



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Considering Michigan's Special Ecological Communities when Administering the State's Wetland Protection Statute

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Michigan's Special Wetland Ecological Communities

Michigan's highly variable, post-glacial landscape supports a wide variety of ecologically distinct wetland community types.

33 distinct types of wetland (and wetland/upland complex) communities!

The **majority** of these **rare** wetland ecological community types are considered by Michigan Natural Features Inventory (MNFI) to be on a scale from “**vulnerable to extirpation**” to “**critically imperiled**” within the state.



Michigan's Special Wetland Ecological Communities

The EGLE Wetlands Program, as outlined in MI wetland law, currently considers rare wetland ecological communities in several ways, including:

- **EGLE jurisdictional aspect** (i.e., a state-regulated wetland).
- **Wetland permitting aspects** (determining whether a permit can be issued).
 - Will the proposed activity result in **unacceptable disruption of the aquatic resources**, including **impacts to T&E species**?
 - What is the **ecological impact**, and the **extent and permanence of the effects** of the **proposed activity**?

Michigan's Special Wetland Ecological Communities

The EGLE Wetlands Program, as outlined in MI wetland law, currently considers rare wetland ecological communities in several ways, including:

- **Increased mitigation ratio (5:1)** for impacts to ecological communities **listed in Part 303** (if/when determined to be permissible).
- **Preservation of wetlands as mitigation (10:1 ratio)** is **only allowed *if* the wetland is rare or performs exceptional physical/biological functions.**
- **Michigan Rapid Assessment Method (MiRAM).**
 - “High Ecological Value”
 - MNFI S1/S2/S3 wetland communities, southern bog, old growth forested, Great Lakes coastal wetland.

Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

PA 631, amendments (2018/2019) changed the way **wetlands** (and lakes/ponds, and streams) **are regulated** (i.e., State of Michigan jurisdiction) by EGLE.

- ***Changed in statute:*** Wetlands that are **utilized by** state-listed and/or federal-listed **threatened/endangered species** are regulated by EGLE.
- ***Changed in statute:*** Wetland ecological types that are **currently listed (in Part 303)** as **rare/imperiled** are regulated by EGLE.
- ***Unchanged in statute:*** Statutory mitigation rule: 5:1 mitigation ratio for those **rare/imperiled wetland community types** as **listed in statute**.

Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

The **“Rare/Imperiled” wetlands list** has been **defined by the state legislature** and could be different in the future. DNR can recommend changes every 5 years.

- Great Lakes Marsh
- Southern Wet Meadow
- Inland Salt Marsh
- Coastal Plain Marsh
- Interdunal Wetland
- Lakeplain Wet Prairie
- Lakeplain Wet-Mesic Prairie
- Wet-Mesic Prairie
- Coastal Fen
- Wet Prairie
- Prairie Fen
- Northern Fen
- Patterned Fen
- Poor Fen
- Muskeg
- Relict Conifer Swamp (Rich Tamarack Swamp)
- Southern Floodplain Forest

Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Keep in mind that most examples of wetland ecological community types on the statutory list *would be regulated by other means anyway*: i.e., by size (>5 acres) and/or contiguity to stream or large body of permanent open water.

But, we have seen examples where “listed” Rare/Imperiled wetlands are otherwise *unregulated* in some real-world situations.

E.g., may be less than 5 acres and far from streams and lakes.

- Interdunal Wetland
- Southern Wet Meadow
- Wet-Mesic Prairie

Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Interdunal Wetland can occur at distances $>$ than 1000 feet from Great Lakes.



Ludington State Park

Imperiled world-wide!
Important for invertebrates, amphibians, migratory birds, aesthetics.



Muskegon

Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Southern Wet Meadow,
a diverse, fen wetland that can occur >500 feet from a stream.



Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Wet-Mesic Prairie

can occur >500
feet from a
stream or lake.

Rare/uncommon
species!



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State of Michigan Regulation of Wetlands that are Rare/Imperiled

Prairie Fen

is typically regulated also by headwater stream contiguity.

EGLE staff screen for this community type often.

Often are naturally small, and therefore are often overlooked!

Rare species!
Groundwater input to streams.



Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Southern Floodplain Forest

is regulated also by river contiguity.

EGLE staff screen for this community type often.

Is sometimes overlooked when small!

Huge functional value!



Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Coastal Fen

is regulated also by Great Lake contiguity.

EGLE staff (Up North) screen for this community type often.

Often loaded with very rare species!



Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Relict Conifer Swamp (Rich Tamarack Swamp), another type of fen, is typically regulated also by contiguity with headwater streams and inland lakes.

EGLE staff screen for this community type often.

Hi functional value, even when naturally small! Rare species! Groundwater input to streams/lakes.



Michigan's Special Wetland Ecological Communities

State of Michigan Regulation of Wetlands that are Rare/Imperiled

Great Lakes Marsh

is regulated also by Great Lake contiguity.

EGLE staff screen for this community type often.

Very productive, diverse habitat for many species!



Michigan's Special Wetland Ecological Communities

Statutory Mitigation Rule: *R 281.925 Mitigation*

5:1 Mitigation Ratio for those **rare/imperiled** wetland community types as **listed in statute**:

- **Best course of action is avoidance** (typically) of the special ecological community resource!
- Restoration or creation of **5.0 acres of mitigation for 1.0 acre of permitted impact** on wetland types that are **specifically listed in statute**.



Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Includes those “**special**” wetland community types that are ***not* listed in Part 303**.

- However, **most are state-regulated by other means** (e.g., large size, connection to stream, etc.) in actual situations.
- The **unique, high functions/values of these other “special” wetlands** would be **factored in during the EGLE wetland permit application review process**.
 - Benefits/Functions/Values list is found within the statute (Part 303).
 - Other related criteria within statute and rules.

Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Some of the legislative findings; “benefits” criteria to be considered in administration of the statute:

- Flood and stormwater control.
- **Wildlife habitat**, including **rare, threatened, or endangered wildlife species**.
- Protection of valuable watersheds and subsurface water resources.
- Sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Other excerpts from statute and rules (Part 303 Wetlands Protection, and Part 301 Inland Lakes and Streams)...

- “unacceptable disruption will not result to aquatic resources...”
- **“habitat...for rare, threatened, or endangered...”**
- **“probable impact on ecological values...”**
- **“can only be permitted if otherwise lawful”**
 - MI Endangered Species Act (Part 365)
 - US Endangered Species Act
 - US Migratory Bird Treaty Act



Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

The “non-listed” special MNFI wetland community types have a suite of **very unique, relatively high functions and values.**

- Often are **extremely important ecologically!**
- Wetland types that are naturally rare because of their unique hydrology and physiography also tend to **support disproportionately large numbers of rare species.**
 - In general, **as a natural community becomes increasingly rare, the plants and animals it supports also become rare.**

Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Consider when reviewing an EGLE wetland permit application...

Avoid fragmentation and loss of unique/high functional value!

- Avoid decreases in size.
- Avoid compromising hydrology.
- Avoid compromising buffer areas.
- Avoid secondary effects/impacts.



Best course of action is avoidance (typically) of the special resource.

Is difficult (or impossible) to replace functional value and mitigate impacts.

Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Qualitatively assess the *potential* special ecological community that may be associated with a proposed project location.

- Does it **still have** relatively **high functional value**?
- *Or*, is it now an **ordinary/impaired wetland system**?
 - Degree of **isolation/fragmentation**? **Small/remnant**? **Unconnected**? **Buffers** exist? Significant **negative secondary impacts** (e.g., edge effects, nutrient overload, salinity, invasive species dominance)?
 - **Indicator plant species present**? Relatively **high species diversity** apparent? **Habitat structural diversity**?



Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Examples of “non-listed” special MNFI community types:

Southern Hardwood Swamp, amazing habitat for birds and amphibians!



Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Examples of “non-listed” special MNFI community types:

Rich Conifer Swamp,
“old growth”
habitat/complexity,
aesthetics, winter refuge,
rare species, deep carbon
soils, protect headwaters
of trout streams.



Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Examples of “non-listed” special MNFI community types:

Hardwood Conifer Swamp,
protect headwaters of trout
streams, aesthetic beauty.



Michigan's Special Wetland Ecological Communities

EGLE Consideration of All Special Wetland Ecological Community Types when Evaluating a Permit Application:

Examples of “non-listed” special MNFI community types:

Southern Bog,
unique, relict systems
with unique species.



Michigan's Special Wetland Ecological Communities

How to Become a Pro at Recognizing Michigan's Special Wetland Ecological Community Types?

- **Training** (sponsored by EGLE) can be found as a **webinar** on the Stewardship Network's YouTube channel.
- **Regularly consult MNFI online abstracts and publications!**
 - **Best resource for ecological communities in MI!**
- MWA field trainings.
- EGLE WRD staff utilize MNFI Element Occurrence (EO) data in MiEnviro, internal trainings, and regular assistance by K. Gyekis.
- Private professionals and consultants use MNFI fee-based services.



Michigan's Special Wetland Ecological Communities

How to Become a Pro at Recognizing Michigan's Special Wetland Ecological Community Types?

- Keep in mind that **not all of Michigan's special ecological communities are mapped by MNFI!**
 - Regularly **consult MNFI online abstracts and publications!**
 - You need to be able to **recognize what you're looking at!**

Protecting our special wetlands ensures that rare plants and animals have the habitat they need to survive. These special places serve society in so many important ways, including providing a resource for recreation, inspiration, and scenic beauty.

Questions ?

