

Huron Heartland Invasive Species Network



**Huron Heartland
Invasive Species Network**

Strategic Management Plan

Version 1.0, April 2020

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Introduction

An invasive species is a species that is not native and whose introduction causes harm or is likely to cause harm to Michigan's economy, environment, or human health. Invasive species have been a threat to Michigan's natural resources for many years. Their advantageous and aggressive nature have made invasive species one of the largest threats to our natural resources. Spreading more quickly in southern portions of the state, Northern Michigan is still home to many natural areas where invasive species have not yet degraded the landscape. To keep Northern Michigan healthy and from becoming a landscape made up of invasive species, a cooperative weed management area was established in 2009 by Huron Pines and their partners. The Northeast Michigan CWMA had tremendous success managing invasive species for 10 years, however the size and complexity of serving a 12 county area presented many challenges that we no longer had the capacity to fully address. At the end of 2019 the collaborative decided that the best way to serve our communities, expand the reach of our work and ensure the long term stability of cooperative invasive species management across Northern Michigan was to focus our efforts and reorganize into two distinct but cohesive and high-functioning management units, leading to the creation of this plan. This strategic plan builds on the solid foundation established by our original NE MI CWMA management plan, organizational procedures, and partner relationships.

A cooperative approach to invasive species management is beneficial in many ways. There are several names used to describe cooperative invasive species management units across the state, the most common include Cooperative Invasive Species Management Areas (CISMA), Cooperative Weed Management Areas (CWMA) and Invasive Species Networks. These names may be used interchangeably, however our unit will be referred to as the Huron Heartland Invasive Species Network in all communications. Bringing partners together from across the region as well as working with the statewide network of CISMAs in a coordinated and cohesive way to address invasive species issues ensures consistent, efficient and effective methods are being used and shared across the region. Partnerships enable the Huron Heartland ISN to share resources and information across jurisdictional lines so that management can be carried out along ecological, rather than political, boundaries. Partners can work together to leverage funds and share resources to ensure management success. Investing in a region-wide management effort today is an investment in the future of Northern Michigan.

Mission and Vision

The mission of the Huron Heartland Invasive Species Network is to work collaboratively to prevent the introduction and spread of invasive species and to raise awareness to ensure healthy ecosystems and engaged communities across Northern Michigan.

We envision a Northern Michigan where native plants and wildlife thrive uninhibited by invasive species, enriching the quality of life.

Geographic Scope

The geographic scope, or service area, of the Huron Heartland Invasive Species Network covers six counties of Northeast Michigan. Those counties include Otsego, Montmorency, Crawford, Oscoda, Roscommon, and Ogemaw. These six counties cover over 2 million acres of land made up of numerous inland lakes, portions of seven watersheds, and many acres of private and public lands. See the appendices - Priority Areas - for further information on this geography. Activities may occur outside of this geographic range if the steering committee decides a project contributes to our mission and benefits the natural communities within our service area.



Goals, Strategies, and Activities

Management

For the purpose of this document, management is defined as any on the ground action taken to control invasive species. **Our goal is to manage invasive species populations in a manner that positively impacts native plant and wildlife communities across our service area.**

Strategy 1 Prevention: All HH ISN staff, partners and volunteers will take preventative steps whenever conducting invasive species work to eliminate the risk of species spread.

- ❖ All HH ISN staff, volunteers, contractors, and partners must follow our decontamination protocols (see appendix) when working on stewardship projects.
- ❖ During detection activities locate potential pathways of spread for future management such as outreach, establishing boot brush stations, or erecting signage.
- ❖ Include prevention/decontamination messaging in all education and outreach.
- ❖ Utilize social science approaches to gain insights into motivations and comprehension of invasive species issues among priority audiences (see appendices) to craft specific messaging that demonstrates how invasive species impact their interests.

Strategy 2 Inventory and monitoring: Data will be collected annually through inventories and monitoring across our service area to determine species distribution, new invasive species establishment and success of control efforts.

- ❖ Systematically conduct terrestrial and aquatic inventories, searching for source populations and beginning in high priority areas. This data will then be uploaded to MISIN.

- ❖ Monitor all invasive species removal sites at minimum one year post either through in person visits or landowner reporting to determine success of control efforts.
- ❖ Review MISIN alerts and other landowner/general public reported sightings and ground truth as needed, this may involve conducting landowner site visits.

Strategy 3 Control: When new occurrences of species are reported, whether it is a new species or a known species in a new or priority location, quick action will be taken to control the infestation.

Control for other species will occur based on their priority and location.

- ❖ Implement the most efficient, economical and environmentally friendly treatment methods through continued research and education.
- ❖ Treat invasive species infestations based on species and location priority, targeting source populations.
- ❖ Strive to maintain our ability to assist private landowners through the cost-share program.

Strategy 4 Restoration: Where appropriate, steps will be taken to further restore sites where invasive species have been treated to ensure the long term success of control efforts.

- ❖ Establish native plant communities when appropriate and necessary for successful site restoration, to prevent invasive species from establishing or re-establishing, and/or to promote climate resiliency.
- ❖ In conjunction with invasive species treatment, encourage the public, municipalities, associations etc. to use diverse and region appropriate native plants in landscaping and on shorelines through outreach promotion.

Engagement

For the purpose of this document, engagement is defined as providing outreach and educational opportunities to partners and the general public and engaging people in management through

volunteerism and trainings. **Our goal is to create and support an engaged public who is able to make informed decisions on invasive species management.**

Strategy 1 Outreach: Build off of current outreach materials and leverage partner efforts, while also continuously exploring new ways to present educational material to keep the public engaged and informed about the issues surrounding invasive species.

- ❖ Focus on large organizations/groups/municipalities through specialized training opportunities or partnership agreements to inspire large scale management and learning.
- ❖ Create a HH ISN website that is linked from Huron Pines as well as other partner sites to provide a central location for shared knowledge, questions, and information.
- ❖ Promote the HH ISN and our activities at conferences or other large invasive species meetings including the annual MISC meeting, as funding allows.

Strategy 2 Learning Opportunities: Offer learning and volunteer opportunities that provide landowners, municipalities, the general public etc. the knowledge to make informed decisions about invasive species management actions.

- ❖ Recruit and train volunteers as well as other municipalities/organizations in priority species identification, reporting, and removal.
- ❖ Engage volunteers to assist in species detection, removal, and restoration projects while additionally striving to retain volunteers long term.
- ❖ Support learning events in every county in our service area as well as provide an end of year partner meeting/ report to share the year's accomplishments, future plans, and obtain partner feedback.
- ❖ Leverage partner events to generate support for invasive species management and have partners leverage HH ISN activities.

Strategy 3 Evaluate: Evaluate all applicable educational events to continuously improve and evaluate the effectiveness of our outreach efforts.

- ❖ Create and use surveys and/or other questionnaires after every significant outreach event to evaluate its receptiveness and value and to make program improvements.
- ❖ Annually review social media page impressions and website visits to determine their use and effectiveness and use the data to improve use of these platforms.

Operation

For the purpose of this document, operation is defined as working collaboratively to operate and sustain the Huron Heartland ISN long term to meet our mission and goals. **Our goal is to effectively and efficiently sustain the operation of our ISN through streamlined processes led by a team of well trained, knowledgeable stewards.**

Strategy 1 Leadership and Coordination: Coordinate the Huron Heartland ISN in a manner that establishes us as the go to organization for invasive species concerns in our service area.

- ❖ Proactively develop and sustain cooperative partnerships with public, private and non-traditional partners as well as other CISMAs.
- ❖ Define the roles and responsibilities of partner organizations including how to join, what is required of a partner and what benefits a partner is provided (see appendices).
- ❖ Take an adaptive management approach, adjusting techniques as necessary to increase efficiencies and our success.
- ❖ Operate a network of engaged partners through such means as sending updates, engaging in activities, including in decision making (when applicable), and by holding steering committee meetings.

- ❖ Invite potential and current funders to job sites to promote project work and establish good connections.

Strategy 2 Funding: Effectively use and obtain funding to support projects that meet our mission and goals as well as establish/secure long-term sustainable funding options.

- ❖ Apply for public and private funding opportunities while continuously exploring new and creative opportunities to fund our operation.
- ❖ Continue HH ISN's cost share program for private landowners and secure funding to support this program.
- ❖ Engage with HH ISN partners, such as neighboring CISMAs, to collaborate on larger-scale funding opportunities.
- ❖ Establish a contingency plan in the appendices outlining the operations and projects that are priority to continue if limited funding situations occur.

Strategy 3 Adaptive Administration: Adaptively manage our strategic plan to best meet our mission and goals and ensure invasive species issues are addressed in a manner best suited to the situation.

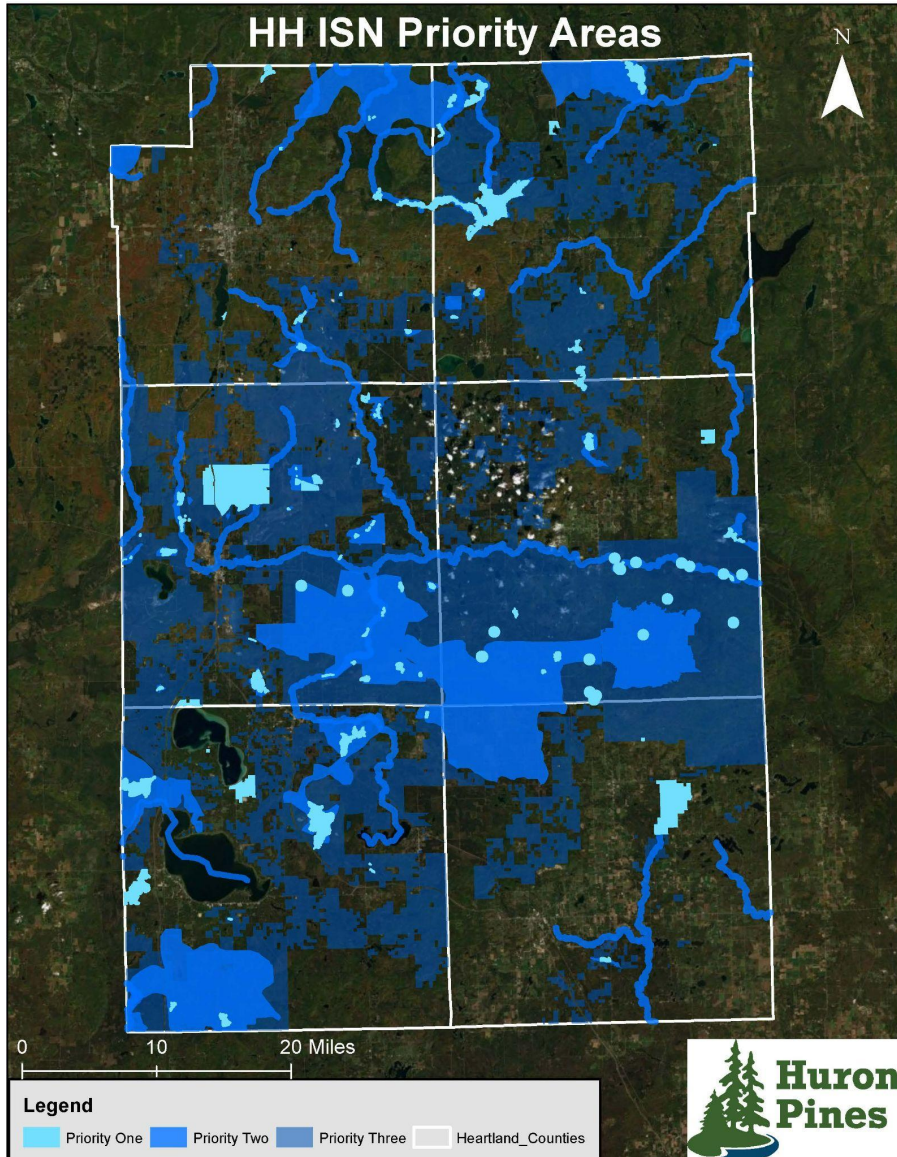
- ❖ Review plan annually and update as needed while remaining flexible during the year in its implementation.
- ❖ Encourage continued learning to ensure we are implementing the best invasive species management actions and sharing new knowledge with partners.
- ❖ Annually review the year's accomplishments to determine alignment with programmatic goals. Develop and adapt management activity plans for the following year as needed.
- ❖ The steering committee and coordinator will include yearly accomplishments and adaptive management recommendations in an annual report to be shared with all HH ISN partners.

Measuring Success

In order to measure our success, we have established the rating system shown in the tables in Appendix F for each category. At the end of each year, the HH ISN will evaluate the progress made toward each strategy by assigning it a green, yellow, or red rating. If a strategy receives a red rating, the steering committee will discuss why this occurred and make any changes to improve this rating for the following year. Similarly, if a strategy receives a yellow rating, we will evaluate any changes that need to be made to increase that rating in the following year. A green rating shows that our goal was met satisfactorily, and adjustments are most likely not necessary.

Appendices

Appendix A: Priority Areas



Priority One Includes: Preserve Lands (MNA, Headwaters, DNR State Parks, TNC, USFS Rec Areas), High Quality MNFI Designated Natural Communities (Bogs, Fens, Barrens, etc.)

Priority Two Includes: High Quality River Corridors (Buffered 50 ft.) and Biodiversity Stewardship Areas

Priority Three Includes: State or Federal Owned Forestland

Appendix B: Priority Species

The following prioritization tool (Figure 1) was modified from the National Invasive Species Council's considerations for prioritizing control projects checklist (2005) to assist in the prioritization of midwestern invasive species. Once species were determined as being of low, medium, or high priority, they were then placed into the applicable Management Level (Figure 2) based on the HH ISN's current ability to address the issue. Management Levels were modified from the US Forest Service's threat level designations. The results of this prioritization can be seen in the chart below (Figure 3).

Figure 1: Modified NISC Prioritization Tool

		Low	Medium	High
1.	Does the invasive species have a specific statutory/policy designation (federal, state, local restricted, prohibited) status? (Species with designations receive high priority)			
2.	Are adequate and environmentally sound management methods and resources available? (populations that can be controlled receive high priority, environmental impacts of control actions should be weighed against impacts from taking no action)			
3.	Are the current and potential social, economic, and/or cultural impacts of the invasive species significant?			
4.	Does the target species provide economic, social or environmental benefits?			
5.	Is there concern from landowners and the general public about the presence of this species?			
	Totals:			

Figure 2: Huron Heartland Management Level Category and Definition

Management Level	Description
Monitor	Species is not known to be in the region but is likely to cause significant environmental, economic, or human harm. Monitor for and eradicate if found.
Eradicate	Species is found in isolated populations or low densities within the region, is spreading rapidly, and is likely to cause significant environmental, economic, or human harm.
Target	Species is widespread across the state but not as prominent within the region. Source populations, outlying populations, and areas of high spread risk should be targeted first.
Control	Species is nearly ubiquitous and has already caused significant environmental, economic, or human harm. Removal should only occur in high priority areas.
Education	Species may be found within the region and identified as a concern, but the HH ISN does not currently have the means to take removal actions. The only action will be educating the public and noting during inventories.

Figure 3: Huron Heartland ISN Species Prioritization

*Asian Longhorned Beetle	<i>Anoplophora glabripennis</i>	High	Monitor
*Asiatic Sand Sedge	<i>Carex kobomugi</i>	Low	Monitor
*Brazilian elodea	<i>Egeria densa</i>	Low	Education
*Chinese yam	<i>Dioscorea polystachya</i>	Low	Monitor
*European frogbit	<i>Hydrocharis morsus-ranae</i>	High	Eradicate
*European Waterclover	<i>Marsilea quadrifolia</i>	Low	Monitor
*Hemlock Woolly Adelgid	<i>Adelges tsugae</i>	High	Monitor
*Himalyan Balsam	<i>Impatiens glandulifera</i>	Low	Monitor
*Hydrilla	<i>Hydrilla verticillata</i>	Low	Education
*Invasive Crayfish		Low	Education
*Invasive fish species		Low	Education
*Japanese Chaff Flower	<i>Achyranthes japonica</i>	Low	Monitor
*Japanese stiltgrass	<i>Microstegium vimineum</i>	High	Monitor
*Kudzu	<i>Pueraria montana</i>	High	Monitor
*Mile-a-minute weed	<i>Persicaria perfoliata</i>	Low	Monitor
*Nutria	<i>Myocastor coypus</i>	Low	Education
*Parrot Feather	<i>Myriophyllum aquaticum</i>	Low	Education
*Spotted lanternfly	<i>Lycorma delicatula</i>	Low	Monitor
*Thousand cankers disease	<i>Geosmithia morbida</i>	Low	Education
*Water chesnut	<i>Trapa natans</i>	Low	Monitor
*Water hyacinth	<i>Eichhornia crassipes</i>	High	Monitor
*Water lettuce	<i>Pistia stratiotes</i>	High	Monitor
*Water soldier	<i>Stratiotes aloide</i>	Low	Monitor
*Yellow floating heart	<i>Nymphoides peltata</i>	Low	Monitor
Asian bittersweet	<i>Celastrus orbiculatus</i>	High	Monitor
Austrian pine	<i>Pinus nigra</i>	Low	Monitor
Autumn olive	<i>Elaeagnus umbellata</i>	Medium	Control
Baby's breath	<i>Gypsophila paniculata</i>	High	Monitor
Balsam Woolly Adelgid	<i>Adelges piceae</i>	Low	Monitor
Beech Bark Disease	<i>Neonectria spp.</i>	Low	Education

Beech Leaf Disease	<i>Litylenchus spp</i>	Low	Education
Birds-foot trefoil	<i>Lotus corniculatus</i>	Low	Control
Black Jetbead	<i>Rhodotypos scandens</i>	High	Monitor
Black locust	<i>Robinia pseudoacacia</i>	Medium	Target
Black swallow-wort	<i>Cynanchum louiseae</i>	High	Eradicate
Bladder campion	<i>Silene vulgaris</i>	Low	Control
Border privet	<i>Ligustrum ovalifolium</i>	Low	Monitor
Bristly locust	<i>Robinia hispida</i>	High	Eradicate
Broadleaf helleborine	<i>Epipactis helleborine</i>	Low	Control
Buckthorn sp.	<i>Rhamnus spp.</i>	High	Control
Bull thistle	<i>Cirsium vulgare</i>	Low	Control
Burningbush	<i>Euonymus alatus</i>	High	Monitor
Canada thistle	<i>Cirsium arvense</i>	Low	Control
Cheatgrass	<i>Bromus tectorum</i>	Low	Monitor
Coltsfoot	<i>Tussilago farfara</i>	High	Monitor
Common (garden) valerian	<i>Valeriana officinalis</i>	High	Control
Common barberry	<i>Berberis vulgaris</i>	High	Eradicate
Common burdock	<i>Arctium minus</i>	Low	Control
Common mullein	<i>Verbascum thapsus</i>	Low	Control
Common St. John's-wort	<i>Hypericum perforatum</i>	Low	Control
Common tansy	<i>Tanacetum vulgare</i>	Medium	Control
Creeping Jenny (also called Moneywort)	<i>Lysimachia nummularia</i>	Medium	Monitor
Curly pondweed	<i>Potamogeton crispus</i>	Medium	Education
Cypress spurge	<i>Euphorbia cyparissias</i>	Low	Control
Dame's rocket	<i>Hesperis matronalis</i>	High	Control
Eurasian water-milfoil	<i>Myriophyllum spicatum</i>	Medium	Education
Eurasian phragmites	<i>Phragmites australis</i>	high	Target
European privet	<i>Ligustrum vulgare</i>	High	Control
European spindle tree	<i>Euonymus europaeus</i>	High	Monitor
European Swamp Thistle (Marsh thistle)	<i>Cirsium palustre</i>	High	Monitor

Field bindweed	<i>Convolvulus arvensis</i>	Low	Monitor
Flowering rush	<i>Butomus umbellatus</i>	High	Monitor
Garlic mustard	<i>Alliaria petiolata</i>	High	Target
Giant hogweed	<i>Heracleum mantegazzianum</i>	High	Monitor

Giant reed	<i>Arundo donax</i>	High	Monitor
Goutweed	<i>Aegopodium podagraria</i>	High	Control
Greater burdock	<i>Arctium lappa</i>	High	Control
Hickory Wilt	<i>Ceratocystis smalleyii</i>	Medium	Monitor
Hoary alyssum	<i>Berteroa incana</i>	Low	Control
Houndstongue	<i>Cynoglossum officinale</i>	High	Monitor
Invasive animals not individually listed		Medium	Education
Invasive honeysuckles	<i>Lonicera spp.</i>	Medium	Control
Japanese barberry	<i>Berberis thunbergii</i>	High	Target
Japanese hops	<i>Humulus japonicus</i>	High	Monitor
Knotweed sp.	<i>Fallopia spp.</i>	High	Eradicate
Lathco flatpea	<i>Lathyrus sylvestris</i>	Low	Monitor
Leafy spurge	<i>Euphorbia esula</i>	Low	Control
Lilac	<i>Syringa vulgaris</i>	Medium	Control
Lily-of-the-valley	<i>Convallaria majalis</i>	High	Control
Lombardy poplar	<i>Populus nigra</i>	Medium	Monitor
Lyme grass	<i>Leymus arenarius</i>	Medium	Monitor
Money plant	<i>Lunaria annua</i>	High	Monitor
Multiflora rose	<i>Rosa multiflora</i>	High	Control
Musk thistle	<i>Carduus nutans</i>	High	Control
Narrow leaved cattail	<i>Typha angustifolia</i>	Low	Control
New Zealand Mudsnail	<i>Potamopyrgus antipodarum</i>	Medium	Monitor
Norway maple	<i>Acer platanoides</i>	High	Control
Oak Wilt	<i>Bretziella fagacearum</i>	Medium	Monitor
Orchard grass	<i>Dactylus glomerata</i>	Low	Control
Oregon grape	<i>Mahonia bealei</i>	High	Monitor

Oriental bittersweet	<i>Celastrus orbiculatus</i>	High	Eradicate
Pale swallow-wort	<i>Cynanchum rossicum</i>	High	Monitor
Perennial Pea	<i>Lathyrus latifolius</i>	Low	Control
Perennial sow thistle	<i>Sonchus arvensis</i>	Low	Control
Periwinkle	<i>Vinca minor</i>	Low	Control
Phragmites	<i>Phragmites australis ssp. australis</i>	High	Target
Porcelainberry	<i>Ampelopsis brevipedunculata</i>	High	Monitor
Purple crown vetch	<i>Securigera varia</i>	High	Target
Purple loosestrife	<i>Lythrum salicaria</i>	High	Target
Queen Anne's Lace	<i>Daucus carota</i>	Low	Control
Reed canary grass	<i>Phalaris arundinacea</i>	Medium	Control
Russian thistle	<i>Rhaponticum repens</i>	Low	Monitor
Saltcedar	<i>Tamarix chinensis</i>	High	Monitor
Scotch pine	<i>Pinus sylvestris</i>	Low	Control
Scotch thistle	<i>Onopordum acanthium</i>	High	Monitor
Siberian elm	<i>Ulmus pumila</i>	Low	Monitor
Siberian peashrub	<i>Caragana arborescens</i>	High	Monitor
Smooth brome	<i>Bromus inermis</i>	Low	Control
Spotted knapweed	<i>Centaurea stoebe</i>	Low	Control
Spreading star thistle	<i>Centaurea diffusa</i>	Low	Monitor
Sudden Oak Death	<i>Phytophthora ramorum</i>	Low	Education
Teasel species	<i>Dipsacus fullonum</i>	High	Control
Tree-of-heaven	<i>Ailanthus altissima</i>	Low	Monitor
White poplar	<i>Populus alba</i>	Medium	Monitor
White sweet clover	<i>Melilotus albus</i>	Low	Control
Wild garlic	<i>Allium vineale</i>	Low	Monitor
Wild parsley	<i>Torilis japonica</i>	Medium	Control
Wild parsnip	<i>Pastinaca sativa</i>	High	Target
Yellow Archangel	<i>Lamiaeum galeobdolon</i>	High	Monitor
Yellow Iris	<i>Iris pseudacorus</i>	High	Control

Garden Yellowrocket	<i>Barbarea vulgaris</i>	Low	Monitor
Yellow sweet clover	<i>Melilotus officinalis</i>	Medium	Control
Other invasive insects?			Education
Marestail	<i>Conyza canadensis</i>	Low	Monitor
True Forget-me-not	<i>Myosotis scorpioides</i>	Low	Control
Butter and Eggs	<i>Linaria vulgaris</i>	Low	Control

The following list showcases our top species of concern for the Huron Heartland ISN. This list may adapt to changes in infestations and species presence within our service area.

1. European Frog-Bit
2. Eurasian Phragmites
3. Japanese Knotweed
4. Hemlock Woolly Adelgid
5. Japanese Barberry
6. Asian Longhorned Beetle

Appendix C: Priority Audiences*not yet completed

The HH ISN has determined the following audiences as priorities to focus outreach and education on. These audiences include:

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Appendix D: Organizational Structure, Roles and Responsibilities

Huron Heartland ISN Coordinator - The coordinator sees to the day to day tasks required to operate the ISN. These tasks may include such things as applying for funding, answering inquiries from the public, supervising a field crew to meet project goals, ensuring that project goals are being met as well as any grant deliverables, scheduling steering committee meetings, conducting education and outreach.

Stewardship Technicians - When funding allows, the Huron Heartland ISN will hire and lead a team of technicians to conduct on the ground activities to help reach project goals. Activities may include conducting herbicide treatments and other invasive species removal techniques, monitoring sites, inventorying for invasive species and other environmental concerns, and collecting and uploading applicable invasive species data. Stewardship technicians may also work on other Huron Pines projects under other projects/funding and they may either be seasonal or year round employees.

Huron Pines - Huron Pines is the founding organization of the original Northeast Michigan Cooperative Weed Management Area. Huron Pines is the active fiduciary for the Huron Heartland ISN. Huron Pines also provides education, marketing, and additional stewardship support and guidance to Huron Heartland ISN projects. Huron Pines houses all ISN staff and supplies.

Steering Committee - The Huron Heartland steering committee is comprised of a small group of partners that represent the organizations and people across our service area. The mission of our steering committee is to provide input, decision making, and active collaboration to ensure the Huron Invasive Species Network is pursuing and accomplishing projects that align with our mission. Steering Committee participation is not static, new members may be asked to join and current members may wish not to serve. As outlined in our first meeting on February 27th, 2020, the ground rules of our steering committee are to 1. State and ask genuine questions, 2. Explain your reasoning and intent, 3. Use specific examples and agree on what important words mean, 4. Share all relevant information, 5. Jointly design next steps, 6. Discuss all issues, and 7. Professionalism and compromise equal common ground. Our current steering committee membership is as follows:

Rich Corner - Forest Ecologist - US Forest Service - Cadillac, MI

Steve Woods - Conservation Stewardship Director - Huron Pines - Gaylord, MI

Matt Kleitch - Natural Resource Specialist - Camp Grayling JMTC - Grayling, MI

Julie Crick - Natural Resource Educator - Michigan State University Extension - Roscommon, MI
Scott Lint - Forest Health Specialist - Michigan Department of Natural Resources
Jennifer Falkey - East Zone Ecologist - US Forest Service - Oscoda, MI
Sharcy Ray - District Conservationist - NRCS - Gaylord, MI

Appendix E: Decontamination Policy

Decontamination Policy

In order to prevent the introduction or further the spread of invasive species and other potentially harmful environmental threats, all gear and equipment is to be properly decontaminated before leaving a project site and/or visiting a new site.

All Huron Heartland ISN staff, partners, volunteers, and contractors shall be provided with proper decontamination information/training and are asked to follow all procedures. In order to work collaboratively to prevent the introduction and spread of invasive species and to raise awareness to ensure healthy ecosystems and engaged communities across Northern Michigan, the following steps shall be followed.

Decontamination Procedure

- Who: All staff, volunteers, contractors, and partners
- What: Decontamination of all equipment after participating in outdoor events/projects
- Where: All sites where work is performed outdoors
- When: Every time we are preparing to leave the field of work or enter a new site
- Why: Prevent the spread and/or introduction of invasive species and other potentially harmful plants/animals/ pathogens
- How:
 - Begin by visually inspecting all equipment that came into contact with the environment and hand remove any visible materials. Be sure to check:
 - Boot/wader treads
 - All clothing, especially cuffs
 - Watercraft including the trailer, motor, ropes, paddles, and floor
 - Vehicle floor, door jams, wheel well, tire tread, undercarriage, hitch, trunk/back-end and any trailers
 - Tools; especially rakes, shovels, buckets and any fishing/aquatic implements
 - Next, implement the appropriate decontamination process:

- Clothing: use boot brush/pick to clean out footwear treads, use a lint roller or hand remove material from clothing.
- Vehicle: use lint-roller, hand, vacuum, or brush and dustpan to collect and dispose of material. If needed due to mud/debris build-up on the outside of the vehicle, powerwash before entering a new site
- Watercraft: drain all water from the craft on site, hand remove all plant material, powerwash or let dry for 7 days before entering a new waterbody. For smaller crafts such as kayaks, you can spray with a cleaning solution (described below) and dry with a hand towel in place of powerwashing.
- Tools: clean off all materials with a stiff brush or hose/powerwasher,
- Water equipment (including waders): spray with chemical solution (see below), wipe down with disinfectant wipe, freeze for 2 days, or let dry for 7 days

Additional information for decontaminating aquatic equipment:

- o Carry in clean water to your site for equipment rinsing, never use water from the waterbody! Also be sure to wear appropriate PPE when handling chemicals.
 - Bleach Solution Method
 - Mix a ½ cup of bleach to 5 gallons of water (or 120 ml bleach to 19 liters of water). Use a spray bottle to apply the solution, leave the solution on the equipment for ten minutes before rinsing
 - If near water, collect the rinse water in a tote or bucket and dispose of it in a sewer. You can also rinse your equipment in an upland gravel parking lot where it can slowly absorb into the ground. NEVER let chemicals enter a body of water.
 - Virkon Aquatic® Method
 - o Mix a 2% solution with water and apply to equipment with a spray bottle, leave the solution on the equipment for 20 minutes before rinsing. Make sure to follow all manufacturer label instructions.
 - Formula 409 Method
 - o Submerge or spray your equipment with Formula 409, leave on equipment for 10 minutes and then rinse clean
 - o Dispose of rinse water in the same manner described above for bleach solution
 - Disinfectant wipes

- o For items such as fishing poles, net handles, or other such implements, you can simply wipe with a household disinfectant wipe. Be sure to let dry or rinse clean before submerging in a new waterbody so no chemical residue is emitted.

*Chemical methods have been known to degrade rubber and other materials when used over time. Use your own discretion when applying to equipment, especially waders.

Appendix F: Measuring Success Tables

Management

Strategy	Green	Yellow	Red	End of Year Rating
Prevention	≥80% of partners receive decontamination policy/training	≥60% of partners receive decontamination policy/training	<60% of partners receive decontamination policy/training	
Prevention	≥80% outreach contains prevention/decon messaging	≥60% of outreach contains prevention/decon messaging	<60% of outreach contains prevention/decon messaging	
Inventory and Monitoring	≥80% of planned inventories/site visits have been conducted	≥60% of planned inventories/site visits have been conducted	<60% of planned inventories/site visits have been conducted	
Inventory and Monitoring	≥80% of all previously treated sites have been monitored	≥60% of all previously treated sites have been monitored	<60% of all previously treated sites have been monitored	
Control	≥80% of planned treatments occurred	≥60% of planned treatments occurred	<60% of planned treatments occurred	
Restoration	≥80% of planned restorative action was taken	≥60% of planned restorative action was taken	<60% of planned restorative action was taken	

Engagement

Strategy	Green	Yellow	Red	End of Year Rating
Outreach	≥80% of planned outreach was delivered	≥60% of planned outreach was delivered	<60% of planned outreach was delivered	
Learning Opportunities	≥80% of desired volunteers were recruited/trained and participated in activities	≥60% of desired volunteers were recruited/trained and participated in activities	<60% of desired volunteers were recruited/trained and participated in activities	
Learning	All counties received an	≥60% of counties received	<60% of counties	

Opportunities	education event/opportunity	an education event/opportunity	received an education event/opportunity	
Evaluate	≥80% of all applicable outreach has been evaluated	≥60% of all applicable outreach has been evaluated	<60% of all applicable outreach has been evaluated	

Function

Strategy	Green	Yellow	Red	End of Year Rating
Leadership & Coordination	≥80% of planned partners have signed the new partner MOU	≥60% of planned partners have signed the new partner MOU	<60% of planned partners have signed the new partner MOU	
Leadership & Coordination	≥80% of planned Steering Committee and partner meetings were held	≥60% of planned Steering Committee and partner meetings were held	<60% of planned Steering Committee and partner meetings were held	
Leadership & Coordination	≥80% of planned new partnerships were developed	≥60% of planned new partnerships were developed	<60% of planned new partnerships were developed	
Funding	≥80% of planned funding opportunities were pursued	≥60% of planned funding opportunities were pursued	<60% of planned funding opportunities were pursued	
Funding	A funding contingency plan was created	The funding contingency plan was started but not finished	The funding contingency plan was not started	
Adaptive Admin.	Strategic plan, year's activities, and this table were reviewed	Strategic plan, year's activities, and this table were partially reviewed	Strategic plan, year's activities, and this table were not reviewed	

Appendix G: Partner Memorandum of Understanding

Huron Heartland Invasive Species Network Partner MOU



To keep Northern Michigan healthy and from becoming a landscape made up of invasive species, the Huron Heartland ISN needs a large support group of both public and private entities to share resources and work across jurisdictional boundaries to effectively manage invasive species across the landscape. Your support and interest will help in the protection of the vital natural resources of Northern Michigan.

Bringing partners together from across the region as well as working with the statewide network in a coordinated and cohesive way to address invasive species issues ensures consistent, efficient and effective methods are being used and shared across jurisdictional boundaries. Partnerships can involve individuals, agencies, nonprofit organizations and local units of government who help to prioritize and pool their limited resources in efforts to manage invasive species.

- Benefits of being a partner: receive informational updates via eNewsletters, ease of sharing resources (may be outreach materials, funding, equipment etc.), opportunity to provide input and feedback on HH ISN activities and projects, *your organization recognized on our website with the opportunity to have your events/information promoted (*the HH ISN does not yet have its own website, this benefit is pending).
- Your role as a partner: provide input at member meetings, share resources as able, strive to attend volunteer opportunities, supply letters of support when requested and able, promote the HH ISN's mission and activities.
- Additional specific support you would like to provide to the Huron Heartland ISN as a partner:

By signing this agreement, you are affirming your/your organization's support to work collaboratively to prevent the introduction and spread of invasive species and to raise awareness to ensure healthy ecosystems and engaged communities across Northern Michigan.

Name

Affiliation

Signature

Date

Email

Appendix H: Acknowledgements

We would like to take a moment to acknowledge and thank everyone who assisted in the creation of this strategic plan. First, we would like to thank Huron Pines, the founding organization of the Northeast Michigan Cooperative Weed Management Area and creators of the original strategic plan. Without the solid foundation created by those original Huron Pines staff, Huron Pines AmeriCorps members, and partners we would not be the successful invasive species network we are today.

We also appreciate all those who sent us their strategic plans as examples to reference, the CAKE CISMA, the Northwest Invasive Species Network, and the Oak Openings Invasive Plant Management team. In addition, Michigan's Aquatic Invasive Species Statewide Management Plan, Michigan's Terrestrial Invasive Species State Management Plan, and the National Invasive Species Management Plan were all referenced in the creation of this strategic plan.

We would not be here doing this great work without the support from all of our funders. We are fortunate to receive federal, state, and private funding for our work as well as the support from individual donors, associations/organizations, and all of the landowners who participate in our cost-share program.

Lastly, we must acknowledge all of our wonderful steering committee members and our ISN coordinator for doing the actual writing of this plan as well as the many others who provide daily support to the success of our invasive species network.

Thank you!