



Michigan Invasive Species Program 2025 Annual Report



Contents

Preface.....	2
Invasive Species Program overview.....	2
General fund support.....	3
Time frame	4
Goals	4
Goal 1: Prevention.....	5
Goal 2: Limit dispersal.....	9
Goal 3: Early detection and response	13
Goal 4: Minimize harmful effects	16
Program outcomes.....	19
Program finances: Fiscal year 2025.....	20
Michigan's prohibited, restricted and problematic species	21
Additions or deletions to Michigan's prohibited and restricted species lists	21
Scientific permits issued for prohibited or restricted species.....	22
Status of Michigan's prohibited, restricted and other problematic species	23
Detection and/or specific management actions occurring in 2025.....	23
Legislative and funding recommendations.....	26
Restore Michigan Invasive Species Grant Program funding to \$3.6 million per year. . Error! Bookmark not defined.	
Modernize NREPA Part 413 to enhance the biosecurity of Michigan's natural and agricultural resources from threats posed by invasive species.	27
Appendix A: Species listed as prohibited (P) or restricted (R) under Part 413.....	29

Michigan Invasive Species Program 2025 Annual Report

Preface

Michigan's Invasive Species Program is a joint effort of the Michigan departments of Agriculture and Rural Development; Natural Resources; and Environment, Great Lakes, and Energy. The Michigan Invasive Species Program 2025 Annual Report highlights the program's goals and accomplishments for invasive species prevention, management and outreach, the status of prohibited and restricted species in Michigan, and recommendations to further the program.

This report is submitted by the DNR in compliance with Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.41323 and by EGLE in compliance with NREPA 324.3104(3). This report and other information about invasive species in Michigan are available at Michigan.gov/Invasives.

Invasive Species Program overview

Invasive species are those that are not native to Michigan and whose introduction causes harm, or is likely to cause harm, to the state's economy, environment or human health. Plants, animals and pathogens that are introduced into the environment and flourish without natural predators to keep them in check cause significant damage to Michigan's economy and ecosystems. These invasive species negatively affect property values, tourism, recreation, utilities and industry. They lead to reduction of native species, habitat degradation and altered food webs. Some invasive species even can threaten human health.

While the invasive species already present in Michigan cause substantial harm, the introduction of new invasive species constantly threatens the state's land

and water. Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, Part 413, outlines the roles and responsibilities of state departments in prohibiting and restricting invasive species.

DNR, EGLE and MDARD share responsibility for invasive species policy, legislation, regulation, education, monitoring, assessment, management and control. These departments provide oversight and guidance for the aquatic and terrestrial invasive species core teams in alignment with the priorities of the state's

THE STATE OF MICHIGAN DEFINES "INVASIVE SPECIES" AS THOSE THAT ARE NOT NATIVE AND WHOSE INTRODUCTION CAUSES HARM, OR IS LIKELY TO CAUSE HARM, TO MICHIGAN'S ECONOMY, ENVIRONMENT OR HUMAN HEALTH.

executive administration and the department directors. The Aquatic Invasive Species and Terrestrial Invasive Species core teams communicate internally and externally to ensure a cohesive program.

The AIS and TIS core teams develop projects and make recommendations to the departments' leadership based on priorities for each group of invasive species. The AIS core team implements Michigan's Aquatic Invasive Species State Management Plan through both internal and collaborative activities and projects. The TIS core team implements Michigan's Terrestrial Invasive Species State Management Plan to guide efforts in prevention, detection and control in collaboration with local, state and federal partners.

General fund support

Beginning in 2015, Michigan's governor and Legislature designated \$5 million in ongoing support through the state general fund to manage the impact of invasive species. This support included \$1.4 million to substantially enhance Michigan's Invasive Species Program for aquatic (water-based) organisms and initiated a formal program for terrestrial (land-based) species.

The remaining \$3.6 million launched the Michigan Invasive Species Grant Program, providing competitive awards to agencies, universities and nonprofit organizations to aid the prevention, detection, eradication and control of aquatic and terrestrial invasive species. A portion of the Michigan Invasive Species Grant Program is dedicated to annual funding for 22 cooperative invasive species management areas to support locally led invasive species initiatives in Michigan's 83 counties.

In 2024, the program's annual general fund budget was increased to \$7 million, expanding DNR, MDARD and EGLE's capacity to undertake invasive species detection and management on state-managed lands, coordinate response efforts, increase law enforcement and improve public engagement.

For fiscal year 2026, grant program funding was reduced to \$2.4 million. The Michigan Invasive Species Program is committed to maintaining the network of 22 cooperative invasive species management areas, or CISMAs, that serve citizens in all 83 Michigan counties. Eligible CISMA requests for up to \$70,000 for annual implementation of prevention, detection and control activities will be granted. Remaining funds will be available for priority projects and CISMA survey and treatment projects on a competitive basis.

Time frame

This report covers the activities of fiscal year 2025: Oct. 1, 2024, through Sept. 30, 2025.

Goals

As defined by the Michigan Invasive Species Program charter signed by EGLE, MDARD and DNR directors in January 2015, the program has four goals:

- Prevent introduction of new invasive species to Michigan.
- Limit the dispersal of established invasive species populations throughout Michigan.
- Develop a statewide, interagency, invasive species early detection and response program to address new invasions.
- Manage and control invasive species to minimize harmful environmental, economic and public health effects resulting from established populations.

Goal 1: Prevention

Prevent introduction of new invasive species to Michigan.

Prevention, the most effective step in managing invasive species, involves both keeping unwanted organisms out of Michigan and stopping the spread of newly introduced species. Michigan's Invasive Species Program targets pathways that can bring invasive species into the state and those that can move them from place to place.

Monitoring for Asian longhorned beetle

The destructive Asian longhorned beetle has not been detected in Michigan, but the U.S. Department of Agriculture's Animal and Plant Health Inspection Service is currently managing infestations in Massachusetts, New York, Ohio and South Carolina. Early detection in new areas is critical, as infestations can lead to widespread tree loss and the removal of large numbers of trees to stop the beetle's spread.

Each year, MDARD's nursery inspectors work with APHIS to survey maple trees, the beetle's preferred host, in high-risk locations. These areas include lumber mills, rail corridors, pallet recyclers, rest areas and campgrounds where the beetle could arrive on infested logs, firewood or other wood products. With a goal of reaching every county at least once every five years, each inspector visits five locations annually to look for signs of Asian longhorned beetle activity. These signs include round exit holes in trunks and branches, oozing sap and dieback in the tree canopy.

MDARD also responds to reports from the public of possible Asian longhorned



beetle sightings. In July, a photo submitted by a Montcalm County resident showing a white, insect-shaped pupa raised concern due to its resemblance to the invasive beetle. The resident had already disposed of the insect, and based on the photo alone, neither the local MDARD inspector nor APHIS staff could rule out Asian longhorned beetle.

During an initial site visit, MDARD inspectors found no signs of infestation in nearby trees. However, firewood

present at the site showed holes and tunnels in the wood that could potentially be associated with the invasive beetle. An APHIS inspector accompanied MDARD on a second site visit, which produced similar findings. Inspectors also noted a recently cut pine stump on the property. Based on that discovery and further evaluation, the insect was determined to be a white-spotted pine sawyer, a large native beetle that closely resembles the Asian longhorned beetle. A follow-up inspection of the site is planned for 2026 to confirm no signs of invasive beetle activity.

Helping state staff work clean

People who work in areas contaminated with invasive species can unknowingly spread them to new locations when plant seeds and fragments, insects, aquatic pests or their larvae attach to clothing, gear or vehicles. In 2025, the Michigan Invasive Species Program helped field staff from the DNR, EGLE and MDARD renew their commitment to invasive species prevention through an updated joint decontamination policy.



The departments' leadership endorsed the revised policy and its new tagline – “Work. Clean. Go.” – in April 2025. Policy updates make it easier for staff to assess risk at each worksite and select appropriate cleaning procedures. New tools and techniques, not available when the policy was first developed in 2014, simplify decontamination processes. These include the use of common cleaning products such as Formula 409 to clean gear exposed to didymo or New Zealand mudsnails, along with easier methods for cleaning equipment, boots and clothing.

To support implementation of the updated policy, the Michigan Invasive Species Program refreshed decontamination kits at field offices across the state. Staff received boot brushes, scrubbers, grabbers and burr-removing gloves to help reduce the risk of spreading invasive species as they move between worksites.

Educating aquatic plant sellers

Fifteen aquatic plant species are currently prohibited or restricted in Michigan under Part 413 of the Natural Resources and Environmental Protection Act, also known as NREPA. To make sure aquatic plant sellers across the state are aware

of these species and related regulations, MDARD launched an annual aquatic plant blitz in 2025.

Under authority granted by Michigan's Insect Pest and Plant Disease Act (P.A. 189 of 1931) and Act 72 of 1945, MDARD's nursery program licenses nursery growers and dealers, conducts routine inspections of nursery stock and educates businesses about pests, diseases and invasive species. The program also helps sellers understand actions they can take to reduce the risk of spreading invasive species through trade.

Since 2017, sellers of aquatic species have been required to register annually with the DNR and complete a year-end sales report.

During the winter months, MDARD's 17 nursery inspectors each visited three sellers within their assigned districts. Inspectors reviewed the species being sold, shared information on how to identify regulated species and confirmed whether sellers were meeting registration and reporting requirements.

While no sellers were found to be offering regulated species for sale, several of the 51 locations visited had not registered as aquatic plant sellers. Among those that had registered, about half had not submitted the required year-end sales report. Inspectors were able to answer questions and provide guidance to help sellers come into compliance.

Surveys completed during each visit also revealed that 20 sellers had received shipments containing hitchhikers. These included organisms such as snails, crayfish, tadpoles, fish and additional plants that were not ordered but arrived attached to purchased stock or inside packaging. In response, MDARD and the DNR are working with Michigan State University Extension's Reduce Invasive Pet and Plant Escapes outreach program, funded through the Michigan Invasive Species Grant Program, to educate sellers on proper disposal methods for hitchhiking species.

Protecting the Great Lakes from invasive carp

Work continued on the Brandon Road Interbasin Project, a major effort to stop invasive carp from entering the Great Lakes. In June, Illinois and Michigan signed a project partnership agreement with the U.S. Army Corps of Engineers to move forward with construction of deterrents at the Brandon Road Lock and Dam near Joliet, Illinois. This site has been identified as the most important location for blocking carp movement toward the Great Lakes.

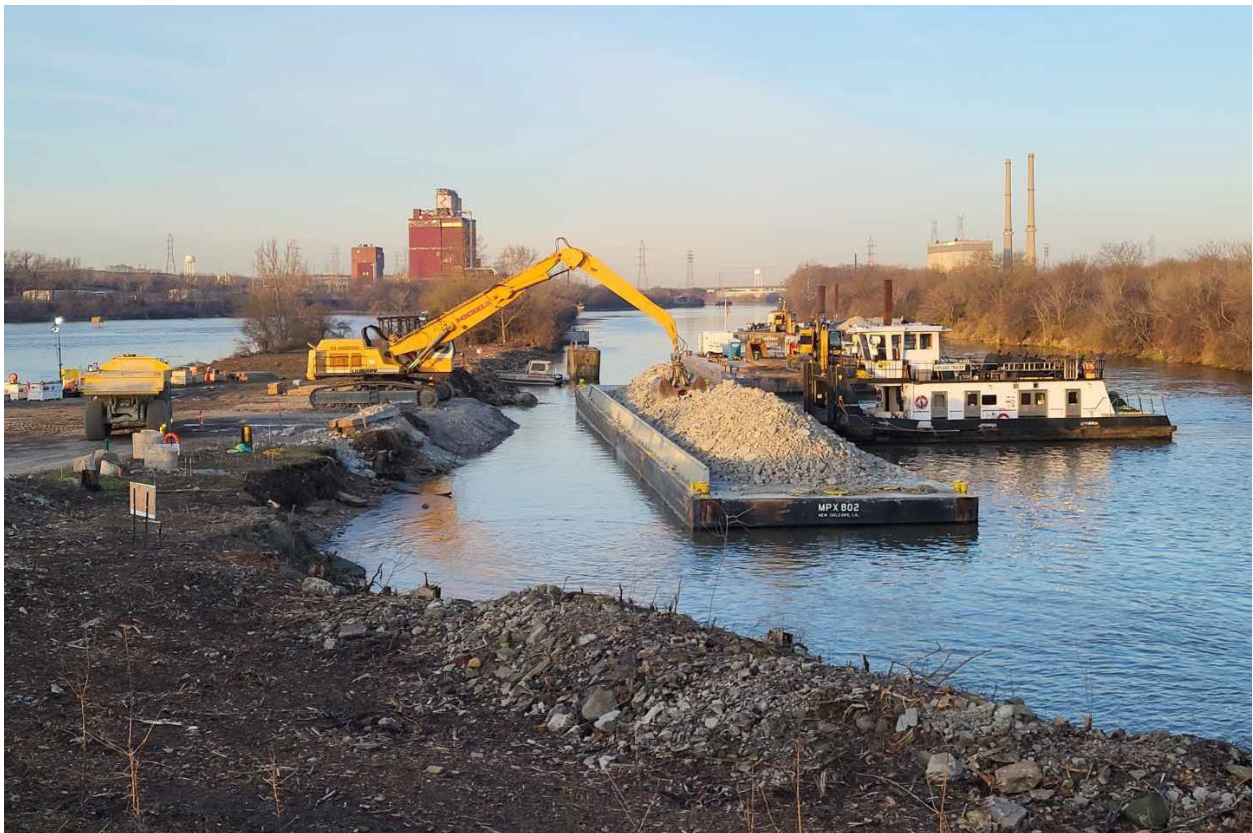
The agreement marked a major milestone, allowing \$274 million in federal funding and \$114 million in state funding to be used for construction of the first of three project phases. The full project is expected to cost \$1.15 billion.

In early 2025, the U.S. Army Corps of Engineers completed early construction work by removing bedrock from the river channel downstream of the lock. This work prepared the site for an insulated channel wall and electric barrier that will help prevent invasive carp from passing through the area. Illinois also acquired several properties needed for construction, including upland parcels, river bottomlands and a road easement.

Additional environmental review is underway. The U.S. Army Corps of Engineers is awaiting approval from the Environmental Protection Agency to conduct hazardous and toxic waste and geotechnical assessments on upland properties near the project site.

Michigan remains fully committed to the project, contributing \$64 million toward the required nonfederal match and approximately \$2 million for potential hazardous waste mitigation. DNR staff continues to support the project through leadership and technical roles.

In October 2025, all eight Great Lakes governors signed a joint letter calling for full federal funding for long-term operations and maintenance, emphasizing the project's importance and identifying it as a national priority.



Goal 2: Limit dispersal

Limit the dispersal of established invasive species populations throughout Michigan.

People who work or play in areas where invasive species are already established can unknowingly aid in their spread to new areas. Arming these audiences with information to identify the invaders they encounter and take steps to avoid carrying “hitchhikers” to new locations will have important long-term effects in reducing invasive species populations.

Helping boaters prevent AIS spread

The DNR’s mobile boat wash program wrapped up a busy summer season, visiting public boating access sites in 19 counties. Program staff engaged with more than 800 people and washed over 300 boats, helping boaters learn simple steps to prevent the spread of aquatic invasive species.

Michigan law requires boaters to remove all aquatic plants and debris from boats and trailers before leaving a launch site. Boaters must also pull drain plugs and drain all water from bilges, ballast tanks and live wells. Unused bait should be thrown in the trash, not released into the water. These actions help prevent the spread of invasive species such as starry stonewort, Eurasian watermilfoil, and zebra and quagga mussels. These invaders can foul equipment, alter habitat and crowd out Michigan’s native species.

Throughout the season, the crew also deployed a mobile CD3 station, a waterless kiosk equipped with tools to help boaters clean, drain, dry and dispose. The station moved from lake to lake in southwest Michigan, making it easier for more boaters to follow aquatic invasive species prevention practices.

The mobile boat wash program is funded through a U.S. Environmental Protection Agency-administered grant from the Great Lakes Restoration Initiative, a federal effort that supports protection and restoration throughout the Great Lakes basin.

Supporting clean firewood to protect trees

In 2025, the DNR and MDARD began working together to implement a four-year interdepartmental firewood strategy. The strategy’s goal is to reduce the introduction and spread of invasive insects and plant diseases caused by the movement of firewood within and into Michigan.

Under Michigan’s Insect Pest and Plant Disease Act (Act 189 of 1931), MDARD has the authority to establish quarantines and other safeguards to regulate the

sale and distribution of nursery stock, plants and plant products to help prevent the introduction and spread of harmful insect pests and plant diseases.

The DNR's authority comes from Section 504 of the Natural Resources and Environmental Protection Act, 1994 PA 451 (MCL 324.504), which allows the department to manage and regulate recreational use of state-managed lands. This authority helps balance public access with conservation goals and protects state-managed lands from damage.

The internal firewood strategy coordinates these regulatory tools, including quarantines and land use orders, to protect Michigan's trees from destructive insects and diseases that can be transported in firewood. Through the Michigan Invasive Species Program, the agencies will increase outreach efforts that encourage public adoption of safe firewood practices. The strategy also includes a voluntary certified firewood program to help Michigan producers provide clean alternatives to potentially infested firewood.

In addition to protecting trees on both public and private lands, the firewood strategy aligns Michigan with other states such as Illinois, Maine, Minnesota, Tennessee and Wisconsin. It also supports recommendations from the National Plant Board and strengthens regional efforts to slow the spread of invasive pests.



Promoting invasive-free products

Gravel, fill and mulch can become contaminated when they are processed near invasive plants or animals. Once contaminated, these materials can spread invasive species to lawns, gardens and construction sites. Untreated compost may also contain viable seeds or plant fragments from invasive species and other noxious plants. Common invaders spread through landscaping materials include phragmites, garlic mustard, knotweeds and jumping worms.

To help Michiganders choose cleaner, safer landscaping materials, the Michigan Invasive Species Program is developing a new voluntary certification program for landscaping product producers. Michigan's invasive-free certification program, planned to launch in 2027, will allow producers to demonstrate that their products have been processed, stored and packaged in ways that prevent contamination.

Producers will also be able to seek certification for firewood, a well-known pathway for the spread of invasive insects and tree diseases. Firewood certification will be based on heat-treatment specifications developed by MDARD.

This program will align Michigan with other states and provinces participating in the North American Invasive Species Management Association's Weed Free Products program.

In 2025, the Michigan Invasive Species Program gathered feedback from both producers and consumers through targeted surveys to better understand interest in certified products. MDARD and DNR staff have also worked together to test kiln temperature probes and are finalizing certification for the program's first firewood producer.

With support from the Great Lakes Restoration Initiative, program staff will begin working with interested producers in 2026 to certify products. Grant funds will be used to expand outreach efforts and develop a certification label to help consumers easily identify and choose Michigan-made, invasive-free products.

Riding clean to protect trails

Off-road vehicle trail riding is a growing pastime across the state, and many riders take pride in the mud they collect along the way. However, that same dirt can carry invasive species from one ride to the next, threatening the natural places riders love to explore.

Over the past three years, the North Country Cooperative Invasive Species Management Area, which serves Lake, Mason, Mecosta, Missaukee, Osceola and Wexford counties, has shared the message of riding clean with hundreds of

ORV riders. The effort encourages riders to post photos of their muddy machines using #RideCleanRepeat and then head to a car wash instead of unknowingly spreading invasive species on mud-covered vehicles.

The Michigan Invasive Species Grant Program-funded outreach project culminated in 2025 with an ORV fun run supported by local businesses and the Cadillac Area Visitors Bureau. More than 100 participants, including families and individual riders, traveled the route and built poker hands by stopping at participating restaurants and stores. Riders left with prizes, along with tips and tools to help prevent the spread of invasive species on local trails.

Surveys conducted throughout the project offered valuable insight into rider habits and perspectives. Nearly 60% of riders on northwest Michigan trails were visiting from other areas of Michigan or from out of state. While concerns about trail degradation from overuse and litter ranked higher than invasive species, nearly half of surveyed riders recognized the impact invasive plants such as autumn olive can have on trail quality. Nearly 65% of riders reported cleaning their vehicles between runs, and up to 15% more said they would do so if car washes were available near trailheads.



Goal 3: Early detection and response

Develop a statewide, interagency invasive species early detection and response program to address new invasions.

Successful early detection of and response to new infestations require widespread monitoring efforts, rapid communication and well-prepared personnel. A statewide approach involves coordinated efforts among agencies, cooperative invasive species management areas, industry professionals, researchers and residents to detect, report, verify and treat emerging invasive species issues.

Stiltgrass detection and response

In 2025, surveys conducted by the Michigan Invasive Species Program's public lands response team confirmed the presence of stiltgrass, a highly invasive annual grass, at Augusta Creek, Barry and Petersburg state game areas. These detections reflect the program's emphasis on early detection and rapid response across Michigan's public lands.

The public lands response team includes two foresters and two biologists supported through a 2024 state general fund increase. The team is responsible for monitoring and responding to watch list invasive species across approximately 4.6 million acres of state-managed public land. Survey efforts focus on high-quality natural areas and locations at elevated risk for invasion, as well as follow-up investigations of public reports submitted through the Midwest Invasive Species Information Network and other online reporting platforms.

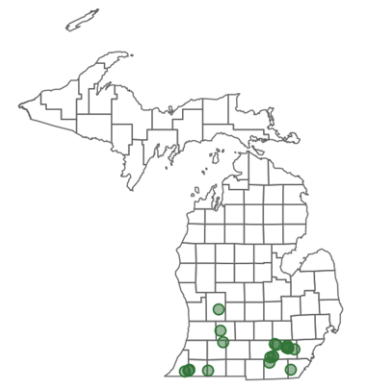
Stiltgrass typically establishes in areas of disturbed soil, including forest edges, roadways, trails, floodplains and stream corridors, and can spread into intact forest understories. Its small seeds are readily dispersed by vehicles, foot traffic, water and wildlife. Once established, stiltgrass forms dense stands that suppress native plant and tree seedling growth, releases allelopathic chemicals that inhibit plant development

New Watch List Viewer

The interactive Invasive Species Watch List Viewer, launched in 2025 on

Michigan.gov/Invasives, maps the current and historical distribution of Michigan's high-priority invasive species.

The map below shows invasive stiltgrass locations in the state.



and alters soil chemistry by increasing nitrogen and phosphorus levels. Without early intervention, infestations can significantly disrupt native plant communities.

The detection at Petersburg State Game Area originated from a report submitted by a park user, demonstrating the value of public engagement in invasive species monitoring. The Augusta Creek and Barry state game area detections were identified during routine invasive species surveys conducted by the response team. All known sites received initial treatment in 2025 and will be monitored in subsequent years. Survey efforts will also expand along adjacent roads and rights-of-way to identify potential spread and support long-term management.

Red swamp crayfish Response at Wolf Lake State Fish Hatchery

In July 2025, the DNR confirmed the presence of red swamp crayfish, a prohibited invasive species, in a muskellunge rearing pond at Wolf Lake State Fish Hatchery in Van Buren County. The discovery was made after hatchery staff found two unusual crayfish carcasses while draining Pond 20 following a muskellunge stocking. The specimens were later identified as red swamp crayfish.

DNR staff responded quickly to assess the situation. They set 165 traps across the hatchery's 11 earthen-bottomed ponds to determine whether the crayfish had spread. Only one live red swamp crayfish was captured during the initial effort, and it was found in Pond 20. Trapping continued through the fall, with just one additional crayfish collected, again from the same pond. DNA testing confirmed the crayfish were not connected to the known population being managed at Sunset Lake in Kalamazoo.

Based on these findings, the DNR plans to treat Pond 20 and five connected ponds with pesticide in spring 2026. Additional treatments will be used if future monitoring shows the crayfish are still present.

Muskellunge collected from Pond 20 before the detection measured 12 to 13 inches in length and were individually handled and tagged prior to release. This process greatly reduced the risk that red swamp crayfish were accidentally moved with the fish to Thornapple Lake or Lake Hudson. As an added precaution, the DNR is developing a monitoring plan for both lakes and will ask lake users to report any suspected sightings.

Red swamp crayfish were first detected in Michigan in 2017, with initial discoveries in Kalamazoo and Pontiac. Since then, isolated infestations have been confirmed in Kalamazoo, Livingston, Macomb, Oakland, Van Buren and Wayne counties. The DNR and partners have been using innovative methods to

reduce populations and limit their spread. These introductions are most often linked to the release or escape of aquarium pets, live bait or crayfish brought into Michigan for food-related uses.

Purple jewelweed detection and response

Many watch list invasive species in Michigan are found near the state's southern border, slowly spreading north from neighboring states. Purple jewelweed is an exception. This invasive plant is primarily found in the Upper Peninsula, where it likely spread from Canada across the St. Marys River.

Local cooperative invasive species management areas are helping slow its spread and raise awareness of this attractive but problematic plant. These efforts are coordinated by the Upper Peninsula Resource Conservation & Development Council and supported through the Michigan Invasive Species Grant Program. By treating known populations, following up on public reports and hosting trade-up events that allow landowners to replace purple jewelweed with noninvasive plants, partners are making steady progress in reducing its presence.



In 2025, a citizen report submitted online led to the detection of purple jewelweed in Frays Park in the city of Kalamazoo. While the plant has been identified and removed at a small number of other Lower Peninsula sites, this remains the only known active population downstate. The Barry, Calhoun, Kalamazoo Cooperative Invasive Species Management Area

worked with park staff to confirm the report and was later joined by members of the Michigan Invasive Species Program's public lands response team to remove the plants by hand.

This collaborative effort supported early management of a new infestation, provided hands-on training for new response team members and strengthened bonds among local, regional and state partners working to protect Michigan's natural areas.

Goal 4: Minimize harmful effects

Manage and control invasive species to minimize harmful environmental, economic and public health effects resulting from established populations.

Established or widespread infestations can change the makeup of whole ecosystems. The negative effects on native plant and animal populations include displacement, diminishing food and habitat, and species reduction. The recreational value of lakes, dunes and forests is degraded by the presence of invasive species. Such species also are taking a toll on Michigan's fisheries, agriculture and timber industries. Both large-scale management efforts and innovative treatment methods are needed to manage and control invasive species populations in the state.

Promoting invasive-free landscaping choices

Efforts supported by the Michigan Invasive Species Grant Program are raising awareness about invasive ornamental plants and encouraging sellers and consumers to make more environmentally responsible landscaping choices.

One of these efforts is Go Beyond Beauty, a program developed by the Northwest Michigan Invasive Species Network. The program recognizes nurseries, growers and landscapers who commit to not selling or using invasive ornamental plants. Many participating businesses also prioritize native species. Northwest Michigan ISN recently expanded Go Beyond Beauty to additional cooperative invasive species management areas and now supports six regional hubs. At each hub, CISMA staff and volunteers provide outreach to garden professionals, municipalities, organizations and the public on reducing the use and spread of ornamental plants with invasive traits.

Program activities include volunteer work bees to remove invasive plants such as baby's breath from dune habitats and Japanese barberry from forested areas. A trade-up program also allows gardeners to turn in invasive plants for proper disposal and receive native plants in return, helping prevent further spread while encouraging better planting choices.

In 2025, the North Country Cooperative Invasive Species Management Area launched a shrub replacement project, which focuses on removing and replacing invasive ornamental plants at schools and municipal properties. The CISMA partnered with Ferris State University honors students to replace Japanese barberry with dwarf fragrant sumac at the Big Rapids Department of Public Safety building. Additional projects included working with a 10th grade nature studies class and sixth grade science classes to remove Japanese barberry and

plant fragrant sumac, redbud and serviceberry at Ludington High School. The CISMA is now seeking new project sites for 2026.



Protecting Michigan's native mussels

Invasive mussels do more than foul docks and boat propellers or cut bare feet. Zebra and quagga mussels also attach to native mussels, restricting their ability to move, feed and reproduce. Over time, these invasive species can overwhelm and smother Michigan's native mussels.

Michigan is home to 42 native mussel species. These small but important animals provide food and habitat for other native wildlife and help keep rivers and lakes clean by filtering contaminants out of the water from their home in soft sediments.

Zebra and quagga mussels, which are familiar to many Great Lakes and inland lake users, attach to hard surfaces such as boats, docks and water infrastructure. When they attach to native mussels, the impacts are much more severe. Heavy infestations can prevent native mussels from feeding or reproducing and often lead to their death.

The DNR, with support from the Great Lakes Restoration Initiative, is working to better protect these vulnerable populations. In partnership with the Michigan Natural Features Inventory, the DNR is compiling historic records of mussel locations to help identify healthy native populations and test potential management strategies in the field. One promising approach involves physically removing invasive mussels from native mussels. If this method proves effective, long-term efforts could include hands-on participation from local communities.

Non-native mushrooms spreading in Michigan

Golden oyster mushrooms are easy to recognize by their bright yellow caps and are often featured on restaurant menus and cooking videos. Their popularity grew in the early 2000s with the rise of do-it-yourself grow kits, and by 2010, the mushrooms began appearing in the wild in the United States.

Native to hardwood forests in Asia and parts of Russia, golden oyster mushrooms are now established in portions of the Midwest, including Michigan's southern Lower Peninsula. Their presence in natural areas has raised concerns about potential impacts on native ecosystems.

In 2025, U.S. Forest Service researchers published findings from Wisconsin that documented significant ecological effects. In forest logs colonized by golden oyster mushrooms, native fungi diversity was reduced by as much as 50 percent. While the full extent of impacts is still being studied, these findings highlight the species' ability to outcompete native fungi.

Reports from Michigan have increased in recent years, particularly following a Michigan Invasive Species Program news release in July 2025. The rapid rise in public reporting suggests the species is spreading and may pose a growing risk to forest ecosystems.

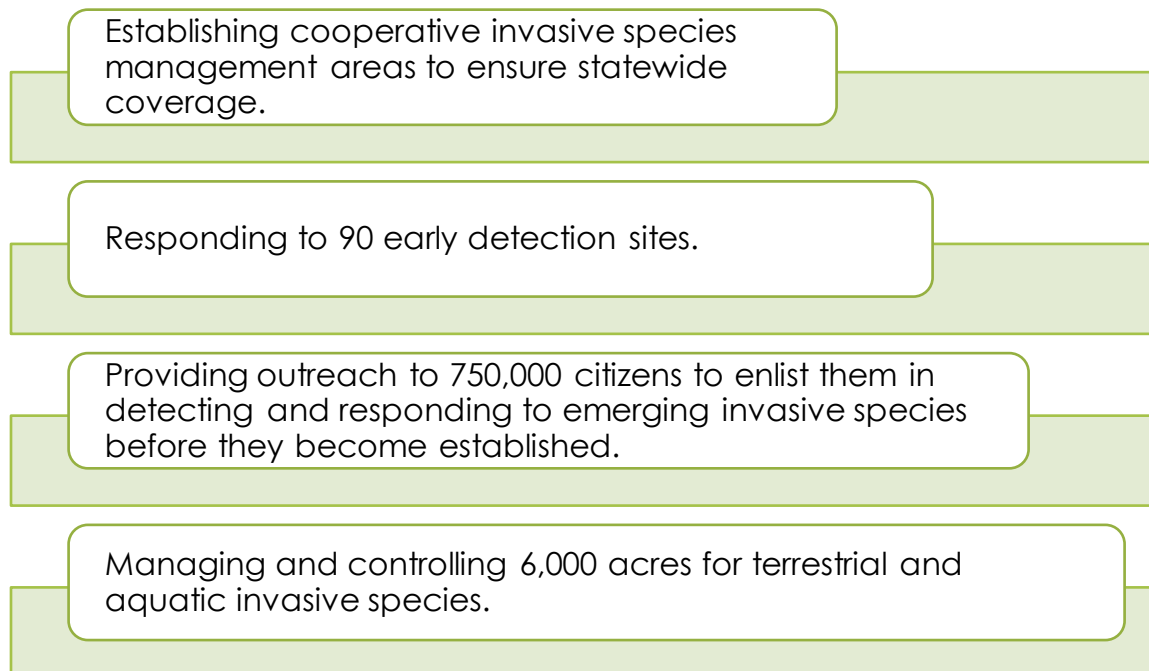
Currently, there is no proven management strategy for reducing established golden oyster mushroom populations in the wild. Mushroom growers and enthusiasts can help limit further spread by keeping grow kits indoors and sealing and disposing of used kits and mushroom waste in the trash rather than composting or discarding them outdoors.

Table 1: Invasive Species Fund expenditures for immediate response efforts

Year	Project	Purpose	Amount
2024	Hydrilla: eradication of the only known infestations in Michigan	Remove hydrilla-infested water and soil to prevent possibility of introduction or spread to new locations.	\$118,400
2025	None	N/A	\$ -

Program outcomes

The following outcomes were established in 2014 to direct the use of state funding to further the goals of the Michigan Invasive Species Program.



Michigan's Invasive Species Program continues to exceed these outcomes through the work of EGLE, DNR, MDARD and MDOT staff in collaboration with the state's 22 cooperative invasive species management areas and the work of Michigan Invasive Species Grant Program grantees.

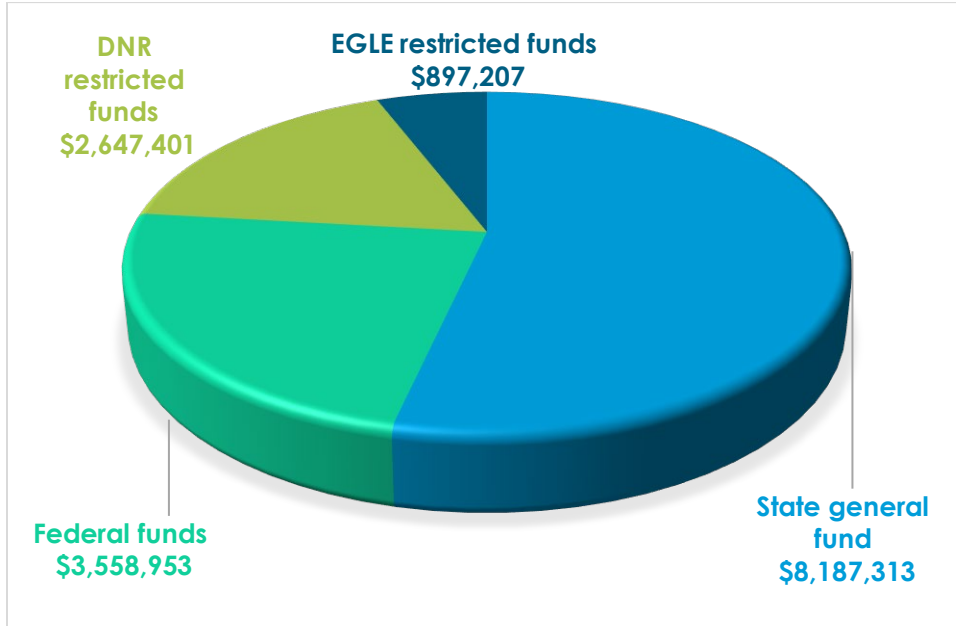
Table 2 – Michigan Invasive Species Program outcomes 2015-2025

	CISMA coverage (counties)	Early detection responses	Outreach impressions	Control acres
Program goal	83	90	750,000	6,000
2015	65	355	1,495,800	8,369
2016	77	175	5,037,627	8,710
2017	77	194	5,090,658	9,370
2018	83	58	4,274,867	9,410
2019	83	24	6,265,359	12,313
2020	83	8	8,333,206	11,867
2021	83	34	20,461,963	36,717*
2022	83	7	9,955,778	22,049
2023	83	8	9,003,650	50,094**
2024	83	24	11,372,583	24,909
2025	83	27	10,614,963	36,396

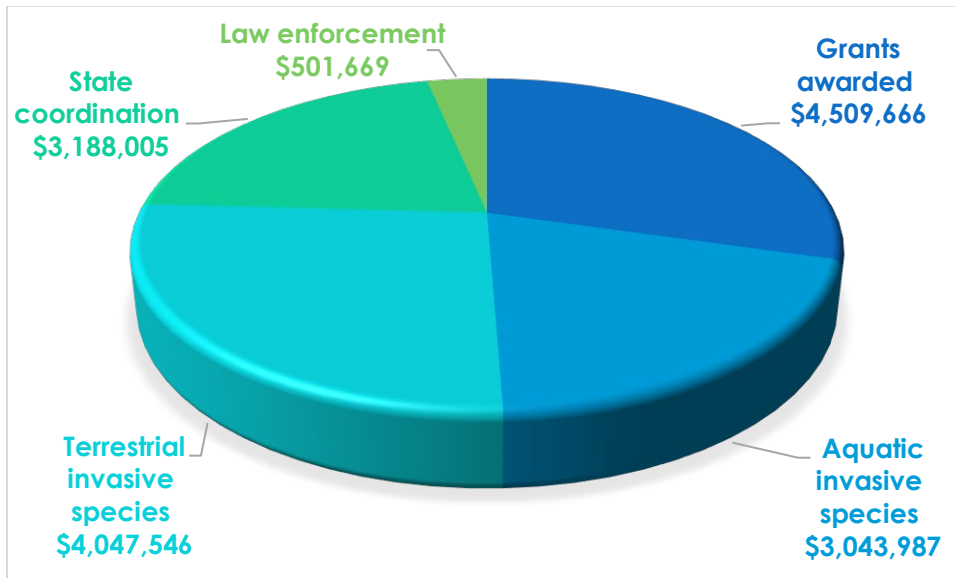
*Began including DNR Wildlife Division control activities. **Began including MDOT control activities.

Program finances: Fiscal year 2025

Funding by source - \$15,290,874



Expenditures by program area - \$15,290,874*



* Expenditures exceed FY25 appropriation amount due to cash and accrued expenditures from grants issued in prior years.

Michigan's prohibited, restricted and problematic species

Michigan laws limit the import, sale and possession of 56 prohibited and restricted species including plants, animals, fish, mollusks and crayfish. A current list is provided in Appendix A at the end of this report. If a species is prohibited or restricted, it is unlawful – except with a valid permit – to possess, introduce, import, sell or offer that species for sale as a live organism.

The Michigan Natural Resources Commission, in consultation with MDARD, or the Michigan Commission of Agriculture and Rural Development, in consultation with the DNR, may add to the list of prohibited and restricted species.

The term “prohibited” is used for species that are not widely distributed in the state. Often, management or control techniques for prohibited species are not available. The term “restricted” is applied to species that are established in the state. Management and control practices usually are available for restricted species.

Additions or deletions to Michigan's prohibited and restricted species lists

There were no changes to Michigan's prohibited and restricted species lists in 2025; however, a new proposal was introduced.

In late 2025, MDARD proposed six additional plant species for regulation following a comprehensive review process. This review included weed risk assessments completed in accordance with U.S. Department of Agriculture Animal and Plant Health Inspection Service Plant Protection and Quarantine guidelines.

Two aquatic species, water hyacinth and water lettuce, which are currently found in limited areas of Michigan waters, were proposed for prohibited status. Four terrestrial species already established in the state were proposed for restricted status: callery pear, common buckthorn, glossy buckthorn and Japanese barberry.

Following consultation with the DNR and a public comment period, MDARD is expected to make final determinations on these proposed listings in spring 2026. Meanwhile, the Michigan Invasive Species Program continues to evaluate both new and established non-native plants and conduct weed risk assessments to better understand their potential impacts on Michigan's environment, economy and human health. MDARD anticipates recommending additional species for regulation in the coming years.

Scientific permits issued for prohibited or restricted species

The issuance of permits for the possession of prohibited or restricted species is provided by NREPA Part 413 for MDARD (for plants and insects) and the DNR (for fish or any other species) following an application review process.

In 2024, 35 permits were granted to partner agencies, universities and other entities including consulting firms, zoos, nature centers and other educational institutions.

Table 3 – Prohibited and restricted species permits issued in 2025

Species	Status (prohibited or restricted)	Number of Permits Issued	Permittees (university, partner or other)
African oxygen weed	Prohibited	1	1 partner.
Autumn olive	Restricted	2	2 partners.
Brazilian elodea	Prohibited	2	1 university, 1 partner.
Carolina fanwort	Prohibited	1	1 partner.
Curly leaf pondweed	Restricted	2	2 partners.
Cylindro	Prohibited	1	1 partner.
Eurasian watermilfoil	Restricted	2	2 partners.
European frog-bit	Prohibited	3	3 partners.
Flowering rush	Restricted	2	2 partners
Giant salvinia	Prohibited	1	1 partner.
Giant hogweed	Prohibited	1	1 partner.
Japanese knotweed	Prohibited	2	2 partners.
Hydrilla	Prohibited	2	2 partners.
Parrot feather	Prohibited	2	2 partners.
Phragmites	Restricted	3	1 university, 2 partners.
Purple loosestrife	Restricted	3	3 partners.
Quagga Mussels	Restricted	5	1 university, 1 partner, 3 other.
Red Swamp Crayfish	Prohibited	4	1 university, 1 partner, 2 other.
Round Goby	Prohibited	6	3 universities, 3 other.
Ruffe	Prohibited	1	1 other.
Rusty crayfish	Restricted	6	1 university, 2 partners, 3 other.
Starry stonewort	Prohibited	2	2 partners.
Tubenose Goby	Prohibited	1	1 other.
Water chestnut	Prohibited	1	1 partner
Zebra Mussels	Restricted	6	1 university, 1 partner, 4 other.

Status of Michigan's prohibited, restricted and other problematic species

The current distribution of prohibited and restricted species in Michigan, based on best available knowledge, is provided in Appendix A. Some of these species are not yet known to be present in the state. Others have been present in certain parts of the state for decades, causing significant, ongoing management and control costs. In cases where distribution is listed as absent, this may mean a species is truly not present at all in Michigan or that no detections have yet been confirmed.

Detection and/or specific management actions occurring in 2025

Hemlock woolly adelgid reaches new counties

Hemlock woolly adelgid was confirmed in Manistee and Van Buren counties for the first time in 2025. This tiny invasive insect feeds on sap from hemlock trees and, over time, can cause tree decline and death.

Hemlocks play an important role in Michigan forests by providing year-round cover for wildlife, shading cold water streams and creating cool, moist forest conditions that support a wide range of plants and animals.

Along the Lake Michigan shoreline, state staff, cooperative invasive species management areas and local conservation districts conduct winter surveys, when the insect's white egg masses are easiest to spot on hemlock branches.

In early February, the Mason-Lake Conservation District's hemlock woolly adelgid strike team discovered the insect in Manistee County, just north of the Mason-Manistee county line near Lake Michigan, an area considered the current northern edge of the infestation. In March, forest health technicians with the DNR Parks and Recreation Division detected two infested hemlock trees in Van Buren State Park, marking the southernmost confirmed location in the state.

Hemlock trees within an 800-foot radius of each infestation were treated during the summer. Follow-up surveys of surrounding areas will continue in 2026 to identify any additional spread.

With these new detections, 11 Michigan counties now have active hemlock woolly adelgid infestations, some dating back to 2017: Allegan, Antrim, Benzie, Leelanau, Manistee, Mason, Muskegon, Oceana, Ottawa, Van Buren and Washtenaw.



Purple jewelweed detected in Kalamazoo County

Invasive purple jewelweed, also known as Himalayan balsam, isn't common across Michigan, but it has been detected and is being managed in some areas of the Upper Peninsula. Due to a citizen's online report, the plant was detected in the city of Kalamazoo's Frays Park in August 2025. The plant has been identified and removed in other locations in the Lower Peninsula, making this the only known active population downstate.



The small population is being managed by the Barry, Calhoun and Kalamazoo CISMA and will be regularly monitored by city park staff.

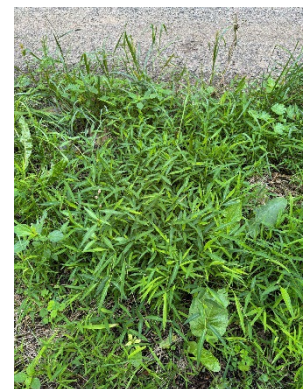
Red swamp crayfish found in state hatchery pond

In July 2025, the DNR confirmed the presence of invasive red swamp crayfish in an outdoor muskellunge rearing pond at Wolf Lake State Fish Hatchery in Mattawan, Van Buren County, Michigan. After confirming that a dead specimen found in the pond's collection basket was a red swamp crayfish, the DNR conducted intensive trapping in the hatchery's earthen-bottomed ponds. Only one additional crayfish was found – collected from the same pond as the dead specimen. Treatment of this pond and others in the vicinity will take place in spring 2026. To date, isolated infestations of red swamp crayfish have been confirmed in Kalamazoo, Livingston, Macomb, Oakland, Van Buren and Wayne counties.



Invasive stiltgrass found in state game areas

Stiltgrass, a highly invasive annual grass that spreads quickly in disturbed areas, was detected in Augusta Creek, Barry and Petersburg state game areas in 2025. Invasive species survey efforts on state-managed lands were increased in 2025 through a new team dedicated to invasive species response in state forests, wildlife and game areas.



Sites were managed with chemical treatment and manual removal. The response team will work with game area staff to continue monitoring and expand survey efforts along roads and rights-of-way in both areas.

Stiltgrass was first detected in Michigan in 2017, when an infestation was confirmed on private lands in Washtenaw County. Additional surveying has

shown that this infestation covers a large area of both public and private land along the Huron River northwest of Ann Arbor. A coalition including Ann Arbor and Washtenaw County parks and recreation departments and Wild Ones, a native plant collaborative, is managing infestations on public lands and training landowners in techniques for private land management. The Jackson, Lenawee and Washtenaw CISMA continues to scout for new infestations in the area.

Smaller infestations in Berrien, Cass and Kent counties are being managed by local CISMAs.

Spotted lanternfly spreads to Jackson County

MDARD, Michigan State University and cooperative invasive species management areas across the state continue to monitor and slow the spread of the invasive spotted lanternfly. First detected in Michigan in 2022, the insect does not pose a risk to human or animal health and is primarily considered an outdoor nuisance. In Michigan, management efforts are focused on monitoring spread and supporting vineyards, where the species has the greatest potential to cause economic impacts.



As of November 2025, spotted lanternfly populations have been confirmed in parts of Jackson, Lenawee, Macomb, Monroe, Oakland and Wayne counties. Jackson County was added to this list in 2025 after an online report submitted through the Eyes in the Field reporting tool was confirmed later that summer. The detection highlights the public's important role in early detection efforts.

Spotted lanternfly continues to move north in Michigan, often by hitchhiking on vehicles, cargo and other items traveling from heavily infested areas here and in other states. MSU Extension continues to work with vineyards to ensure they are prepared to manage the pest and limit potential impacts if it is detected. People can help slow the spread by checking vehicles and goods that have been in infested areas and removing and destroying any insects or egg masses they find. Michigan State University Extension is also developing easy-to-build trap designs to help reduce nuisance populations in areas where the insect is well established.

Legislative and funding recommendations

Proposals for legislation and funding to carry out and otherwise further the purposes of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, Part 413, MCL 324.41323, include:

Recommendation No. 1

The FY 2026 reduction of MISGP funds by \$1.2 million has caused reduction or elimination of ongoing state-funded efforts to limit the environmental impacts of existing invasive species including hemlock woolly adelgid, mile-a-minute weed, hydrilla and Eurasian watermilfoil. While annual support for Michigan's cooperative invasive species management areas (CISMAs) has been maintained, support for nearly all public engagement, early detection and response, and innovative control projects has been eliminated. Future funding conversations are warranted.

Background

Since its inception in 2014, legislative funding for the Michigan Invasive Species Program earmarked \$3.6 million for the Michigan Invasive Species Grant Program. The FY 2026 budget reduced the grant fund by 33%, to \$2.4 million.

In its first 10 years, the MISGP helped to build a robust network of 22 cooperative invasive species management areas serving all 83 Michigan counties. CISMAs work with municipalities, universities, organizations and the public within established multi-county service areas to address high-priority invasive species. In addition to detecting, treating and monitoring these species, CISMAs educate communities on prevention and management measures to help protect the resources they care about.

In addition to building CISMAs, the MISGP has historically included pass-through funding to external partners in support of large-scale survey and treatment programs to reduce the environmental impacts of species including European frog-bit, red swamp crayfish, phragmites, oak wilt and hemlock woolly adelgid in Michigan. Grantees have studied the biology and impacts of oak wilt, didymo, Eurasian watermilfoil and grass carp to reduce spread and improve management options. Boat washes, outreach programs and hands-on activities have improved public understanding of invasive species issues and preventive actions. External grantees have historically included universities and non-profit agencies, and other local partners.

The loss of \$1.2 million in MISGP funding in FY2026 has greatly reduced the state's ability to manage invasive species. While annual operating funds of \$70,000 per CISMA have remained intact, support for CISMA projects has been diminished. Large-scale survey and treatment projects for hemlock woolly adelgid, mile-a-minute weed and other damaging species will be reduced or ended. Support for innovative solutions and non-CISMA public outreach efforts will end. In past years, MISGP has been able to fund an average of 32 projects of the 47 proposed. For 2026, the program will fund 22 CISMAs and just one to three additional projects. State-funded efforts to reduce the impacts of invasive species are now severely curtailed by the 33% reduction in MISGP funding.

Recommendation No. 2

Modernize NREPA Part 413 to enhance the biosecurity of Michigan's natural and agricultural resources from threats posed by invasive species.

Part 413 is the primary statutory mechanism to address invasive species issues in Michigan. In the past decade, law enforcement efforts, advances in genetics and the growing number of species posing environmental threats have tested both the language and extent of the statute's authority. Updating NREPA Part 413 to clarify terminology and include a wider range of species will clarify citizens' rights and responsibilities and aid in enforcement efforts to protect Michigan from invasive species threats.

Specifics

Modify the existing statutory language under 324.413.

A. Clarify or update definitions of key terms:

- a. Refine definitions for the terms "introduction" and "possession" to clarify intent, address ambiguities associated with contaminated materials and aid in enforcement. Add and clarify key words such as "transport, import, purchase, barter, trade, gift, transfer, lease, loan and propagate" to directly address a full range of activities.
- b. Update the current definition of "genetically engineered" to address advances in genetic biocontrol technology and close regulatory gaps.
- c. Incorporate Fisheries Order 248 pf 2022, requiring evisceration, when appropriate, for transport of regulated species such as invasive carp.
- d. Distinguish between natural and intentional spread as it relates to introduction and possession of prohibited and restricted species.

- B. Expand species and authorities:
 - a. Expand the definition in Section 324.41305, which prohibits the introduction of certain types of plants and animals, to include amphibians, reptiles, invertebrates and fungi.
 - b. Provide clear authority to access land, waters, buildings, structures or conveyances for inspection and control of regulated species in certain scenarios.
- C. Clarify and modernize prohibited and restricted species lists:
 - a. Increase clarity for the distinction between “prohibited” and “restricted” designations to align with intentional spread, natural spread and possession.
 - b. Reclassify species currently listed in these categories based on current geographic distribution; include species added by directors' orders, and update associated fines and penalties.

Michigan's Invasive Species Program is cooperatively implemented by the Department of Environment, Great Lakes, and Energy, the Department of Natural Resources and the Department of Agriculture and Rural Development. Information on invasive species in Michigan, grant opportunities and relevant legislation is available at Michigan.gov/Invasives.

Appendix A: Species listed as prohibited (P) or restricted (R) under Part 413

Table 3.A - Fish

Species	Part 413 Status	Distribution in Michigan	Comments
Bighead carp (<i>Hypophthalmichthys nobilis</i>)	P	Absent	
Bitterling (<i>Rhodeus sericeus</i>)	P	Absent	
Black carp (<i>Mylopharyngodon piceus</i>)	P	Absent	
Eurasian ruffe (<i>Gymnocephalus cernuus</i>)	P	Locally abundant	Patchy distribution in Great Lakes. Absent in inland waters.
Grass carp (<i>Ctenopharyngodon idellus</i>)	P	Isolated	Limited natural reproduction in Ohio waters of Lake Erie. Captures in St. Joseph and Saginaw rivers. Isolated detections have been reported in other Great Lakes and inland waters.
Ide (<i>Leuciscus idus</i>)	P	Absent	
Japanese weatherfish (<i>Misgurnus anguillicaudatus</i>)	P	Isolated	Single breeding population in the Shiawassee River.
Round goby (<i>Neogobius melanostomus</i>)	P	Widespread	Widespread and established in lakes Erie, Huron and Michigan. Isolated collection in Lake Superior near Marquette. Isolated but established populations in inland waters.
Rudd (<i>Scardinius erythrophthalmus</i>)	P	Absent	Isolated collections on the Ontario side of Lake St. Clair.
Silver carp (<i>Hypophthalmichthys molitrix</i>)	P	Absent	
Any fish from the snakehead family (<i>Channidae</i>)	P	Absent	
Stone moroko (<i>Pseudorasbora parva</i>)	P	Absent	
Tench (<i>Tinca tinca</i>)	P	Absent	
Tube-nose goby (<i>Proterorhinus marmoratus</i>)	P	Isolated	Isolated, established populations in the St. Clair River, Lake St. Clair, Detroit River and western Lake Erie. Additional observations in northern Lake Huron and western Lake Superior.
Wels catfish (<i>Silurus glanis</i>)	P	Absent	
Zander (<i>Sander lucioperca</i>)	P	Absent	

Table 3.B - Plants

Species	Part 413 Status	Distribution in Michigan	Comments
African oxygen weed (Lagarosiphon major)	P	Absent	
Autumn olive (Elaeagnus umbellata)	P	Widespread	Common and widespread statewide.
Brazilian waterweed (Egeria densa)	P	Absent	Isolated populations in Illinois, Indiana, Minnesota and Ohio.
Curly leaf pondweed (Potamogeton crispus)	R	Widespread	Common, especially in the Lower Peninsula.
Cylindro (Cylindropermopsis raciborskii)	P	Isolated	Recorded in several drowned river mouths in the Lake Michigan Basin.
Eurasian watermilfoil (Myriophyllum spicatum)	R	Widespread	Common, especially in the Lower Peninsula.
European frog-bit (Hydrocharis morsus ranae)	P	Locally abundant	Locally abundant along coastlines, with isolated inland and coastal populations across the Lower Peninsula.
Fanwort (Cabomba caroliniana)	P	Locally abundant	Locally abundant in the Lower Peninsula, primarily in the southwest. Present in Illinois, Indiana, Ohio and Ontario.
Flowering rush (Butomus umbellatus)	R	Locally abundant	Common in southeast Michigan, both inland and coastal. One isolated population in Alger County.
Giant hogweed (Heracleum mantegazzianum)	P	Isolated	Patchy distribution throughout the Lower Peninsula and western Upper Peninsula. Many occurrences have been controlled.
Giant salvinia (Salvinia molesta, auriculata, biloba or herzogii)	P	Absent	
Hydrilla (Hydrilla verticillata)	P	Isolated	Isolated population in private ponds in Berrien County. New detection in Ontario, Canada, in 2024. Populations in Illinois, Indiana, Ohio and Pennsylvania.
Japanese knotweed (Fallopia japonica)	P	Widespread	Patchy distribution throughout the state. Some areas under CISMA management.
Parrot feather (Myriophyllum aquaticum)	P	Isolated	Active management of isolated populations in Berrien, Calhoun, Jackson, Washtenaw and Wayne counties.
Phragmites or common reed (Phragmites australis)	R	Widespread	Established in the southern Lower Peninsula. Locally abundant populations along Great Lakes shorelines, especially in the Upper and northern Lower peninsulas, have been reduced through management.
Purple loosestrife (Lythrum salicaria)	R	Widespread	Biological control is reducing population statewide.
Starry stonewort (Nitellopsis obtusa)	P	Locally abundant	Recorded in over 100 inland bodies of water in the Lower Peninsula.
Water chestnut (Trapa natans)	P	Absent	Observations in New York, Pennsylvania and Ontario.
Water soldier (Stratiotes aloides)	P	Absent	Isolated population in Ontario.
Yellow floating heart (Nymphoides peltata)	P	Isolated	Active management of isolated populations in Berrien, Ingham, Kent, Oakland, Ottawa and Wayne counties.

Table 3.C - Crustaceans

Species	Part 413 Status	Distribution in Michigan	Comments
Marbled crayfish (<i>Procambarus virginalis</i>)	P	Absent	No populations detected in Michigan, but this species historically has been available for sale in the pet trade. First North American wild population detected in Ontario.
Rusty crayfish (<i>Faxonius rusticus</i>)	R	Widespread	Widespread and breeding in Great Lakes and inland waters.
Red swamp crayfish (<i>Procambarus clarkii</i>)	P	Isolated	Isolated populations in southern Michigan, primarily in the southeast and Van Buren and Kalamazoo counties. Approximately 51 bodies of water representing 10 complexes.
Yabby (<i>Cherax destructor</i>)	P	Absent	
Killer shrimp (<i>Dikerogammarus villosus</i>)	P	Absent	

Table 3.D - Mollusks

Species	Part 413 Status	Distribution in Michigan	Comments
Brown garden snail (<i>Helix aspersa</i>)	P	Absent	Two Michigan detections in the past – both eradicated.
Carthusian snail (<i>Monacha cartusiana</i>)	P	Locally abundant	Wayne County.
Giant African snail (<i>Achatina fulica</i>)	P	Absent	
Girdled snail (<i>Hygromia cinctella</i>)	P	Locally abundant	Wayne County.
Heath snail (<i>Xerolenta obvia</i>)	P	Locally abundant	Lapeer County/southeast Michigan.
New Zealand mudsnail (<i>Potamopyrgus antipodarum</i>)	P	Isolated	Established in Lake Ontario and Lake Erie and present in Lake Superior. Established populations in the Au Sable, Boardman, Grass, Pere Marquette, Pine, Rapid and Upper Manistee rivers.
Golden mussel (<i>Limnoperna fortunei</i>)	P	Absent	
Wrinkled dune snail (<i>Candidula intersecta</i>)	P	Locally abundant	Wayne County.
Quagga mussel (<i>Dreissena bugensis</i>)	R	Widespread	Found in all the Great Lakes, although limited in Lake Superior. Isolated inland occurrences in the Great Lakes Basin.
Zebra mussel (<i>Dreissena polymorpha</i>)	R	Widespread	Widespread in inland and Great Lakes waters of the Lower Peninsula. Patchy distribution in inland waters of the Upper Peninsula and Lake Superior.

Table 3.E - Birds

Species	Part 413 Status	Distribution in Michigan	Comments
Eurasian collared dove (<i>Streptopelia decaocto</i>)	P	Locally abundant	First observed in Michigan in 2002 and has since been documented in 33 Michigan counties.

Table 3.F - Mammals

Species	Part 413 Status	Distribution in Michigan	Comments
Russian boar (<i>Sus scrofa</i> Linnaeus)	P	Isolated	Occurrences presently are limited to a few localized areas in the Lower and central Upper peninsulas. Active management has reduced occurrences statewide.
Nutria (<i>Myocastor coypus</i>)	P	Absent	Farmed in Michigan in the 1930s. No confirmed detections since the 1960s.

Table 3.G - Insects

Species	Part 413 Status	Distribution in Michigan	Comments
Asian longhorned beetle (<i>Anoplophora glabripennis</i>)	P	Absent	Not detected in Michigan. Active infestations in Massachusetts, New York, Ohio and South Carolina. Eradicated from Illinois, New Jersey and Ontario.
Emerald ash borer (<i>Agilus planipennis</i>)	P	Widespread	Widespread throughout the Lower Peninsula. Isolated or patchy distribution across the Upper Peninsula.