Decontamination and Wetlands BMPs for Invasive Species

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AIS Best Management Practices (BMPs)

Clean, Drain, Dry

Do Not Release Fish and Aquatic Plants





PILAC + U.S. FISH & WILDLIFE SERVICE + NOAA'S SEA GRANT

www.Habitattitude.net



STOP AQUATIC HITCHHIKERS!"

Prevent transport of aquatic invasive species. Clean <u>all</u> recreational equipment.

www.ProtectYourWaters.net

Required Actions - It's the Law in Michigan!

- REMOVE aquatic plants from boats, boating equipment, and boat trailers before launching or placing in the water.
- DRAIN live wells, bilges and all water from boats before leaving the access site.
- DISPOSE of unused bait in the trash. Do not release bait into the water.
- DON'T TRANSFER fish to water bodies other than where they were caught.
- Additional Recommended Actions Protect Our Natural Resources!
- INSPECT and REMOVE plants and mud from boats and trailers and dry equipment before leaving the access area.
- POWER WASH boats and trailers before leaving the access area if possible or at a nearby car wash, AND/OR
- DRY BOATS & equipment for at least 5 days before going to other waters.
- DISINFECT livewells and bilges with bleach solution (1/2 cup bleach to 5 gallons water)





To avoid spreading aquatic invasive species BEFORE launching ... BEFORE leaving:

- · Remove aquatic plants and aquatic animals
- Drain lake or river water away from landing
- Dispose of unwanted live bait in the trash

It's the Law... Do not:

 Transport aquatic plants, zebra mussels, or other prohibited species on public roads
Launch a waterroaft or place a trailer in the water if it has aquartic plants, adra mussels or other prohibited species attached

Transport water from infested waters

Michigan Department of Natural Resources



Dispose of Bait in the Trash

Dispose of bait in the trash

Bait and non-native plants and animals hitchhiking in bait can harm our lakes and rivers.



Developed by Winsin-Indiana Sea Grant, Wino's Natural History Survey. Winois Department of Natural Resources and U.S. Fost and Wildlife Service. IESG-05-17

TIS Best Management Practices (BMPs)

Don't Move Firewood Clean Your Boots and Equipment





Best Management Practices for Wetlands: Project Planning

Plan projects to avoid high quality wetland areas that do not have invasive species.

Incorporate treatment/management of invasive species into a project plan

- improve aesthetics,
- improve habitat, and
- restore wetland functions and values.





Identify and mark on plans areas of invasive species in or near work areas.

Phase construction projects to minimize disturbing the entire project site and to avoid spreading invasive species to non-infested areas.

Seek out "clean" fill material for construction projects – free of invasive species seeds or plant material.

Dispose of spoils from invasive species areas properly.



Consider phenology of plants during construction – avoid disturbing when in seed or rhizomes are actively spreading.

Wash construction equipment before entering or leaving the site.





Monitor and treat sites after construction.







Common Invasive Species Vectors

Equipment Land Disturbance Ornamental Ponds Shoreline landscaping Roadsides and Utility Corridors





Decontamination



Boots and Waders

Field Gear/Clothing

Vehicles









Decontamination

- Inspect and remove all visible vegetation and soil from clothes and footwear
 - Use a boot brush and Adhesive Roller in the field
 - Wash clothes and footwear after use
 - HIGH RISK: Use a household steamer on footwear
- Rinse and Dry (2-5 days) equipment
 - Medium Risk: Use a bleach/water solution or Virkon in spray bottle or sponge
 - HIGH RISK: Pressurized hot water (140 degrees)

Phragmites Treatment/Management Prioritization Tool

- DEQ drafted a tool to help groups prioritize and allocate limited resources
- GOAL: more *consistent* and more *successful* management, statewide
- Reviewed and revised by the AIS Advisory Council, and the AIS Core Team
- Scoring tool that can be used to **compare** multiple sites
 - Not for individual site decisions
 - Maximum score of 57



Phragmites Treatment/Management Prioritization Tool

<u>Audience</u>: Land/resource management groups who are working at a local or regional scale (local, regional and state land managers)

- Compare potential treatment sites rank many sites and focus efforts on the highest priority locations *first*
- Strategically allocate limited resources (\$)
- Guidance for watershed groups, land conservancies, cooperative weed management groups, municipalities, etc.

Three Categories of Criteria:

- Ecological Criteria
- Human Values Criteria
- Feasibility/Coordination of treatment



Phragmites Treatment/Management Prioritization Tool

Phragmites Treatment/Management Prioritization Tool

December 2013

Criteria

Ecological Criteria

Upper

Northe

Southe

1. Region: In what region of Michigan is your site located?

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Peninsula	(5 pts.)	
m Lower Peninsula (north of vegetation tension zone)	(3 pts.)	
m Lower Peninsula	(1 pts.)	

2. Local abundance: Is invasive Phragmites australis locally abundant in similar habitat in the general area*?

*General area is approximately 2 miles from the site

ery Abundant (>50% of similar habitat is infested)	(-5 pts.)	
Ioderate to low abundance (10-50% infested)	(0 pts.)	
irtually absent locally (<10% infested)	(5 pts.)	

3. Infestation size: How large is the Phragmites infestation (approximate patch size)?

ess than 1000 square feet	(9 pts.)	
000 square feet - 1 acre	(7 pts.)	
acre - 20 acres	(5 pts.)	
ireater than 20 acres	(3 pts.)	

4. Linear feature: Is the infestation in a linear feature, such as a roadside ditch, drain, utility corridor, etc.?

Yes, the infestation is in a linear feature	(5 pts.)	
No, the infestation is in a linear feature	(0 pts.)	

5. Seed source: Is the area acting as a potential seed source to non-infested areas

he patch size is less than 1 acre AND the entire area will be treated	(5 pts.)	
he patch size is less than 1 acre AND the entire area will NOT be treated	(1 pts.)	
he patch size is more of than 1 acre AND the treatment is on the edge of the nfestation OR the entire area will be treated	(3 pts.)	
he patch size is more than 1 acre AND the treatment is NOT on the edge of he infestation OR the entire area will not be treated	(-5 pts.)	

6. Habitat quality: What is the habitat quality and structure development (relative to similar natural community types)?

Excellent - This area is an excellent example of a natural community	
(e.g. dominated by native plant species; diversity of plant species and growth forms, features such as hummocks, woody debris, open space and cover; and abundant wildlife habitat features such as breeding, rearing, and nursery areas)	(5 pts.)
Good - not excellent, but still a good example of a natural community	
(e.g. some diversity of plant species and growth forms, moderate to sparse hummocks, woody debris, open space and cover; and moderate wildlife habitat features such as breading, rearing, and nursery areas)	(3 pts.)
Poor - degraded habitat, poor example of a natural community	
(e.g. very low diversity of native plant species and growth forms, almost no hummocks, woody debris, open space and cover; and very sparse wildlife habitat features such as breeding, rearing, and numery areas)	(1 pts.)



Value Score

Human Values Criteria

1. Ownership: Property Ownership/Location (select all that apply)

Value	Score
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DE

Great Lakes Bottomlands (Below Ordinary High Water Mark of the Great Lakes)	(3 pts.)
Public	(2 pts.)
Private	(1 pts.)

Aesthetics: What is the severity of the aesthetic impacts of the Phragmites infestation?

Severe - entirely blocking shoreline views of water bodies, inhibiting public scenic road or waterway views, etc.	(3 pts.)
Moderate - some (but not entire) blockage of shoreline or other public scenic views	(2 pts.)
Mild - Little to no blockage of shoreline or other public scenic views	(1 pts.)

Recreational impacts: Is the Phragmites negatively impacting recreational opportunities at this site?

Severely impacting recreation - inhibiting boat or walking access to the water, reduction in waterfowl and fish use of the area, reduced visibility inhibiting bird watching, hunting, etc.	(5 pts.)
Moderately impacting recreation - some moderate impacts to boat or walking access to the water, reduction in waterfowl and fish use of the area, or reduced visibility for bird watching, humting, etc.	(3 pts.)
Not impacting recreation - little to no impacts on recreational activities.	(1 pts.)

 Human safety hazard: Is the Phragmites infestation causing a human safety hazard?

Significant hazard - blocking views along major roads and intersections, fire-prone dry thatch accumulation adjacent to homes and buildings, etc.	(5 pts.)
Moderate hazard - Currently not, but has the potential to block views along roads and intersections, some dry thatch adjacent to buildings, etc.	(3 pts.)
No apparent safety hazard.	(1 pts.)

Feasibility/Coordination of Treatment

 Nearby treatment sites: Are there sites nearby where Phragmites treatment is planned?

Yes - This site is near (e.g., within 1 mile radius) another site where Phragmites treat- ment is planned and will be conducted in synchronization with pooled resources, etc.	(2 pts.)
Maybe - Unsure, at this point, if nearby treatment is being planned.	(1 pts.)
No - The site is not near any other planned treatment sites.	(0 pts.)

2. Difficulty of treatment: How difficult would treatment be at this location?

Very Easy - easy access to the entire Pfragmites infestation, and you have access to the proper equipment. Minimal natural resource impacts (i.e., native vegetation/habitat) from treatment with the proper use of best management practices.	(5 pts.)
Moderate - easy to moderate accessibility to the infestation, and you have access to the proper equipment. Using best management practices will minimize negative impacts to native vegetation/habitat.	(1 pts.)
Difficult - difficult or impossible to access the entire Phragmites infestation, or you do not have access to the proper equipment. Treatment may cause excess damage to natural resources.	(-5 pts.)

TOTAL SCORE

Example Sites



	Selection	Score
Ecological Criteria		
Region	Northern Lower	3
Local Abundance	Moderate - Low	0
Infestation Size	1000 sq. ft 1 ac.	7
Linear Feature	No	0
Seed Source	Patch < 1 ac. AND entire area will be treated	5
Habitat Quality	Good	3
Human Values Criteria		
Ownership	GL Bottomlands & Private	4
Aesthetics	Mild	1
Recreational Impacts	Moderate	3
Human Safety Hazard	None	1
Feasibility/Coordination Criteria		
Nearby Treatment Sites	Maybe	1
Difficulty of Treatment	Very Easy	5
TOTAL SCORE		22

Example Site A Higher Likelihood of Success Less Strain on Resources (funding, personnel, equipment)



	Selection	Score
Ecological Criteria		
Region	Southern Lower	1
Local Abundance	Very Abundant	-5
Infestation Size	> 20 ac.	3
Linear Feature	No	0
Seed Source	Patch > 1 ac. AND entire area will not be treated	-5
Habitat Quality	Poor	1
Human Values Criteria		
Ownership	GL Bottomlands & Public	5
Aesthetics	Severe	3
Recreational Impacts	Severe	5
Human Safety Hazard	None	1
Feasibility/Coordination Criteria		
Nearby Treatment Sites	Maybe	1
Difficulty of Treatment	Difficult	-5
TOTAL SCORE		5

Example Site B Lower Likelihood of Success Greater Strain on Resources (funding personnel, equipment)

Michigan's Aquatic Invasive Plant Watch List

Aquatic invasive species on the watch list have been identified as being an immediate and significant threat to Michigan's natural resources. These species either have never been confirmed in the wild in Michigan or have a limited known distribution. Early detection and timely reporting are crucial for preventing establishment and limiting impacts. For more information on these plants, visit: www.misin.msu.edu

Be on the lookout for these invasive species!



These species are currently allowable for sale and possession. Please contact the DNR if these plants are observed outside of cultivation.

If you have seen any of these aquatic invaders, note their location and contact:





Michigan

Vatural

eatures

Michigan DNR Wildlife Division Phone: (517) 641- 4903 ext. 260 www.mi.gov/invasivespecies





Questions about other aquatic invasive plants? Contact the DEQ Aquatic Nuisance Control Program at 517-284-5593, www.mi.gov/anc





www.michigan.gov/invasives



Michigan Invasive Species

Overview

Species Profiles & Reporting Information

Take Action

Laws

Permits

Control & Management

Education & Outreach

Grants

Media Center

Contacts

Local Resources



An invasive species is one that is **not native** and whose introduction **causes harm**, or is likely to cause harm to Michigan's economy, environment, or human health.

Search

Many non-native species in Michigan, including fruits, vegetables, field crops, livestock and domestic animals, are important to our economy and lifestyle. Most non-native species are not harmful and may provide economic benefits. Invasive species cause harm when they out-compete native species by reproducing and spreading rapidly in areas where they have no natural predators and change the balance of the ecosystems we rely on.



Subscribe to Invasive Species Updates



Spotlight

- · Invasive red swamp crayfish found in two locations in Michigan
- St. Joseph and Kalamazoo rivers test clean for invasive silver and bighead carp
- · Early detection critical in controlling Michigan's aquatic invasive species
- Aquatic Invasive Species Awareness Week is July 2-8; Fourth annual Landing Blitz launches Saturday
- Michigan Implements Hemlock Woolly Adelgid Interior Quarantine





Michigan's Invasive Species Program is cooperatively implemented by the Michigan Departments of Agriculture & Rural Development, Environmental Quality and Natural Resources.

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