Non-native Phragmites in the Midwest: Status & Control

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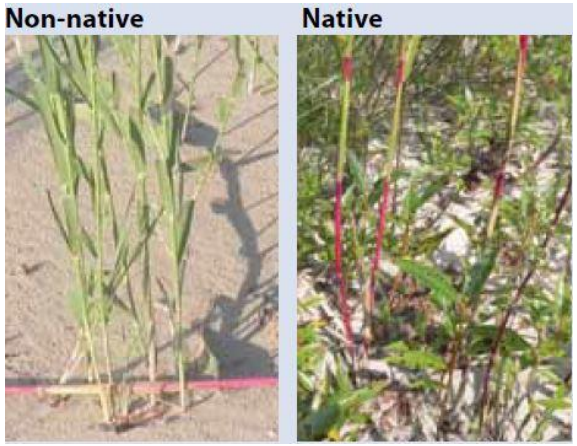
Phragmites threatens waters & wetlands everywhere

- Reduces plant & animal diversity
- Reduces wetland ecosystem services
- Reduces recreational uses
- Changes aesthetics
- Reduces land values
- Hazards—fire, signs

Native and Non-native Phragmites

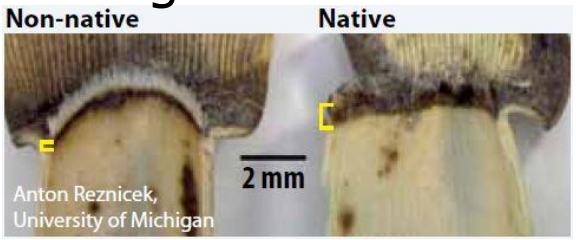
Phragmites australis, subsp. Americanus *Phragmites australis, subsp. australis*

- Stem color (careful)

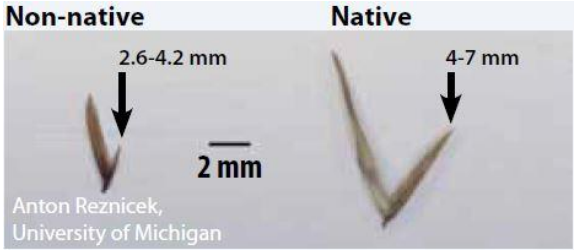


- Stem Texture
  - Native: Smooth & Shiny
  - N-N: Dull & Ridged
- Stem fungus
  - Native: black raised dots
  - N-N: Only black irregular molds

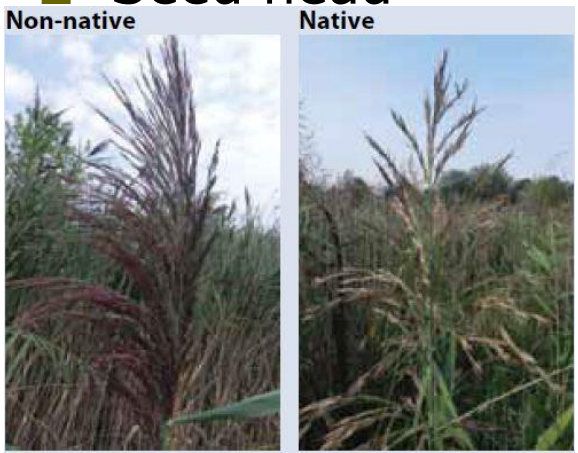
- Ligules



- Glumes



- Seed head



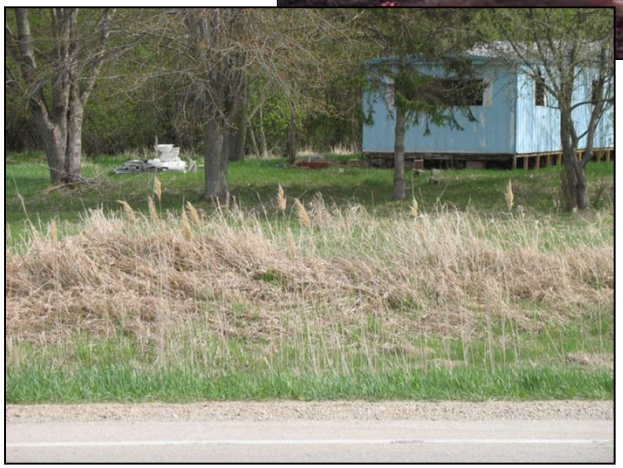
- Leaf color

- Leaf sheaths
  - On dead stems "Naked is Native": leaf sheaths absent or pull off easily
  - N-N: Leaf sheaths retained and hard to dislodge.

Photo credits: Anton Reznieck, University of Michigan

Phragmites in Wisconsin

- Native Phrag statewide
- Non-native appeared ~1980(?) on:
- Lake Michigan shores (later Lake Superior), Mine site & WWTFs
- Spreading inland, mostly in ROWs, then to nearby waterways & wetlands
- NR40 -- Restricted



Phragmites dominated many Lake Michigan & Green Bay sites

DNR/Partner treatments began on Lake Michigan sites in 2011

- WDNR GLRI grant
- WDNR/Ducks Unlimited GLRI grant
- EPA GLRI grants to Ozaukee-Washington Land Trust & BLRPC
- ~$2.5 million has treated ~8,000 acres so far (add $1M more for new BLRPC work)
- Successful? (re-treat)

Phragmites was spreading inland via:

- Vehicles and ROW mowers move seed & stem fragments
- Moving rhizome-contaminated fill
- Human pursuits: WWTFs, gardening, hunter blinds, landscaping
- Nature: birds, wind, flowing water, etc.

NN ROW sites (central WI)

Dispersing Phragmites often starts as small road sites that grow…

…and spread to nearby remote sites

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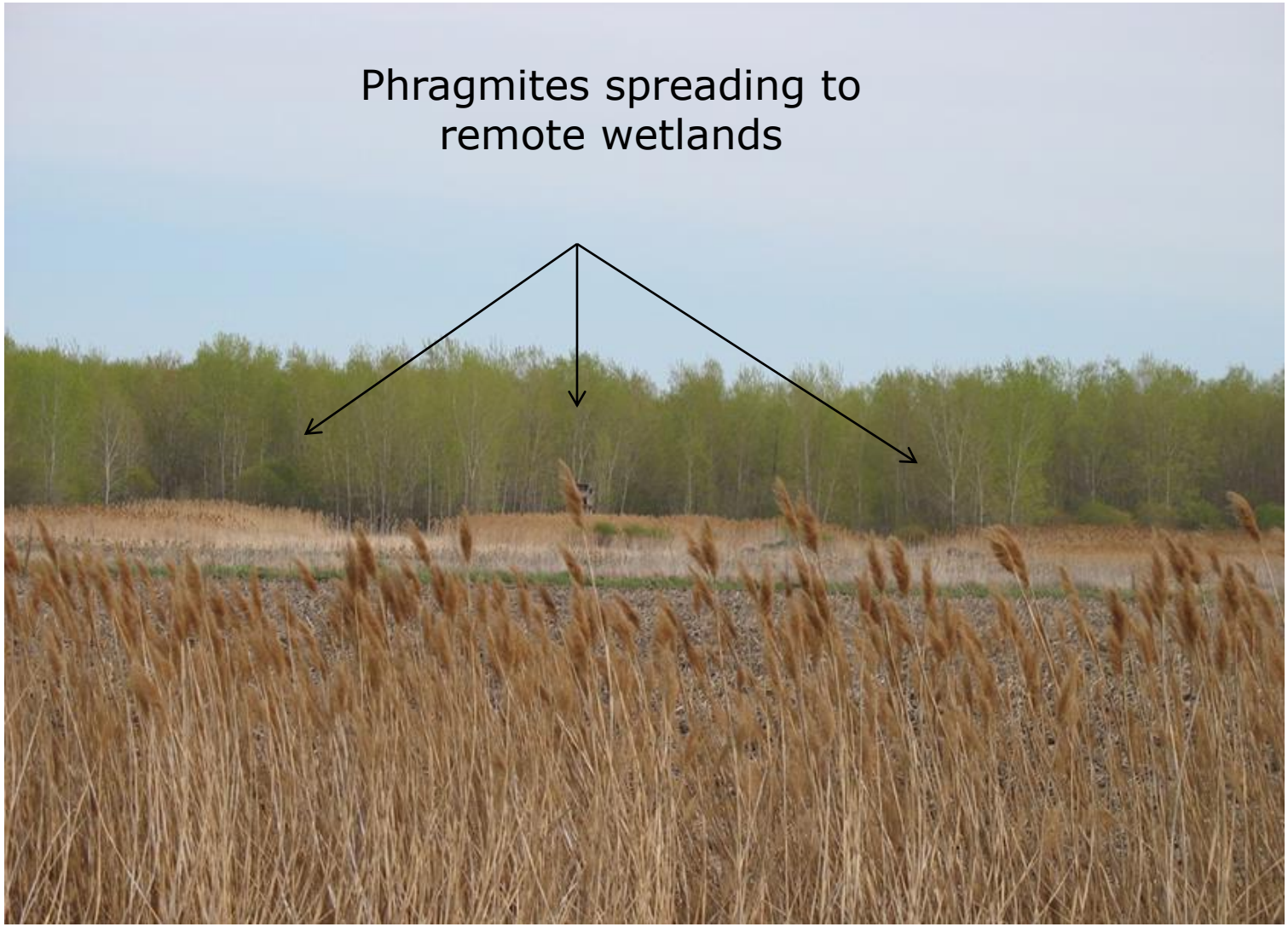
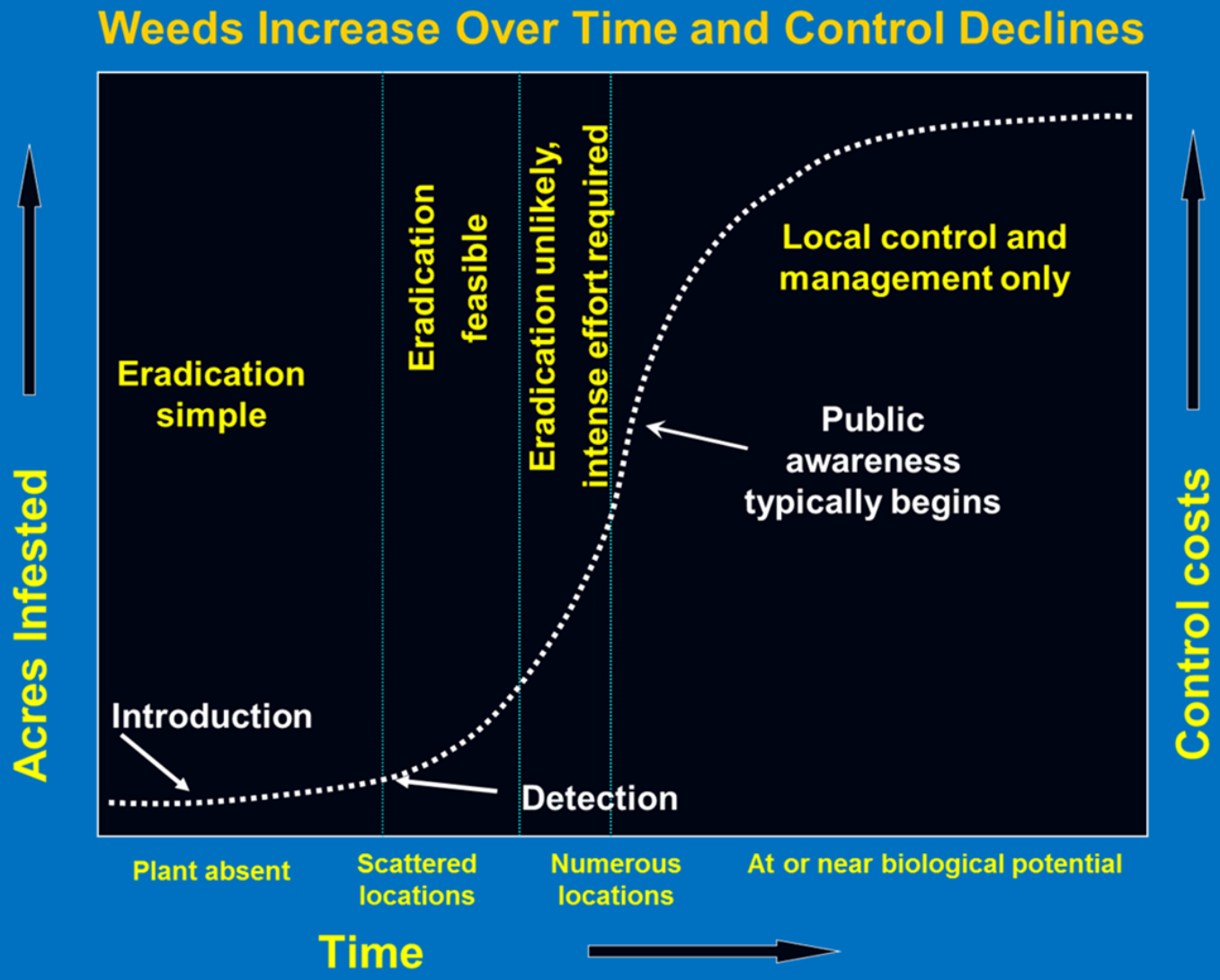


Great Lakes treatments good, but problems:

- Large sites unlikely to be eliminated
- Much open beach habitat unsuited for replacement vegetation
- Some private lands remained untreated
- Seed rain from interior sites high in the watershed likely to re-infest shorelines
- Amount of herbicide needed for continual widespread control efforts unacceptable
- No amount of shoreline work would stop spread across the state!

How to stop Phragmites spread? Work where best opportunities exist!

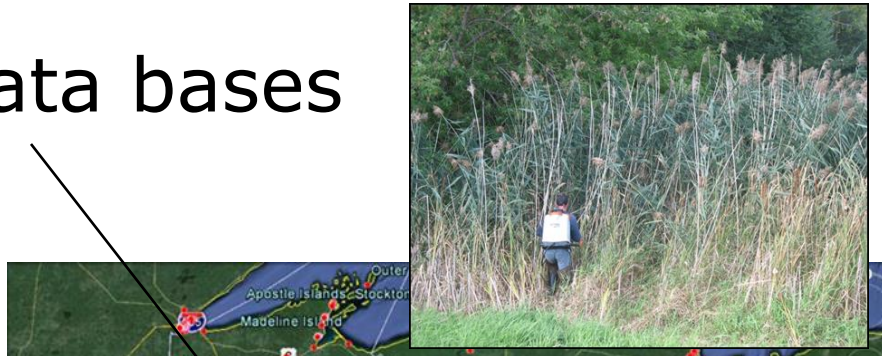


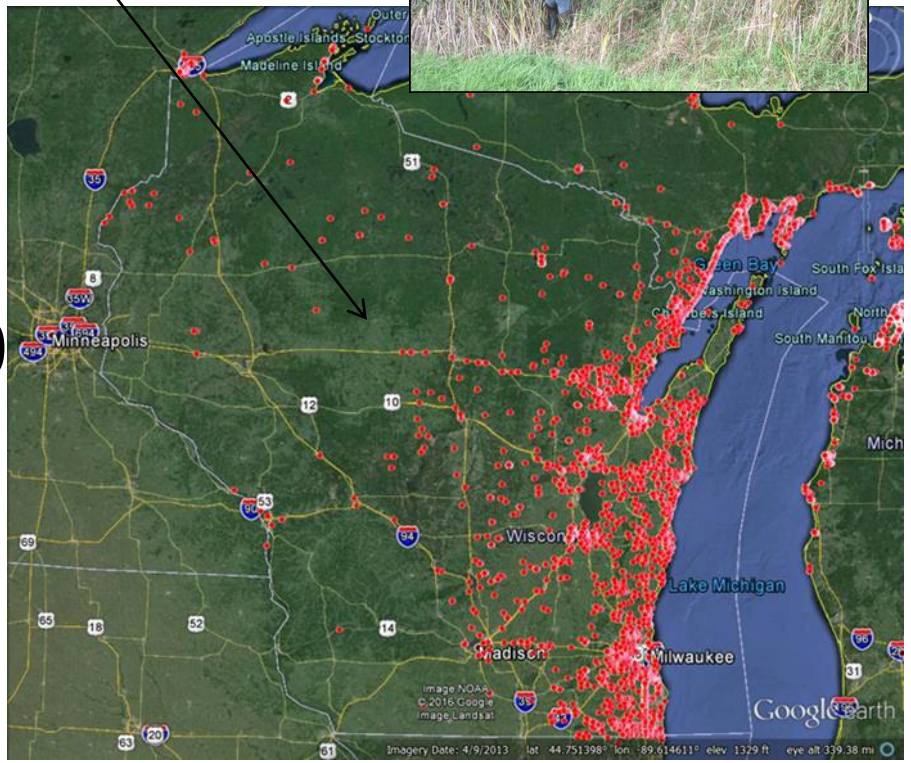
Suspected interior status offered a companion control strategy

- Many fewer interior sites?
- Sites smaller/more treatable?; seed bank?
- Large number of threatened, economically valuable wetlands and waters to protect
- GLRI funding available—in Great Lakes basins--Treat most of the invasion front
- AIS grants for further west: ED/RR for the young, small sites outside of GL basins (Control Grants for few large sites there)
- WDOT help along fed/state rights-of-way
- Strategy: protect 2/3ds of Wisconsin!

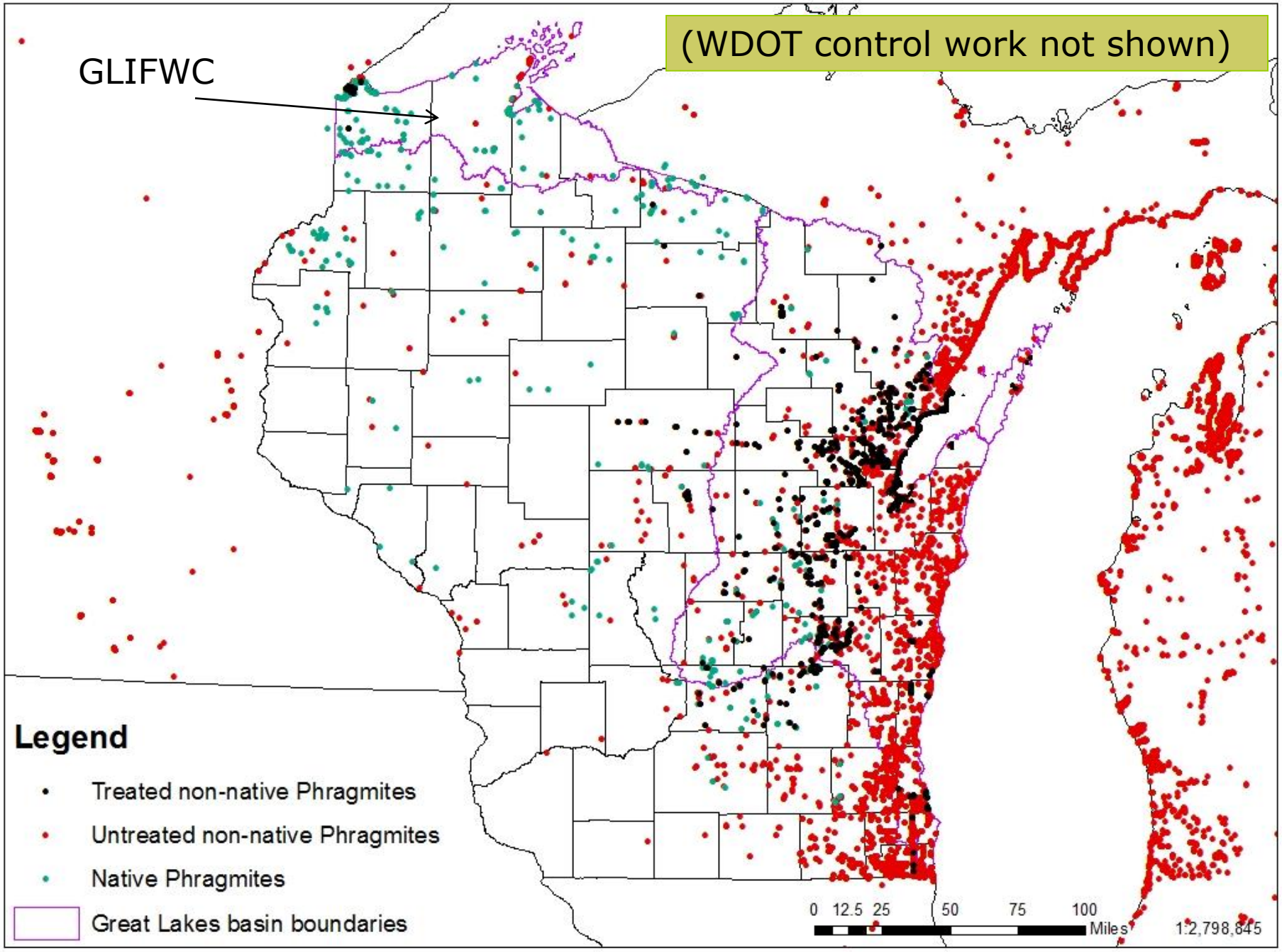
Interior Phragmites GLRI Project

- Great Lakes basins
- Mined external web data bases
- Educate land owners
- Field check to confirm areas, etc.
- Recruit local Partners
- 2014-16 treated 1700 sites (430+ acres) in 20 counties with imazapyr (for $220K)



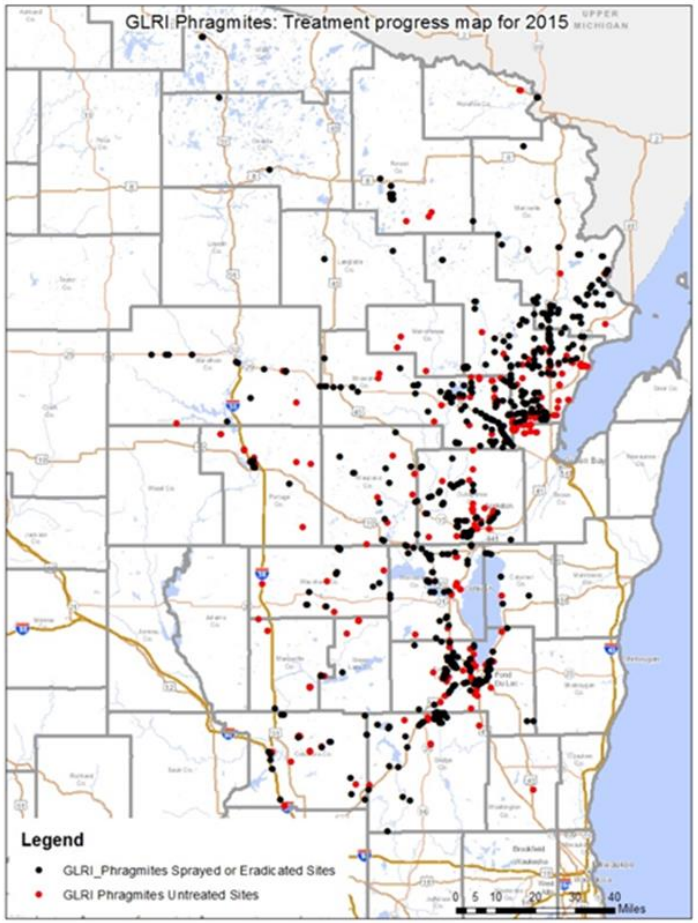


Phragmites records in Wisconsin



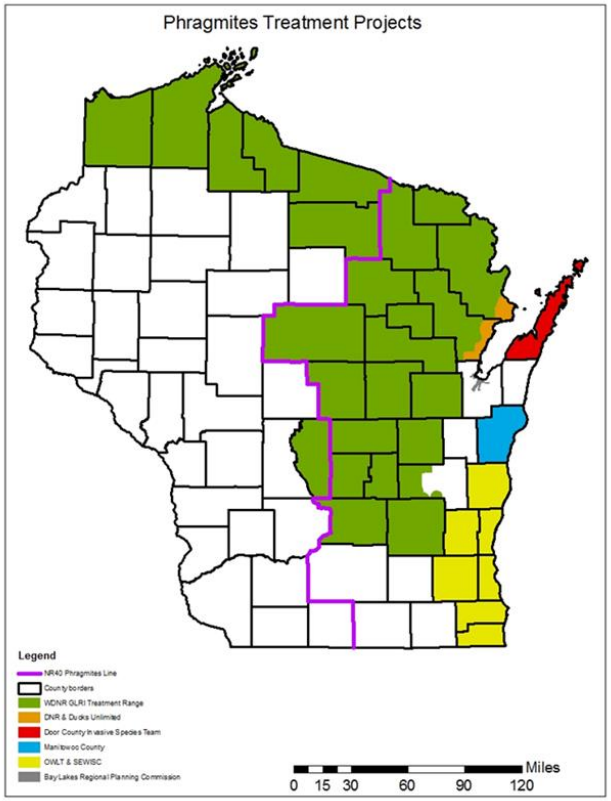
Future of Lake Michigan Basin Sites

- Initial analysis: 43 acres controlled in 471 sites (~smallest sites)
- Must check sites for re-growth over years-- with local Partners!
- Limited GLRI mop-up $
- Rehabilitate ROW sites with competitive, flowering, native sp. good for pollinators: $ to "nurture the natives"



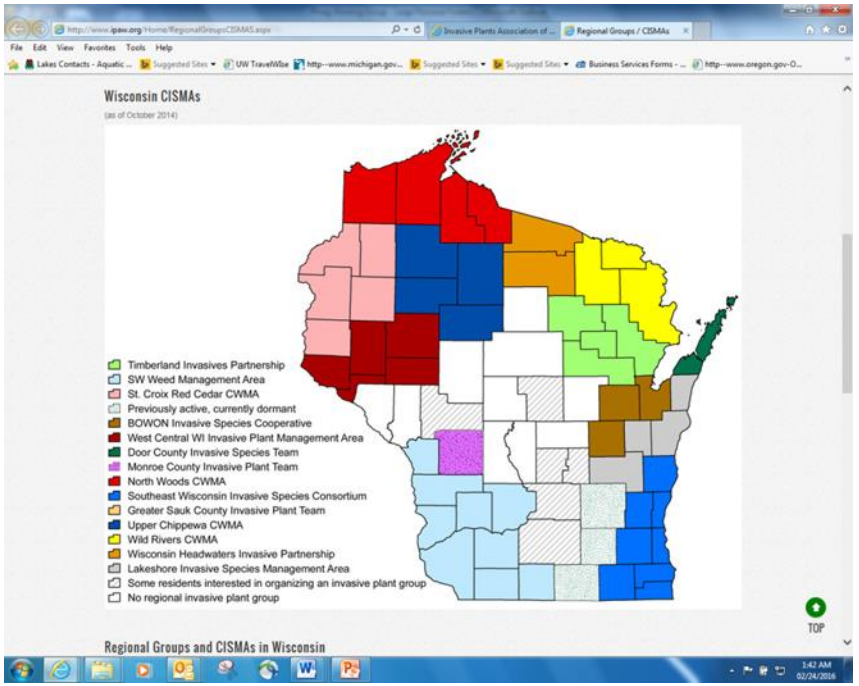
Past & future Partners indispensible!

Past Partners



Most work with GLRI grants

Future Partners: Gov't, business, NGOs



Citizen Invasive Species Management Associations

New brochure to recruit Partners!

HOW TO IDENTIFY NON-NATIVE PHRAGMITES

Non-native Phragmites can look quite similar to native Phragmites and a few other grasses. There are many guides to differentiate the two subspecies. For a direct comparison, search online for **Michigan Phragmites Native or Not**. Always get confirmation from an expert and report all stands to WDNR.

SIZE: Mature non-native stems can be 18 feet tall and very robust. Thinner native stems reach 10+ feet; other native grasses 8 feet or less.

SEED HEAD: Non-native plumes are large, thick, purple/brown/tan, 6-20 inches long, and up to 8 inches wide. Native plumes are feathery, much smaller and never purple. Both tops contain long silky hairs that may stay on throughout winter.

LEAF SHAPE/COLOR: Non-native has bluish-green leaves compared to native yellow-green leaves. Flat, stiff leaves flag outward from the stem and are 0.5-2.0 inches wide near the base, tapering to a point at the end.

LEAF SHEATHS: (the lower part of the leaf that wraps around the stem) persist on dead non-native Phragmites stems, (even during winter months) Native Phragmites typically sheds its leaf sheaths during the winter.

NATIVE INK DOT FUNGUS ON SMOOTH, SHINY STEMS: Native only can show a black, dot fungus under its leaf sheaths. Non-native stems are ridged & duller with only indistinct blackish molds.

These efforts are a collaboration of multiple organizations.

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SAVING OUR WATERS:

PROTECT YOUR WETLANDS FROM INVASIVE PHRAGMITES

THE VALUE OF WETLAND PLANTS

Food and shelter for wildlife, stable shorelines, reduced flooding, fresh air and clean water

The benefits our native wetlands provide are under threat from invasive Phragmites. Phragmites has undesirable impacts

Aesthetics and Recreation:

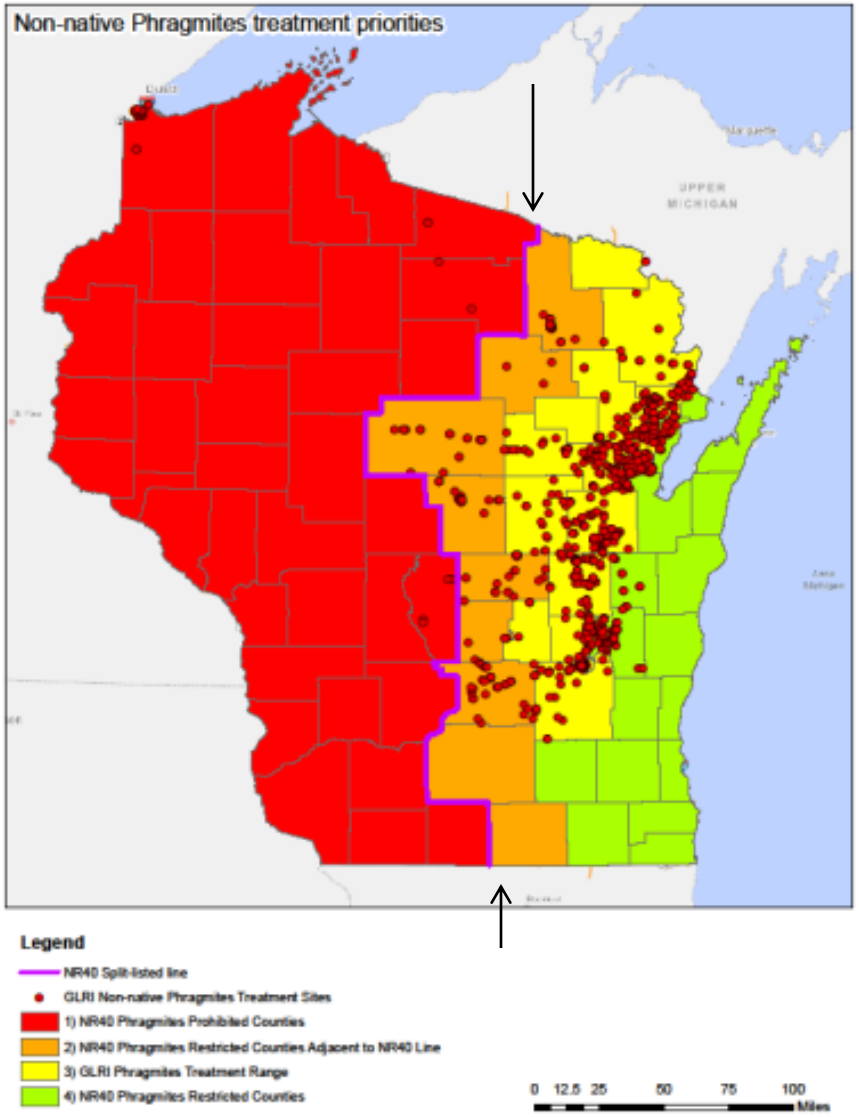
- Obstructs views on waterfront properties
- Reduces access for boating, swimming, fishing, birding and hunting
- Eliminates desirable native plants
- Reduces food and shelter for watchable wildlife

Safety and Financial Costs:

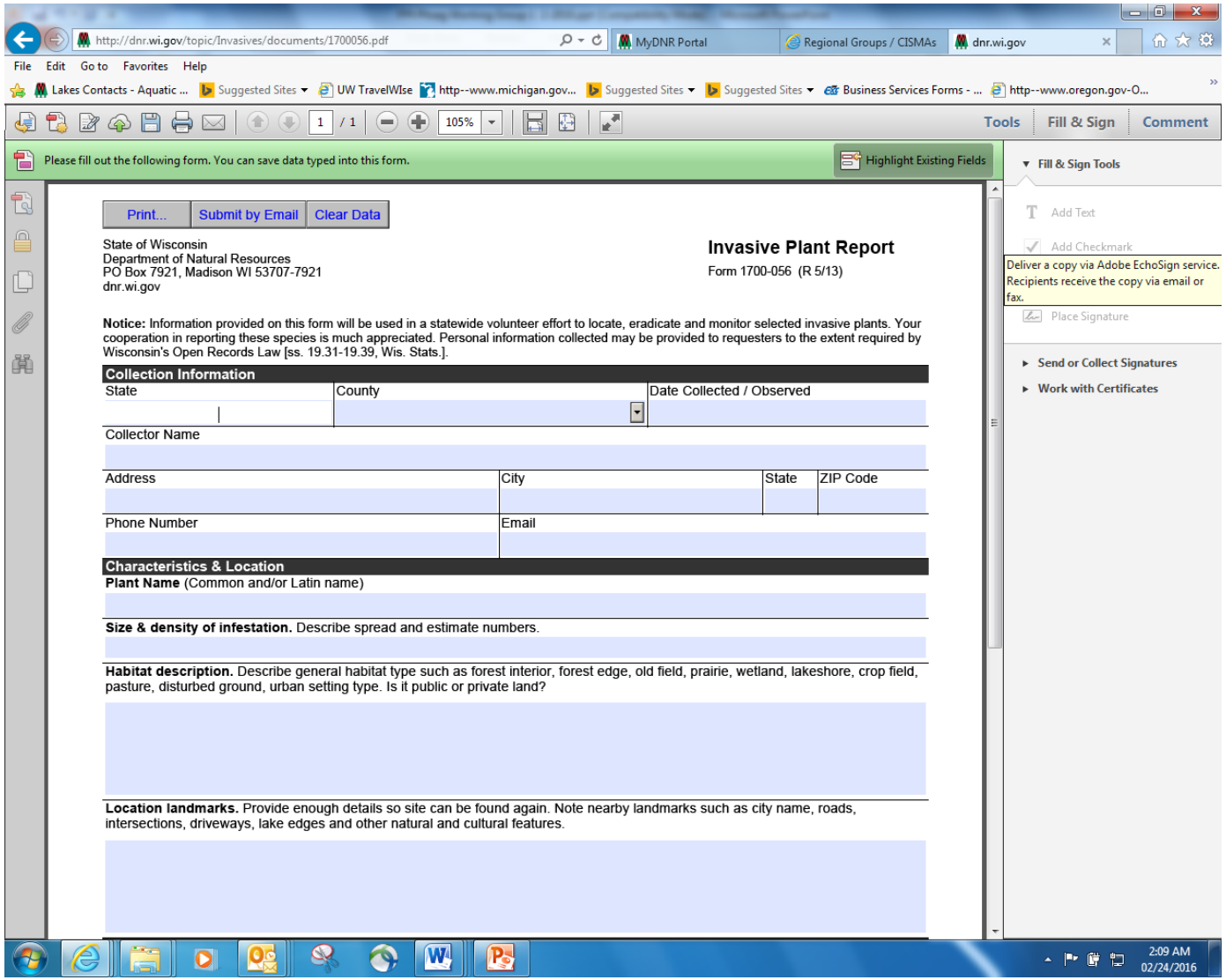
- Increases the risk of wildfire
- Blocks drainage and irrigation ditches
- Slows water movement and increases mosquito breeding
- Can dramatically lower property values

Extensive mined data support scenarios for Phragmites work

- Regulated Phrag is split-listed (NR40): Prohibited west, Restricted east
- WDOT support on state/federal ROWs
- Eastern counties: elimination unlikely (need containment & biocontrol!)
- AIS grant types



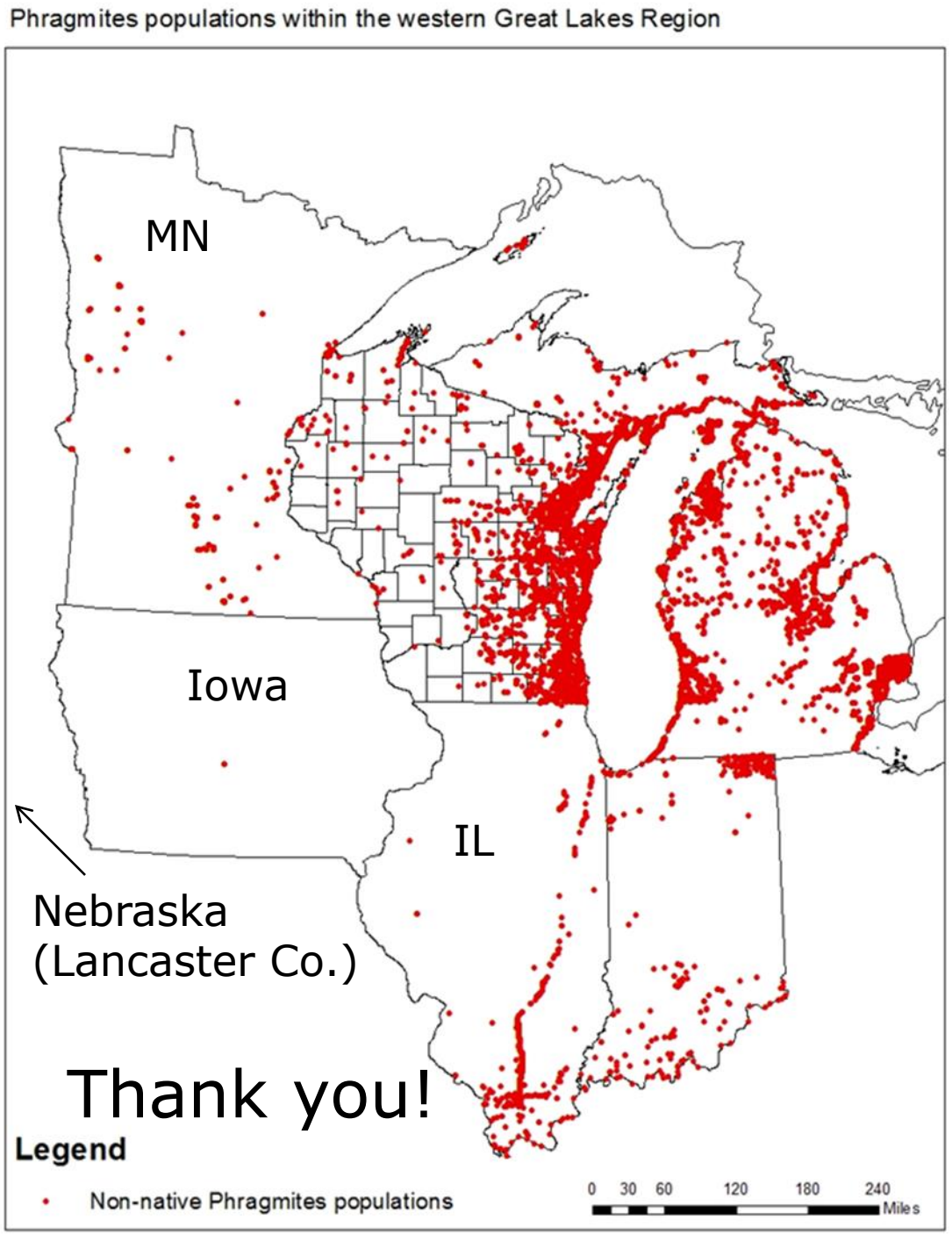
Early new site reports crucial: DNR email form, but all data bases useful!



Please report your sightings to whatever data base is easiest for YOU!
(We now monitor them all!)

Midwest from Mined Data

- From only one DB: EDDMAPS
- Could add GISIN, MISIN, GLIFWC, etc.
- Data are incomplete
- Veracity uncertain
- A starting point
- Data available on all reported IS!



Phragmites in Illinois

- No state coordinated site documentation(?)
- "NN Phrag is too widespread, so treat only high priority sites" (terrestrial sp.?)
- "Education critical to prevent spread"
- 2014 IS Awareness Month: GLPhragNet
- IS Strike Teams-2 p., TNC, USFS, priorities?

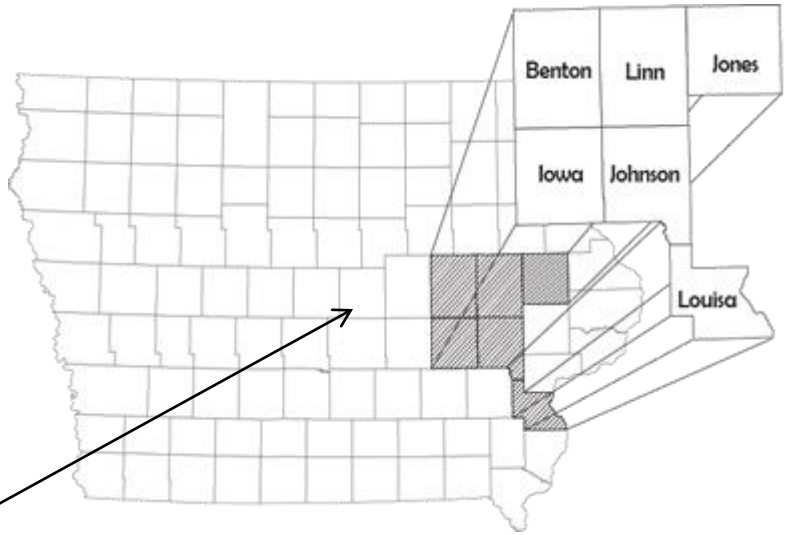
- Many local groups:
- RivertoRiver CWMA
- NE I I Plant Partnership
- Lots local, small control efforts: e.g., Winnebago and Lee Counties in NE

- IDOT/Highway Dept.s involved?

Phragmites in Iowa

- No state coordinated site documentation or public web info
- Increasing concern & site ID, esp. on roads
- Part of 2017 IS conf.
- Individuals uncertain about invasibility
- Highway Dept. work?
- A few CISMAs running
- Some local control projects, e.g. in HCWMA

- Hawkeye CWMA
- Projects in Johnson Co. (brochure)



Collective group of county, state, and federal agencies, nonprofit organizations and community associations to combat the invasive species problem in Eastern Iowa.

Phragmites in Minnesota

- No state coordinated site documentation
- Good web info thru Ag., but awareness low
- Listed as Restricted Noxious sp.: so widespread only small & hi priority sites to be treated
- MDOT aware of safety/infrastructure problems: local work & recommend to Prohibit it
- Use at WWTFs
- In 2016 IS conf?
- Local control projects, e.g. St. Louis River efforts – area is classic case for inter-state cooperation…
  …to organize, plan, educate, ID & report, take prevention steps, control, rehabilitate and lobby for biocontrol!

Summary: Work together

...to limit spread & do early control of small sites

...to prevent this

...and allow our high quality, diverse, native wetlands and waterways to thrive!

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