

Citizens for a Safe & Clean Lake Superior and Ore Dock Brewing Co. present:

# SUPERIOR ON TAP

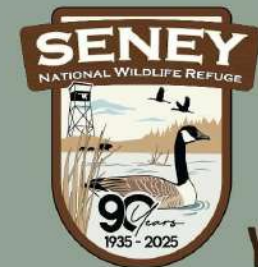
## Strangmoor Bog: Michigan's Misnamed Marvel

with Sara Giles

*Recently retired Park Ranger at Seney National Wildlife Refuge  
U.S. Fish and Wildlife Service*

# The Strangmoor Bog

Michigan's Misnamed Marvel



**90** Wild  
YEARS AND COUNTING!



Where in the World?

# Patterened Fens

Wisconsin, Michigan

Big Bog State Rec. Area  
Red Lake Peatland  
Lost River Peatlands

Fall River Patterened Fen

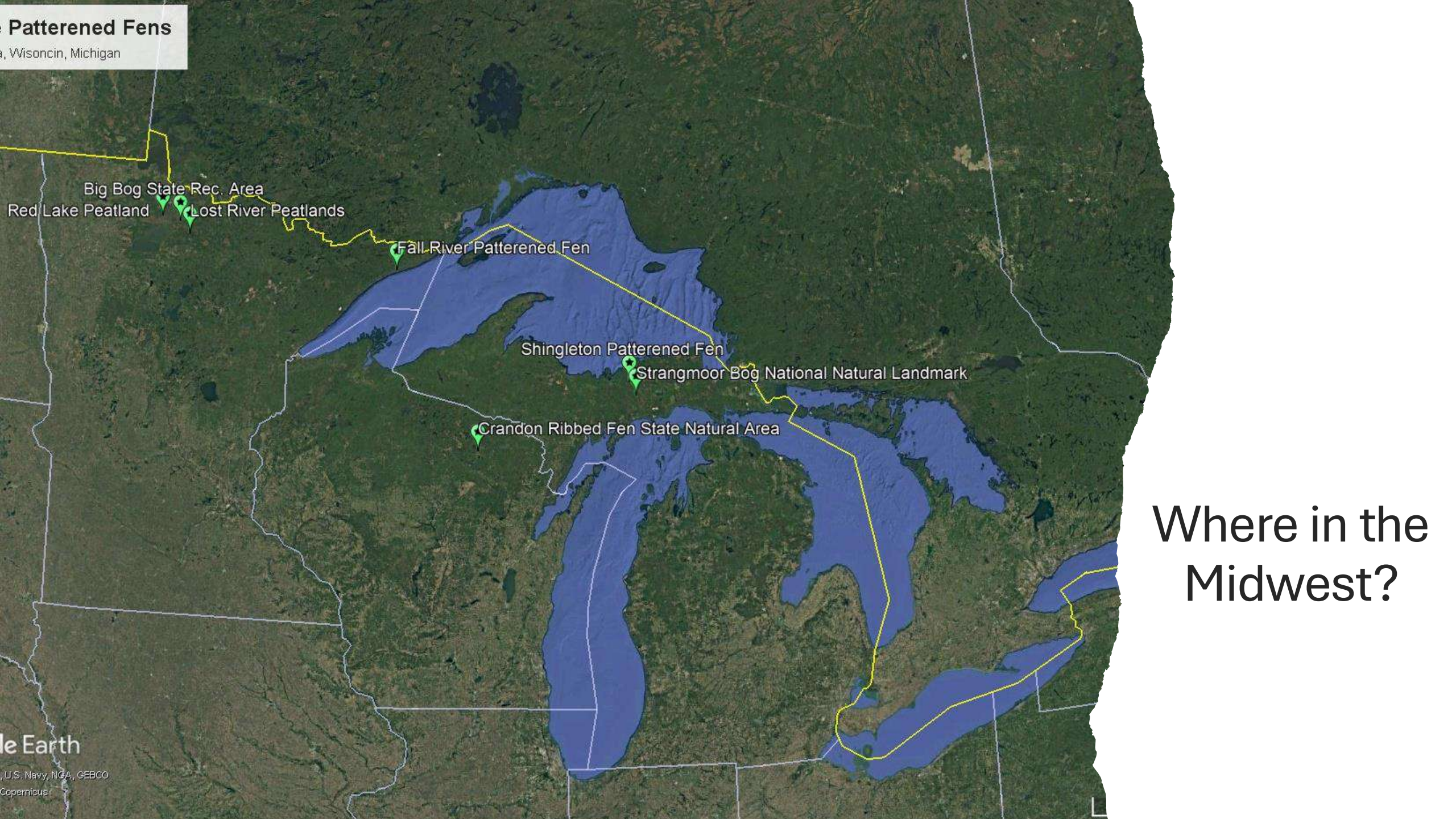
Shingleton Patterened Fen  
Strangmoor Bog National Natural Landmark

Crandon Ribbed Fen State Natural Area

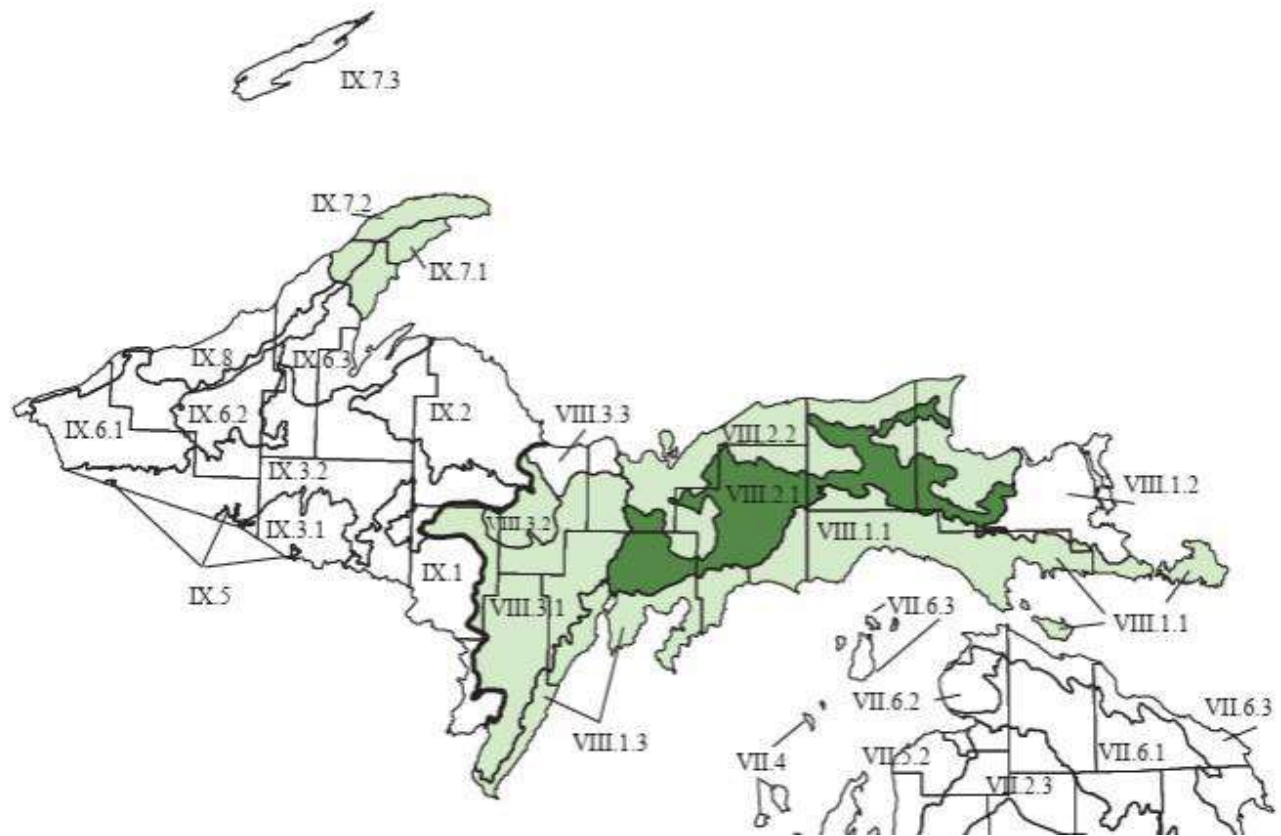
Where in the  
Midwest?

le Earth

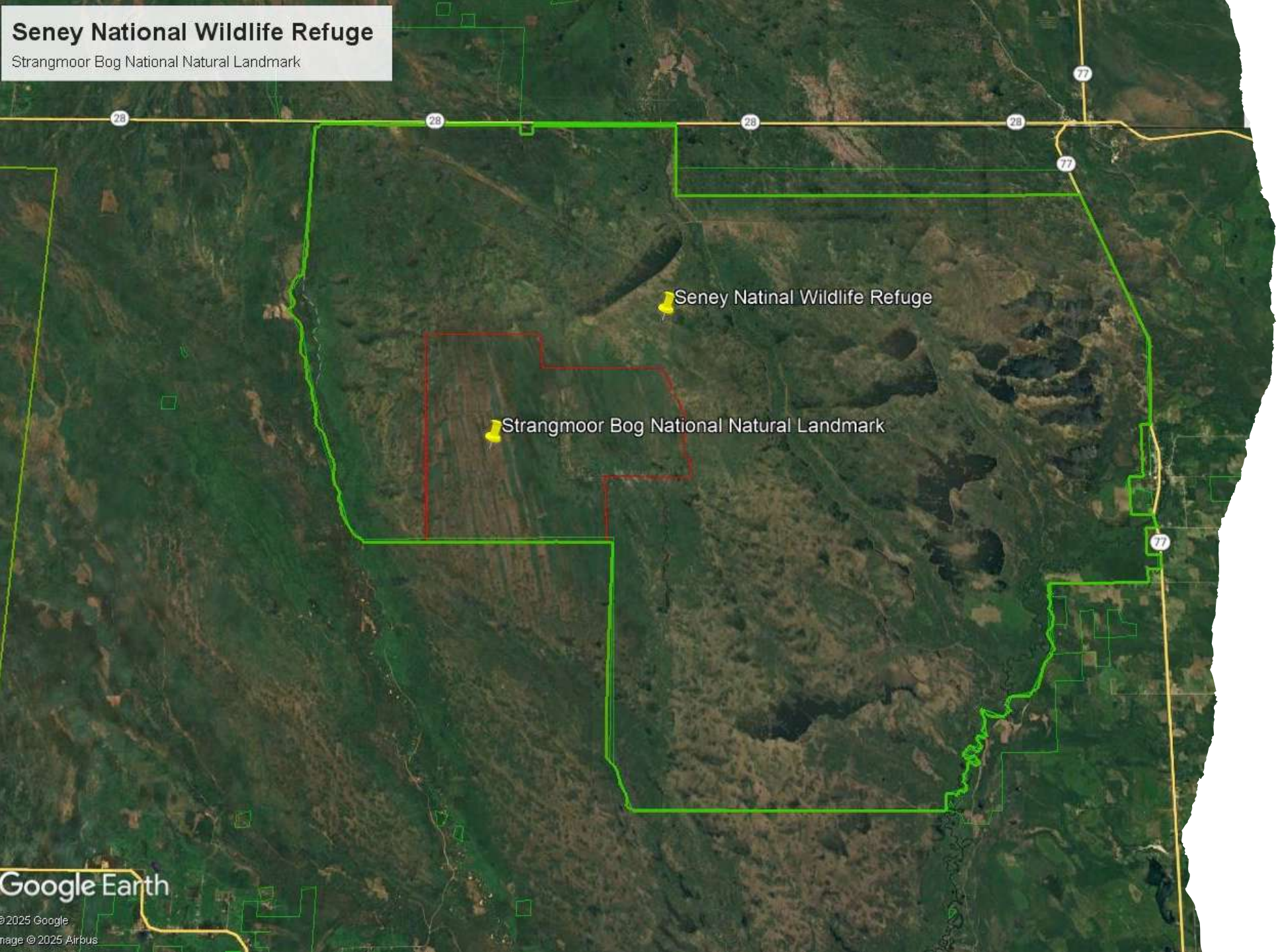
U.S. Navy, NGA, GEBCO  
Copernicus



Where in the Michigan?



**Seney National Wildlife Refuge**  
Strangmoor Bog National Natural Landmark



Seney Natinal Wildlife Refuge

Strangmoor Bog National Natural Landmark

Seney

# What is a National Natural Landmark?

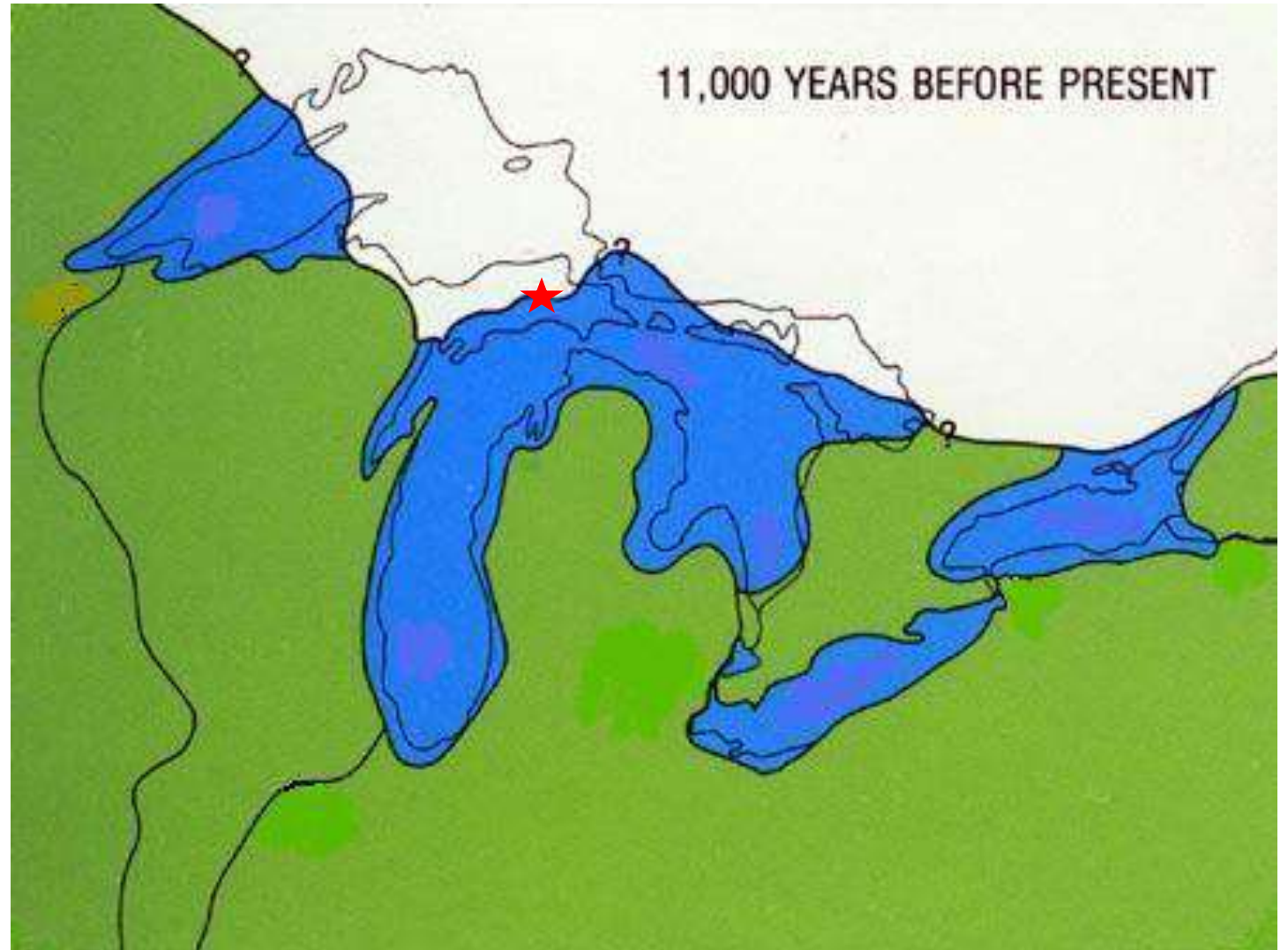
- Some of the best and most significant examples of America's natural history.
- Program was started in 1964.
- There are 606 as of 2024.
- Michigan has 12

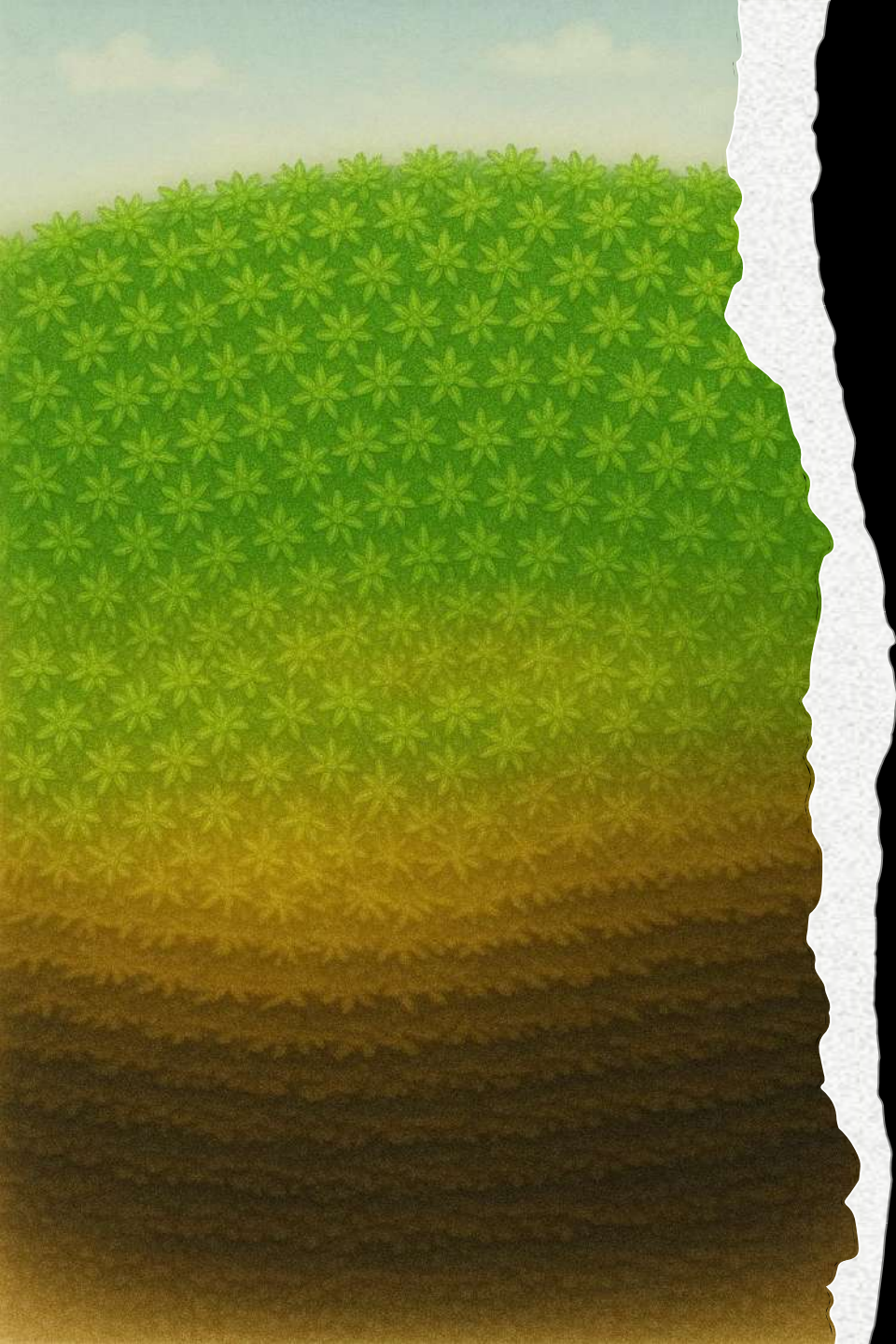
1	Black Spruce Bog Natural Area	1976	Jackson	State
2	Dead Stream Swamp	1976	Missaukee, Roscommon	State
3	Dukes Research Natural Area	1974	Marquette	Federal
4	Grand Mere Lakes	1968	Berrien	State, private
5	Haven Hill State Natural Area	1976	Oakland	State
6	Newton Woods	1976	Cass	State
7	Porcupine Mountains	1984	Gogebic, Ontonagon	State
8	Roscommon Virgin Pine Stand	1980	Roscommon	State
9	Strangmoor Bog	1973	Schoolcraft	Federal
10	Tobico Marsh	1976	Bay	State
11	Toumey Woodlot	1976	Ingham	State
12	Warren Woods Natural Area	1967	Berrien	Private



# Ice Age Origins – Sand, Ice, and an Ancient Lake

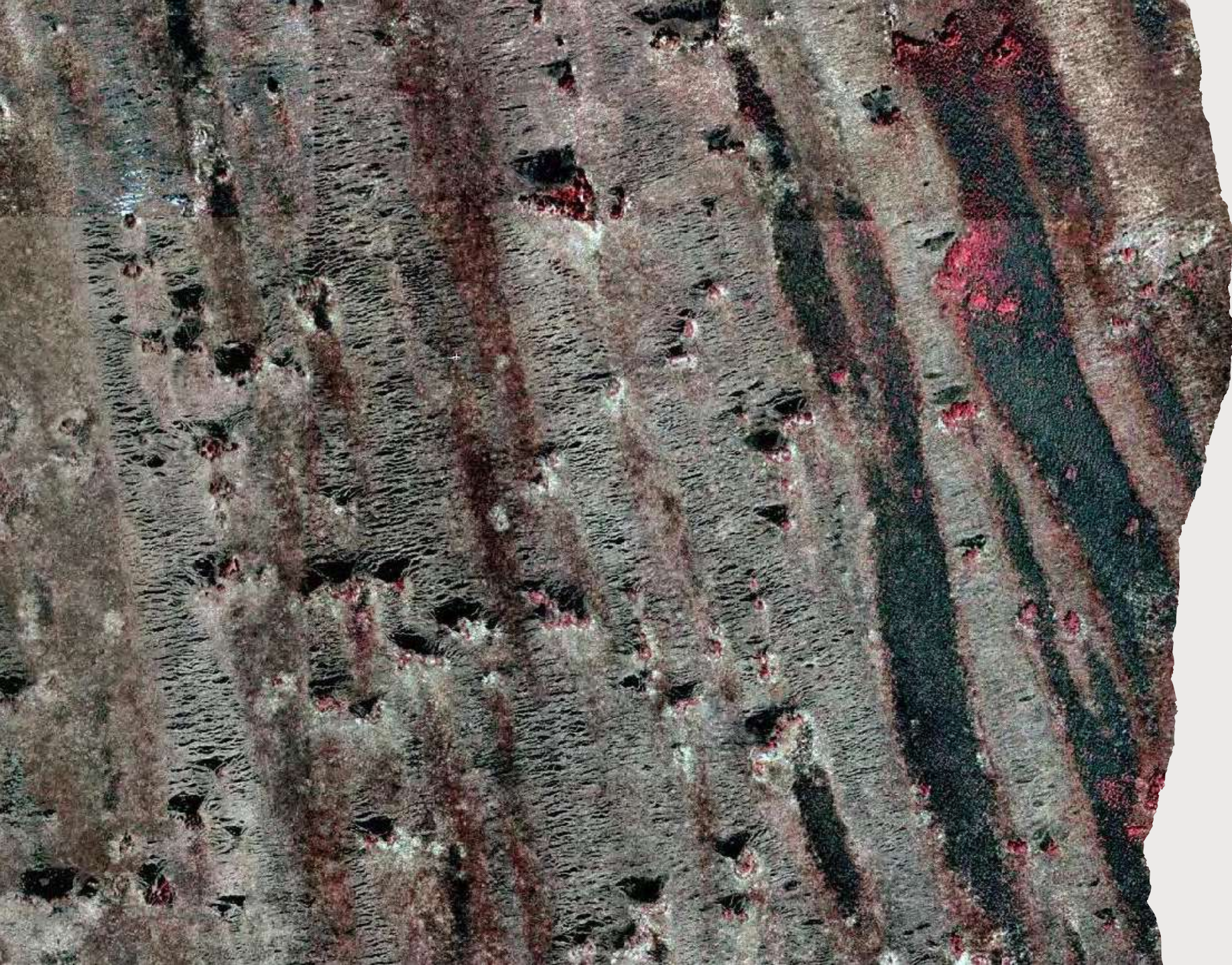
Image from:  
<https://alchetron.com/Lake-Algonquin>





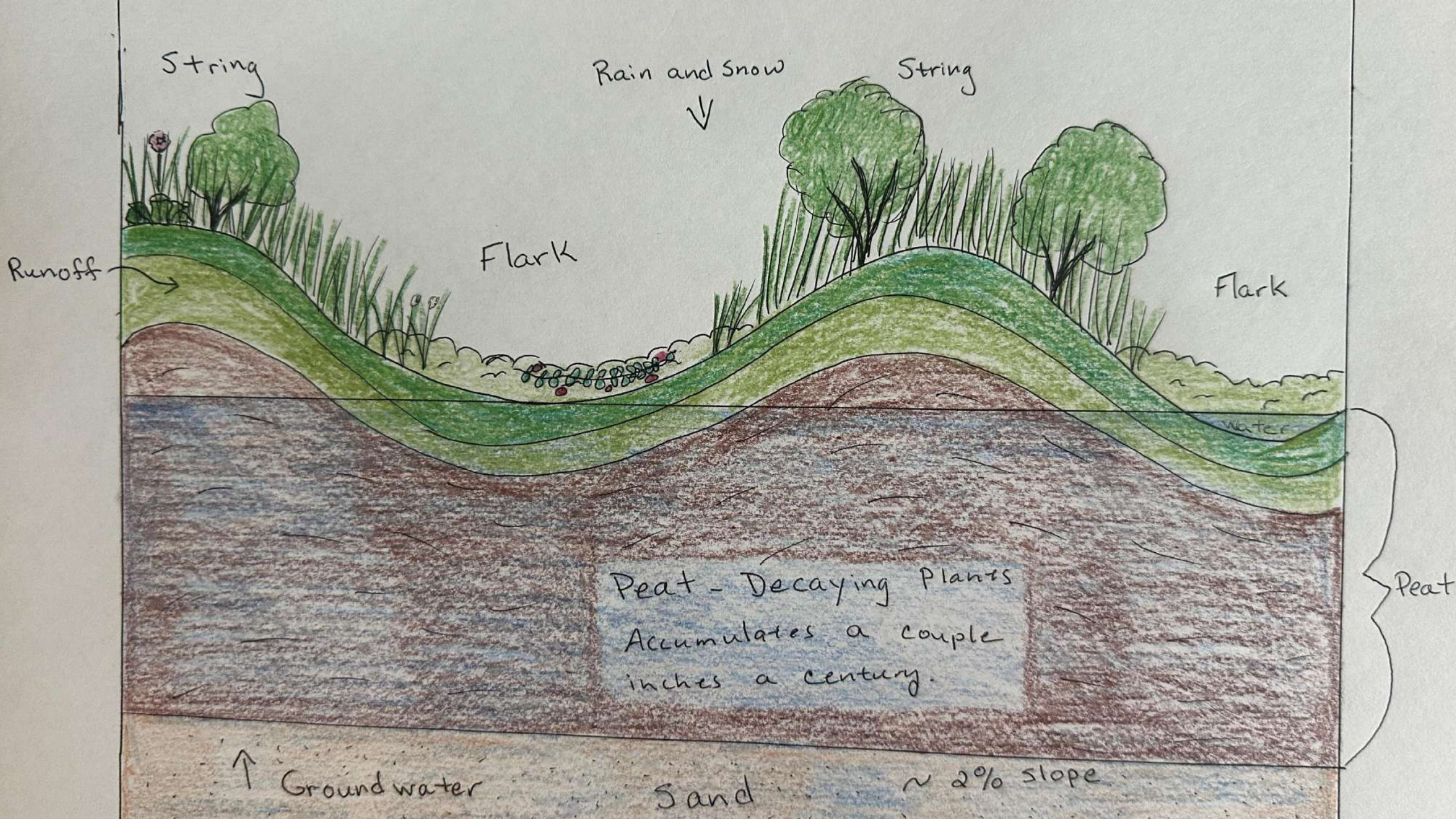
# Birth of a Peatland

New bogs take a long time to form.



## **Pattern in the Peat – How Strings and Flarks Form**

1998 Digital Orthophoto  
County Mosaic (MNFI 2006)



String

Rain and Snow  
↓

String

Runoff

Flark

Flark

water

Peat

Peat - Decaying Plants  
Accumulates a couple  
inches a century.

↑ Groundwater

Sand

~ 2% slope

A person wearing a white shirt, brown pants, and a backpack is walking away from the camera through a field of tall grass and bushes. The field is divided into sections by different types of vegetation. The text 'String/Strang' is overlaid on the left side of the field, and 'Flark' is overlaid on the right side. The person is walking towards the right side of the frame.

String/Strang

Flark

# Bog or Fen?

## Bog

- Ombrotrophic
- Water only from precipitation
- Nutrient-poor
- Acidic pH ~4
- Hardy species only – sphagnum and a few others

## Fen

- Minerotrophic
- Water from groundwater and/or streams and precipitation
- Gets some minerals and nutrients
- Slightly acidic
- Greater diversity of plants





# Anatomy of Strangmoor

## Life in the Bog

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Photos: Alex Graff, Chrysalis  
USFWS, Moose and  
Northern Harrier





# Sphagnum Moss – The Bog Builder

- Photos:
- Northern Peatmoss - Brad VonBlon and
- Alex Graff
- Fen Peatmoss - rrouledge



# More Mosses

- Ribbed bog moss – Justin Paulin
- Heart-leaved Spear-moss – Connor Johanson
- Yellow Starry Fen Moss – klips
- Juniper Haircap Moss - scotsstewart



# Grasses and Sedges

## Photos

- Star Sedge – natemartineau
- Common Cottongrass – stubirdnd
- White Beak-Sedge – Botanicum-vitae

# Carnivorous Plants – Eating to Survive

Photos:

Linear-leaved Sundew -  
bbuzas

Purple Pitcher Plant- Liana  
May

Intermediate Bladderwort –  
Susan Fawcett



# Purple Pitcher Plant

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Photos:  
Amalia\_Mairin  
Kristenmiskelly  
Andy Longfellow



# Sundews



Photos:

- Ryne Rutherford
- Rob Routledge

# Bladderworts

Photos

Intermediate Bladderwort  
- Joseph D Kurtz



# Orchids and Fungi – Symbiotic Strategies

- Dragon's Mouth – keep the funk alive
- Tuberous Grasspink - Morganstickrod





## Bog “Evergreens” – Heath Plants

### Photos

- Bog Labrador Tea – Sara Giles
- Leatherleaf - Contrarianvulgarian
- Swamp Laurel – cazimir
- American Cranberry - scotstewart

# Ferns



Photos:

- Sensitive Fern
- Marsh Fern
- Royal Fern

Photo Credits: Chia aka Cory Chiappone, August Camp, Wallygrom

# Trees

- Tamarack
- Black Spruce
- White Pine
- Northern White-cedar

Photos:  
contrarianvulgarian  
Beth Lewis





## Wildlife of the Bog - Birds

- Photos:
- Sandhill Crane and Merlin - USFWS
- Yellow Rail – black\_throated\_green\_warbler
- Dick Daniels – Spruce Grouse



# Wildlife of the Bog - Frogs

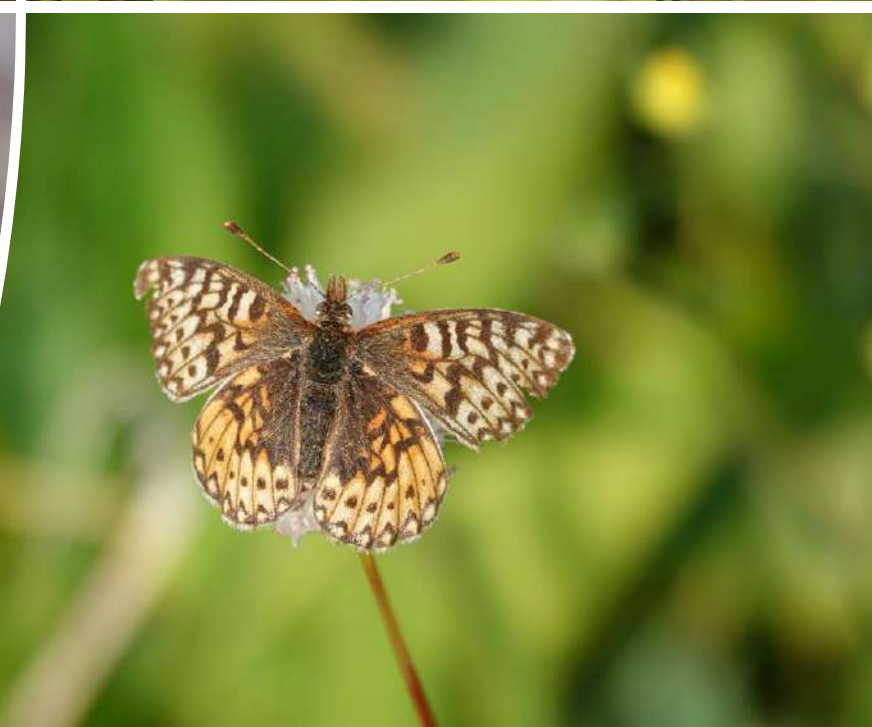
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jennwybieracki



## Wildlife of the Bog - Insects

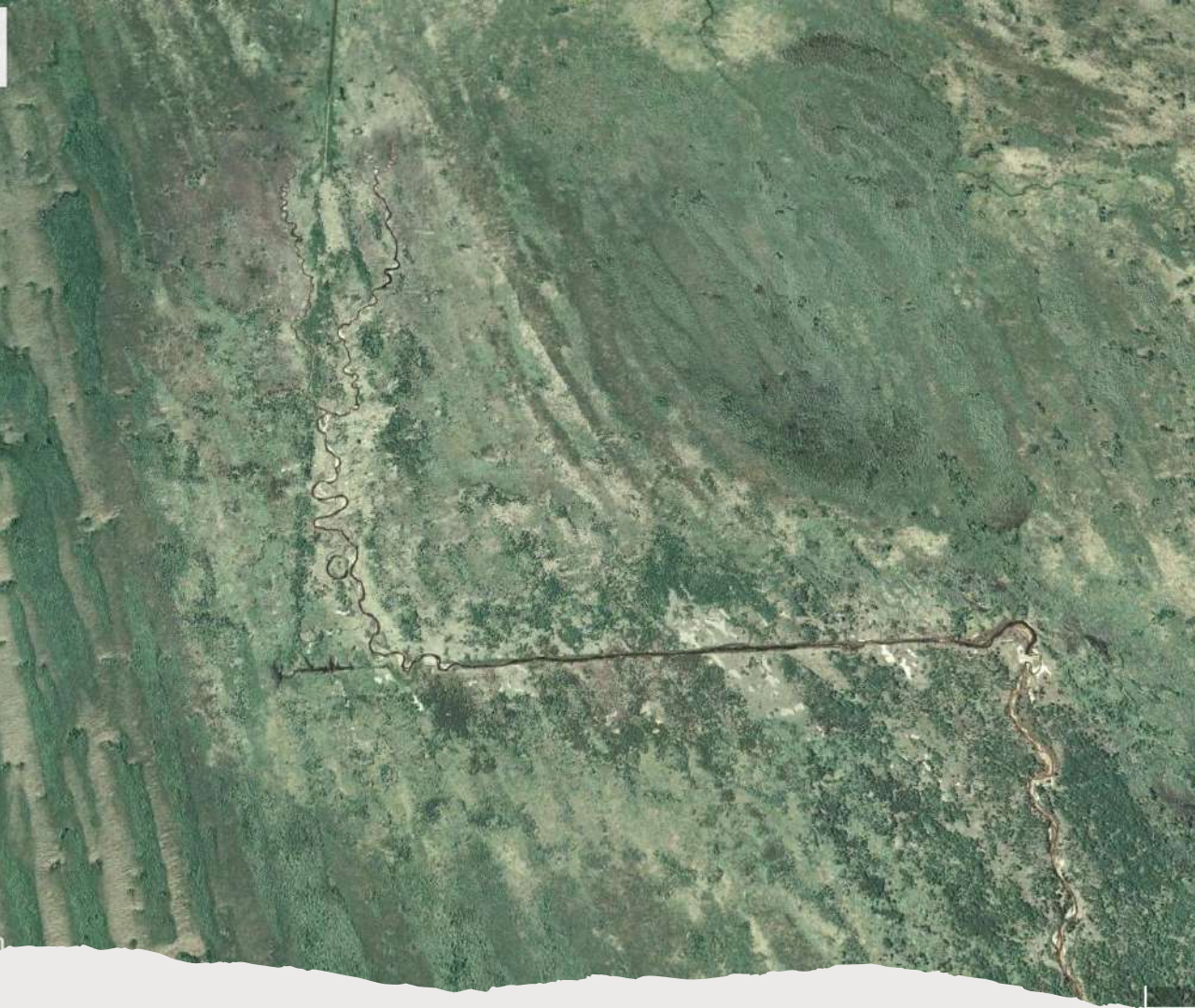
- Freija Fritillary - Mark Otnes
- Red-disked Alpine - Ryne Rutherford
- Hine's Emerald - Emily Hjalmarson
- Ebony Boghaunter - Cathy Perkins





## Wildlife of the Bog - Mammals

- Moose - Edward Hicks
- Gray Wolf - skye\_haas
- Star-nosed Mole – Allen Bryan



# Beaver

Charlie Rumschlag

# Ecosystem Services – More than Meets the Eye



# Indigenous Presence and Early History

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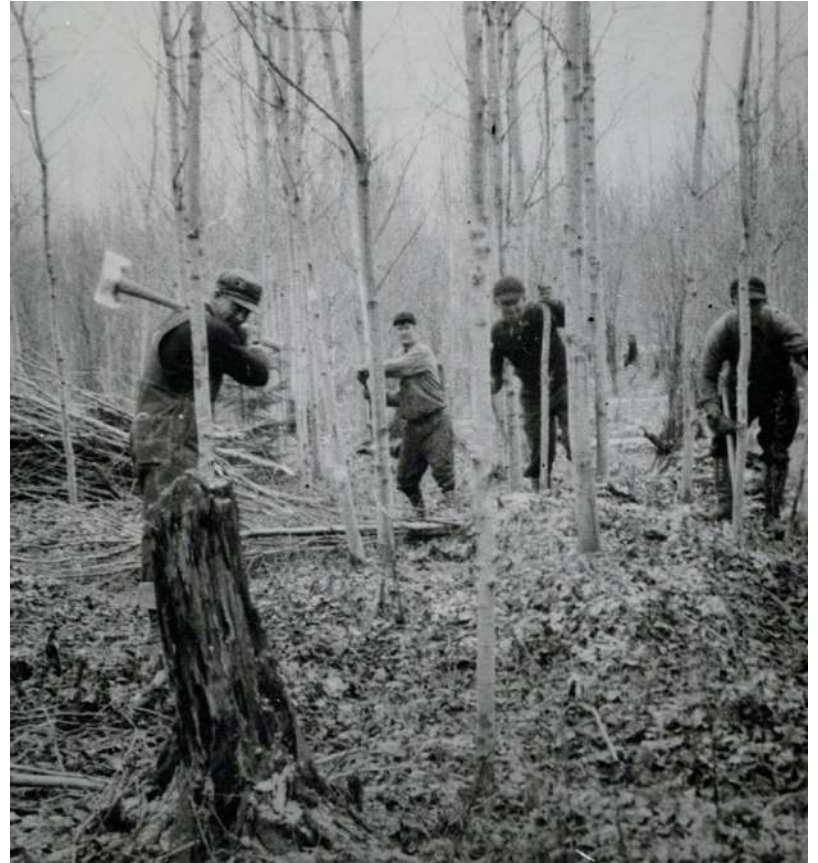




## The Great Cutover

An aerial photograph of a bog landscape, showing a mix of dark, peaty soil and lighter, sandy or silty areas. A red outline highlights a specific region in the center-right of the image. A white circular callout with a black border is positioned on the left side, containing text. A small logo for 'Seney N' is visible in the upper right corner.

**Draining the  
Bog:  
Walsh Ditch  
and Farming  
Dreams**



# Early Managers Goals



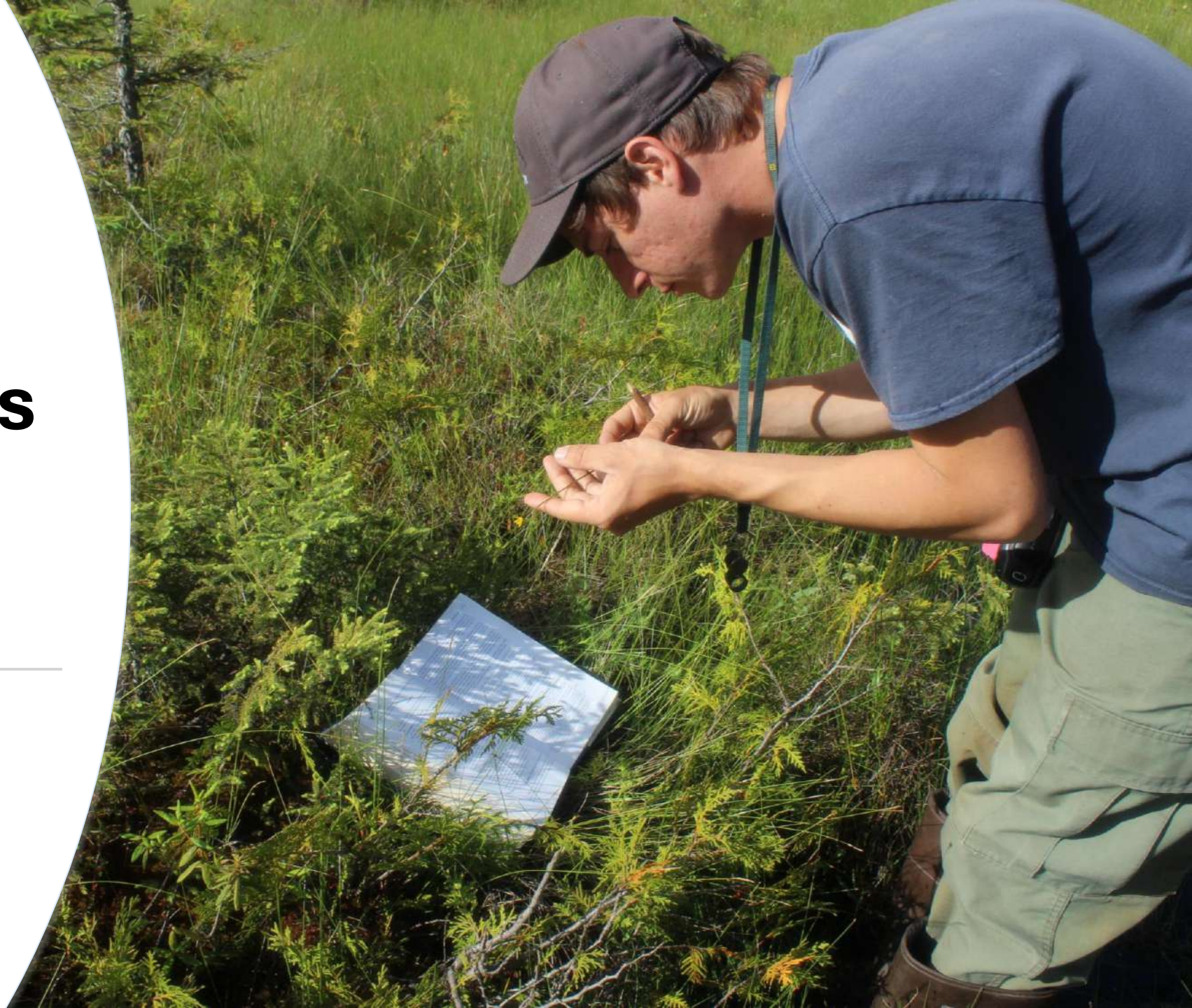


**Fire in the Bog  
The 1976 Walsh Ditch Fire**

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# Today's Stewardship – Hands Off, Eyes On

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# A Rare Gem – Southernmost String Bog

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# Threats and Challenges

Black Creek, Newberry  
State Forest Management  
Unit, Chippewa County -  
Jesse M. Lincoln





## How You Can Help Wetlands

*Thank you for coming!*

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