

European Frog-bit Collaborative: Enhancing and expanding the across the Great Lakes

Nichole Angell

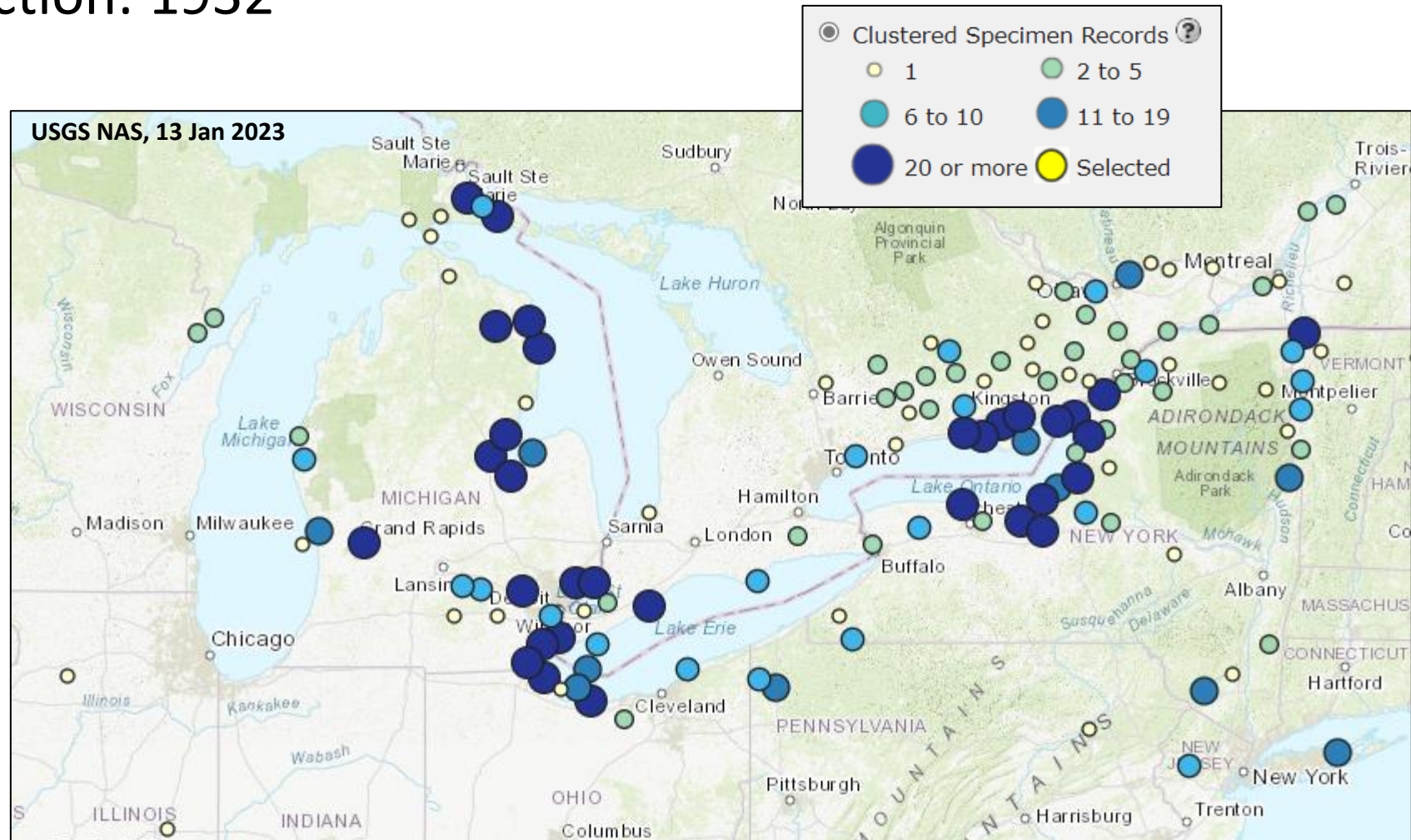
Fall Great Lakes Panel Meeting

15 November 2023



European Frog-bit (EFB)

- Native to Europe, Asia, and Africa
- North American introduction: 1932
- High risk pathways
 - Boating
 - Hunting



European Frog-bit

Plant

- Free-floating
- Rosette form

Leaves

- 1.3 – 5.7 cm across
- Round to Heart-shape
- Leathery

Flower

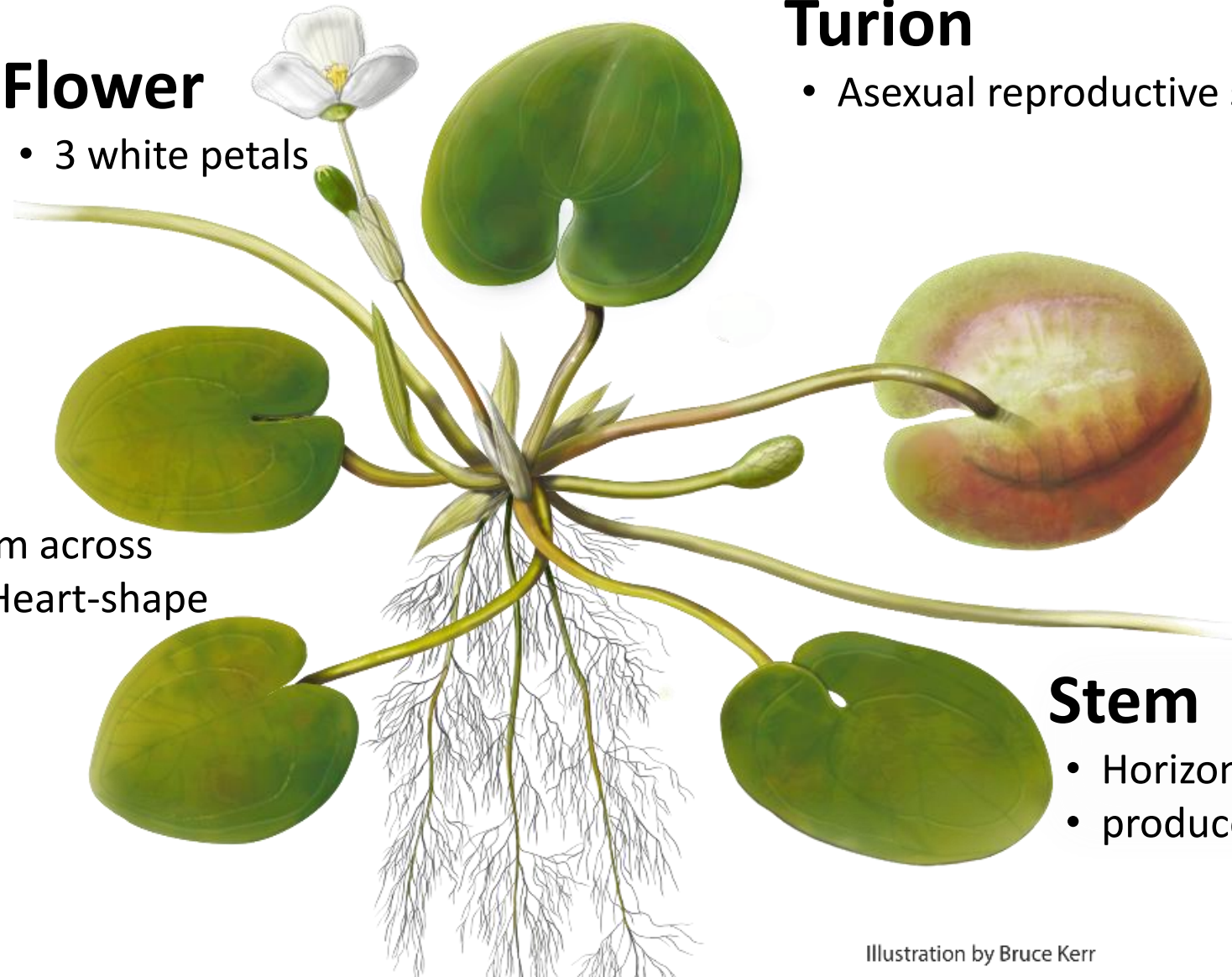
- 3 white petals

Turion

- Asexual reproductive structure

Stem

- Horizontal runners
- produce new plants



2018 Great Lakes Restoration Initiative Grant from USFWS to Michigan Department of Environment, Great Lakes and Energy with subaward to Central Michigan University

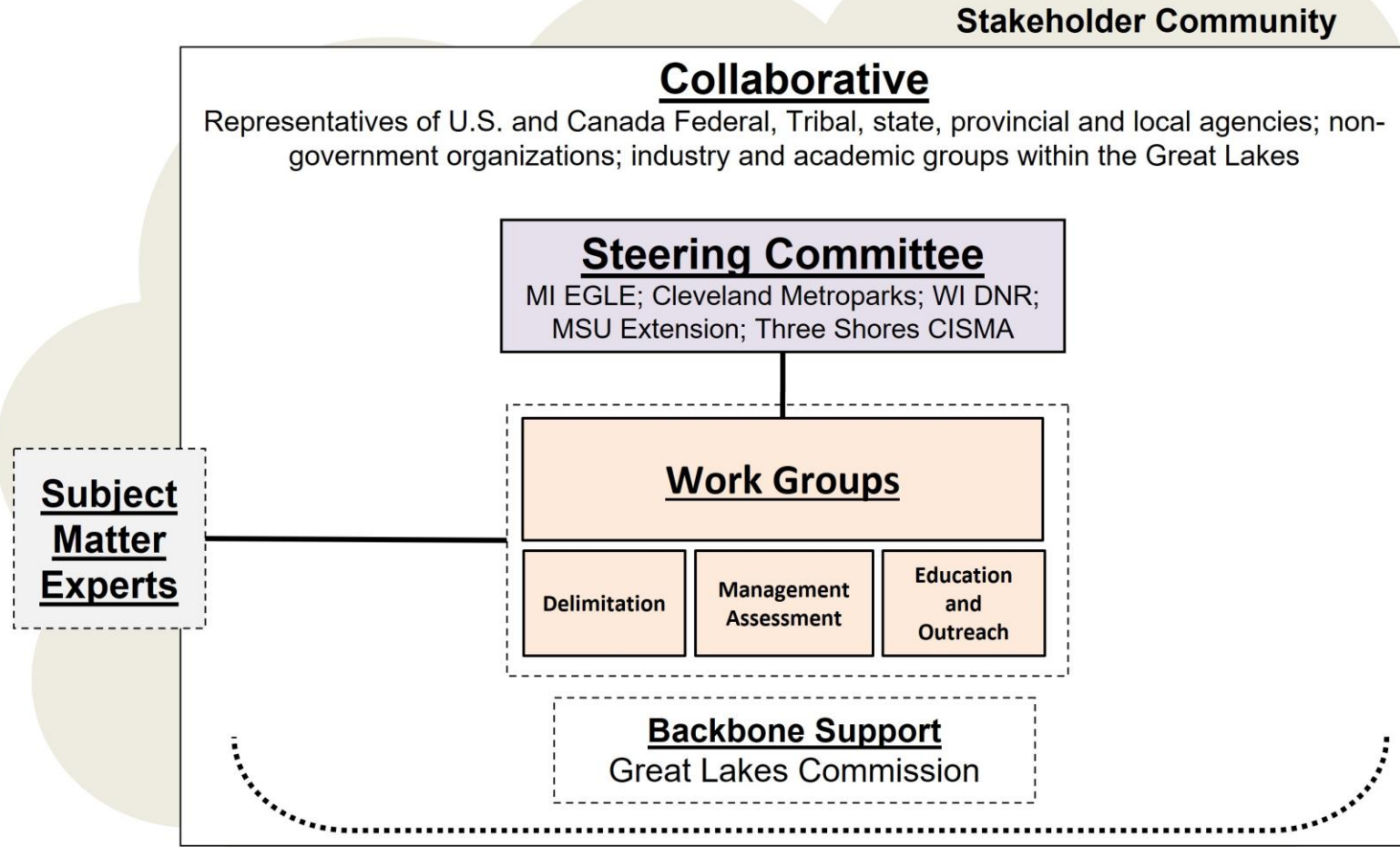


Background & Timeline

- Great Lakes Commission was identified as potential neutral backbone in 2021
- Great Lakes Commission was awarded GLRI funding through the FY22 Interjurisdictional funding process October 2022



EFB Collaborative



Collaborative Strategy (DRAFT)

Regional coordination and collaboration

Delimit high-risk EFB infestations to improve our understanding of EFB distribution in the Great Lakes region

Educate recreational and professional stakeholders about EFB to reduce spread and improve management capacity

Assess regional needs and expand the Collaborative to meet the identified regional needs

Host and maintain a forum and network for sharing and accessing EFB information

Best management planning

Assess ongoing EFB eradication and control efforts to inform current Best Management Practices for EFB control

Contain existing high-risk infestations, mitigate impacts in invaded high-value sites, and protect uninvaded high-value sites

Identify and prioritize high-risk EFB infestations according to spread risk to uninvaded areas and high-value sites

Assess information needs and advance research

Assess and prioritize critical information needs for effective EFB management

Advance EFB research

Facilitate researcher and manager collaboration

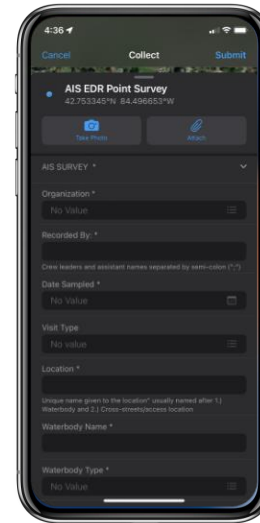
Regional Coordination & Collaboration

Delimit high-risk EFB infestations to improve our understanding of EFB distribution in the Great Lakes region



Solution: GIS-based APPs

- Pros
 - Standardized data
 - Data synchronization with database
 - Can collect offline via phone or tablet
- Cons
 - ESRI account required
 - Requires data collection device
 - New/different process
 - Technology



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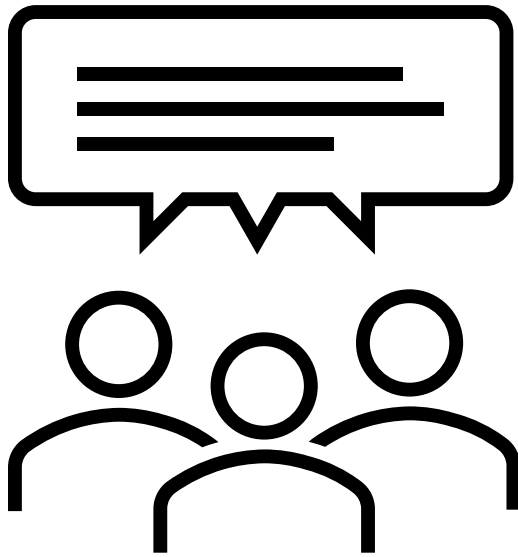
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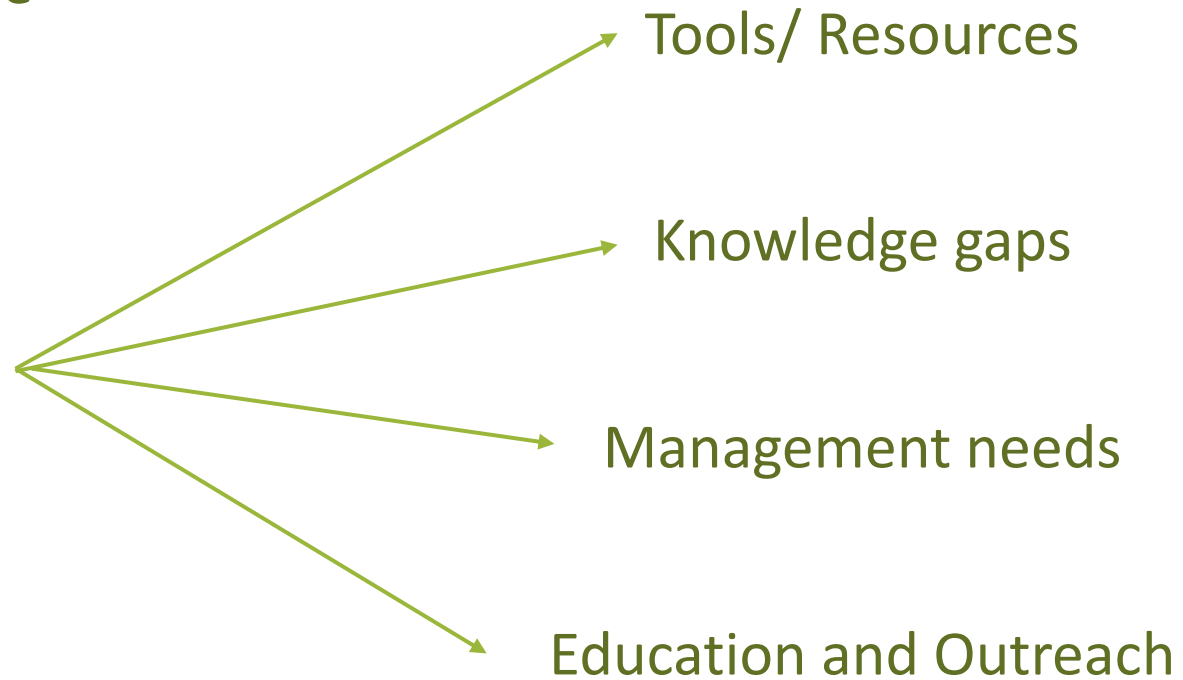
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Community questionnaire



94 respondents!



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The screenshot shows the website's header with the logo and navigation menu (Home, About, Management, Research, Resource Library, Contact Us). The main banner features a close-up of frog-bit leaves and a white flower, with the title "European Frog-bit Collaborative" and the subtitle "Connecting stakeholders to advance research on and management of European frog-bit in the Great Lakes". A central text box explains the plant's impact and provides instructions on how to get involved. Below this are four clickable tiles: "What is European Frog-bit?", "About the Collaborative", "How to Report", and "Resources".

European Frog-bit Collaborative

Home About Management Research Resource Library Contact Us

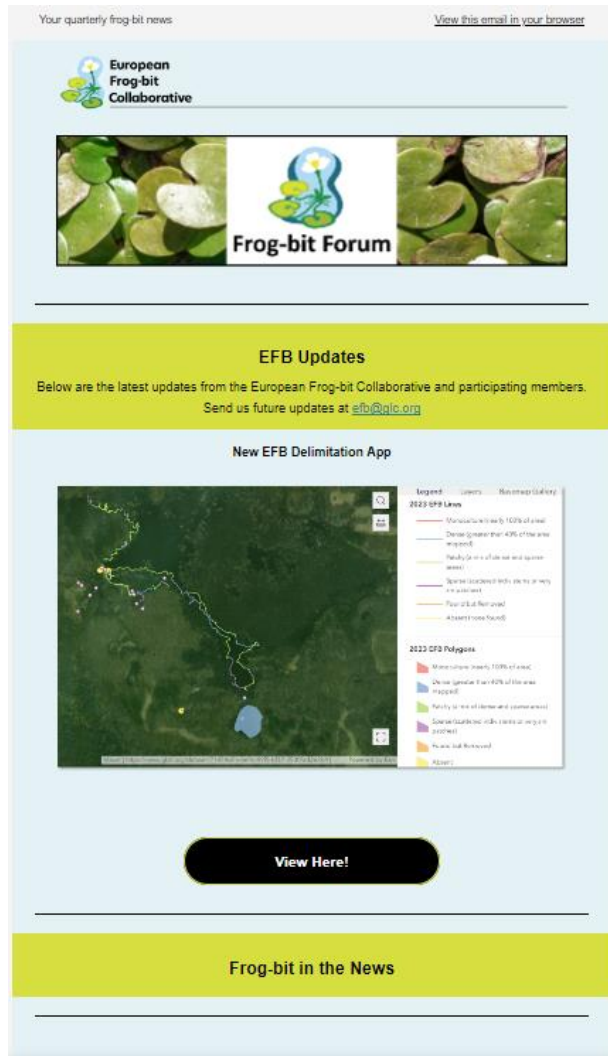
European Frog-bit Collaborative

Connecting stakeholders to advance research on and management of European frog-bit in the Great Lakes

European frog-bit is a rapidly spreading invasive plant across North America with impacts disrupting ecosystem processes and waterways. Learn more below about European frog-bit, the work of the collaborative, and how to get involved and report detections by clicking the tiles.

- What is European Frog-bit?
- About the Collaborative
- How to Report
- Resources

Host and maintain a forum and network for sharing and accessing EFB information



Frog-bit Fourm

A quarterly newsletter containing the latest EFB research and news

Meet Froggy!



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Standard Treatment Impact Monitoring Protocol (STIMP)

Standard Treatment Impact Monitoring Protocol
Pre-Treatment Sampling Datasheet

Pre-/Post-Treatment Monitoring Area Data

Date: _____ Site ID: _____ Area ID: _____

Area Designation: Treatment Untreated Control

Visit Type: Pre-Treatment Post-Treatment

Crew Leader: _____ Crew Assistant: _____ Associated Group: _____

GPS Unit Make: _____ GPS Unit Model: _____

Camera Make: _____ Camera Model: _____

Waterbody: _____

Waterbody Type: Great Lake Inland Lake Pond River Stream Other-See Notes

Wetland Type: Great Lakes Marsh Emergent Marsh Wet Meadow Other-See Notes

Recreational Use(s): Yes No

Is this site important for:

Boating?	<input type="checkbox"/> Yes
Waterfowl hunting?	<input type="checkbox"/> Yes
Waterfowl habitat?	<input type="checkbox"/> Yes
Fishing?	<input type="checkbox"/> Yes
Fish spawning?	<input type="checkbox"/> Yes
	<input type="checkbox"/> No

Other recreation or ecological uses: _____

Is this area within 500 m of a public boat launch or access site? Yes No

Start Time: _____ Starting Air Temperature: _____ Starting Water Temperature: _____

Starting Cloud Cover: _____ Starting Wind Speed: _____ Starting Wind Direction: _____

Dominant Plant Species: _____

Target Species: _____

Reporting: Detected Not Detected

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Standard Treatment Impact Monitoring Protocol
Treatment Tracking Datasheet

Site Data

Site ID: _____

Ownership: Association Commercial School Private Public

Property Owner Name: _____ Property Owner Address: _____

Property Owner City: _____ Property Owner County: _____

Property Owner Zip Code: _____

Local: Local

SOGL: SOGL Other-See Notes

Chemical: Chemical Manual Mechanical Prescribed Fire

Site ID: _____ Associated Group: _____

Treatment Date: _____ Treatment Type: Initial Retreatment

Location: _____ County: _____

Applicators/Workers: _____

Target Species: _____

Application Method: Cut and Dab Cut-Stump Hand Swipe Hollow Stem Injection Basal Bark Spray Soil Drench Trunk Injection Frill Broadcast Foliar Spray Other-See Notes NA

Chemical Name: _____

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ArcGIS Survey123

Pre/Post
Monitoring

Treatment
Reports

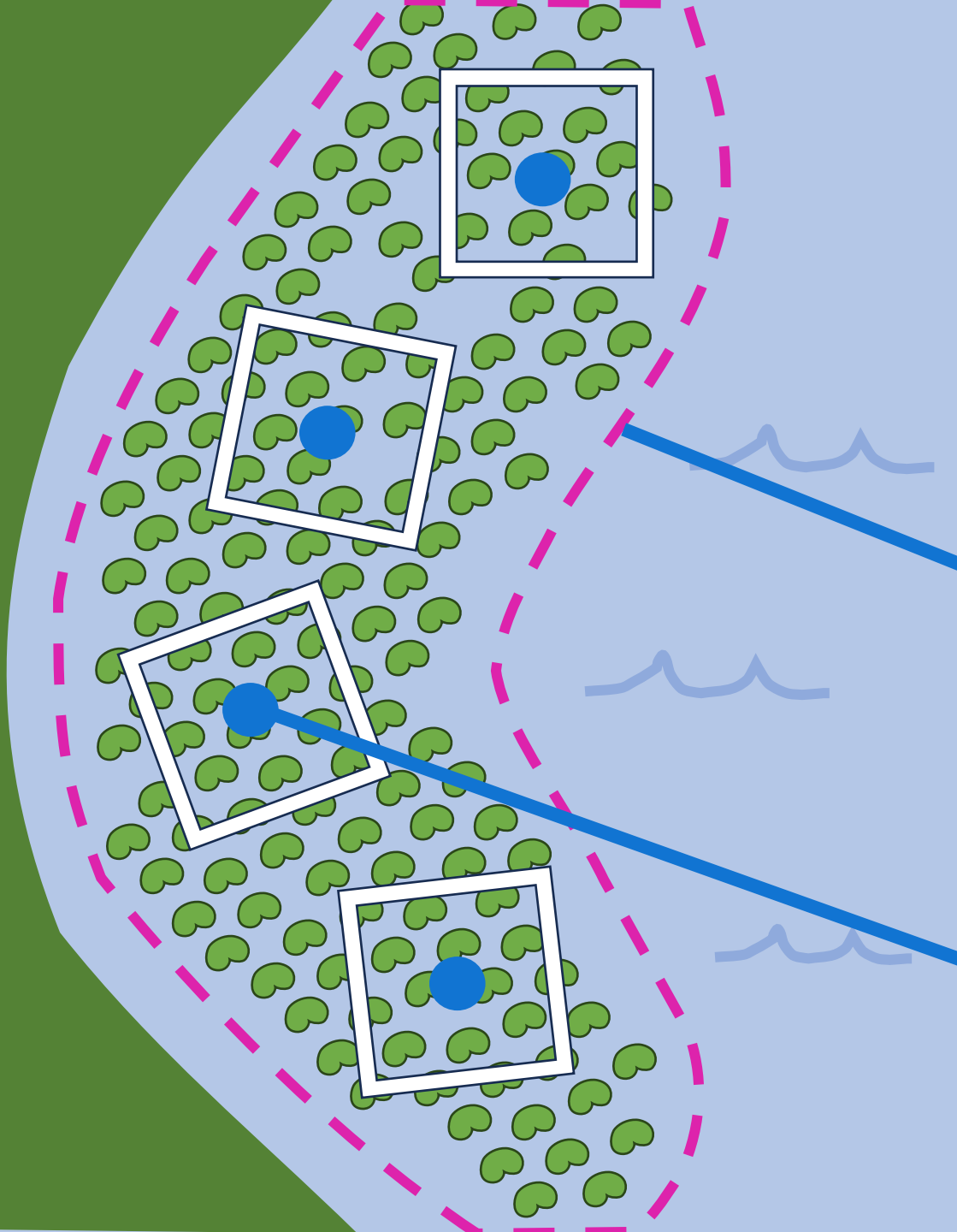
Two ESRI apps... in one!



Field Maps



Survey 123



A

Map site boundary

Enter fixed site characteristics

Enter site-wide monitoring data

Enter site-wide management data

B

Map monitoring points

Enter quadrat-specific monitoring data

Is EFB management working?

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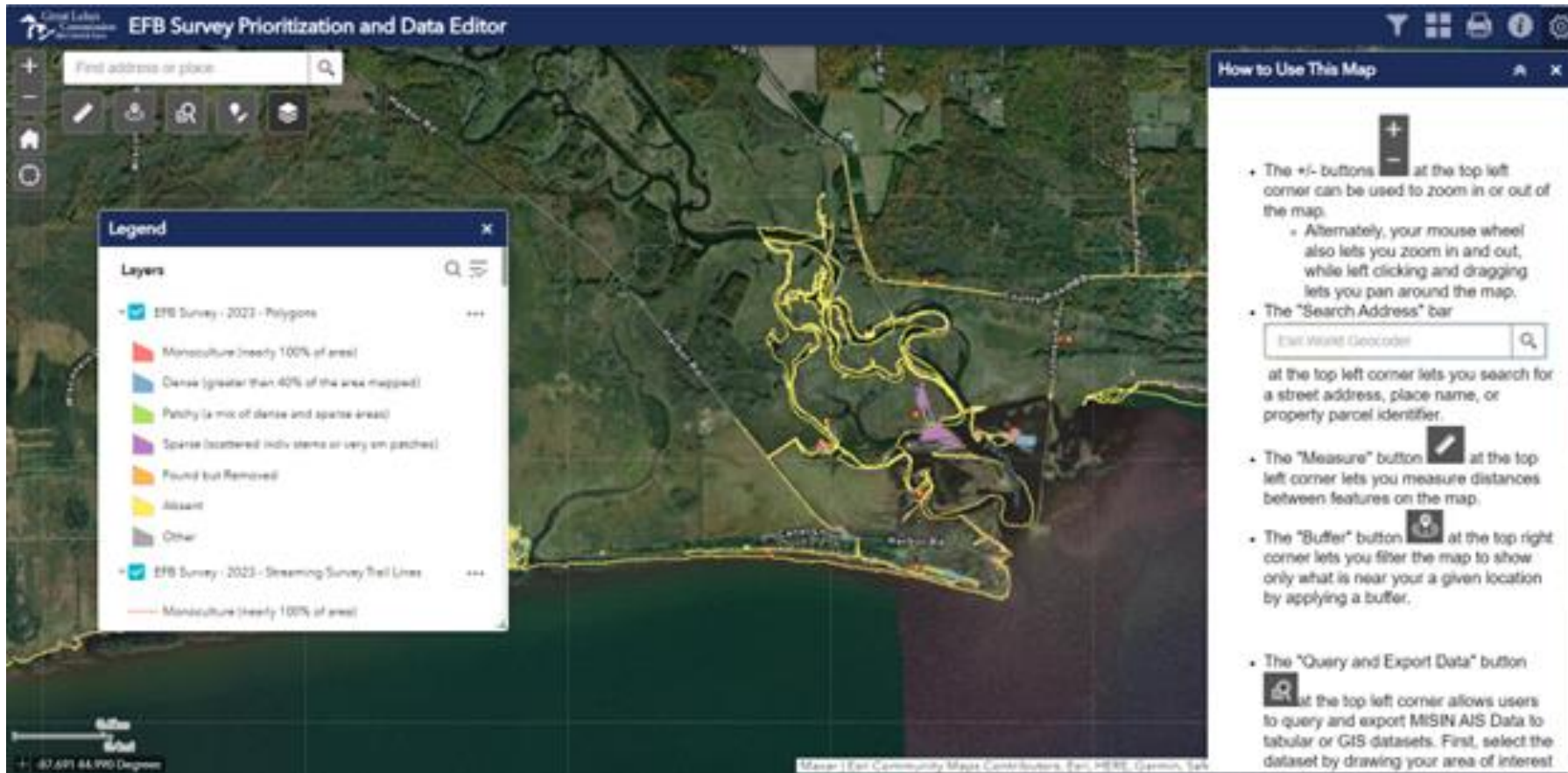
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EFB Survey Prioritization and Data Editor

Find address or place

Legend

Layers

- EFB Survey - 2023 - Polygons
- Monoculture (nearly 100% of area)
- Dense (greater than 40% of the area mapped)
- Patchy (a mix of dense and sparse areas)
- Sparse (scattered indiv stems or very sm patches)
- Found but Removed
- Assault
- Other
- EFB Survey - 2023 - Streaming Survey Trail Lines
- Monoculture (nearly 100% of area)

How to Use This Map

- The +/- buttons at the top left corner can be used to zoom in or out of the map.
 - Alternately, your mouse wheel also lets you zoom in and out, while left clicking and dragging lets you pan around the map.
- The "Search Address" bar at the top left corner lets you search for a street address, place name, or property parcel identifier.
- The "Measure" button at the top left corner lets you measure distances between features on the map.
- The "Buffer" button at the top right corner lets you filter the map to show only what is near your a given location by applying a buffer.
- The "Query and Export Data" button at the top left corner allows users to query and export MISN AIS Data to tabular or GIS datasets. First, select the dataset by drawing your area of interest

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Experts throughout the region and across the country are continuing to research European frog-bit and its effects on the ecosystem, environment, and economy. Scroll through the summaries below to learn about the great work being done by academics, agency representatives, and others involved in EFB research.

US Army Corps of Engineers (USACE)



US Geological Survey (USGS)



Lake Superior State University (LSSU)



Loyola University Chicago



Boise State University



Get involved

- Reach out

EFB@glc.org or nangell@glc.org

- Take advantage of the three available apps

Delimitation app: collect and share monitoring data include presence/absence and density

Prioritization app: utilize when planning monitoring locations

STIMP: Contribute to the collective learning effort when managing EFB

- Join the Collaborative!

Send an email to efb-collab+subscribe@great-lakes.net. The email does not need a subject or any text.



Thank you!

Contact Info:

nangell@glc.org

EFB@glc.org



Great Lakes
Commission
des Grands Lacs