

Great Lakes-wide *Phragmites* Initiatives

Ontario *Phragmites* Working Group Annual Meeting
March 27, 2019

Elaine Ferrier (Great Lakes Commission)
Samantha Stanton (Great Lakes Commission)

The Core Team



Kurt Kowalski
Wetland Ecologist (USGS – GLSC)



Erika Jensen –
Program Manager (GLC)



Samantha Stanton –
Program Specialist (GLC)



Elaine Ferrier –
Senior Program Specialist (GLC)



Daniel Engel –
Biologist (Contractor - USGS)

PAMF Core Science Team



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Daniel Engel –
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Clint Moore –
Asst Unit Leader (Wildlife)
USGS Georgia Coop Res. Unit



Elaine Ferrier –
Senior Program Specialist (GLC)



Christine Dumoulin –
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Siyu Fan
GIS Developer (GLC)

Acknowledgements

- Heather Braun, Environment and Climate Change Canada
- Karen Alexander, Nature Conservancy
- Abram DaSilva, NOAA
- Danielle Haak, Research Square
- Great Lakes Phragmites Collaborative Advisory Committee
- PAMF Technical Working Group



GREAT LAKES PHRAGMITES COLLABORATIVE

Great Lakes Commission

www.glc.org



Search by keywords and press Enter

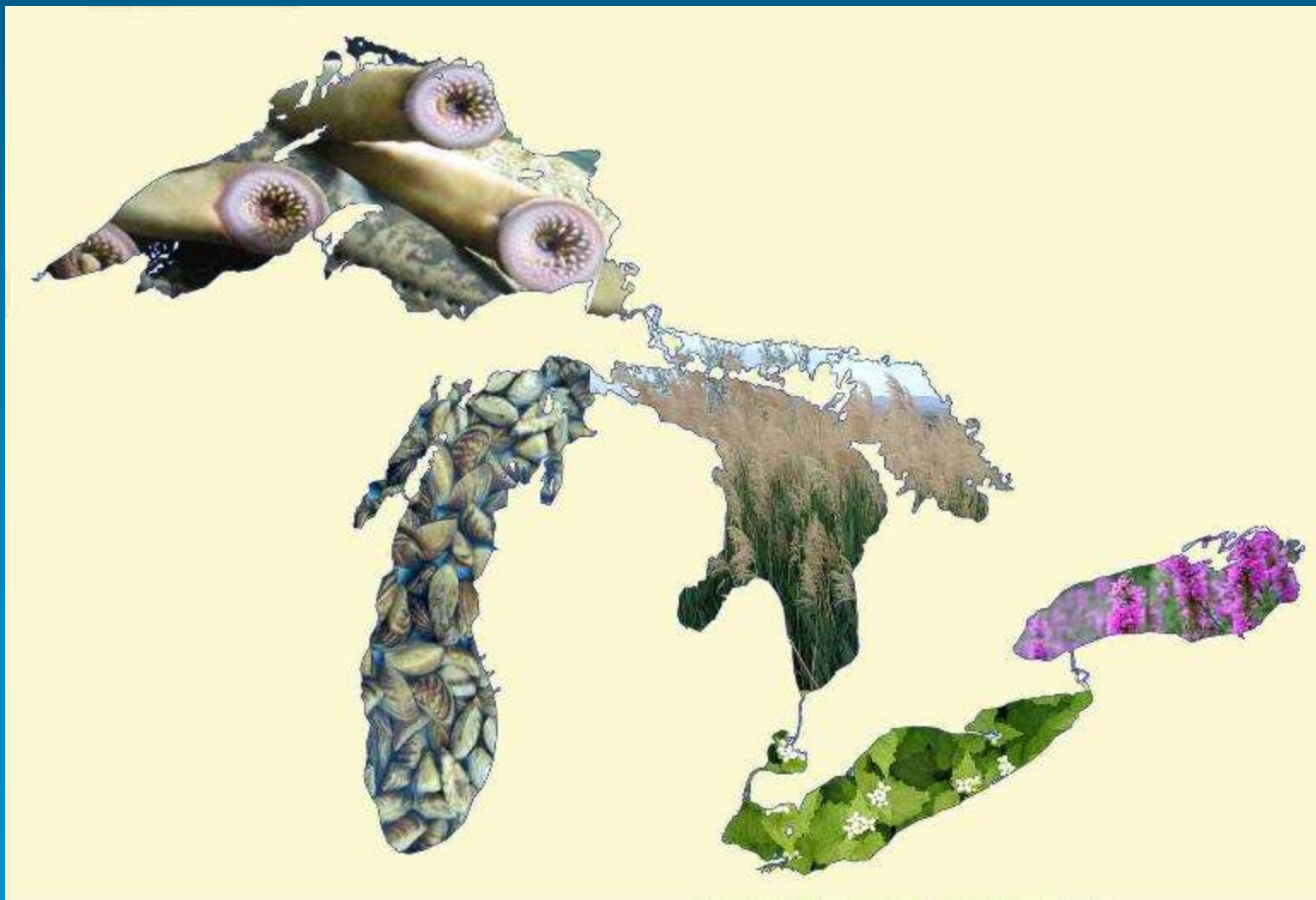
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Welcome!

The Great Lakes Commission promotes the orderly, integrated and comprehensive development, use and conservation of the water and related natural resources of the Great Lakes basin and St. Lawrence River.



Invaded Lakes?



Law and policy - USA

- The Lacey Act (1900)
 - Intent was to ban trafficking of illegal wildlife
 - 1974 - “Injurious wildlife” – threat to human health and welfare and/or agriculture
 - 2008 – restrictions on movement of plants and plant products were added
- USDA Noxious Weed list
 - Phrag is not listed

State limitations on *Phragmites*

- Sale prohibited: MI, NY, WI, OH
- Purchase prohibited: NY, WI
- Transport prohibited: IL, NY, WI, OH
- Import prohibited: IL, NY, WI, OH
- Possession prohibited: IL, MI, NY, WI
- Release prohibited: IL, MI, NY, WI, OH
- Propagation prohibited: IL, NY, WI, OH

How are invasive species programs administered in the US?

Federal Programs

Significant federal lands:

- National Parks Service (80 million acres)
- US Fish and Wildlife Service (89 million acres)
- US Forest Service (193 million acres)
- Federal Highway Administration (inter-state highway system, 78,000 km)

State Programs

E.g.:

- Michigan DNR – forests, parks and game areas (4.5 million acres)
- NY Department of Environmental Conservation – wildlife and recreation acres (4 million acres)

County-level Programs

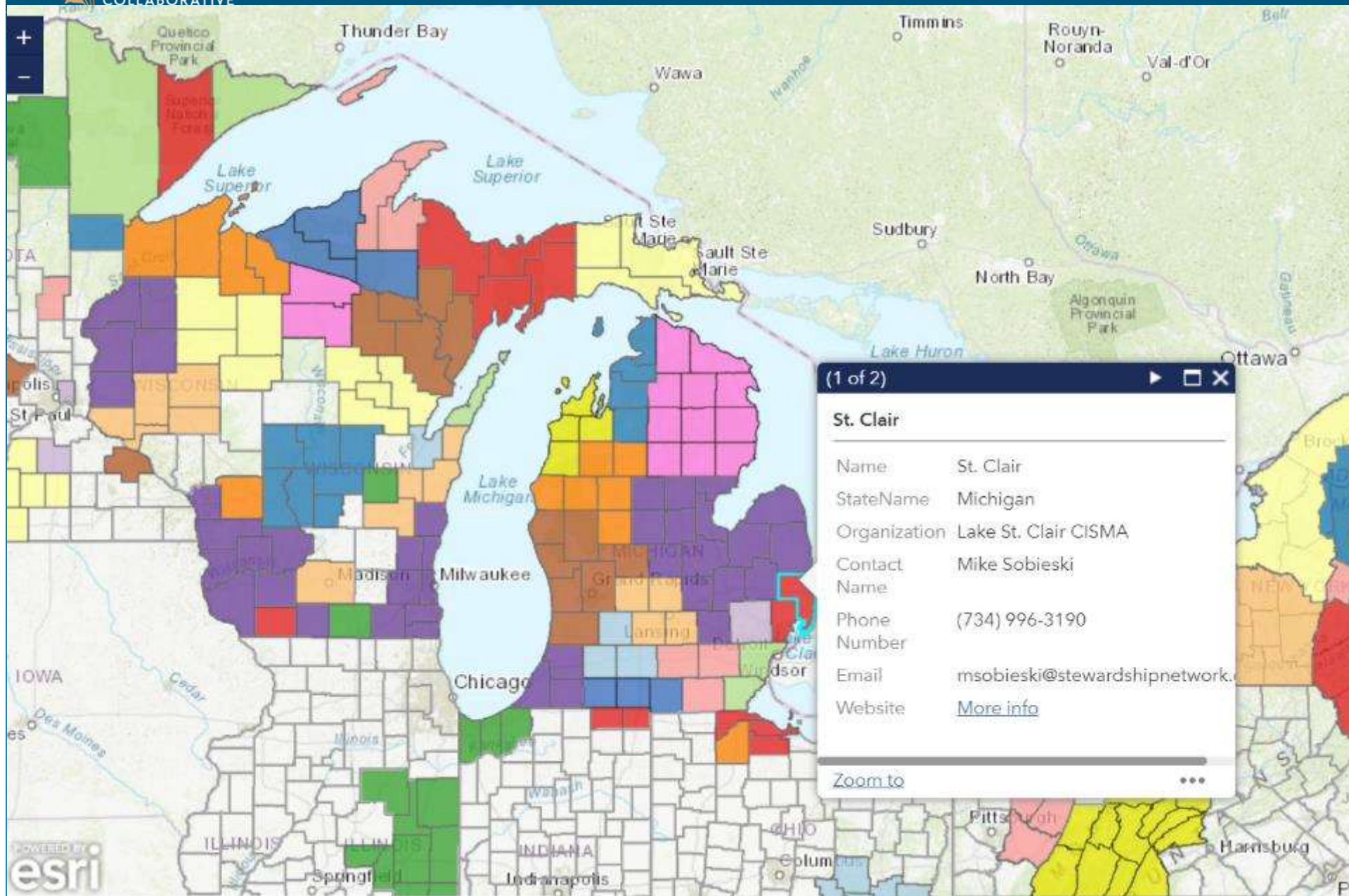
- Often “Soil and Water Conservation District”
- Defined by county borders
- Coordinated by non-profit orgs
- Provide technical assistance to landowners
 - Soil health, water, wildlife

Regional Invasive Species Management Areas

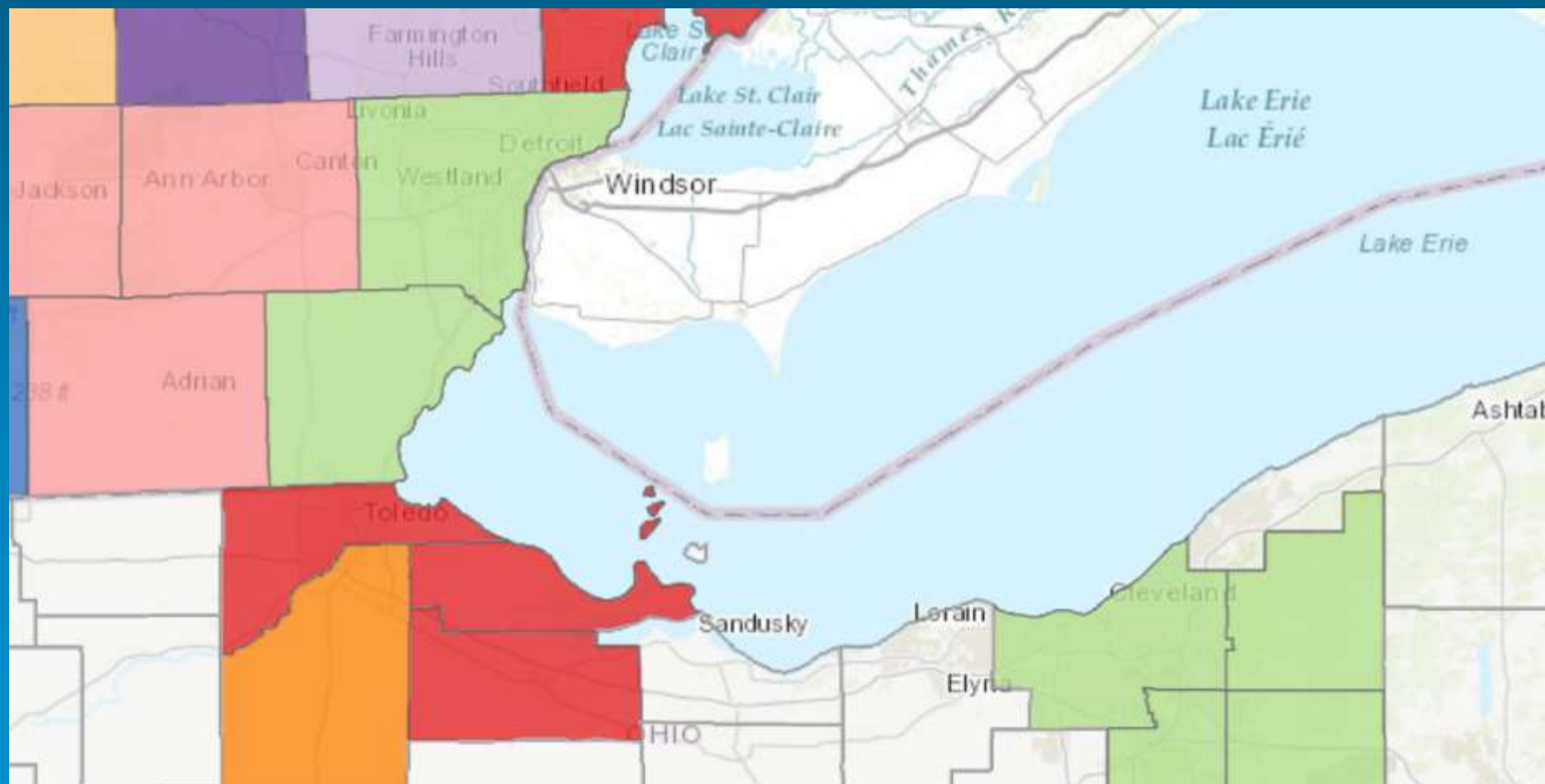
- CISMA: Cooperative Invasive Species Management Area
- CWMA: Cooperative Weed Management Areas
- PRISM: Partnership for Regional Invasive Species Management

Regional IS organizations

- One or two core staff
- Seasonal work crews
- A mix of funding from states, feds, grants
- Hands-on management work
- Outreach to property owners
- Trust and visibility for citizens
- Ability to leverage partnerships



Lake Erie CWMA





- Established in 2009
 - Tackling enormous Phragmites establishment in coastal wetlands
 - Over 7,000 acres!
-
- Partnership with:
 - Ottawa Soil and Water Conservation District
 - US Fish and Wildlife Service
 - Nature Conservancy
 - Winous Point Marsh Conservancy – hunting club and significant coastal landowner

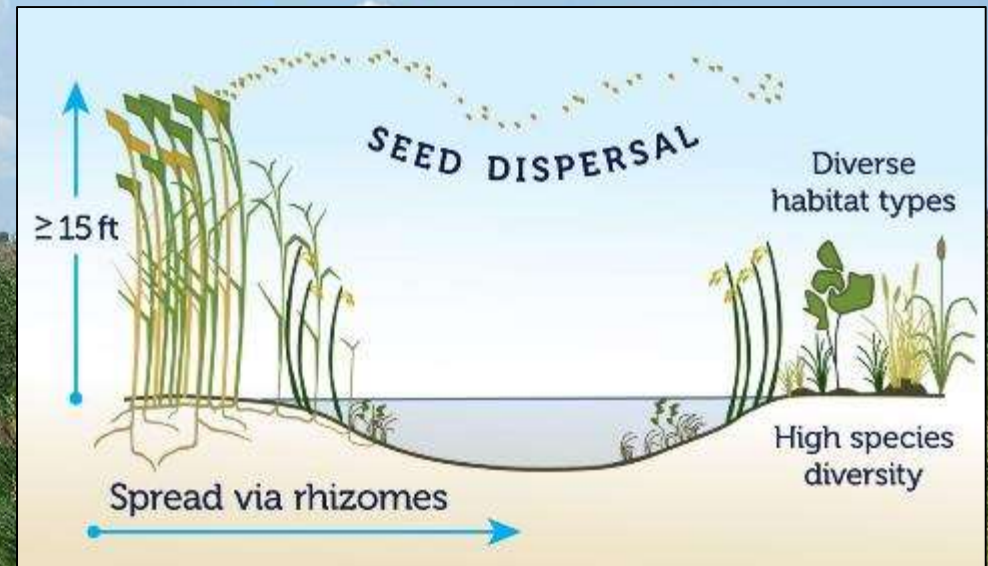
A map of the Huron Pines region in Ontario, Canada, showing various forest management zones in different colors (red, yellow, orange, pink, blue, purple). The Huron Pines logo, featuring three stylized evergreen trees and the text "Huron Pines", is overlaid on the right side of the map. The logo is set against a blue rectangular background. The map includes labels for "Huron National Forest", "Kilaney Provincial Park", "Owen Sound", "Goderich", "Midland", and "Lake Michigan".



- Non-profit working in Northeast Michigan
- Strong connections to community
- Conduct outreach to landowners, many of whom are absentee
- Have seasonal invasive species removal crews
- Charge for services, cost share

The *Phragmites* Problem

Non-Native *Phragmites*: a regional issue





Herbicide



Spading



Cutting under water



Crushing dead stalks



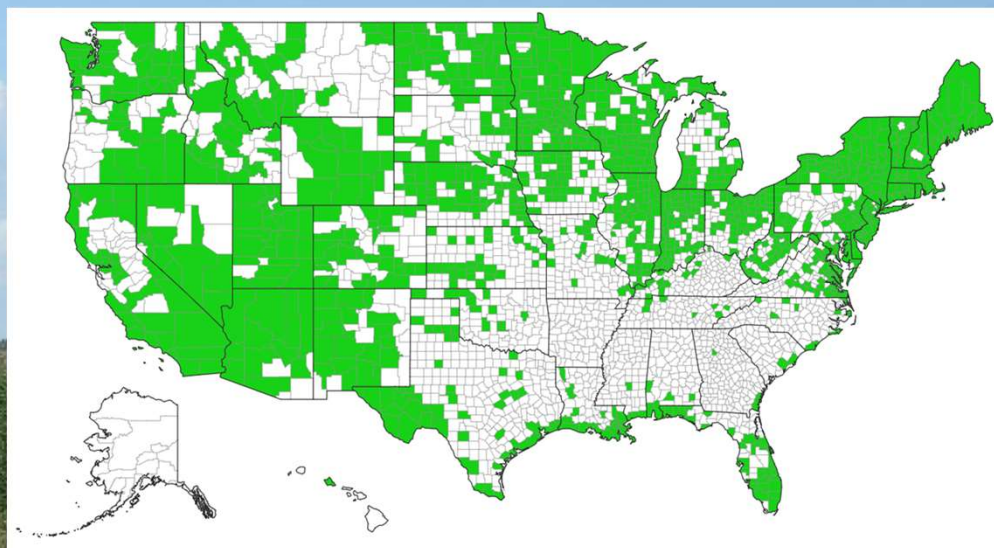
Cutting dead stalks



Burning dead stalks



Non-Native Phragmites: a regional issue





GREAT LAKES PHRAGMITES COLLABORATIVE

A region-wide community



A partnership to link people, information, and action



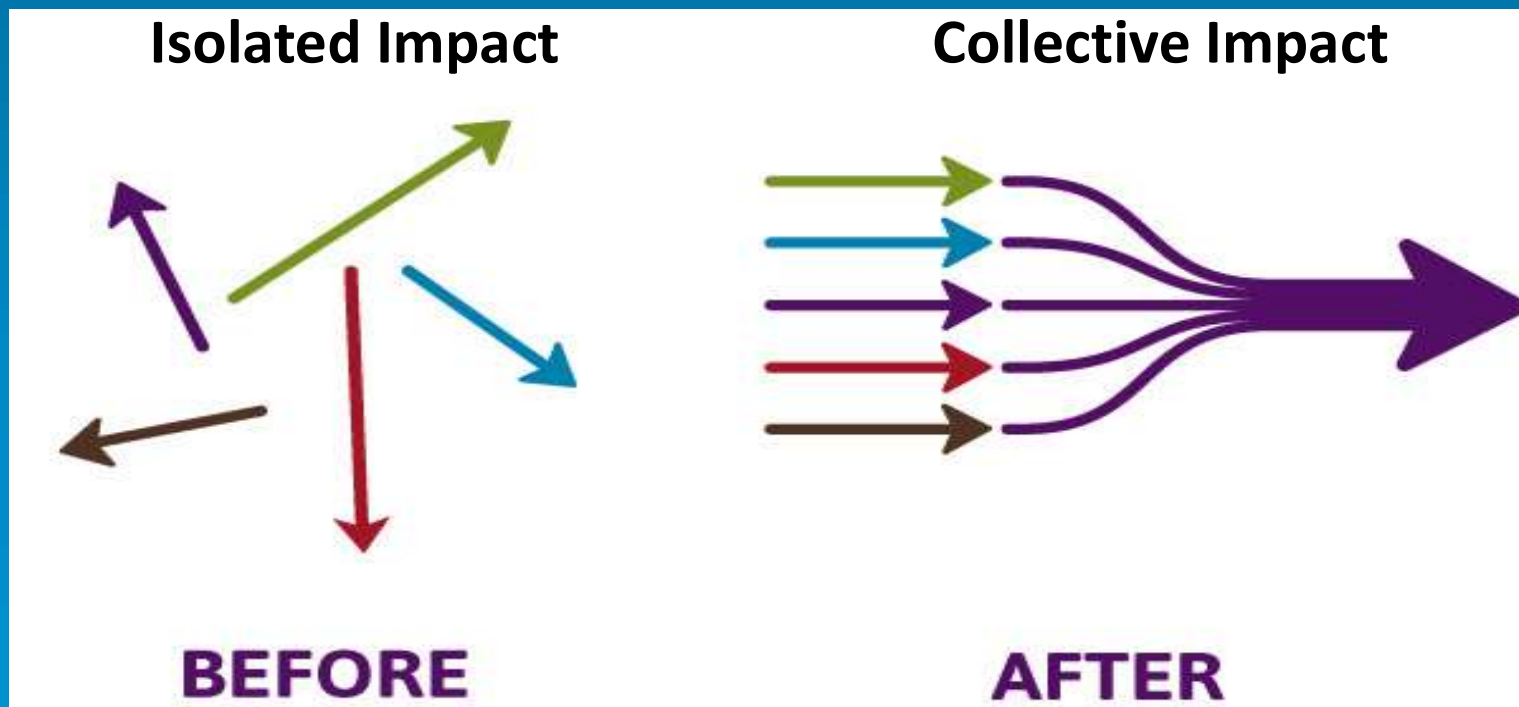
Root Causes

1. Redundancy and inefficiency with funding
2. A lack of comprehensive, regional approach to management
3. Disconnection between managers and the latest science
4. Need for better communication and collaboration among stakeholders



Collective Impact:

“the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem” (*Kania and Kramer, 2011*)



Components of Collective Impact

Neutral
Backbone
Organization

Common
Agenda

Mutually
Reinforcing
Activities

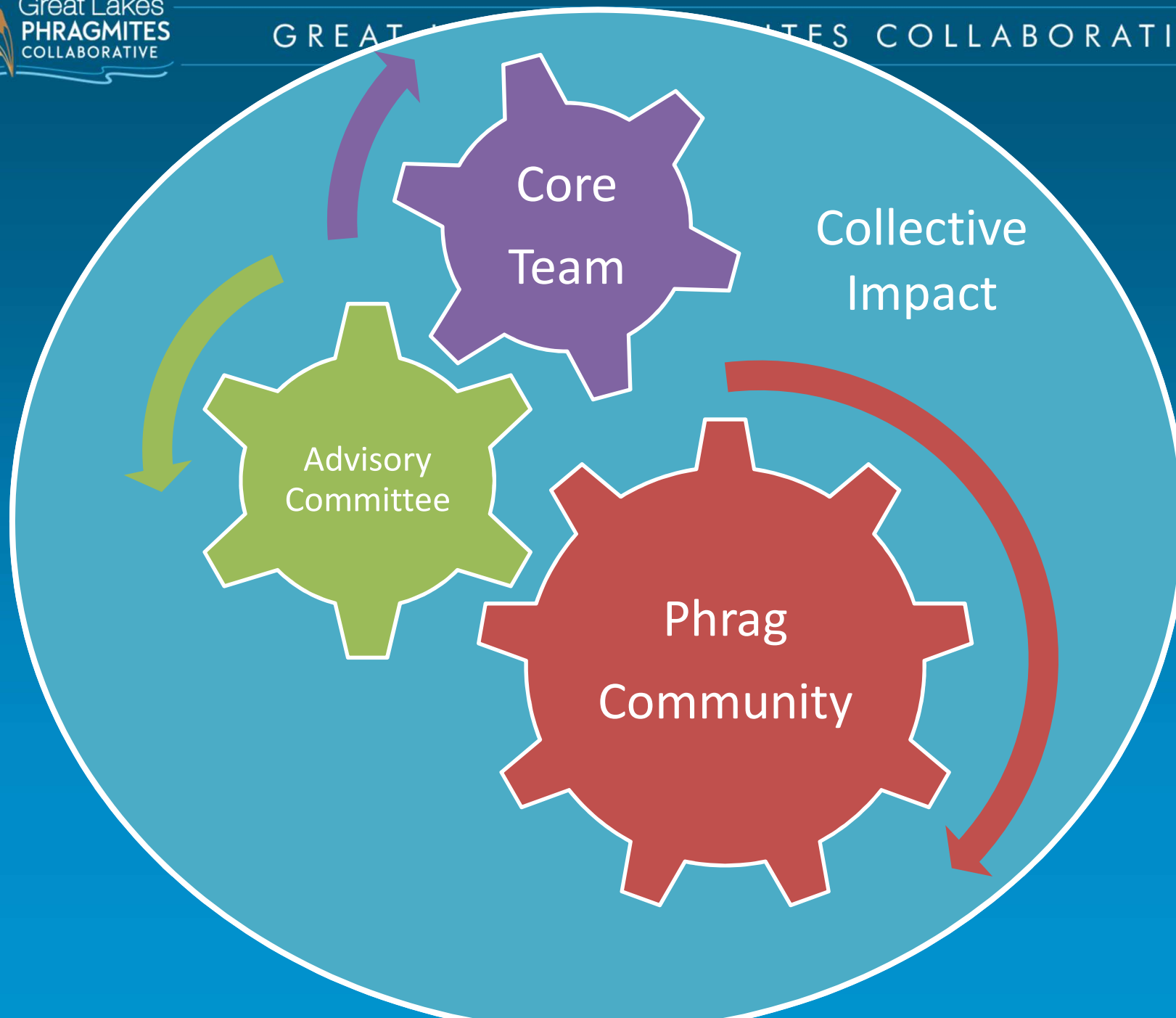
Continuous
Communication

Shared System
of
Measurement

Collective Impact:

- Provides an organizational structure
- Maximizes the results of collaboration
- “Collaboration on steroids”





Mission


The Collaborative was established to
facilitate communication among
stakeholders across the region and serve as
a resource center for information on
Phragmites biology, management, and
research.




GREAT LAKES PHRAGMITES COLLABORATIVE


Website and Resources


www.greatlakesphragmites.net



LINKING PEOPLE, INFORMATION & ACTION


[Phrag Basics](#) ▾ [Management](#) ▾ [Research](#) ▾ [Resources](#) ▾ [PAMF](#) ▾ [About](#) ▾ [Blog](#) 






IDENTIFY

Learn how to identify *Phragmites* and distinguish between the native and non-native forms.




MAP & TRACK

Report and share your *Phragmites* sightings, and see where *Phragmites* has been detected in your area.



MANAGE & RESTORE

Learn about effective management techniques and discover best practices for post-treatment restoration.



ADAPTIVE MANAGEMENT

Learn about the *Phragmites* Adaptive Management Framework and how it can benefit your work.



Resources: PhragmitesNet Listserv

A community with over 760 members – sign up on the front page of our site – www.greatlakesphragmites.net

Groups

NEW TOPIC



Mark all as read

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Phragmitesnet

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Phragmitesnet Shared privately

30 of 328 topics (99+ unread) ★

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Thank you for subscribing to the Listserv of the Great Lakes *Phragmites* Collaborative!

As a member, you have the ability to send messages to the Listserv by sending an email to phragmitesnet@great-lakes.net. We moderate messages and, once approved, your email will be distributed to the Listserv.

You can manage your subscription settings any time.

[Contact us](#) if you have any issues or questions.

Welcome to our Phrag community!

[Edit welcome message](#) [Clear welcome message](#)

<input type="checkbox"/>		This Wednesday - Live webinar: Non-Native Phragmites Replacement in Three Chequamegon Bay Wastewater Treatment Facilities (1) By me - 1 post - 0 views	3:38 PM
<input type="checkbox"/>		FW: WEBINAR: Join NAISMA's NEW monthly webinar series (1) By me - 1 post - 1 view	Jan 10
<input type="checkbox"/>		Live webinar Jan 30: Non-Native Phragmites Replacement in Three Chequamegon Bay Wastewater Treatment Facilities (1) By me - 1 post - 1 view	Jan 9
<input type="checkbox"/>		FW: [glin-announce] SOGL 2019 Funding Opportunity Announcement (1) By me - 1 post - 0 views	Jan 8

Resources: Newsletters

Weekly news and quarterly research digest

Sign up on the front page of www.greatlakesphragmites.net

[View this email in your browser](#)



Research Round-Up

***Phragmites* Research Round-Up: April Edition**

This digest features research published in the month of April. [Click here](#) to view the archive of these newsletters as well as an FAQ on how articles are selected.

Enjoy the articles below and be sure to [contact us](#) with your feedback!

Morphological and anatomical changes of *Phragmites australis* Cav. due to the uptake and accumulation of heavy metals from polluted soils

Minkina et al.

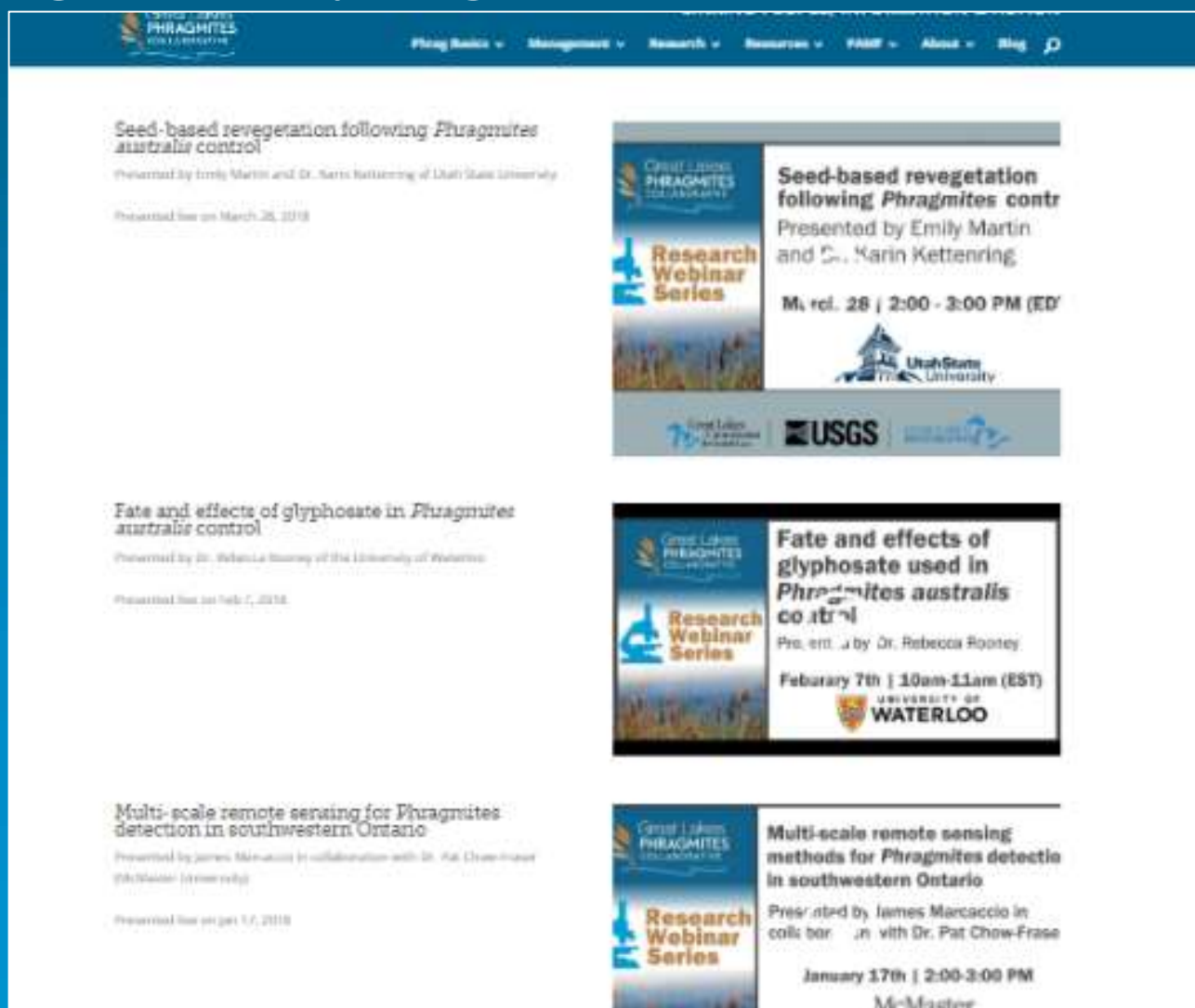
Science of the Total Environment 636

DOI: <https://doi.org/10.1016/j.scitotenv.2018.04.305> | Published online: April 27, 2018.

Complementary responses of morphology and physiology enhance the stand-scale production of a model invasive species under elevated CO₂ and

Resources: Webinars

View archives at
www.greatlakesphragmites.net/resources/webinars



The screenshot displays the website's interface with a blue header containing the logo and navigation links. The main content area lists three webinars, each with a title, presenter information, and a corresponding poster image.

Seed-based revegetation following *Phragmites australis* control
Presented by Emily Martin and Dr. Karin Kettenring of Utah State University
Presented live on March 28, 2018

Fate and effects of glyphosate in *Phragmites australis* control
Presented by Dr. Rebecca Rooney of the University of Waterloo
Presented live on Feb 7, 2018

Multi-scale remote sensing for *Phragmites* detection in southwestern Ontario
Presented by James Marcaccio in collaboration with Dr. Pat Chow-Fraser (McMaster University)
Presented live on Jan 17, 2018

The poster images for each webinar include the Great Lakes Phragmites Collaborative logo, the title, presenter names, the date and time, and the host institution's logo (Utah State University, University of Waterloo, and McMaster University).

Social Media - @GLPhrag



The screenshot shows the Twitter profile of the Great Lakes Phragmites Collaborative (@GLPhrag). The profile picture is a circular logo featuring a stylized brown phragmite leaf on a green background with blue wavy lines representing water. The header image is a close-up of green phragmites. The bio states: "The Great Lakes Phragmites Collaborative is a partnership to link people, information, and action." It includes the website greatlakesphragmites.net and notes it was joined in July 2012. A grid of 68 photos and videos is visible. The tweet, dated June 22, asks "Have any vacation plans? #Phrag does... #PhakePhragHeadlines #PhragPhriday #Phragmites #invasivespecies". The tweet image is a parody of a newspaper headline titled "Phake FAKE PHRAG HEADLINES" with the main headline "PHRAG'S JET-SETTING VAYCAY: 'JUST PASSING THROUGH' NEW SHORELINES". The image shows a beach chair with a phragmite plant growing out of it. A quote from "Phrag" says "I'm off duty!".

GLPhragCollaborative
@GLPhrag

The Great Lakes Phragmites Collaborative is a partnership to link people, information, and action.

greatlakesphragmites.net

Joined July 2012

68 Photos and videos

Tweets **Tweets & replies** **Media**

GLPhragCollaborative @GLPhrag · Jun 22
Have any vacation plans? #Phrag does... #PhakePhragHeadlines #PhragPhriday #Phragmites #invasivespecies

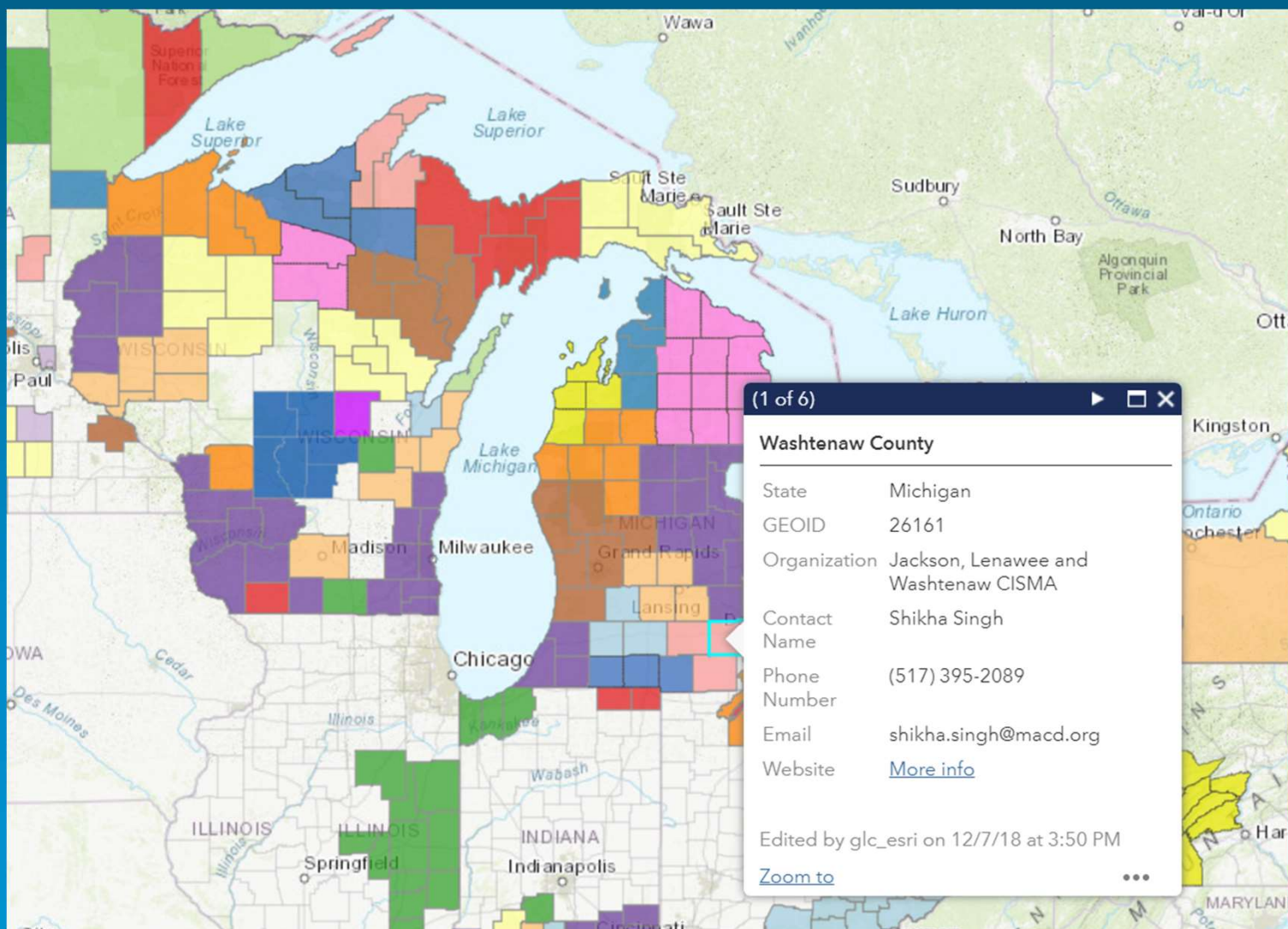
Phake FAKE PHRAG HEADLINES
PHRAG'S JET-SETTING VAYCAY: 'JUST PASSING THROUGH' NEW SHORELINES

"I'm off duty!"
-Phrag

GLPhragCollaborative @GLPhrag · Jun 22
Phriday Phrag News Roundup -

Dynamic map of US invasive species organizations

See link on the front page www.greatlakesphragmites.net





Phragmites Adaptive
Management Framework

Current *Phragmites* Management



Herbicides



Mechanical



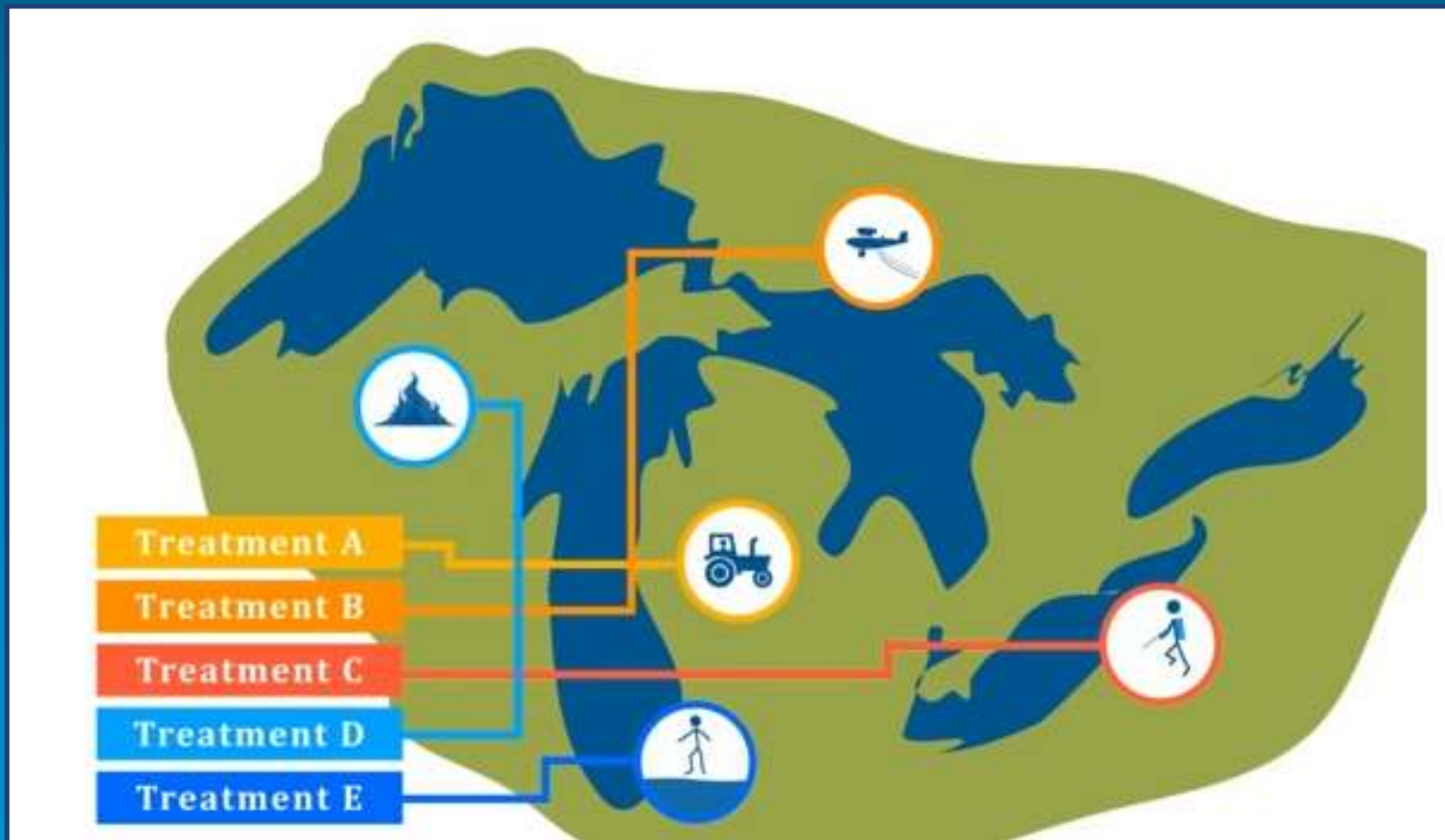
Prescribed burn



Hydrologic

- Resource intensive
- Minimal knowledge sharing
- Variable effectiveness
 - Site-specific conditions
 - Implementation technique

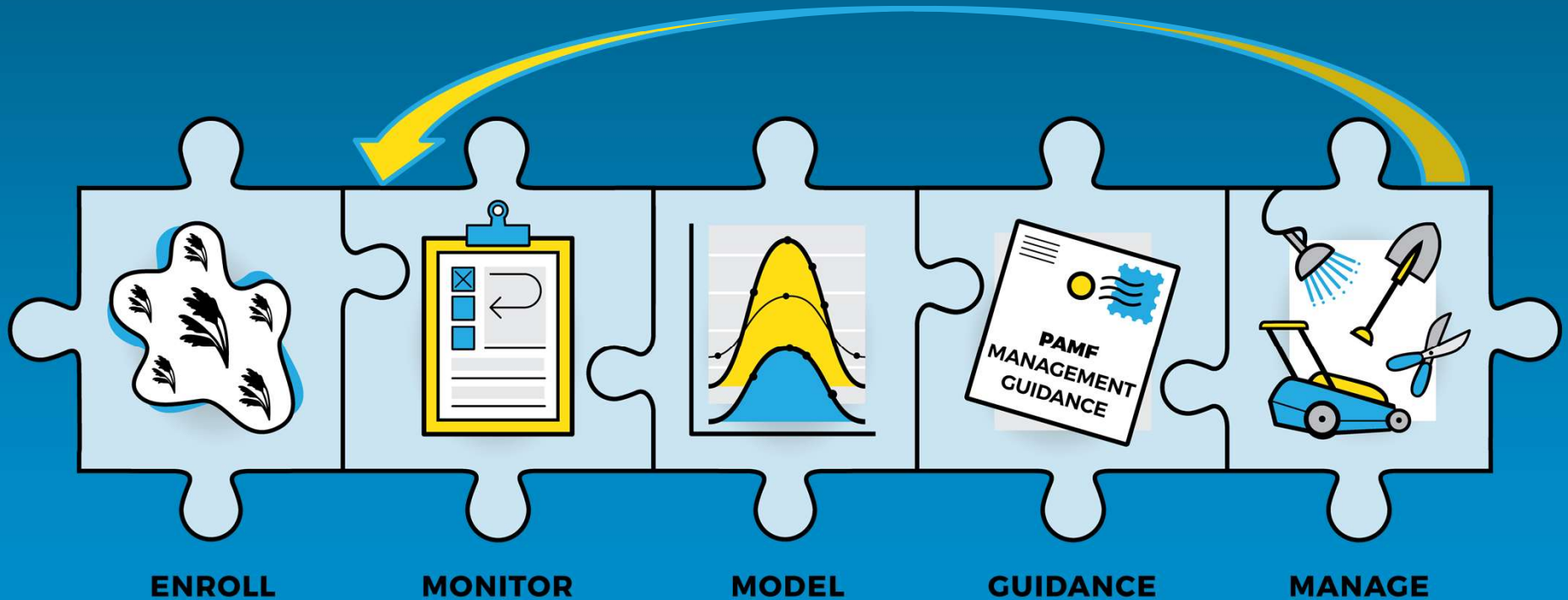
Collective Learning



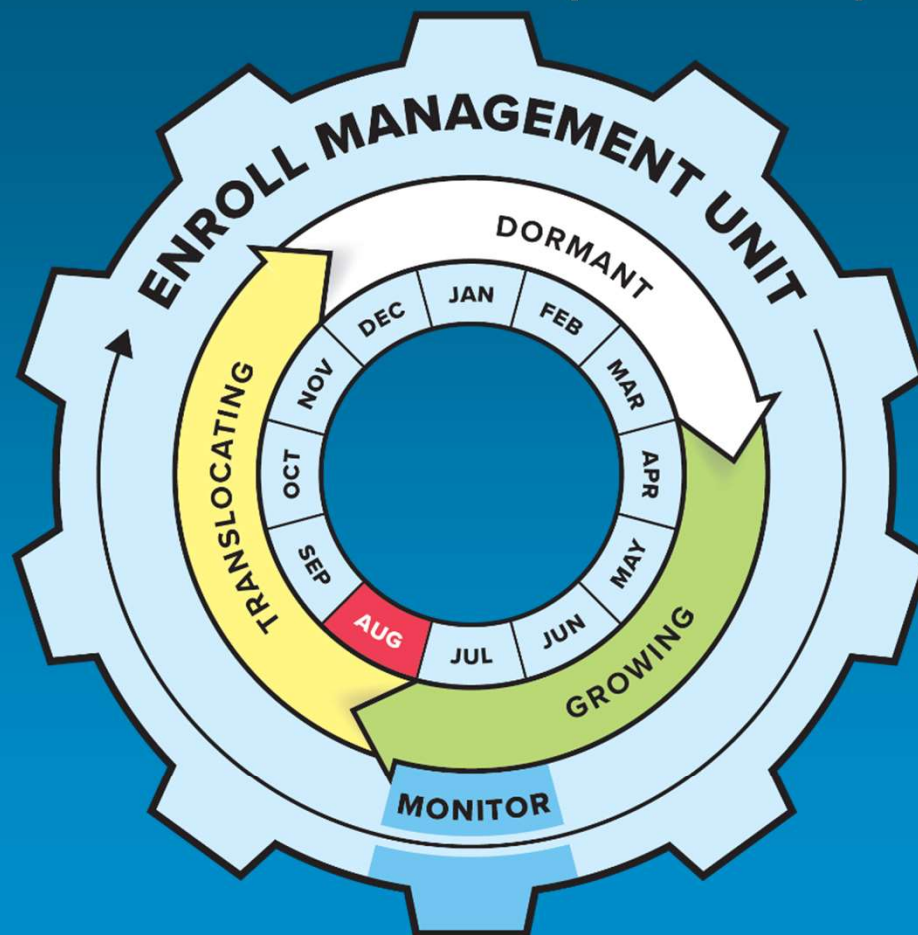
What is PAMF?

- Citizen science program to learn collaboratively
- Project to track and learn from effective Phrag management approaches
- Monitoring protocol to collect standardized data
- Computer model which predicts the most effective and efficient management combination for a particular site
- Web hub which provides participants with management recommendations

Adaptive Management

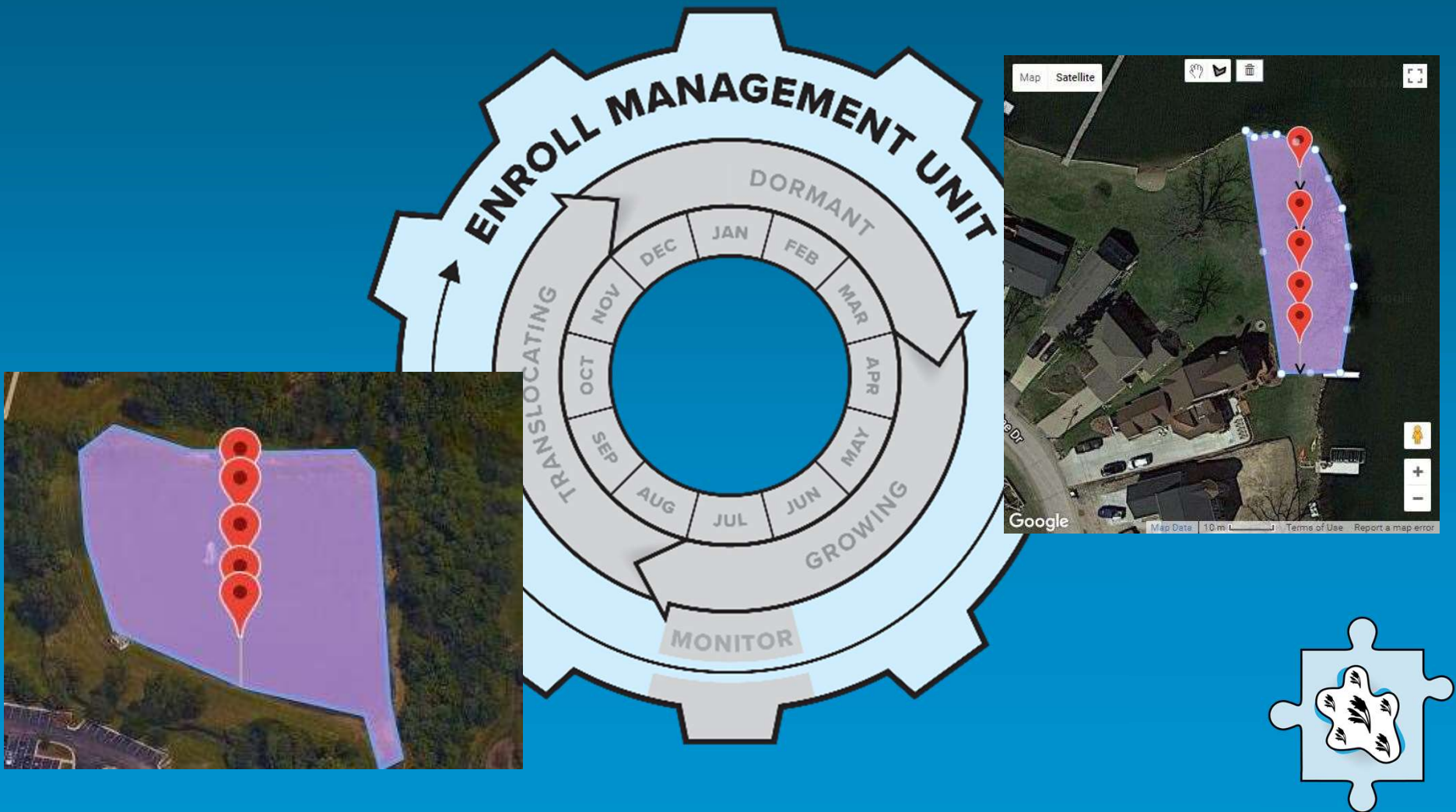


PAMF Participant Cycle



AUGUST 1: REPORTING DEADLINE
MID-AUGUST: RECEIVE MANAGEMENT GUIDANCE

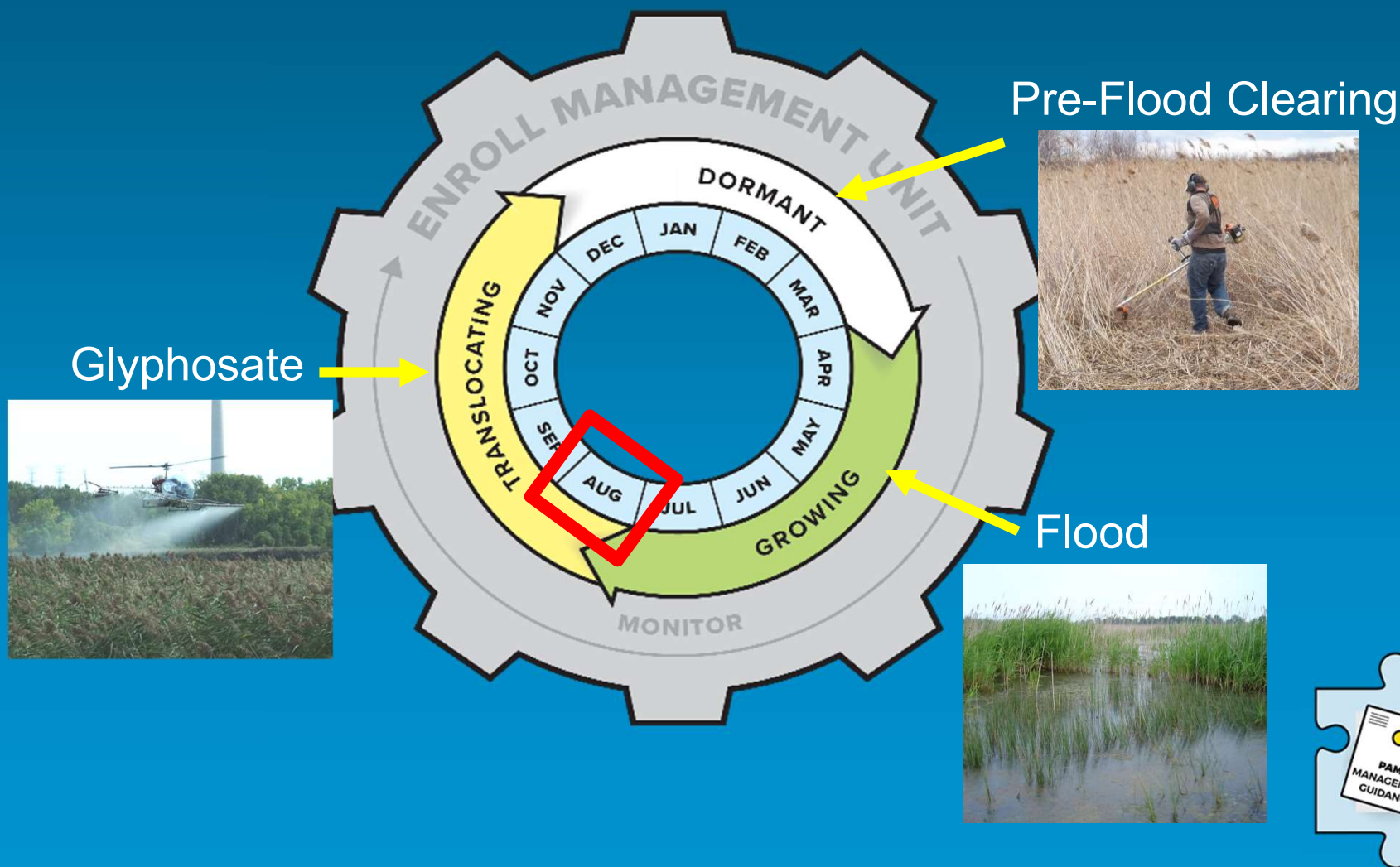
PAMF Participant Data: Enrolling



PAMF Participant Data: Monitoring

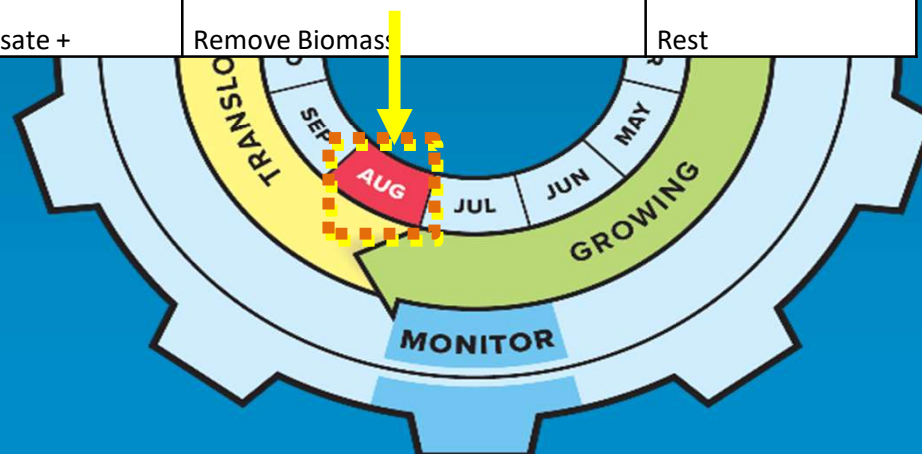


PAMF Participant Data: Guidance



PAMF Participant Data: Guidance

MU #1	Translocating	Dormant	Growing
Optimal	Glyphosate	Pre-Flood Clearing	Flood
Near Optimal	Glyphosate	Remove Biomass	Rest
Near Optimal	Glyphosate	Rest	Glyphosate
Near Optimal	Imazapyr	Rest	Rest
Near Optimal	Spade	Rest	Spade
Near Optimal	Glyphosate +	Remove Biomass	Rest



AUGUST 1: REPORTING DEADLINE
MID-AUGUST: RECEIVE MANAGEMENT GUIDANCE

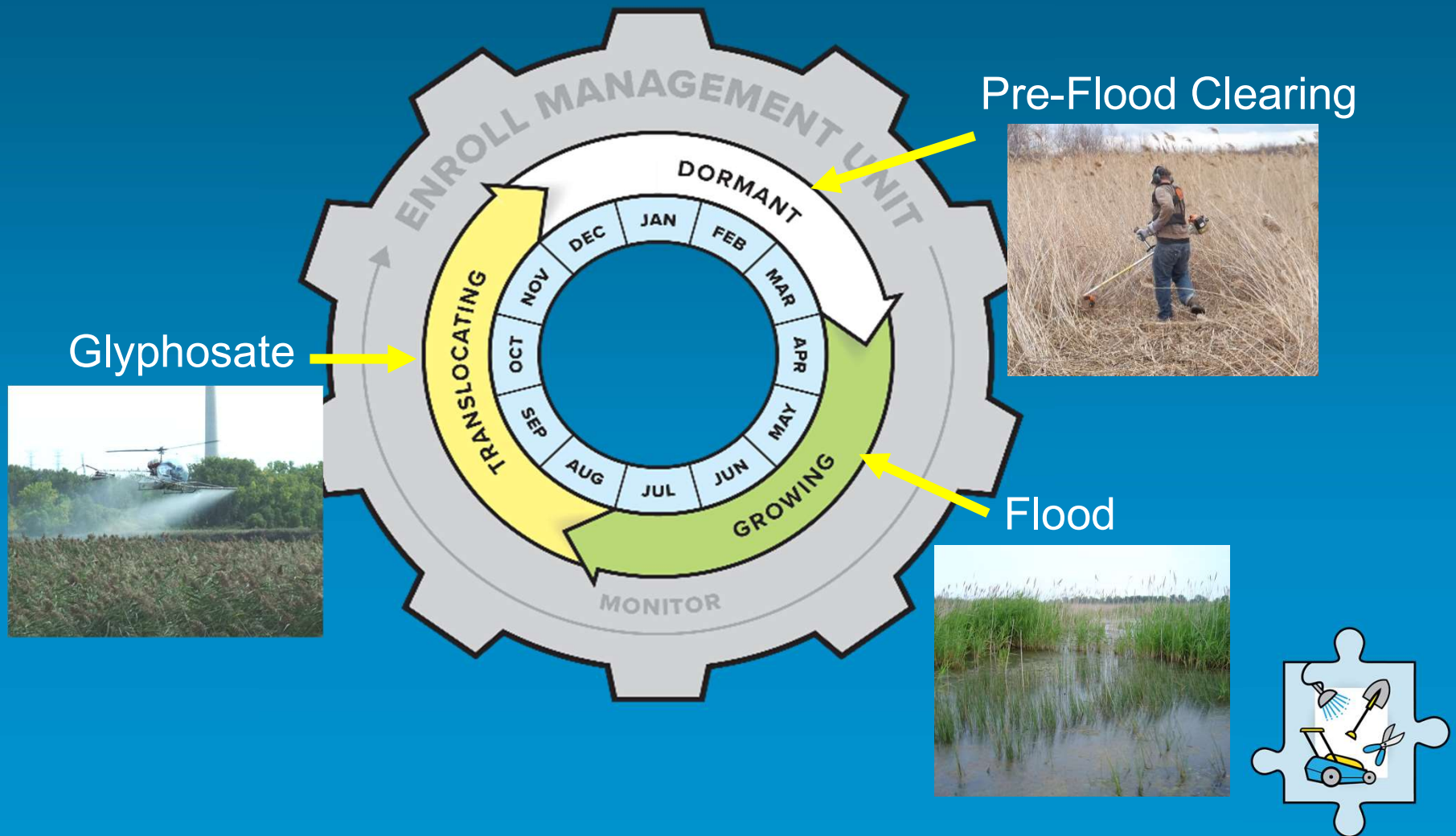


GREAT LAKES PHRAGMITES COLLABORATIVE

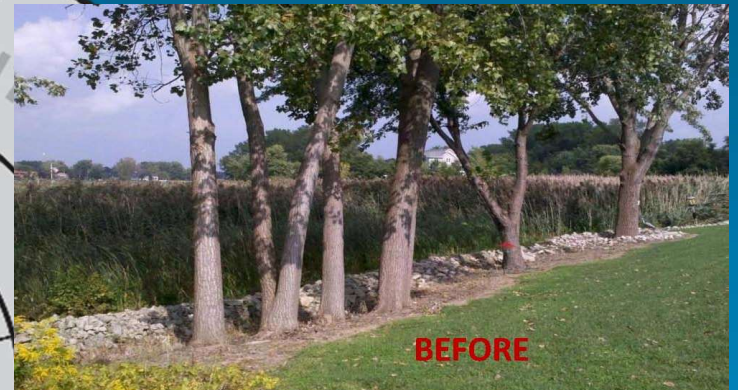
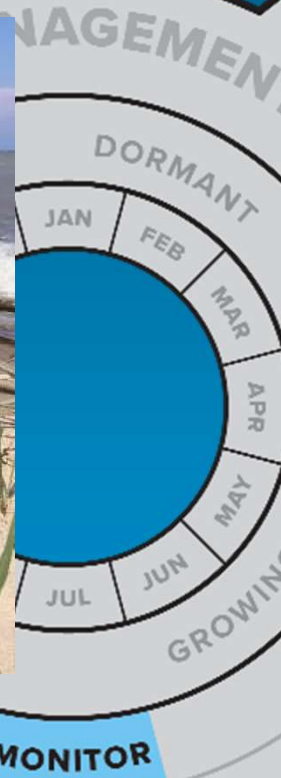
	Translocating	Dormant	Growing
1	Glyphosate	Pre-Flood Clearing	Flood
2	Glyphosate	Remove Biomass	Rest
3	Glyphosate	Flood	Flood
4	Glyphosate	Mechanical (and Leave Biomass)	Rest
5	Glyphosate	Rest	Glyphosate
6	Glyphosate	Rest	Rest
7	Glyphosate +	Remove Biomass	Rest
8	Glyphosate +	Flood	Flood
9	Glyphosate +	Mechanical (and Leave Biomass)	Rest
10	Glyphosate +	Pre-Flood Clearing	Flood
11	Glyphosate +	Rest	Rest
12	Imazapyr	Rest	Rest
13	Rest	Pre-Flood Clearing	Flood
14	Cut Underwater	Rest	Cut Underwater
15	Spading	Rest	Spading
16	Rest	Rest	Rest



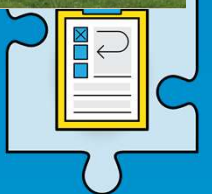
PAMF Participant Data: Managing



PAMF Participant Data: Monitoring part 2



Pictures Courtesy of the Ottawa Soil and Water Conservation District



Management Guidance

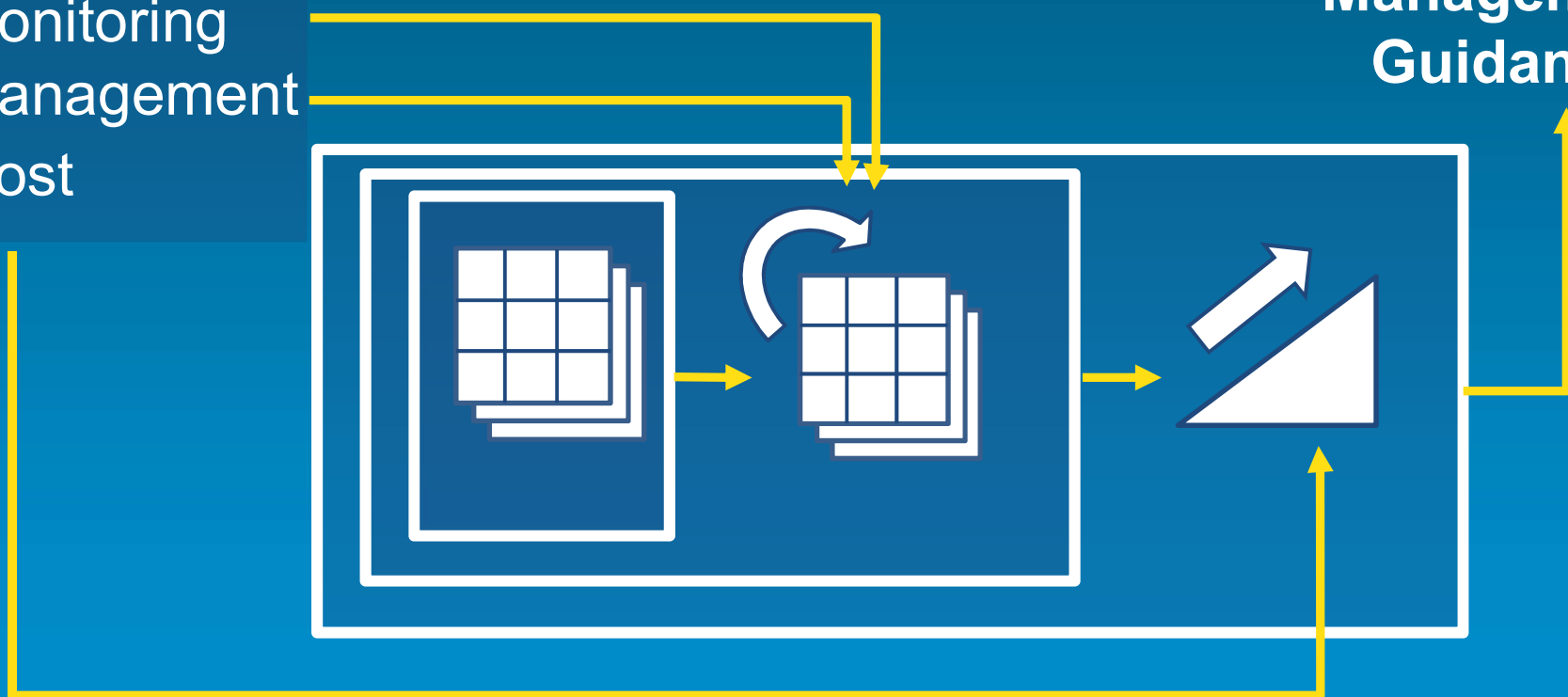
MU #1	Translocating	Dormant	Growing
Optimal	Glyphosate	Mechanical (Leave Biomass)	Rest
Near Optimal	Glyphosate	Rest	Glyphosate
Near Optimal	Glyphosate +	Rest	Rest
Near Optimal	Glyphosate +	Mechanical (Leave Biomass)	Rest
Near Optimal	Imazapyr	Rest	Rest
Near Optimal	Glyphosate +	Remove Biomass	Rest
Near Optimal	Glyphosate	Remove Biomass	Rest
MU #2	Translocating	Dormant	Growing
Optimal	Glyphosate	Remove Biomass	Rest
Near Optimal	Glyphosate +	Mechanical (Leave Biomass)	Rest
Near Optimal	Cut Underwater	Rest	Cut Underwater
MU #3	Translocating	Dormant	Growing
Optimal	Glyphosate	Mechanical (Leave Biomass)	Rest
No Near Optimal

PAMF Model

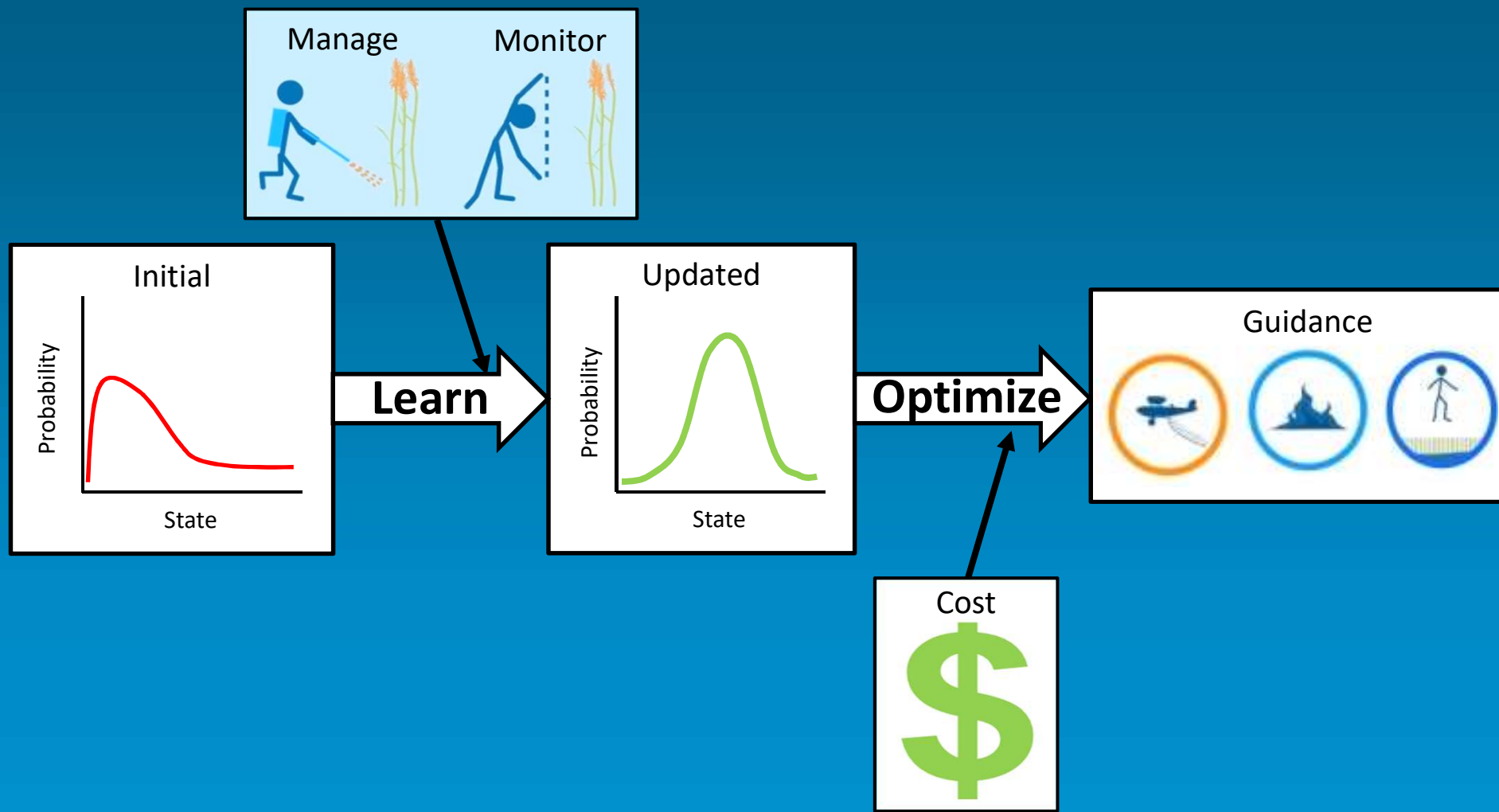
Data

Monitoring
Management
Cost

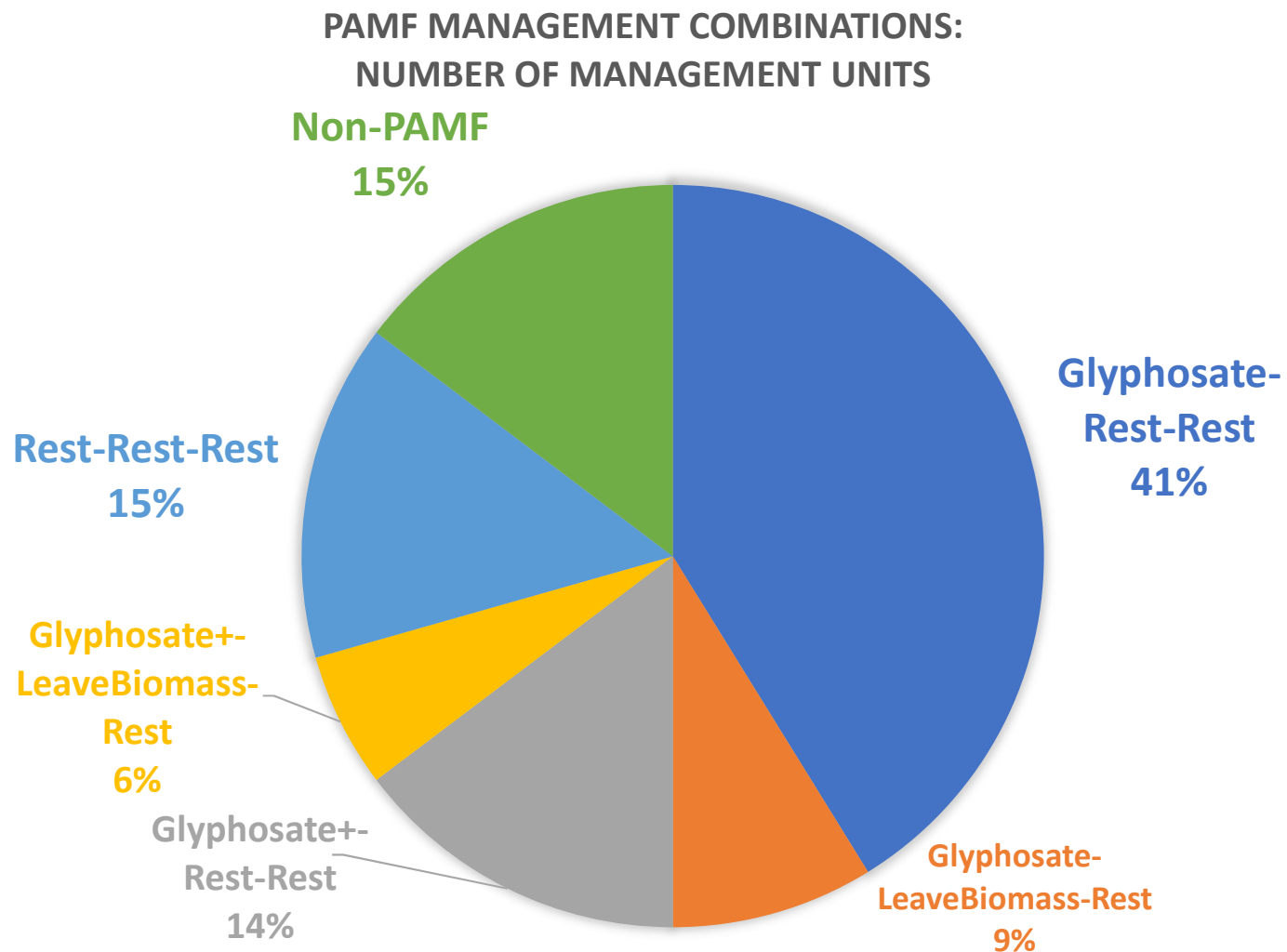
Management
Guidance



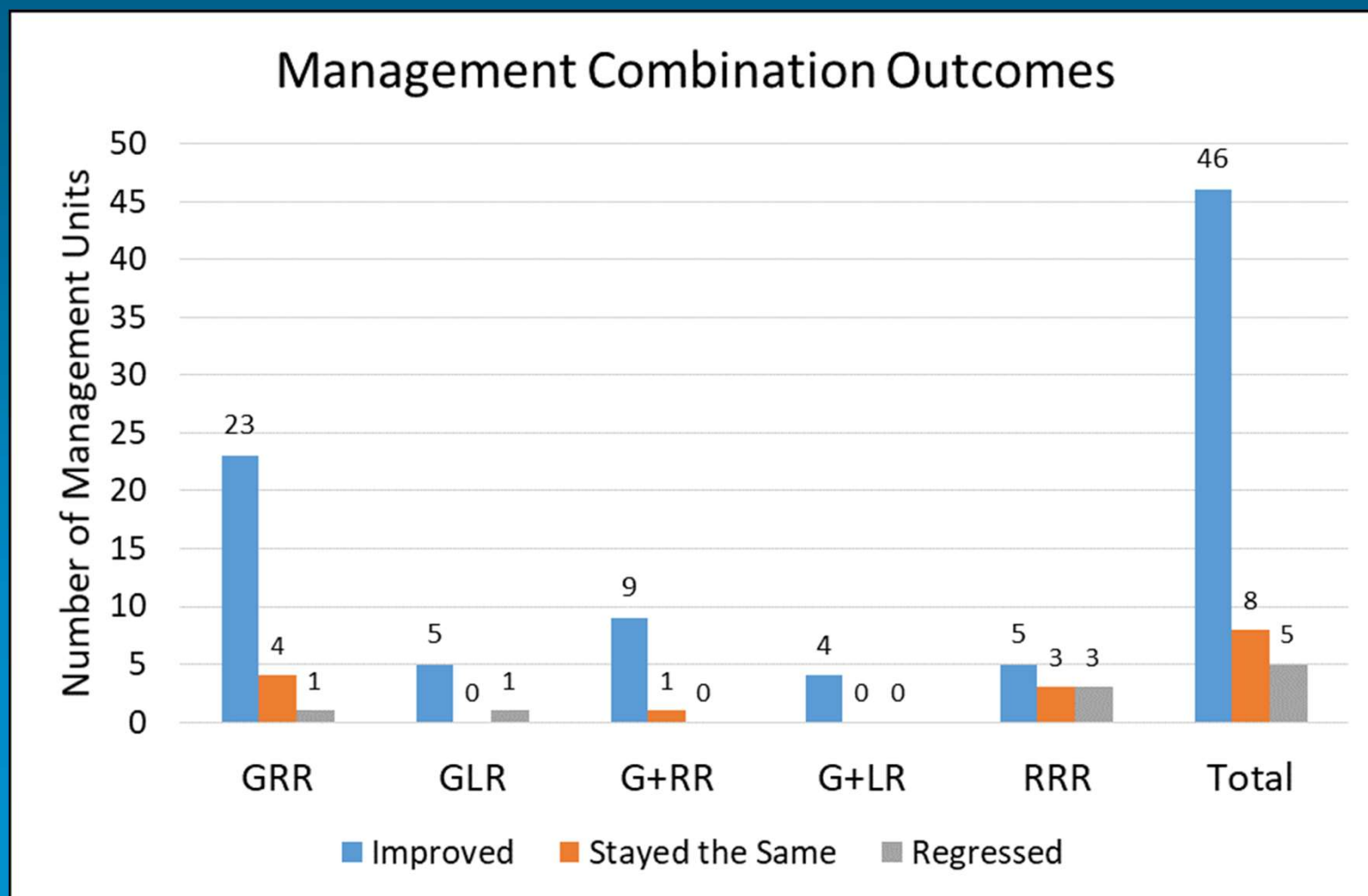
The Model: Effective & Efficient



First Cycle Run: What went in

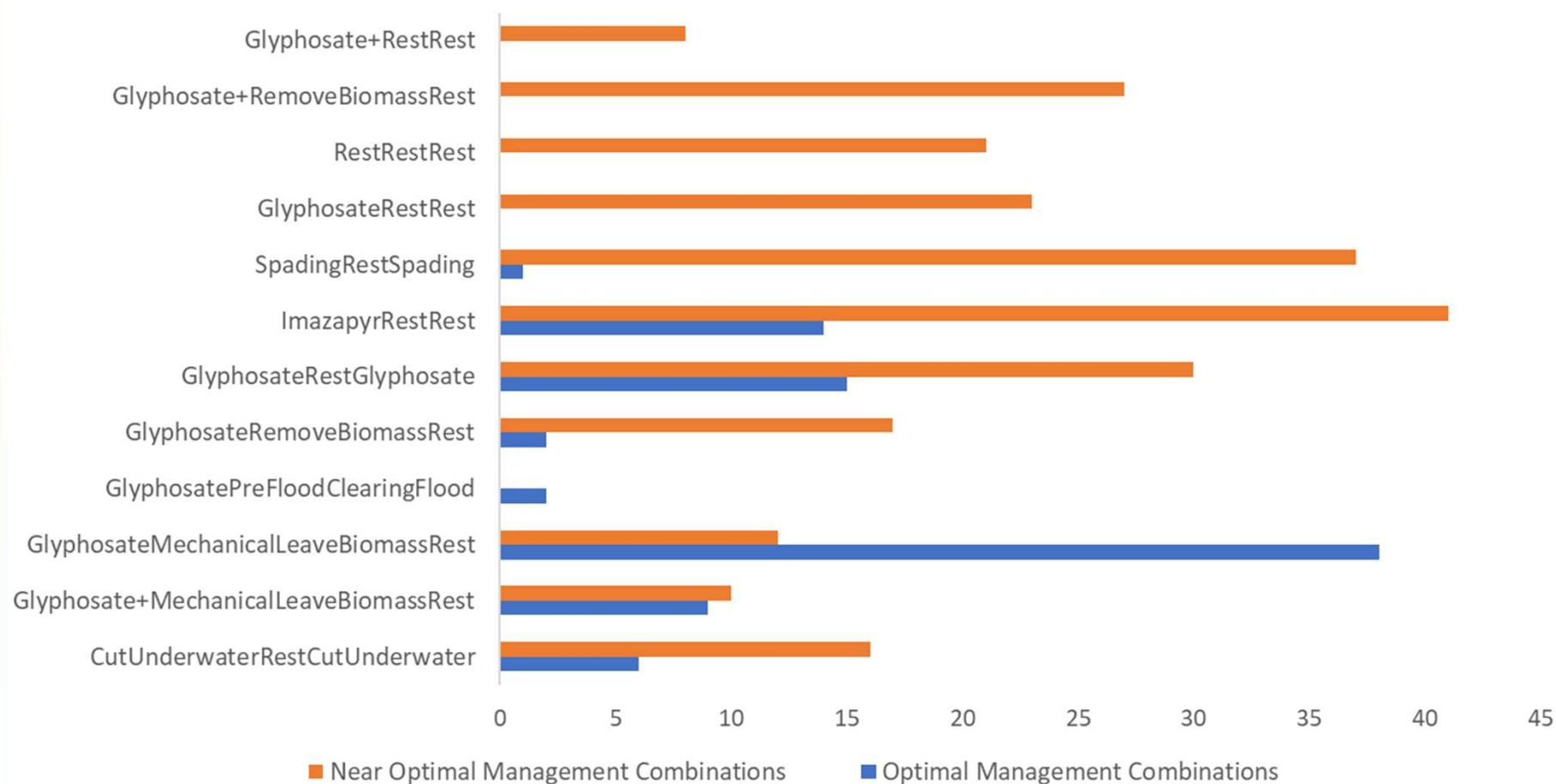


Management Outcomes



First Cycle Run: What came out

2018 Updated Management Guidance



Second PAMF Cycle

Going into the 2nd PAMF Cycle

- 88 MUs
- Already have people reporting translocating management reports



Future of PAMF

PAMF 2.0: What comes after Phrag?

- Restoration activities and effectiveness



Photo: Mentor Marsh



Looking forward - GLPC:

What's next?

Compiling BMPs for uncommon and emerging techniques

- E.g. Cutting under water

Short videos profiling techniques and case studies

Developing standards and guidance for restoration

- Gathering expertise from the Phrag community
- Compiling in BMPs or in web resources
- Encourage multi-year management planning including restoration, monitoring, and follow-up

Let us help you!

- Connect with the Phrag community on the listserv
- Check out the resources on our website
- Share your successes in a webinar or website profile
- Email us at phragmites@glc.org

Ready to engage in-person?

- We will be traveling through Ontario assisting with PAMF enrollment and profiling projects during:
- June 10
- June 14
- July 15 – 19, dates TBD depending on location

Outside of Ontario?

We will be visiting:

- May TBD – Southern MI
- June 4 – Chicago
- June 5 – Erie, PA
- June 25 – Plymouth, WI

The *Phragmites* community needs you!

GLPC

- Knowledge & experience
 - Cutting underwater
 - Emerging technologies
 - Restoration
- Give management focused webinar

PAMF

- Managing *Phragmites* within the GL basin
- Need management guidance
- Restoration guidance PAMF 2.0
- Want to contribute to collective learning

Get involved today!

www.greatlakesphragmites.net

Questions?



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Samantha Stanton

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