

Mid-Michigan Cooperative Invasive Species Management Area: Strategic Plan 2017-2021



I. Goal

The Mid-Michigan Cooperative Invasive Species Management Area (CISMA) increases the capacity to manage invasive species by providing resources and assistance to partner organizations and citizens to prevent, detect, and control invasive species in Clinton, Eaton, Ingham, and Ionia counties. The Mid-Michigan CISMA will achieve this goal by completing the following objectives:

Objective 1: Maintain CISMA organization;

Objective 2: Provide invasive species education, outreach, and engagement;

Objective 3: Conduct invasive species early detection;

Objective 4: Conduct rapid response and strategic management of invasive species, and

Objective 5: Ensure the sustainability and longevity of the Mid-Michigan CISMA.

II. Scope

Geographic Scope

The geographic scope of the Mid-Michigan Cooperative Invasive Species Management Area (Mid-Michigan CISMA) encompasses four counties in the central lower peninsula of Michigan: Clinton, Eaton, Ingham, and Ionia.

Strategic Scope

The Mid-Michigan CISMA was created in April 2016 through Michigan Invasive Species Grant Program (MISGP) funds, addressing a gap in Michigan's CISMA coverage. The Mid-Michigan CISMA brings together more than 30 organizations across the four county region. The collaborative partnership has increased the coordination of prevention, early detection, rapid response, treatment and long-term management of priority terrestrial and aquatic invasive species. Currently,

the Mid-Michigan CISMA is prioritizing black swallow-wort, Japanese, Bohemian, and giant knotweeds, and invasive phragmites, and efforts are being made to increase alertness for other potential invaders including pale swallow-wort, Chinese yam, hemlock wooly adelgid, Japanese stiltgrass, red swamp crayfish, and European frogbit. The Mid-Michigan CISMA works to increase capacity for invasive species management through new and existing partnerships, outreach and education, identification and reporting, and treatment of invasive species.

The Mid-Michigan CISMA uses the Michigan Department of Natural Resources definition of an invasive species: “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.”¹ It has been recognized that invasive species are a threat to native ecosystems worldwide. They out-compete native species for vital resources, spread quickly with no natural predators, and lower the biodiversity of habitats.¹ They also are an economic burden; the United States spends billions of dollars each year to manage invasive species as some species can damage not only ecosystems, but also infrastructure.²

Local Resource Assessments and Planning

Locally, invasive species are a concern and are being addressed by conservation plans. Resource Assessments developed by Clinton Conservation District (2017), Eaton Conservation District (2016), Ingham Conservation District (2017) and Ionia Conservation District (2016) identify invasive species as a significant concern within their respective counties. Five watersheds within the Mid-Michigan CISMA (Lake Creek, Red Cedar, Middle Grand, Upper Maple, and Upper Looking Glass River) have approved Watershed Management Plans that specifically address the importance of invasive species management in achieving and maintaining a healthy watershed.

Management Responsibilities and Staffing

The Mid-Michigan CISMA is organized at its core through a partnership of the four county conservation districts. Each receives funding from CISMA-related grants and carries out CISMA tasks within their counties. Each conservation district promotes the Mid-Michigan CISMA to interested organizations within their

¹ State of Michigan. (2017) Overview. Retrieved from <http://www.michigan.gov/invasives/0,5664,7-324-67998---,00.html>.

² Pimentel D., R. Zuniga, and D. Morrison. “Update on the environmental and economic costs associated with alien-invasive species in the United States.” *Ecological Economics* 52(3). (2005): 273-288. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0921800904003027>.

county. Currently, over 30 organizations partner and collaborate with the CISMA to carry out its mission. Through the network of partner organizations, CISMA activities and event coordination occur through partnerships and local volunteers.

The Ingham Conservation District Executive Director and Regional Invasive Species Coordinator currently administer MISGP grant funds and day-to-day grant activities. Under the 2017-2021 Strategic Plan, each of the conservation districts manage their respective funds and aid in the promotion of the Mid-Michigan CISMA, including: sharing Facebook posts, disseminating Mid-Michigan CISMA information in conservation district newsletters, and dispersing printed outreach materials. Conservation districts also recruit volunteers, map invasive species locations, attend stewardship events, hold volunteer trainings, facilitate invasive species field surveys, attend municipal trainings, attend boat wash events, attend quarterly partner coordination meetings, and submit quarterly reports. Partner organizations may be included in the coordination or attendance of these activities and their roles are defined using the CISMA Memorandum of Understanding (MOU) (Appendix D).

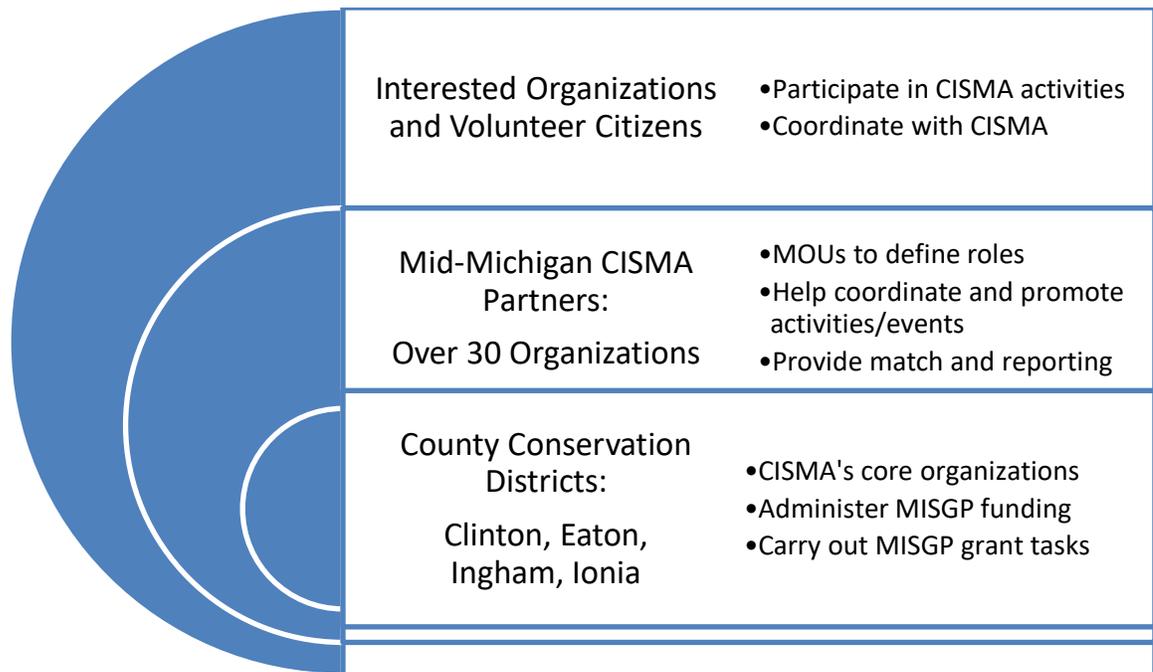


Figure 1. CISMA Structure

III. Objectives and Intermediate Outcomes

The Mid-Michigan CISMA will be considered successful when the organization meets the following objectives and intermediate outcomes to achieve its overall goal:

Objective 1: Maintain CISMA organization

- a. Partner organizations of the Mid-Michigan CISMA understand their responsibilities and commitments to the mission and activities of the CISMA
- b. Regular meetings and communication efforts are held to increase collaboration and information sharing about invasive species between partner organizations

Intermediate Outcomes	Frequency	Responsible Party	Completion By	Completed
<u>ORGANIZATION</u>				
1. Steering committee meets in-person and makes decisions by majority vote (5-6 meetings annually)	Every other month; ongoing	Steering committee	Ongoing	
2. Partner organizations are identified and new partner organizations are continually sought to increase CISMA capacity, sharing of resources, and expertise for the strategic management of terrestrial and aquatic invasive species (Goal of 2 new partner organizations per year)	Ongoing	Steering committee, coordinator, conservation districts, and partner organizations	Ongoing	
3. Partner organizations meet in-person to facilitate CISMA activities and share updates and activities and make decisions by majority vote (5 meetings annually)	Quarterly	Coordinator, conservation districts, and partner organizations	Ongoing	
4. Partner organizations sign Memorandum of Understanding to document agreement and commitments made between the Mid-Michigan CISMA and the partner organization	Every four years	Coordinator and partner organizations	2017	X 2017

5. Create a two-year CISMA Work Plan (Gantt chart)	Every two years	Coordinator and Steering Committee	Fall 2019	
6. Maintain invasive species resources for partner organizations and the public made available through a Mid-Michigan CISMA website and social media by CISMA staff <i>If no funding:</i> Website sustained by the Ingham Conservation District and additional admins added to social media accounts	Ongoing	Coordinator and conservation districts <i>If no funding:</i> Ingham Conservation District and selected admins	Ongoing	
7. Carry out all tasks identified in grant projects: <input type="checkbox"/> MISGP IS15-1004 -COMPLETE (April 2016-December 2018) <input type="checkbox"/> MISGP IS17-1105 (April 1, 2018-September 30, 2019) <input type="checkbox"/> MISGP IS18-6016 (Core) (April 2019-March 31, 2020) <input type="checkbox"/> MISGP IS18-4009 (Project) (March 2019-March 1, 2021) Partner organizations send any grant reporting documentation (e.g. match and activities)	Ongoing	Coordinator, steering committee, conservation districts, and partner organizations	Refer to grant documents	X 1004
8. Development of assessment tool (Google Form) to assess the needs of partner organizations and evaluate CISMA activities by CISMA staff <i>If no funding:</i> Existing assessment sent to partner organizations	Bi-annually Spring and Fall	Coordinator <i>If no funding:</i> Ingham Conservation District or future Mid-Michigan CISMA sponsor	2017	X 2017
9. Participate in Michigan Invasive Species Coalition (MISC) annual meetings and conference calls	2017	Coordinator, steering committee	2017 and annually	

10. Create governance document including by- laws and meeting schedule and procedures	Review annually with Strategic Plan document	Steering committee, coordinator, conservation districts, and partner organizations	2018	Finalized March 20, 2018
11. New partner organizations are provided a “Partner Pack” that includes helpful and necessary documentation such as: a MOU, by laws, meeting procedures, contact lists, and other materials	Ongoing	Coordinator, steering committee	2019 and ongoing	

Objective 2: Provide invasive species education, outreach, and engagement

- a. Increase public and partner access to invasive species educational materials and resources
- b. Develop educational materials
- c. Coordinate events regarding local invasive species issues of interest or concern
- d. Attend local events to raise awareness of the CISMA and invasive species through outreach displays and materials

Intermediate Outcomes	Frequency	Responsible Party	Completion By	Date Completed
<u>EDUCATION, OUTREACH, AND ENGAGEMENT</u>				
1. Develop and distribute educational materials about the Mid-Michigan CISMA and priority invasive species, including CISMA brochures and MISIN alert flyers for priority species. Materials will be updated to reflect new species detections and changes in MDNR watch list species.	Ongoing	Develop: Coordinator and conservation districts Distribute: conservation districts and partner organizations	2017 and ongoing	
2. Maintain an online presence for the Mid-Michigan CISMA via a website, monthly conservation district newsletters, and daily social media with support and sharing from partner organizations	Ongoing	Upkeep: Coordinator and Ingham Conservation District	2017 and ongoing	

		Sharing: Conservation districts and partner organizations		
3. Mid-Michigan CISMA staff and partner organizations attend local and regional outreach events with table display and educational materials (At least 12 annually)	12 per year	Coordinator, conservation districts, and partner organizations	2017 and ongoing	
4. Conservation district staff attend stewardship events hosted by other organizations within the Mid-Michigan CISMA that support overall goals of the CISMA (1 per district annually)	4 per year	Coordinator and conservation districts	2017 and ongoing	
5. Organize AIS education and outreach events and training including Landing Blitz, Mobile Boat Wash, and Clean Boats, Clean Waters at local boating access points <i>If no funding:</i> Promote MBWs and Landing Blitzes and CBCW training videos for other organizations to coordinate on CISMA website (At least 4 annually)	4 per year	Coordinator, conservation districts, interested partner organizations, and launch managers	2017 and ongoing	
6. Promote established statewide and national outreach campaigns and invasive species programs such as PlayCleanGo, Eyes on the Forest, Exotic Aquatic Plant Watch, RIPPLE, etc.	Ongoing	Coordinator, conservation districts, and interested partner organizations	2017 and Ongoing	
7. Host invasive species training events for municipal workers and agency seasonal employees and provide training resources to empower agencies to conduct their own future trainings (At least 1 annually)	Annually	Coordinator, conservation districts, guest speakers	2017 and annually	
8. Host invasive species training and management workshops for local property owners (At least 4 annually)	4 per year	Coordinator, conservation districts, and interested partner organizations	2018 and annually	
9. Purchase "Invasive Species Work" signs for CISMA partners to use through MISGP IS17-1105	2018	Coordinator, conservation districts	2018	X 2018

10. Create educational signs and boot brush stations for high-traffic public areas (20 boot brush stations and 40 educational signs)	Annually	Coordinator, steering committee, sign printing business, local volunteers	2020	
11. Aid in the implementation and use of permanent and mobile boat washes (At least 3 mobile boat washes annually)	Ongoing	Coordinator, Clinton Conservation District, partner organizations	Ongoing	
12. Host trainings for AIS ID and exposure to programs such as Clean Boats, Clean Waters, Exotic Aquatic Plant Watch, and Michigan Natural Shoreline Partnership for Lake Associations and related groups (At least 1 annually)	Annually	Coordinator, conservation districts, partner organizations, guest speakers	2020	
13. Host a "how-to" workshop for effective public education and outreach – talking about invasive species, the dos and don'ts	2019	Coordinator, steering committee, partner organizations, guest speakers	Fall 2018	X 2018
14. Identify other opportunities for passive outreach	Ongoing	Coordinator, steering committee, and partner organizations	Ongoing	
15. Identify other opportunities for active outreach, including events with local colleges and schools	Ongoing	Coordinator, steering committee, and partner organizations	Ongoing	

Objective 3: Conduct invasive species early detection

- a. Increase reporting of invasive species populations within the Mid-Michigan CISMA and the state
- b. Increase capacity by hiring staff/interns to locate and treat priority species within the Mid-Michigan CISMA boundaries
 - i. Prevent new invasive species, including: pale swallow-wort, giant knotweed, European frogbit, and Chinese yam (These have not yet been reported in Mid-Michigan CISMA counties.)
- c. Complete treatments of new and outlying populations of prioritized and Watch List invasive species

Intermediate Outcomes	Frequency	Responsible Party	Completion By	Date Completed
<u>EARLY DETECTION AND RAPID RESPONSE</u>				
1. Empower partner organizations and local citizens to report invasive species through the Midwest Invasive Species Information Network and utilize the mobile application for reporting (Goal of 100 reports per year)	Ongoing	Coordinator, conservation districts, and partner organizations	Ongoing	
2. Maintain Regional Invasive Species Working List from MISIN reports to prioritize treatment areas. The Working List will be updated regularly <i>If no funding:</i> Working List will be updated annually by a designated partner organization	Updated at least monthly	Coordinator <i>If no funding:</i> Designated partner organization	Ongoing	
3. Host identification field survey events within the boundaries of the Mid-Michigan CISMA (At least 4 per year)	4 per year	Coordinator, conservation district, interested partner organizations, survey land managers	Annually	
4. Hire staff/interns for surveying and providing locations of new and satellite population of invasive species to MISIN, with a focus on Mid-Michigan CISMA priority species and State Watch List species <i>If no funding:</i> No hiring, continue to promote public use of MISIN	Annually	Conservation districts	2020	
5. Survey significant natural features within the Mid-Michigan CISMA, as identified by the Tri-County Regional Planning Commission Greening Mid-Michigan Strategy	Annually	Coordinator, steering committee, conservation district, interested partner organizations, survey land managers	2021	

6. Continue to develop a EDRR structure to prioritize management of new and satellite populations of invasive species, with a focus on Mid-Michigan CISMA priority species and Michigan Watch List species	Review every two years	Steering committee, conservation districts, and partner organizations	2020	
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------	-----------------------------------------------------------------------	------	--

Objective 4: Rapid response and strategic management of invasive species

- a. Invasive species treatment will be an activity of the CISMA; sites will be determined by the Steering Committee based upon the following tier system and prioritization protocol (treatment as funding allows):

Mid-Michigan CISMA Invasive Species Priority List

The following invasive species may be treated on public and private lands by CISMA staff:

Tier 1

Common Name	Scientific Name	Habitat
Black swallow-wort	<i>Cynanchum louisieae</i>	Terrestrial
Pale swallow-wort	<i>Cynanchum rossicum</i>	Terrestrial

The following invasive species can be treated on public and private lands by CISMA staff through a cost-share program. Sites must meet program requirements.

Tier 2

Common Name	Scientific Name	Habitat
Japanese knotweed	<i>Fallopia japonica</i>	Terrestrial
Giant knotweed	<i>Fallopia sachalinensis</i>	Terrestrial
Bohemian knotweed	<i>Fallopia bohemica</i>	Terrestrial

Tier 3

Common Name	Scientific Name	Habitat
Invasive Phragmites	<i>Phragmites australis</i>	Wetland
Japanese barberry	<i>Berberis thunbergii</i>	Terrestrial
Oriental bittersweet	<i>Celastrus orbiculatus</i>	Terrestrial
Giant hogweed	<i>Heracleum mantegazzianum</i>	Terrestrial
Butterbur	<i>Petacites hybridus</i>	Terrestrial/Wetland

Tier 4

Common Name	Scientific Name	Habitat
Garlic mustard	<i>Alliaria petiolaria</i>	Terrestrial
Dame's rocket	<i>Hesperis matronalis</i>	Terrestrial
Spotted knapweed	<i>(Centaurea stoebe spp. micranthos)</i>	Terrestrial

Disclaimer: Not all proposed sites can be treated due to size/access, staff availability, or equipment limitations.

If an overwhelming number of sites are proposed, sites will be prioritized using the following conditions:

1. In a high-traffic area with an increased potential for spread (see above);
2. Potential damage to infrastructure (e.g. knotweeds near house or other building foundations);
3. Invading high-quality habitat (see above);
4. Invading a river/floodplain/wetland (see above);
5. All other sites

If any populations of Watch List Species or MDNR species of specific interest are detected that are new to the region, infestations of that species will be prioritized first. Ultimate decisions will be made by majority vote of the Steering Committee.

- b. Treatments will be conducted in a proper manner, collecting bids as needed, following best practices for individual species, obtaining the correct permits as needed, and following decontamination guidelines to prevent the spread of invasive species.

Intermediate Outcomes	Frequency	Responsible Party	Completion By	Date Completed
<u>CONTROL AND MANAGEMENT</u>				
1. Before conducting work (surveys or treatments) on public or private lands, a consent letter signed by a Mid-Michigan CISMA representative and an authorized representative of the governmental unit (or private landowner) that owns the land will be obtained by the corresponding conservation district of the county where the invasive species work will occur.	Annually	Coordinator or conservation district and land manager	Annually	

<p>2. Treat priority invasive species at locations chosen by the Steering Committee</p> <p><i>If no funding: Coordinate and provide locations to other organizations treating invasive species in the area</i></p>	Annually	Steering Committee, contracted business and/or strike team <i>If no funding: Conservation districts</i>	Annually	
<p>3. Report Mid-Michigan CISMA treatment sites to the MISIN Treatment Tracker as well as treatments being conducted by partner organizations</p>	Ongoing; CISMA staff check of Tracker quarterly	Coordinator and large partner organizations that have their own MISIN TT account or by treatment contractor	Ongoing	
<p>4. Monitoring of treatment sites is conducted by partner organization/homeowner and results are reported to the Mid-Michigan CISMA. The CISMA will also follow-up on monitoring these sites</p>	Annually by land owner, every three years by CISMA	Landowner and CISMA staff at nearest conservation district	2018 and annually	
<p>5. Review tiered ranking system every two years and make changes as necessary</p>	Every two years	Coordinator, CISMA partners and Steering Committee	2019 and every two years	
<p>6. Purchase 8 knotweed injectors for individual property owner use. Administer through each Conservation District office</p>	One-time	Coordinator and conservation districts	Summer 2018	X 2018
<p>7. Develop and distribute management resources information packet for property owners</p>	Annually	Develop: Coordinator and steering committee Distribute: conservation districts and partner organizations	2020	
<p>8. Purchase treatment equipment for use by CISMA partner organizations and</p>	2020	Coordinator, steering committee, conservation districts	2020	

Strike Team – backpack sprayers, safety equipment, etc.				
9. Develop a 2 member Strike Team, including a team leader to treat, monitor, and document invasive species within the CISMA.	Annually	Coordinator, steering committee, conservation districts	Spring 2020	
10. Develop and distribute treatment packets for property owners (e.g. phragmites treatment kits- at least 100 kits)	Spring/ Summer	Develop: Coordinator and steering committee Distribute: conservation districts and partner organizations	2021	
11. Purchase 4 sets of training materials for MDARD Pesticide Applicator Certification and house at conservation district offices as a library for partner organizations and local citizens	Ongoing	Coordinator, conservation districts, and partner organizations	2021	
12. Implement a cost-share program for partner organizations to apply for funding to complete specific, invasive species-related projects (e.g. treatments, outreach, etc). Application process and funding decisions made by Steering Committee	Annually	Coordinator, steering committee	2021	

Objective 5: Ensure the sustainability and longevity of the Mid-Michigan CISMA

- a. Seek funding, from multiple sources, to support and enhance CISMA activities now and in the future
- b. Core functions to ensure the sustainability and success of the CISMA are:

- ii. Maintain partner and collaborator engagement in aquatic and terrestrial invasive species management
 - 1. Requires staff funding (Regional Invasive Species Coordinator, Project Supervisor, and Conservation District staff)
- iii. Continue development and dissemination of public and municipal outreach materials
 - 1. Requires staff and outreach material funding
- iv. Attending CISMA-related meetings and training/outreach events to raise awareness and educate about invasive species
 - 1. Requires staff and mileage funding
- c. Develop a contingency plan to sustain partnerships and uphold the mission of the Mid-Michigan CISMA in the absence of funding

Intermediate Outcomes	Frequency	Responsible Party	Completion By	Date Completed
<u>SUSTAINABILITY AND LONGEVITY</u>				
1. Mid-Michigan CISMA staff (Ingham Conservation District) will pursue further funding for continuation of CISMA activities and expansion of CISMA capacity (e.g. seasonal employees, equipment, new CISMA outreach initiatives, etc.)	Ongoing	Coordinator, Steering Committee, conservation districts and Ingham Conservation District (2016-present MISGP grant holder)	Ongoing	
2. In addition to direct CISMA funding, Mid-Michigan CISMA partner organizations will pursue their own additional grants/funds to benefit CISMA mission and activities, such as treatment and outreach funding.	Ongoing	Partner organizations and steering committee	Ongoing	
3. As needed, any new Mid-Michigan CISMA grant holder/sponsor and agencies are responsible for their grant/funding tasks and reporting	Ongoing	Partner organizations and steering committee	When needed	
4. Evaluation of Mid-Michigan CISMA activities by partner organizations to determine	Bi-annually Spring and Fall	Coordinator and partner organizations	2017 and bi-annually	

successes and what activities are needed moving into the future				
5. Continued reporting of invasive species to MISIN	Ongoing	Coordinator, conservation districts, partner organizations and local citizens	Ongoing	
6. Update priority species list as needed, according to local needs and concerns within the Mid-Michigan CISMA and State priority species of interest	Every two years	Steering committee and partner organizations	2019	
7. Continue partner meetings and steering committee meetings <i>If no funding:</i> Assessment via online tool and communication through emails	Partner quarterly and steering once every two months	Coordinator, conservation districts, and partner organizations	Annually	
8. A formal contingency plan will be developed to address how the Mid-Michigan CISMA will operate if no external funding is available	2019	Steering committee, conservation districts, and partner organizations	By March 2019	Completed March 2019

Future considerations for applying for additional/continuing funding:

- New metrics of success
- Include goals from Michigan's Water Strategy
- Include goals from the DNR terrestrial invasive species (TIS) and aquatic invasive species (AIS) state management plans
- How to prioritize public vs. private lands

IV. Strategies

To best achieve its goal and objectives, the Mid-Michigan CISMA will implement the following strategies:

Objective 1 Strategies: Maintain organization of the Mid-Michigan CISMA

- a) The four county conservation districts will work closely together to carry out outreach activities and coordination of activities located in their respective counties.
- b) A Steering Committee will be comprised of 4 to 9 members— a core team consisting of 4-5 permanent members from the conservation districts (one representative from each, plus coordinator position as funding allows) and 4

- additional members from partner organizations. Each additional partner member will serve two-year terms with the opportunity to renew. The committee will meet once every two months to discuss progress of the Mid-Michigan CISMA and make decisions regarding activities with input from partner organizations. Any decisions made at steering committee meetings by vote will pass by majority. Opportunities to voluntarily serve on the Steering Committee will be announced to partner organizations via Mid-Michigan CISMA communications. In the event of many individuals volunteering to join, new Steering Committee members will be selected at the discretion of the conservation district core team to diversify the background, knowledge, and interests of the committee.
- c) Partner organizations will meet once every quarter. Roles and responsibilities of organizations are defined within each partner organization MOU. Any decisions made at partner meetings by vote will pass by majority.
 - d) A Mid-Michigan CISMA governance document will be created to guide meetings, provide by-laws and decision-making processes, etc. This document will be reviewed annually in conjunction with the review of the Strategic Plan.
 - e) As funding allows, a Regional CISMA Coordinator position will be prioritized with additional staffing including County Supervisors (CD Managers), strike team members, education and outreach staff, and interns to increase capacity of the Mid-Michigan CISMA.
 - f) The Mid-Michigan CISMA will reach out to other CISMAs and the Michigan Invasive Species Coalition as needed to seek organizational advice and expertise as needed.
 - g) Anniversary partner meetings (May of each year) will be held to celebrate accomplishments of the CISMA and its partner organizations, as well as provide a venue for partners to provide input to the future development of CISMA activities.

Objective 2 Strategies: Provide invasive species education, outreach, and engagement

- a) The Mid-Michigan CISMA and its partner organizations will seize opportunities to increase awareness of the CISMA and invasive species within its boundaries, including local and regional outreach events, publications, existing invasive species citizen science and outreach programs, and social media.
- b) Mid-Michigan CISMA staff will seek individuals with expertise to speak on topics of interest or concern at CISMA-sponsored workshops and trainings.

- c) Partner organizations will provide input to future CISMA activities at anniversary partner meetings through interactive brainstorming sessions.
- d) Educational materials will be developed and distributed as needed.

Objective 3 Strategies: Conduct invasive species early detection and rapid response

- a) The Mid-Michigan CISMA will encourage and train partners and citizens to report invasive species to MISIN and will keep the Regional Working List of invasive species updated monthly.
- b) The Mid-Michigan CISMA will conduct public ID training and survey events. As funding allows, staff/interns will be hired to conduct surveys. To ensure activities do not contribute to the spread of invasive species, survey and control activities will follow State decontamination procedures (http://www.michigan.gov/documents/deq/qol-wrd-policy-invasive-species-decontamination_476846_7.pdf).
- c) Mid-Michigan CISMA priority species will be determined by the CISMA Steering Committee with input by partners, with attention given to State priority species.

Objective 4 Strategies: Control and manage of invasive species

- a) Understanding that invasive species pose an ecological and economic threat to habitat and infrastructure, the Mid-Michigan CISMA will provide treatments of local populations as determined by funding and selection of sites by the Steering Committee.
- b) The Mid-Michigan CISMA will select treatment sites for terrestrial invasive species by initiating a prioritized, tiered system (described in Outcome 4) to ensure a strategic process for treating both new and existing populations of these invasive species. This tiered system will be reviewed every two years.
- c) Control and prevention of invasive species will follow best management practices unique to each invasive species and incorporate partner organization knowledge and experiences. Links to best control methods are included in the Appendices. Treatment will be carried out by contracted labor (after soliciting a minimum of three bids) or the CISMA Strike Team after acquiring any necessary treatment permits. For control and prevention, the CISMA and its contracting organizations will follow State guidelines for decontamination. These practices will be implemented to ensure activities conducted did not contribute to the spread of invasive species.

- d) Annual monitoring of treatment sites will be the responsibility of the respective landowner and the CISMA will monitor sites every three years.
- e) The Mid-Michigan CISMA will provide resources about invasive species management and treatment as requested by local citizens and partner organizations.

Objective 5 Strategies: Sustainability and Longevity of the Mid-Michigan CISMA

- a) Funding will be identified and pursued by the Steering Committee, local conservation districts, and partner organizations to support Mid-Michigan CISMA activities and function.
- b) Evaluation of CISMA function will be conducted twice each year to adapt to partner organization needs and to stay up-to-date if no funding is available at the time to support the Mid-Michigan CISMA.
- c) *If no funding is available*, essential roles will be designated to partner organizations and will be documented in a contingency plan.

V. Current Partners and their Resources

All partner organizations support the goals and activities of the Mid-Michigan CISMA. Each partner organization has signed a MOU document that describes their commitments to Mid-Michigan CISMA activities. Each partner organization agrees to report required grant documents (e.g. match and activities documents), attend (at a minimum) partner meetings held in their county, respond to Mid-Michigan CISMA assessments via email, and promote the Mid-Michigan CISMA and its activities as their resources allow. Additional unique activities and resources provided by partner organizations can be referred to through MOU documents.

- Ingham Conservation District
- Ionia Conservation District
- Clinton Conservation District
- Eaton Conservation District
- Michigan Lakes and Stream Associations, Inc. Clean Boats, Clean Waters Program
- Michigan State University Landscape Services
- The Stewardship Network
- The Mid Michigan Cluster of The Stewardship Network
- Ingham County Land Bank
- Michigan Audubon

- Ingham County Road Department
- Ingham County Parks
- Eaton County Parks
- Clinton County Parks and Green Space Commission
- Middle Grand River Organization of Watersheds
- Clinton County Drain Commissioner's Office
- Ingham County Drain Commissioner's Office
- Ionia County Drain Commissioner's Office
- Tri County Regional Planning Commission
- Wild Ones, Red Cedar Chapter
- Michigan Wildflower Farm
- Sleepy Hollow State Park
- Friends of Park Lake
- City of East Lansing
- MSUE Michigan Natural Features Inventory
- MSU Vets to Ag Program
- Michigan State University Department of Fisheries and Wildlife
- Meridian Township
- Bath Township
- Fenner Nature Center
- Friends of Eaton County Parks
- Woldumar Nature Center
- Friends of the Maple River
- Mid-Michigan Land Conservancy
- DNR Rose Lake Field Office

VI. Appendices

Appendix A. Best Control Methods

Black and pale swallow-worts: <https://mnfi.anr.msu.edu/invasive-species/Swallow-wortBCP.pdf>

Japanese knotweed:

<https://mnfi.anr.msu.edu/invasive-species/JapaneseKnotweedBCP.pdf>

Invasive phragmites:

<http://greatlakesphragmites.net/management/management-techniques/>

Links to Japanese barberry, oriental bittersweet, autumn olive, glossy buckthorn, common buckthorn, and black locust

<https://mnfi.anr.msu.edu/invasive-species/best-control-practice-guides.cfm>

Appendix B. Regional Working List

Link to view the document as it is updated:

<https://docs.google.com/spreadsheets/d/1v1a5BsrEyB7xRNlj1PbqfdO-0f-cMLMYc5qyV53c8sl/edit?usp=sharing>

Appendix C. Michigan's Watch List Species

Michigan's Watch List species have either never been confirmed in the wild or have a limited distribution. Early detection and monitoring for these species is crucial to prevent establishment and spread and reduce impacts.

Insects and Tree Diseases

- Asian longhorned beetle (*Anoplophora glabripennis*)
- Balsam woolly adelgid (*Adelges piceae*)
- Hemlock woolly adelgid (*Adelges tsugae*)
- Thousand cankers disease (*Geosmithia morbida*)

Terrestrial Animals

- Nutria (*Myocastor coypus*)

Aquatic Animals

- Asian carp
 - o Silver carp (*Hypophthalmichthys molitrix*)
 - o Bighead carp (*Hypophthalmichthys noblis*)
 - o Grass carp (*Ctenopharyngodon idella*)
 - o Black carp (*Mylopharyngodon piceus*)
- Northern snakehead (*Channa argus*)
- Red swamp crayfish (*Procambarus clarkii*)
- New Zealand mudsnail (*Potamopyrgus antipodarum*)

Terrestrial Plants

- Asiatic sand sedge (*Myriophyllum aquaticum*)

- Chinese yam (*Dioscorea oppositifolia* L.)
- Himalayan balsam (*Impatiens glandulifera*)
- Japanese stiltgrass (*Microstegium vimineum* (Trin.) A. Camus)
- Kudzu (*Pueraria montana* var. *lobata*)
- Mile-a-minute weed (*Persicaria perfoliata*)

Aquatic Plants

- Parrot feather (*Myriophyllum aquaticum*)
- Yellow floating heart (*Nymphoides peltata*)
- European frogbit (*Hydrocharis morsus-ranae*)
- European water clover (*Marsilea quadrifolia*)
- Brazilian elodea (*Egeria densa*)
- Hydrilla (*Hydrilla verticillata*)
- Water chestnut (*Trapa natans*)
- Water hyacinth (*Eichhornia crassipes*)
- Water lettuce (*Pistia stratiotes*)
- Water soldier (*Stratiotes aloides*)

Appendix D. Mid-Michigan CISMA MOU