

Huron Coastal Invasive Species Network



**Huron Coastal
Invasive Species Network**

Strategic Management Plan

Version 1.3, March 2023

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Introduction

The influx of non-native invasive species is of great concern for the biodiversity and function of Michigan's Northern Lake Huron coastal ecosystems. An invasive species is defined as a species not native to the region, whose introduction causes harm, or is likely to cause harm, to Michigan's economy, environment, or human health. Invasive species significantly alter ecosystem function and negatively impact native plants, wildlife habitat, and hydrology. Invasive species also degrade land value and aesthetics of wild places, river corridors, and lakeshores that Michigan businesses and residents depend on for recreation, tourism, and local economy.

Michigan's Northern Lake Huron coastal region includes unique ecosystems such as dune and swale complexes, coastal fens, interdunal wetlands, marshes, shorelines, limestone bedrock glades and karst topography. These natural communities provide critical habitat to native plants, wildlife and several threatened, endangered, and rare species of concern. They also facilitate groundwater recharge, improve water quality, and provide shoreline erosion protection. These coastal ecosystems provide local communities with opportunities for outdoor recreation, education, clean drinking water and aesthetic beauty. Threats to these unique ecosystems include shoreline development, habitat alteration, and recreational use, while the unintentional movement of invasive species (especially in areas of high use such as roads, trails, campgrounds, and boat launches) increase the negative impact to these rare coastal habitats.

This strategic management plan builds off the foundation of the Northeast Michigan Cooperative Weed Management Area (NEMI CWMA), established in 2009 by Huron Pines and partners to manage invasive plant species across 12-counties (4.5 million acres) in the Northeast Lower Peninsula of Michigan. The NEMI CWMA had tremendous success at combating the spread of invasive species for over ten years and resulted in the participation of hundreds of landowners. To build on this success, the NEMI CWMA separated into two localized invasive species networks (ISN) in 2019, forming the Huron Coastal ISN and the Huron Heartland ISN. This establishes a refined approach to manage invasive species across Northeast Michigan by providing an increase in the overall capacity, greater efficiency, a higher level of local engagement and education, and a refined prioritization of invasive species management issues unique to each landscape.

Establishing a cooperative partnership approach with local units of government, state and federal agencies, nonprofit organizations, and private landowners allows unified and effective invasive species management across Northeast Michigan's coastal region. Working collaboratively provides the ability to share resources, information, and expertise so management can be carried out along

ecological, rather than political boundaries. A cooperative approach facilitates management success along the Northern Lake Huron shoreline and the adjacent ecosystems to which it connects.

Geographic Scope

The geographic scope, or service area, of the Huron Coastal ISN covers 5 counties in the Northeast Lower Peninsula of Michigan, including Cheboygan, Presque Isle, Alpena, Alcona, and Iosco Counties. This service area also includes the Charity Islands, two national wildlife refuge islands located in Saginaw Bay of Lake Huron, in Arenac County. This geographic area covers approximately 2 million acres of land which comprise portions of 12 watersheds underlain by karst topography. Because this is such a large geographic area, invasive species management will be prioritized according to habitat needs and available resources (see Priority Areas Appendix). Activities may occur outside of this geographic range if the steering committee decides a project is high priority and would benefit the natural communities within our service area.



**The HCISN is working to update the above map to include Charity Islands, county boundaries, major rivers, inland lakes and towns. This existing map will be used as a small inset map to show the location of our service area relative to Michigan.*

Mission and Vision

Working collaboratively, partners in the Huron Coastal Invasive Species Network will engage communities and lead them in a strategic and coordinated approach to invasive species management, including awareness, prevention, control and restoration across Northeast Michigan's Lake Huron coastal region.

We envision a Northeast Michigan where native plants and wildlife thrive, unencumbered by invasive species, and healthy ecosystems enrich the lives of all who enjoy the Northern Lake Huron coastline.

Goals, Strategies and Activities

The overall goal of the Huron Coastal ISN (HCISN) is to protect the natural resources and economy in Northeast Michigan's Lake Huron coastal region through collaborative management of invasive species, community engagement and sustainable function.

The three sub-goals (management, engagement, function) are divided into three sections below. Each section includes strategies and associated activities that represent the most effective, efficient, and highest priority processes to achieve the HCISN mission.

This strategic plan encompasses a 5 year timeframe (2021 - 2026), with an annual review that focuses on specific measurable objectives.

Management - Goal

Invasive species management implemented by the HCISN aims to benefit the overall health of native plant communities across Northeast Michigan's coastal region.

Management - Strategies and Activities

Management strategies include any action that reduces the distribution and/or abundance of invasive species habitats in the HCISN service area, including preventative steps to mitigate the risk of invasive species, early detection and rapid response measures, control of invasive species infestations, and restoration activities.

Management Strategy 1 - Prevention

Take preventative steps to keep invasive species out of our service area, eliminate the risk of spread and identify potential introduction pathways.

- 1a. Annually review the prioritization of vulnerable ecosystems (see Priority Areas Appendix)
- 1b. Identify and prioritize high-risk pathways of movement and introduction (such as gravel pits, quarries, roads, ditches, trails, campgrounds, boat launches, river corridors)
- 1c. Develop maps for each of the 5 service area counties highlighting priority areas and pathways of invasive species spread (see Priority Areas and Maps Appendix)
- 1d. Recommend and implement appropriate actions to prevent introduction and establishment of invasive species (i.e., boot brush stations and posting signs at high priority locations)
- 1e. Follow decontamination protocols when working on projects (see Decontamination Policy and Procedure Appendix)
- 1f. Identify key intervention points for when to train external stakeholders to follow decontamination protocols
- 1g. Provide decontamination training or kits to all active partners as funding allows

Management Strategy 2 - Inventory and Monitoring

Systematically conduct inventories and monitoring on an annual basis to determine species distribution and new invasive species establishment in our service area, and to determine success of remediation efforts.

- 2a. Conduct surveys to determine distribution and abundance of priority invasive species on the landscape and to detect new populations establishing in high priority areas
- 2b. Report invasive species detections and track project information on the Midwest Invasive Species Information Network (MISIN) database by November 20th each year
- 2c. Monitor invasive species treatment locations to determine success of remediation efforts
- 2d. Create an inventory map of known priority invasive plant infestations

Management Strategy 3 - Control and Management

Develop the tools, technologies, and methods necessary to prioritize and manage known invasive species infestations using the most efficient, economical and environmentally-safe control methods.

- 3a. Implement rapid response for new invasive species reported in our service area and/or reported in a neighboring county

- 3b. Prioritize and implement treatments based on priority species and priority locations where feasible, targeting source populations to control the rate of spread
- 3c. Strive to maintain private landowner assistance through the cost-share program to engage at least 200 landowners in high priority locations
- 3d. Comply with state and federal regulatory framework that guides invasive plant management and herbicide application in our service area

Management Strategy 4 - Restoration

Implement additional habitat restoration at project locations to restore or rehabilitate areas affected by invasive species. This may include native species revegetation, erosion control or restoration of ecosystem processes to result in sustained ecosystem health and the resistance to future invasions.

- 4a. Identify and prioritize restoration and rehabilitation needs in our service area
- 4b. Take actions to restore, monitor, and maintain high priority areas
- 4c. Aim to restore larger-scale sites to connect stewardship activities across our service area
- 4d. Establish native plant communities, using local, high-diversity native seed sources when possible, for successful site restoration and to reduce vulnerability to future invasions

Engagement - Goal

The HCISN engages partners and the general public to be informed, supportive, and involved in invasive species management in the counties located along Michigan's Northern Lake Huron coast.

Engagement - Strategies and Activities

Engagement strategies include developing partnerships, providing outreach and educational opportunities, and reporting on project success to engage partners and the general public in the management of invasive species in the HCISN service area.

Engagement Strategy 1 - Develop Novel and Strategic Partnerships

Improve cooperative efforts with new and existing partners, including municipalities, county road commissions, quarries, outfitters, liveries, private landowners, campground owners, hunt clubs, lake associations, Friends of Negwegon State Park and other friends groups, Alpena Wildlife Sanctuary, universities, Thunder Bay National Marine Sanctuary, Northeast Michigan Great Lakes Stewardship

Initiative and other organizations that conduct invasive species management, research, stewardship and education of natural resources.

- 1a. Develop new and expand existing partnerships throughout the service area to increase expertise and capacity of the HCISN
- 1b. Proactively build a robust network of concerned citizens trained and equipped to assist in inventorying, monitoring and reporting of key sites and species (i.e., build on existing partnership with East Tawas volunteers)

Engagement Strategy 2 - Information and Education

Raise invasive species awareness throughout Northeast Michigan's coastal communities.

- 2a. Develop educational materials, programs and training opportunities to engage the public and key stakeholders in priority species identification, reporting, and removal
- 2b. Engage students with place-based education opportunities
- 2c. Provide volunteer opportunities for the public/stakeholders to assist with invasive species detection, removal and restoration projects
- 2d. Develop HCISN webpage that is linked from the Huron Pines website to provide a central location for invasive species information and projects
- 2e. Attend webinars, conferences or workshops to explore new information on invasive plant management techniques
- 2f. Include prevention/decontamination messaging in all outreach and training events
- 2g. Encourage partners, municipalities, associations, and private landowners to use native plants in gardening and on shorelines through outreach promotion

Engagement Strategy 3 - Communication

Raise community partner awareness and understanding by communicating lessons learned on past restoration initiatives, and demonstrate the significant role resource stewards play in the continued management of invasive species across the HCISN service area.

- 3a. Determine ways to celebrate project success (i.e., media, newsletters, webpage) to build interest and support, and to reinforce partnerships
- 3b. Prepare annual report and post on webpage, crediting partners, funders and volunteers
- 3c. Highlight HCISN activities at invasive species conferences or meetings

Function – Goal

The HCISN functions collaboratively to ensure an effective and efficient sustainable operation led by a team of knowledgeable stewards across Northeast Michigan’s coastal region.

Function – Strategies and Activities

Maximize progress toward achieving HCISN goals by effectively maintaining partnerships, obtaining funding, and working adaptively.

Function Strategy 1 - Maintain Partnerships

Maintain partnerships to keep HCISN relationships moving forward, to maintain high levels of engagement, to build on our success and help achieve strategic plan goals.

- 1a. Sustain cooperative, strategic partnerships with public and private partners and neighboring Cooperative Invasive Species Management Areas (CISMAs)
- 1b. Define the roles and responsibilities of the steering committee members and our partners, including how to join the ISN, benefits provided to the partner, and partner requirements
- 1c. Determine the maximum steering committee size and develop a process for adding someone new to the steering committee
- 1d. Host biannual steering committee meetings, and an annual meeting for partners, participants, volunteers, and interested members of the public

Function Strategy 2 - Funding

Obtain funding to implement project-based work and to ensure long-term sustainability and growth of the HCISN.

- 2a. Develop budgetary processes necessary to prioritize and manage invasive species issues
- 2b. Understand new and existing available funding mechanisms
- 2c. Secure funding to support a seasonal field crew to assist in the accomplishment of on-the-ground activities
- 2d. Secure funding to continue the cost-share program for private landowners
- 2e. Engage with other CISMAs to collaborate on larger-scale funding when applicable
- 2f. Invite potential and current funders to project sites to promote project-based work and establish good partnerships

Function Strategy 3 - Adaptive Management

Use an adaptive management approach to update the strategic management plan. This allows the steering committee to make decisions and adjustments in response to new information and changing environmental conditions to achieve the goals set forth in the plan.

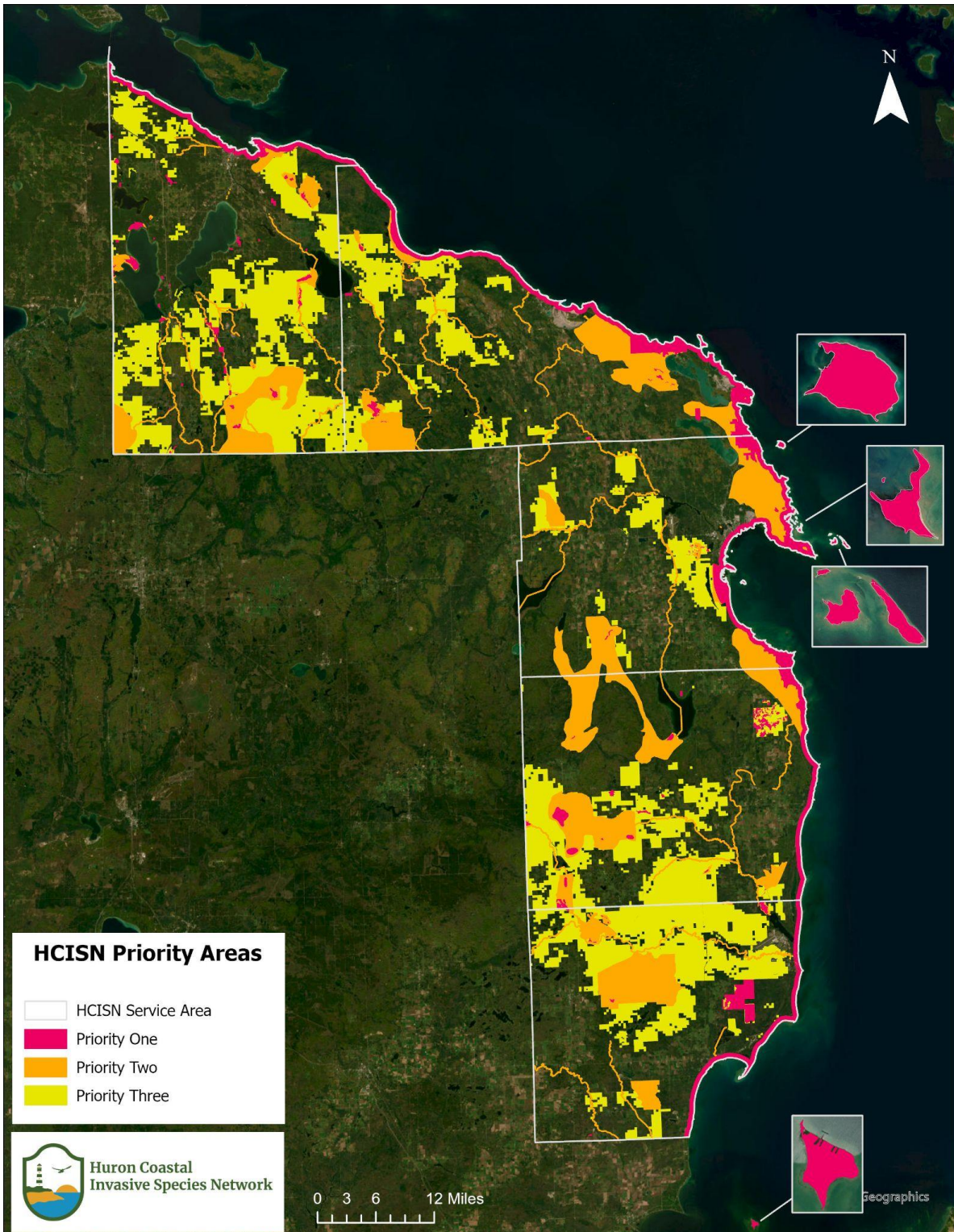
- 3a. Annually review and adaptively manage the HCISN strategic plan
- 3b. Review accomplishments each year to determine the trend toward meeting strategic plan goals and adapt management activity plans for the following year if movement is not satisfactory
- 3c. Develop annual work plan by March 31st to identify items we will strive to accomplish in the upcoming year (including strategies and actions, treatment projects and locations)
- 3d. The steering committee will collaboratively develop a short rationale for each goal/strategy and develop objectives for each activity within the strategic plan by June 1st, 2021; objectives will be specific, measurable, achievable, results-oriented, and time-bound; both long-term and short-term objectives will be considered
- 3e. When necessary, the steering committee will make adjustments to the annual work plan and/or the annual review of accomplishments to account for unexpected circumstances such as the covid-19 pandemic

Measuring Success

A rating system was established to measure the success of each strategic plan strategy (see Measuring Success Tables Appendix). At the end of each year, the HCISN 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 and Maps



Huron Coastal ISN priority areas developed by the steering committee include:

- Groundwater-dependent ecosystems such as northern fen, poor fen, intermittent wetland, and rich conifer swamp
- Lake Huron shorelines and islands, dune and swale, marshes, coastal fens and interdunal wetlands
- Limestone bedrock glade, alvars, sinkholes, karst sinks and springs
- High quality river corridors and riparian areas
- Threatened and endangered species habitat or potential habitat
- Areas of high conservation value that provide excellent representations of natural communities (i.e., MDNR ecological reference areas, Forest Service resource natural areas)
- Designated natural areas such as nature preserves, state parks, national forest recreational areas
- Ecologically rare or unique areas

** Photos of select priority area ecosystems will be added to this section in 2023 to highlight the uniqueness of these ecosystems in our service area and to provide examples of specific locations.*

Priority Area Ecosystem Photos



Coastal fen at North Point Nature Preserve. Photo by Amber Hubbard.



Limestone bedrock lakeshore at Big Charity Island in Saginaw Bay. Photo by Amber Hubbard

In addition to the HCISN priority area map, additional maps will be developed for each of the 5 service area counties, highlighting priority areas, pathways of invasive species spread, such as highways and river systems, and state and federal land ownership to identify the potential for landscape-scale restoration. Additional map items may include: threatened and endangered species locations or potential habitat, current areas of invasive species removal efforts (i.e., City of Harrisville, nature preserves, etc.) and identify high priority areas to focus on in the future.

Appendix B: Priority Species

The following prioritization tool (Table 1) was modified from the National Invasive Species Council considerations for prioritizing control projects checklist (2005) to assist in the prioritization of HCISN invasive species. Once species are rated as low, medium, or high priority, they are placed into the applicable management level (Table 2) based on the HCISN's current ability to address the issue. Management levels were modified from the U.S. Forest Service threat level designations. The HCISN species prioritization results are in the last table below (Table 3).

Table 1: Invasive species prioritization table; modified from the National Invasive Species Council checklist

	Questions to consider when prioritizing invasive species	Low	Medium	High
1.	Does the invasive species have a specific statutory/policy designation status (federal, state, local restricted, prohibited)? (Species with designations receive a high priority.)			
2.	Are adequate and environmentally sound management methods and resources available? (Populations that can be controlled receive high treatment priority, while populations that do not have adequate controls may be assigned a high research priority. Environmental impacts of control actions should be weighed against impacts from taking no action.)			
3.	Can target populations be reached and management measures deployed successfully and safely? (Control methodologies that can be successfully deployed and monitored receive a high priority.)			
4.	Are current and potential social, economic, environmental and/or cultural impacts of the invasive species significant? (The severity and likelihood of impacts increases the priority.)			
5.	Is there concern from landowners/the general public about the presence of this species?			
	Totals:			

Table 2: Huron Coastal ISN invasive species management level categories; modified from the U.S. Forest Service

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 HCISN does not currently have the means to take removal actions. The only action will be educating the public and documenting during inventories.

Table 3 showcases the HCISN invasive species prioritization results. After each species was rated in Figures 1 and 2, a color code was assigned to represent where inventories and management efforts should be focused. The highest priority species for 2023 are highlighted in green (European frog-bit, Japanese knotweed, phragmites, Japanese barberry, and baby’s breath); these species should be addressed anywhere in the HCISN service area. The species highlighted in yellow are species that should be addressed in areas of high ecological importance (for example: glossy buckthorn at Birdsong Bay, spotted knapweed at Pitcher’s thistle locations, and cypress spurge at Negwegon State Park). Species highlighted in red are lower priority species that the HCISN is not planning to address in 2023. However, this list may adapt to changes in infestations and species presence within our geographic area.

Table 3: Huron Coastal ISN invasive species prioritization table. Green = highest priority HCISN species; yellow = species addressed in high priority areas, and red = lowest priority species.

Species	Priority	Management Level	Species	Priority	Management Level
European frog-bit	High	Eradicate	Garlic mustard	Low	Target
Japanese knotweed	High	Target	Reed canary grass	Low	Control
Phragmites	High	Target	Invasive honeysuckles	Low	Control
Japanese barberry	High	Target	Narrow leaf cattail	Low	Control
Baby’s breath	High	Eradicate	Russian olive	Low	Control
Flowering rush	High	Eradicate	Scotch pine	Low	Control
Asiatic bittersweet	Medium	Eradicate	Thistle species	Low	Control
Wild parsnip	Medium	Target	Curly pondweed	Low	Education
Tree of heaven	Medium	Target	Eurasian watermilfoil	Low	Education
Purple Loosestrife	Medium	Target	Aquatic invertebrates, fish, and wildlife	Low	Education
Cypress spurge	Low	Eradicate	Forest pests	Low	Monitor
Leafy spurge	Low	Control	Japanese stilt grass	Low	Monitor
Glossy buckthorn	High	Control	Giant hogweed	Low	Monitor
Autumn olive	Low	Control	Kudzu	Low	Monitor
Spotted knapweed	Low	Control	Mile-a-minute weed	Low	Monitor

The following list was originally started at the first HCISN steering committee meeting on February 27, 2020 and has been updated with additional invasive species. This list includes high priority species, low priority species and no-action species. By December 31, 2023, all species in this list should be given a priority rank (Table 1), a management level (Table 2), and placed into the Huron Coastal ISN invasive species prioritization table (Table 3).

1. European frog-bit
2. Japanese knotweed
3. Phragmites
4. Japanese barberry
5. Baby's breath
6. Glossy buckthorn
7. Spotted knapweed
8. Autumn olive
9. Leafy spurge
10. Cypress spurge
11. Purple loosestrife
12. Reed canary grass
13. Invasive honeysuckle
14. Garlic mustard
15. Kudzu
16. Mile-a-minute weed
17. Curly pondweed
18. Eurasian watermilfoil
19. Russian olive
20. Japanese stilt grass
21. Giant hogweed
22. Narrow leaf cattail
23. Asiatic bittersweet
24. Wild parsnip
25. Poison hemlock
26. Tree of heaven
27. Forest health concerns: oak wilt, beech bark disease, emerald ash borer
28. Scotch pine
29. Invasive mussels
30. Asian carp
31. Sea lamprey
32. Flowering rush
33. Himalayan balsam
34. Yellow iris
35. Black swallow-wort
36. Porcelain berry
37. Common teasel
38. Giant knotweed
39. Bohemian knotweed
40. Bristly locust
41. Black jetbead
42. Chinese yam
43. Japanese hops
44. Thistle species
45. Black locust
46. Common mullein
47. Hemlock wooly adelgid
48. Balsam wooly adelgid
49. Dame's rocket
50. Houndstongue

Appendix C: Measuring Success Tables

At the end of each year, each strategic plan strategy will be evaluated in the following table. A green rating indicates a strategy was met with success, and adjustments likely not necessary. While yellow and red ratings will be discussed by the steering committee and necessary changes will be made to meet, or move toward meeting, each specific strategy.

Strategy	Green	Yellow	Red	End of Year Rating
Management				
Prevention	≥80% of the planned preventative actions were implemented	≥60% of the planned preventative actions were implemented	<60% of the planned preventative actions were implemented	
Prevention	≥80% of partners receive decontamination policy/training	≥60% of partners receive decontamination policy/training	<60% of partners receive decontamination policy/training	
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 actions were initiated	≥60% of planned restorative actions were initiated	<60% of planned restorative actions were initiated	
Engagement				
Develop Novel and Strategic Partnerships	≥80% of desired partners and volunteers were recruited/trained or participated in activities	≥60% of desired partners and volunteers were recruited/trained or participated in activities	<60% of desired partners and volunteers were recruited/trained or participated in activities	
Information and Education	≥80% of planned educational programs and outreach was delivered	≥60% of planned educational programs and outreach was delivered	<60% of planned educational programs and outreach was delivered	
Communication	≥80% of planned community partner communications were delivered	≥60% of planned community partner communications were delivered	<60% of planned community partner communications were delivered	

Strategy	Green	Yellow	Red	End of Year Rating
Function				
Maintain Partnerships	≥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	
Funding	≥80% of planned funding opportunities were pursued	≥60% of planned funding opportunities were pursued	<60% of planned funding opportunities were pursued	
Adaptive Management	Strategic plan, annual work plan, and measuring success tables were reviewed	Strategic plan, annual work plan, and measuring success tables were partially reviewed	Strategic plan, annual work plan, and measuring success tables were not reviewed	

Appendix D: Decontamination Policy and Procedure

Decontamination Policy

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

All Huron Coastal ISN staff, partners, volunteers, and contractors shall be provided with proper decontamination information/training and are asked to follow all procedures. 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: Each 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 removing 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, power wash 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 power washing.
- Tools: clean off all materials with a stiff brush or hose/power washer.
- 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
 - o 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.
 - o 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, wipe with a household disinfectant wipe. Be sure to let dry or rinse clean before submerging in a 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 E: Organizational Structure, Roles and Responsibilities

Huron Coastal ISN Coordinator - The coordinator runs the day-to-day operations of the ISN and collaborates with partners, including local, state, and federal agencies, as well as private organizations and individuals, to address invasive species in the region. The coordinator leads the steering committee and is responsible for various tasks, including applying for funding, answering public inquiries, supervising a field crew to meet project goals, ensuring project goals and grant deliverables are met, completing grant reports, conducting education and outreach through events, presentations, and other activities, and scheduling and facilitating steering committee meetings.

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 Coastal ISN and houses ISN staff and supplies. Huron Pines and its staff provide education, marketing, and additional stewardship support and guidance to HCISN projects. Huron Pines is responsible for processing grant bill payments, preparing and submitting grant reimbursement requests, tracking financial matching contributions and contracts, and maintaining pesticide application permits as well as a Michigan Pesticide Application Business License.

Steering Committee - The HCISN steering committee is composed of a small group of partners that represent the organizations and people across our service area. Our steering committee helps to guide the ISN to ensure our activities align with our mission. The committee will have up to 13 members, including the coordinator, and should include a representative from each of the five counties in the HCISN service area. Steering Committee participation is not static, new members may be asked to join and current members may wish not to serve. New members will be added by the decision of the current steering committee. Members who wish to resign from the HCISN steering committee should present their resignation in writing to the coordinator. To remain an active voting member of the steering committee, members must attend at least 50% of the scheduled meetings. In the event that a member is unable to attend a meeting, attendance can be supplemented with public events, work days, site visits, one-on-one meetings, or other appropriate substitutions. 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, (7) professionalism and compromise equal common ground.

Our current steering committee membership is as follows:

Ayden Ehgotz - Regional Conservation Coordinator - Michigan Nature Association - Lansing, MI

Amber Hubbard - Coastal Stewardship and HCISN Coordinator - Huron Pines - Alpena, MI

Emily Johnson - Water Resources Specialist - Tip of the Mitt Watershed Council - Petoskey, MI

Greg Norwood - Ecologist - Parks and Recreation Division - Michigan DNR - Lansing, MI

Nathan Payne - Board Member - Iosco Conservation District - Tawas City, MI

Heather Rawlings - Fish and Wildlife Biologist - Partners for Fish and Wildlife Coordinator -

U.S. Fish and Wildlife Service - Alpena, MI

Brandon Schroeder - Sea Grant Senior Extension Educator - Northeast District - Michigan State

University Extension - Alpena, MI

Catherine Stedman - Alpena Wildlife Sanctuary Board Member - Alpena, MI

Kim Steinberger - Project Manager, Restoration - The Nature Conservancy - Lansing, MI

Cody Stevens - ELP District Manager - Forest Resources Division - Michigan DNR - Atlanta, MI

Brittany VanderWall - Senior Forestry Manager - American Forestry Foundation - Rogers City, MI

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

Stewardship Technicians - When funding allows, the Huron Coastal 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.

Partners - The responsibilities of partners that have entered into a Memorandum of Understanding with HCISN may include the following: advocating for the HCISN and supporting its mission, collaborating with HCISN to implement invasive species management or outreach activities,

providing feedback on HCISN projects, reporting invasive species and notifying HCISN of new infestations, and sharing resources such as personnel, equipment, skills, or expertise.

Appendix F: Partner Memorandum of Understanding

Huron Coastal Invasive Species Network Partner MOU

To protect Northeast Michigan's natural resources from the threat of invasive species, the Huron Coastal ISN needs a large support group of both public and private entities to share resources and work across jurisdictional boundaries. Your support and interest are valuable assets that help us effectively manage invasive species.

By bringing partners together from across the region, as well as working with the statewide network, the HCISN can address invasive species consistently, efficiently, and effectively throughout its service area. Partnerships can involve individuals, agencies, nonprofit organizations and local units of government who help to prioritize and contribute 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 HCISN activities and projects, and your organization recognized on our webpage.
- Your role as a partner: promote the HCISN mission and activities, help to develop and/or provide review of projects, agree to share information that facilitates effective invasive species control, help to identify funding opportunities, collaborate to implement invasive species management, volunteer work days, or other outreach activities, supply letters of support when requested and able.
- Additional specific support you would like to provide to the Huron Coastal 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 G: Acknowledgements

The development of this Huron Coastal ISN strategic management plan was made possible by many people who continually strive to improve the success of managing invasive species across Michigan's Northern Lake Huron coastal region.

First, we would like to thank Huron Pines, the founding organization of the Northeast Michigan Cooperative Weed Management Area and the creators of the original 2009 NEMI CWMA strategic plan. The solid foundation created by the original Huron Pines staff, partners and AmeriCorps members, allows the Huron Coastal ISN to build on this success and to work collaboratively with partners in the communities across our geographic area.

We also appreciate the strategic plans referenced in the development of this plan, including the Huron Heartland Invasive Species Network, the CAKE CISMA, the Northwest Invasive Species Network, the USDA Forest Service National Strategic Framework for Invasive Species Management 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, the National Invasive Species Management Plan, and U.S. Fish and Wildlife Service and California Invasive Plant Council's Land Manager's Guide to Developing an Invasive Plant Management Plan were all referenced in the creation of the Huron Coastal ISN strategic plan.

The Huron Coastal ISN is able to continue this great work with the support from our funders. We are fortunate to receive federal, state, and private funding for our invasive species management projects, as well as support from individual donors, associations/organizations, and all of the landowners who participate in the cost-share program.

Lastly, the Huron Coastal ISN steering committee members provided valuable feedback during the development of this strategic management plan. We appreciate their support and expertise, as effective invasive species management across our geographic area is made possible through a cooperative partnership approach.

Thank you to everyone who provides assistance to the Huron Coastal ISN. We are grateful for your continued support to raise awareness to prevent and control invasive species and to improve the health of our unique ecosystems across Michigan's Northern Lake Huron coastal region.