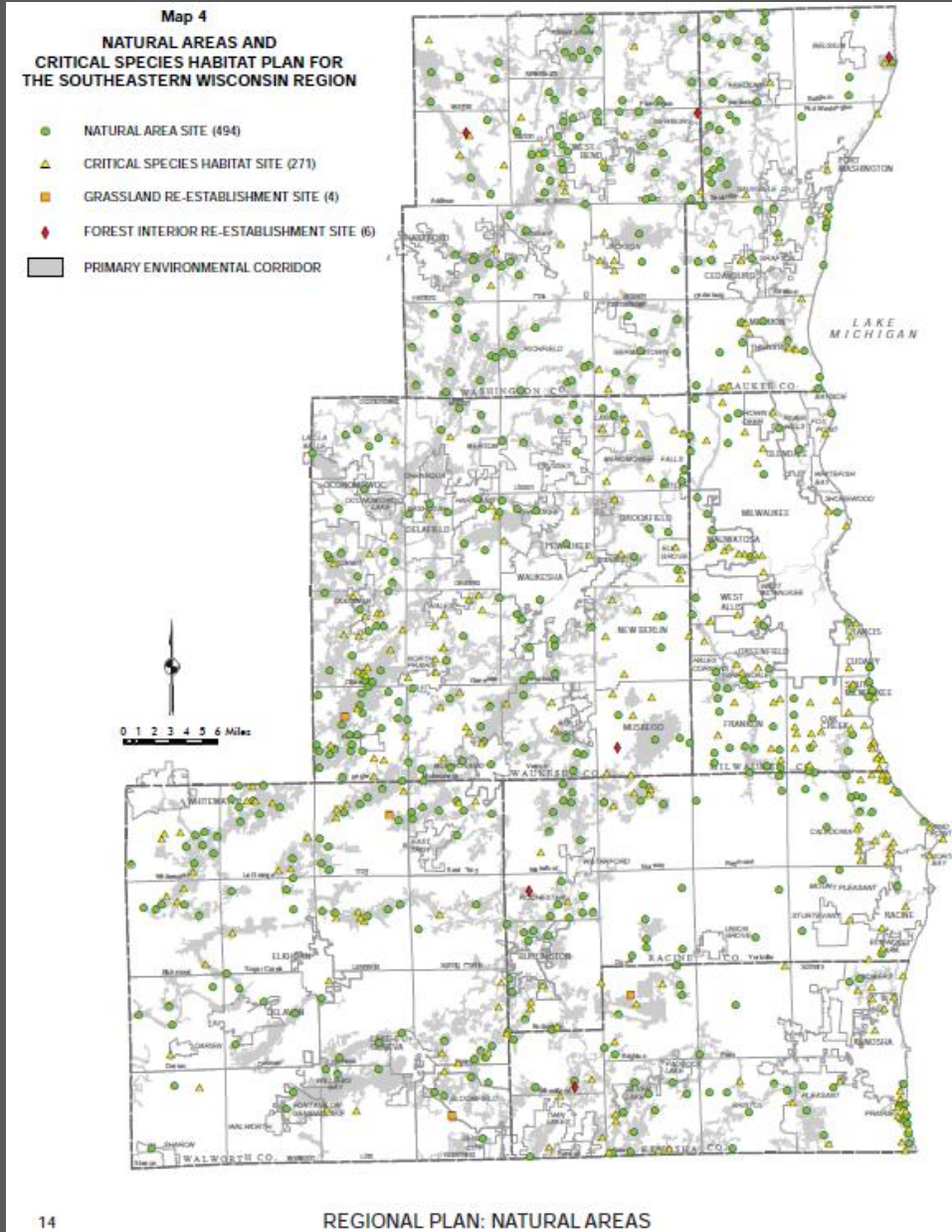
“Tracts of land or water so little modified by human activity, or which have sufficiently recovered from the effects of such activity, that they contain intact native plant and animal communities believed to be representative of the pre-European-settlement landscape.”

### Land Sites are Ranked

- NA-1: Statewide or greater significance
- NA-2: Countywide or regional significance
- NA-3: Local significance

### Factors in ranking and designation include:

- Biodiversity
- Natural communities present and their rarity
- Structural and ecological integrity
- Extent of human disturbance



# Background

Year-1997  
118 Critical Stream Reaches  
148 Critical Lakes

Water Sites are Ranked

- AQ-1: Statewide or greater significance
- AQ-2: Countywide or regional significance
- AQ-3: Local significance

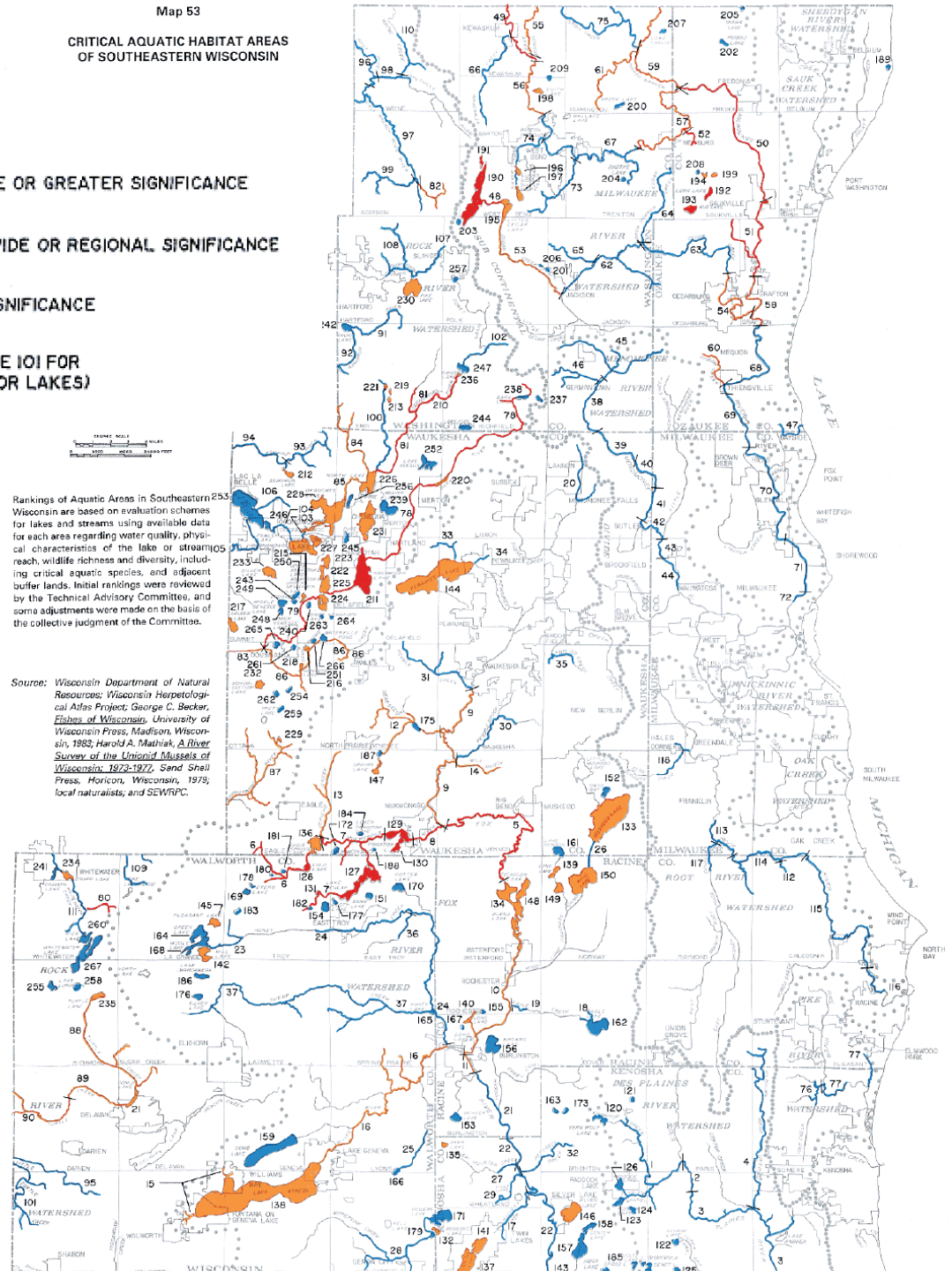
Map 53  
CRITICAL AQUATIC HABIT AREAS  
OF SOUTHEASTERN WISCONSIN

## LEGEND

- AQ-1: AQUATIC AREAS OF STATEWIDE OR GREATER SIGNIFICANCE
- AQ-2: AQUATIC AREAS OF COUNTYWIDE OR REGIONAL SIGNIFICANCE
- AQ-3: AQUATIC AREAS OF LOCAL SIGNIFICANCE
- 200 IDENTIFICATION NUMBER (SEE TABLE 101 FOR STREAM REACHES AND TABLE 103 FOR LAKES)

Rankings of Aquatic Areas in Southeastern Wisconsin are based on evaluation schemes for lakes and streams using available data for each area regarding water quality, physical characteristics of the lake or stream reach, wildlife richness and diversity, including critical aquatic species, and adjacent buffer lands. Initial rankings were reviewed by the Technical Advisory Committee, and some adjustments were made on the basis of the collective judgment of the Committee.

Source: Wisconsin Department of Natural Resources; Wisconsin Herpetological Atlas Project; Sean C. Becker, *Fishes of Wisconsin*, University of Wisconsin Press, Madison, Wisconsin, 1983; Harold A. Mathiak, *A River Survey of the Unionid Mussels of Wisconsin, 1973-1977*, Sand Shell Press, Horicon, Wisconsin, 1978; local naturalists; and SEWRPC.





# ●●●●● Natural Areas Plan

## ➤ Objectives

- Maintain the integrity of the remaining biodiversity of the region
- Preserve and protect the remaining significant geological and archeological sites of the Region





# Implementation/Framework for Protection

## ➤ State

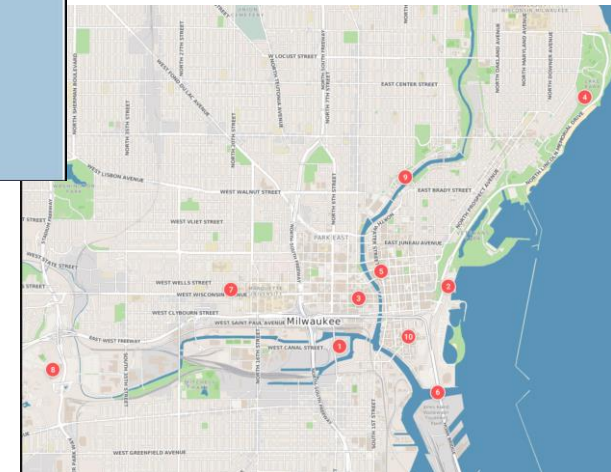
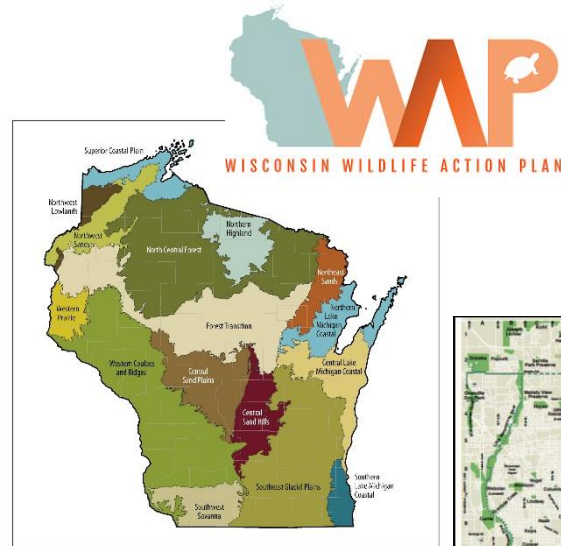
- SSA extension reviews
- Natural Heritage inventory database

## ➤ Regional/County

- Comprehensive plans
- Corridors
- County Park and Open Space plans
- Transportation plans
- County ordinance

## ➤ Municipal

- Local County Park and Open Space plans
- SSA amendment reviews
- Local ordinance development





# Environmental Corridors

- **Primary environmental corridors:**  
200 feet wide, 2 miles long, and 400 acres
- **Secondary environmental corridors:**  
1 mile long and 100 acres (no minimum width)
- **Isolated natural resource areas:**  
200 feet wide and 5 acres





# Aquatic Assessment scheme update

**Lake Score ( $\leq 100$ )** = Morphology and Classification ( $\leq 7$ ) + Water Quality ( $\leq 8$ ) + Macrophytes ( $\leq 20$ ) + Shoreline Buffer ( $\leq 5$ ) + Connectivity ( $\leq 15$ ) + Fisheries ( $\leq 25$ ) + Natural Heritage Inventory Listings ( $\leq 20$ )

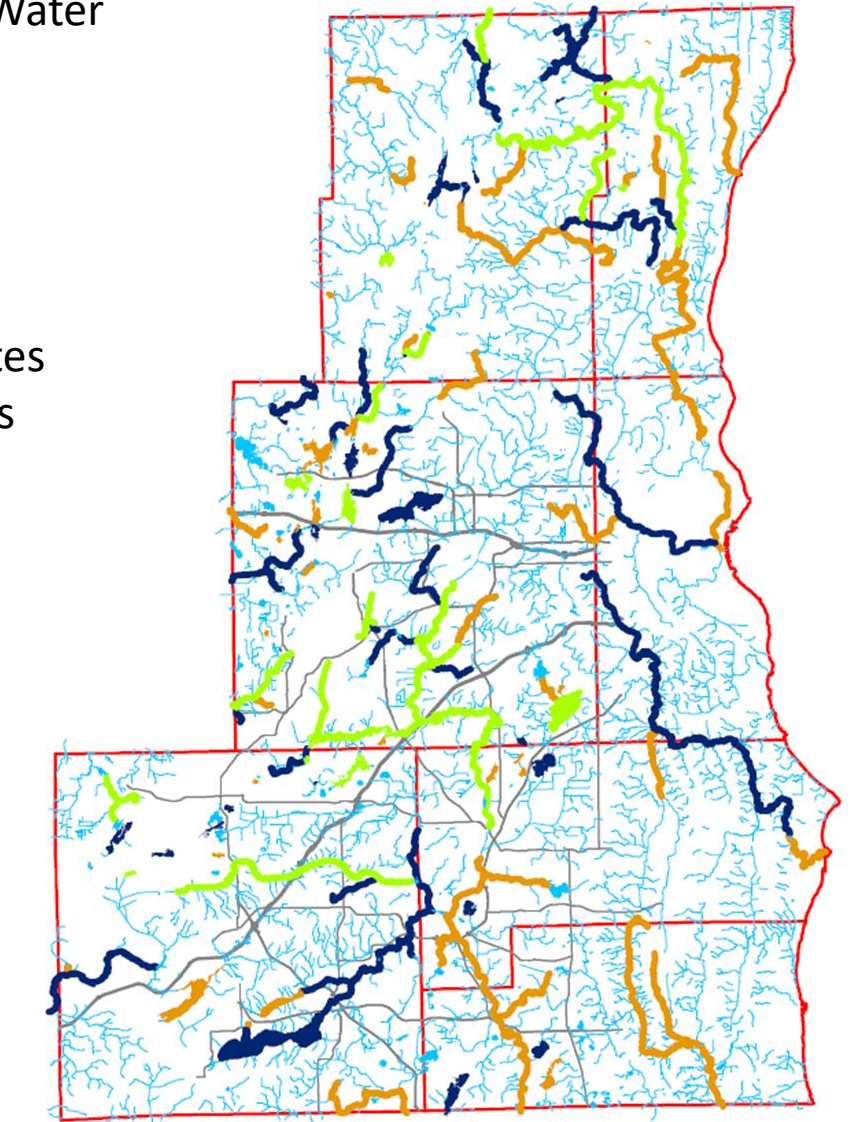
**Stream Score ( $\leq 100$ )** = Morphology, Modification, and Classification ( $\leq 7$ ) + Water Quality ( $\leq 8$ ) + Macroinvertebrates ( $\leq 20$ ) + Riparian Buffer ( $\leq 5$ ) + Connectivity ( $\leq 15$ ) + Fisheries ( $\leq 25$ ) + Natural Heritage Inventory Listings ( $\leq 20$ )



Stream Aquatic  
Natural Area Rank



Lake Aquatic  
Natural Area Rank





# 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
	447	494	478	-16



# CSH Sites by County

	PR 42	2010 A	2024	Change
Kenosha	18	71	70	-1
Milwaukee	13	55	124	+69
Ozaukee	7	17	31	+14
Racine	33	37	36	-1
Walworth	23	39	37	-2
Washington	13	21	23	+2
Waukehsa	38	71	62	-9
	145	311	366	+55



# ●●●●● Natural Areas Interactive Mapping Tool



<https://experience.arcgis.com/experience/dd84caba8f594a16be6fa274cfc3327f/>

Southeastern Wisconsin  
Regional Planning Commission

Home

**Natural Areas**

Env Corridors and Land Use

Partners

### Legend

**Southeastern Wisconsin Region Ranking Lakes**

Ranking Lakes

**Ozaukee County Natural Areas**

Natural Areas

**Ozaukee County Critical Species Habitat Sites**

Animal

### Basemaps

Imagery Hybrid

Blueprint

### Filters

Ranked Streams Only ☐

### Layers

☒ BASEMAP  
Municipal Labels

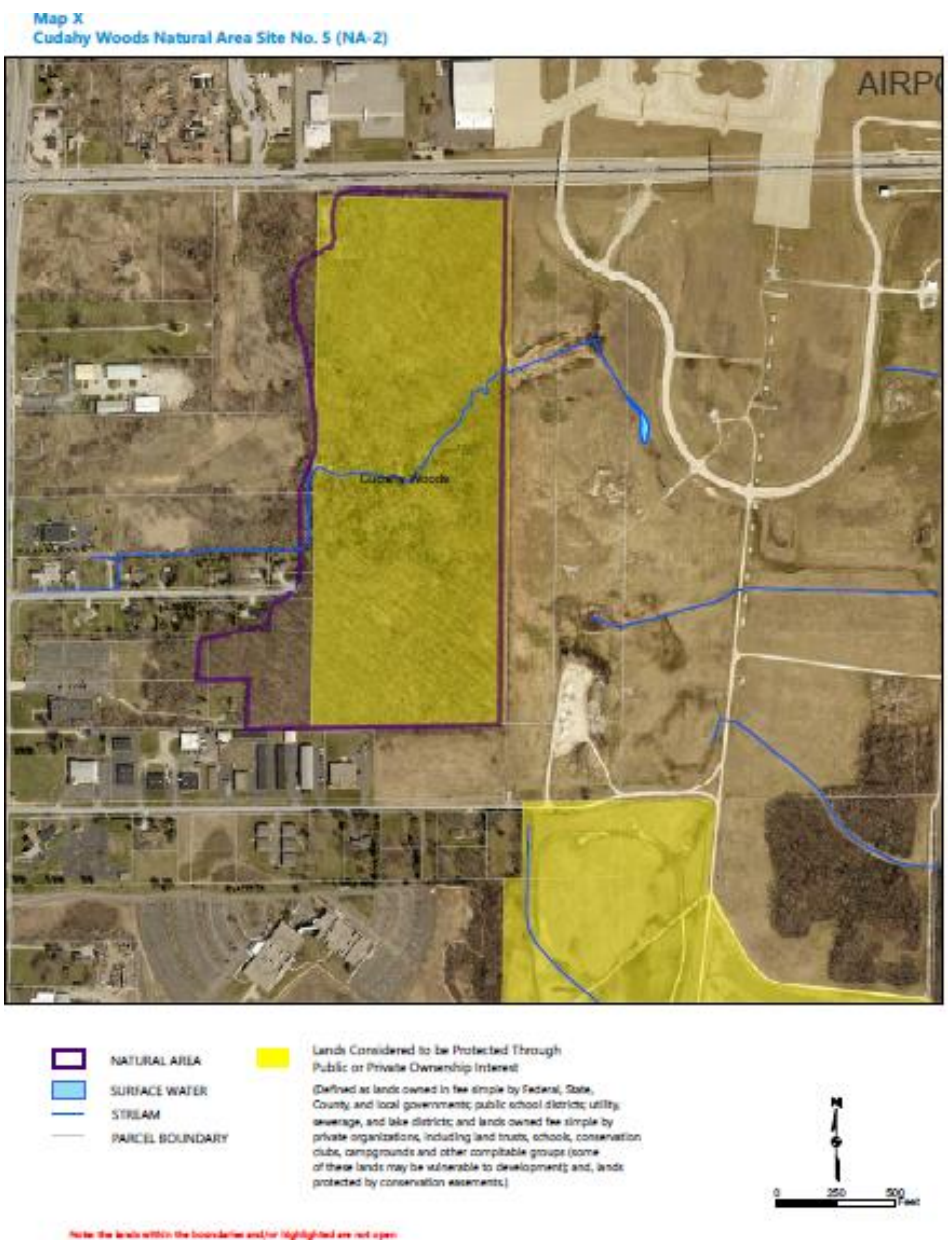
☒ Ozaukee County Natural Areas Overview

☒ Southeastern Wisconsin Region Ranking Lakes

☒ Ozaukee County Natural Areas



# 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 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.



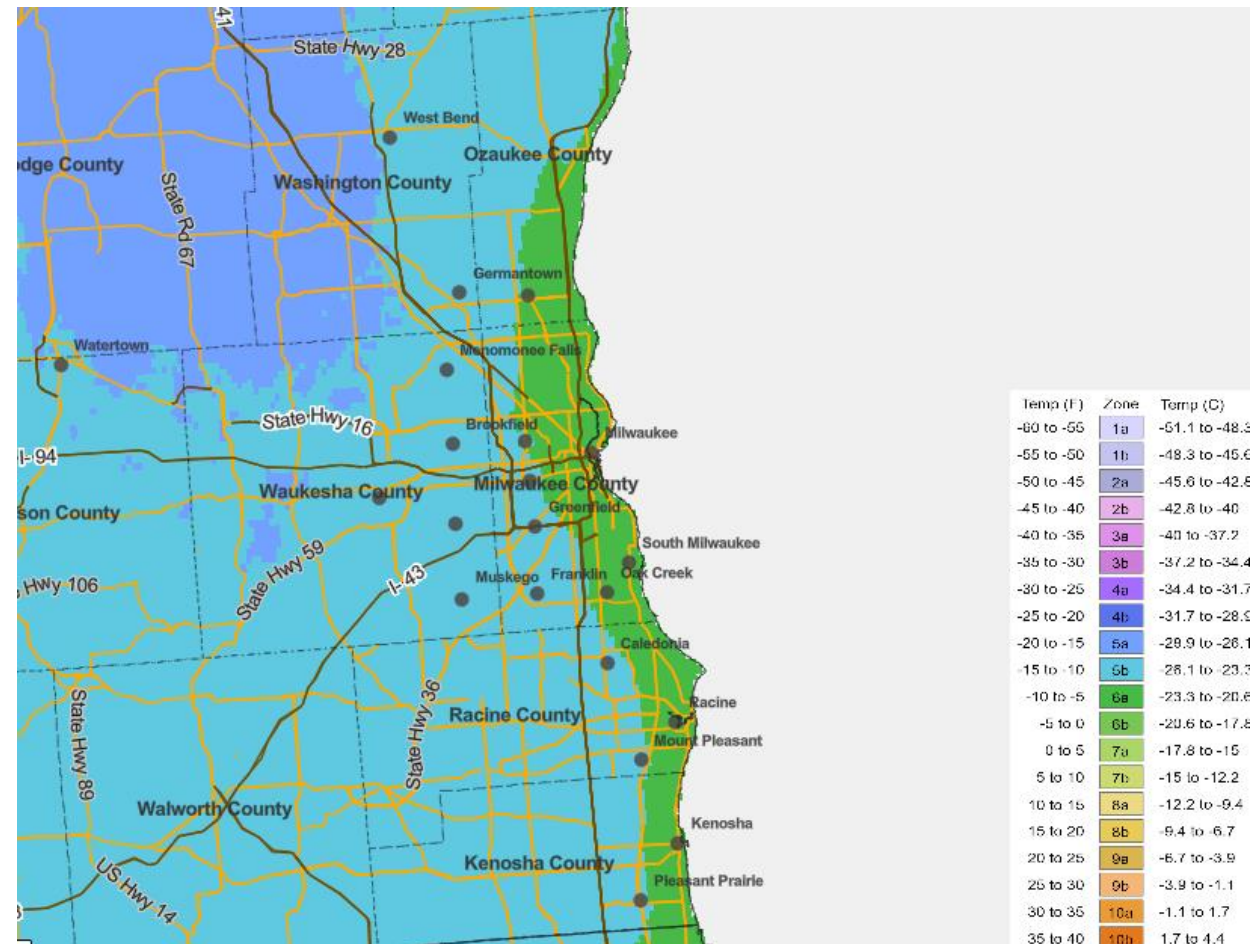
**Left:** White trout lily, a spring ephemeral wildflower, carpets portions of Cudahy Nature Preserve in early spring. **Right:** Invasive Bossier's glory-of-the-snow expanding in a portion of the woods. Credit: SEWRPC staff – Dan Carter



# Other Significant Plan changes

- Provide updated Natural Community management recommendations
- Provide recommendations to improve natural area climate resiliency
  - Wisconsin is getting warmer, wetter, with more frequent extreme weather events
  - The plan will synthesize information from existing plans and provide recommendations to improve resiliency of the Region's Natural Areas
- Provide updated Bi-annual approval process for future plan updates

**2023 USDA Hardiness Zone Map**





# Adjusted Timeline



- June 15th, 2024 – Complete Draft Plan and submit to TAC members for review
- Mid-June – Mid-July – Public notice and Public meeting
- Mid-July 2024– Final TAC Meeting
- August 6<sup>th</sup>, 2024 – Present TAC approved plan to the Planning and Research Committee
- September 2024 (Date TBD) –submit the final plan to the Full Commission for adoption at the September meeting

# Thank You

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