

Photo on cover:

*A DNR employee uses SCUBA
and a quadrant to record zebra
mussel densities.*



ECOLOGICAL AND WATER RESOURCES

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mndnr.gov

For current invasive species regulations, a list of infested waters, species information, and local DNR contacts, visit mndnr.gov/ais.

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Note from the Program

The Minnesota Department of Natural Resources (DNR) is pleased to submit the 2019 Invasive Species Annual Report to the governor, legislature and people of Minnesota. This report summarizes our efforts to prevent the introduction and spread of invasive species of aquatic plants and animals in Minnesota.

The report provides an overview of program activities, finances, prevention and management efforts, goals, highlights, partnerships, and future needs and plans for individual program areas.

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A Letter from the Invasive Species Program

Welcome to the 2019 Minnesota Department of Natural Resources (DNR) Invasive Species Program annual report. The report highlights the accomplishments of the Invasive Species Program and keeps you up to date with new issues facing the program as we work to reduce impacts of invasive species on Minnesota's outdoor traditions.

Great work was accomplished in 2019, with the help of our partners. Some highlights include:

- An increase to the Aquatic Invasive Species (AIS) surcharge on watercraft licenses from \$5.00 to \$10.60 was passed during the 2019 legislative session. This increase addresses the fund deficit and will allow the Invasive Species Program to reinstate at least \$400,000 in invasive aquatic plant management grants, increase support of watercraft inspectors around the state, and respond to newly discovered zebra mussel and starry stonewort populations.
- Invasive Species Program staff issued 341 permits to control invasive aquatic plants, completed 71,019 watercraft inspections and trained 922 local government watercraft inspectors who accomplished an additional 439,981 watercraft inspections. Invasive Species Prevention Planners provided technical support to counties who received AIS prevention aid, while building a community of practice to enable county partners to work together and leverage funds. Staff worked with the public at lake association meetings, the Minnesota State Fair, conferences, and outdoors shows and financially supported the inventory and management of terrestrial invasive species on 6,186 acres of state and adjacent land. Conservation officers completed 11,253 hours of invasive species education and enforcement.
- In June 2019, the DNR, with funding from the Great Lakes Restoration Initiative administered by the U.S. Fish and Wildlife Service, worked with partners at the University of Minnesota, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey to organize a meeting about the scientific, legal, and public participation aspects of genetic biocontrol technologies for invasive species. The Invasive Species Program will continue to look for ways to continue to engage partners in further discussions.
- The DNR Invasive Species Program, with funding from the Great Lakes Restoration Initiative administered by the U.S. Fish and Wildlife Service, worked with a contractor on a project to better understand motivations and barriers associated with AIS. The outcomes of this project will include recommendations and strategies to promote the adoption of desirable AIS prevention behaviors and create positive social norms around AIS prevention in Minnesota, including pathways such as bait and water gardens.
- To gain deeper understanding of natural resource issues important to Minnesotans, the DNR and the AIS Advisory Committee hosted three public events around the theme: *What can we do to more effectively address the issues of promoting access to Minnesota's Lakes and Rivers, providing excellent recreational fishing, and stopping the spread of aquatic invasive species?*

Thank you for partnering with the Invasive Species Program this year. We look forward to working with you in 2020 as we search for new technologies, create new partnerships, and strengthen current partnerships to protect Minnesota from invasive species.



Heidi Wolf, Invasive Species Program Supervisor
Minnesota Department of Natural Resources

Program Overview

Invasive species have serious economic, environmental and recreational impacts in Minnesota. In 1991, the Minnesota Legislature directed the DNR to establish an Invasive Species Program. The program is tasked with preventing the spread of invasive species and managing invasive aquatic plants and wild animals (Minnesota Statutes 84D).

In 2019, the Invasive Species Program included 23 full-time positions, plus affiliated staff in DNR offices across Minnesota whose work is primarily or partly focused on invasive species. In the summer, the DNR hired 86 watercraft inspection staff.

Program staff work with many partners, including:

- Local government units.
- Tribes, states, provinces, multi-jurisdictional and national groups.
- Researchers, including the Minnesota Aquatic Invasive Species Research Center (MAISRC) and the Minnesota Invasive Terrestrial Plants and Pests Center at the University of Minnesota.
- The DNR AIS Advisory Committee.

The DNR Operational Order 113, which applies to staff and contractors, provides policies and guidance for including invasive species prevention measures in their work.

The program tracks invasive species in other areas of North America and the world, works with partners to understand and manage pathways of spread, and works to reduce the potential for their introduction and spread in Minnesota.

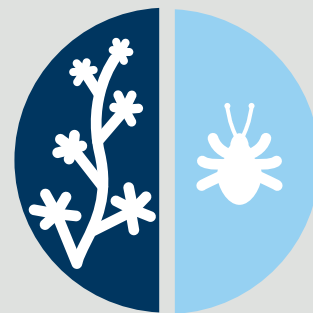
Examples of key invasive species not known to be in Minnesota include:

- Hydrilla, an invasive aquatic plant.
- Water chestnut, an invasive aquatic plant.
- Northern snakehead, an invasive fish.

The program addresses invasive species in Minnesota, such as Eurasian watermilfoil, purple loosestrife, zebra mussel, spiny waterflea and starry stonewort. Efforts in this area include working to prevent further spread and to manage impacts from invasive populations.

The DNR prevention and management activities depend on collaboration with tribes, other states, local governments including counties, cities and townships, agencies, and other partners with similar concerns. Coordinated prevention efforts reduce the spread of invasive species and buy time needed for research and management that may provide long-term control solutions.

The program also addresses terrestrial invasive species on DNR-managed lands and provides information for private landowners. The program works to enhance the ability of DNR field staff to prevent and manage terrestrial invasive species effectively.



GOALS

- Prevent the introduction of new invasive species into Minnesota.
- Prevent the spread of invasive species within Minnesota.
- Reduce the impacts caused by invasive species to Minnesota's ecology, society, and economy.

KEY STRATEGIES

1. Creating and maintaining effective invasive species regulations across the state and working with enforcement to ensure compliance.
2. Deepening partnerships with local governments, research institutions, interest groups, lake associations, related businesses and others.
3. Coordinating watercraft inspection and decontamination with counties, tribal entities, lake associations, resort owners and DNR Enforcement.
4. Verifying and responding to all new reports of possible invasive species as soon as possible.
5. Coordinating invasive species management efforts and inventories, and sharing knowledge of aquatic and terrestrial invasive species.

HIGHLIGHTS

- An increase to the AIS surcharge on watercraft licenses from \$5.00 to \$10.60 was passed during the 2019 legislative session. This increase addresses the fund deficit and will allow the invasive species program to reinstate at least \$400,000 in invasive aquatic plant management grants, increase support of watercraft inspectors around the state, and respond to newly discovered zebra mussel and starry stonewort populations.
- Level one and level two watercraft inspectors hired by the DNR, and 62 Local Units of Government with delegated authority from the DNR, accomplished over 500,000 watercraft inspections in 2019. This is the highest number per year ever completed in the state.
- To gain deeper understanding of natural resource issues important to Minnesotans, the DNR and the DNR AIS Advisory Committee hosted three public events around the theme: *What can we do to more effectively address the issues of promoting access to Minnesota's Lakes and Rivers, providing excellent recreational fishing, and stopping the spread of aquatic invasive species?* The events used an Open Space meeting format in which attendees proposed topics for discussions, participated in their chosen topics, and recorded notes. A combined 186 local residents, lake associations, anglers, local governments, and other interested participants explored how communities can work together better to address shared concerns. The DNR and the AIS Advisory Committee are working to identify next steps and relevant management actions.
- The University of Minnesota, Department of Fisheries, Wildlife, and Conservation Biology, and the MAISRC finalized an assessment to support a strategic coordinated response to invasive *Phragmites* (*Phragmites australis* subsp. *australis*) in Minnesota. The DNR is working closely with university researchers and other cooperators to implement their recommendations across the state.
- The DNR, with funding from the Great Lakes Restoration Initiative administered by the U.S. Fish and Wildlife Service, began a project in June 2019 focused on trade pathways for AIS, such as aquarium, water garden, live food, biological supply, and bait trades. This project is led by a full-time, temporary staff person and will strengthen our ability to prevent the introduction and spread of AIS through these pathways.
- The DNR, with funding from the Great Lakes Restoration Initiative administered by the U.S. Fish and Wildlife Service, worked with partners at the University of Minnesota, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey to organize a meeting about the scientific, legal, and public participation aspects of genetic biocontrol technologies for invasive species. The DNR Invasive Species Program will continue to look for ways to continue to engage partners in further discussions.
- The DNR partnered with the MAISRC, University of Minnesota Extension, and many counties and local partners, on an annual statewide search for new populations of starry stonewort, called Starry Trek. In 2019, 252 volunteers searched 270 public accesses and confirmed no new starry stonewort populations.



- The Invasive Species Program completed year three of a starry stonewort hand removal project on Grand Lake in Stearns County. So far, these efforts have been successful at preventing starry stonewort from spreading to other areas of the lake, and reducing the abundance of starry stonewort in the area where it has been hand-pulled.
- The program worked with researchers at the University of Minnesota to develop a risk assessment for jumping worms for the Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC). The program also worked with researchers to develop a research proposal for the MITPPC that focuses on detecting jumping worms, understanding their survival and pathways of spread, and studying potential management methods.
- Invasive Species Prevention Planners continued to build a network of support with local AIS program managers who oversee the use of their counties' AIS prevention aid funds. The Planners hosted four workshops around the state that attracted 97 attendees, including local government staff, local stakeholders, statewide partners, and DNR staff. The workshops brought neighboring counties together to share their AIS prevention experiences, successes, and challenges; support collaborative efforts; and build stronger inter-county relationships.
- The DNR Invasive Species Program, with funding from the Great Lakes Restoration Initiative administered by the U.S. Fish and Wildlife Service, worked with a contractor on a project to better understand motivations and barriers associated with AIS. The outcomes of this project will include recommendations and strategies to promote the adoption of desirable AIS prevention behaviors and create positive social norms around AIS prevention in Minnesota, including pathways such as bait and water gardens.
- The DNR Enforcement Division held seven invasive species check stations around the state. These stations provide an opportunity for conservation officers to talk to people trailering watercraft. Most people (81%) who stopped at the check stations were in compliance with AIS prevention regulations.





Program Finances

TIME FRAME

The other chapters in this report cover activities that took place in calendar year 2019. However, to provide a comprehensive review of expenditures and to coordinate with the state funding cycle, this chapter refers to expenditures incurred in fiscal year 2019: July 1, 2018 to June 30, 2019.

FUNDING SOURCES

The Invasive Species Program was mostly supported by state funds in fiscal year 2019, with additional funding from the U.S. Fish and Wildlife Service.

State Funds

- \$4,924,000 from a general fund appropriation. \$4,571,000 supported the Aquatic Invasive Species Program and \$353,000 supported the Terrestrial Invasive Species Program.
- \$3,242,000 from the invasive species account, including the following funding:
 - \$1,322,685 from a \$5 surcharge on watercraft registration (valid for three years) in Minnesota.
 - \$1,094,550 from a \$5 fee on non-resident fishing licenses.
 - \$824,765 from monies appropriated in the 2018–2019 biennium.

Federal Funds

Funds from the U.S. Fish and Wildlife Service, including those from the Great Lakes Restoration Initiative, support the implementation of the Minnesota State Management Plan for Invasive Species. Federal funds helped support public awareness efforts, enforcement, and watercraft inspections. In fiscal year 2019, expenditures from federal sources totaled \$935,359.

Aquatic Invasive Species Watercraft Surcharge Increased

The Minnesota Legislature created the Invasive Species account in the state treasury to prevent the introduction of new invasive species to Minnesota, prevent the spread of invasive species within Minnesota and to reduce the impacts of invasive species on Minnesota's environment, society and economy. The funds came from a \$5 surcharge on each 3-year watercraft registration, a \$5 fee on each non-resident fishing license and a \$750,000 transfer from

Continued on page 10



Photo on left:

A conservation officer works with a zebra mussel detection canine to inspect a watercraft at a public water access.

Aquatic Invasive Species Watercraft

Surcharge Increased continued from page 9

the water recreation account. An increase to the AIS surcharge on watercraft licenses from \$5.00 to \$10.60 was passed during the 2019 legislative session. At the same time the transfer from the water recreation account was reduced to \$375,000. The AIS Surcharge increase addresses the fund deficit and will allow the Invasive Species Program to reinstate at least \$400,000 in invasive aquatic plant management grants, increase support of watercraft inspectors around the state, and respond to new zebra mussel and starry stonewort infestations in the state.

FISCAL YEAR 2019 EXPENDITURES

Expenditures on invasive species activities during fiscal year 2019 (July 1, 2018 - June 30, 2019) totaled \$9,662,398.

The pie chart on the following page provides a broad look at how invasive species funding was spent in fiscal year 2019. The funds are focused on the prevention and management of invasive species, with Inspection/Enforcement and Education/Public Awareness falling under prevention, Management/Control falling under management and State and Regional Coordination divided among prevention and management.

Funding for Management/Control was spent on Eurasian watermilfoil, starry stonewort, zebra mussels and curly-leaf pondweed inventory and control, as well as grants for starry stonewort management monitoring.

COST ACCOUNTING

Minnesota Statutes 2019, section 84D.02, subdivision 6 identifies five expenditure categories that must be reported annually: Administration, Education/Public Awareness, Management/Control, Inspections/Enforcement, and Research. A sixth category, State and Regional Coordination, covers a variety of program-wide activities that do not fit easily into the five reporting categories required by statute.

ADMINISTRATION includes general office supplies, office rent, telephones, workers' compensation fees, computer support fees, the state accounting system fees, departmental operational support costs, as well as clerical and administrative support costs. Staff leave time (time used for holidays, sick leave, and vacation) has been apportioned across all categories based on the proportion of staff time invested in that category.

EDUCATION/PUBLIC

AWARENESS includes staff time, in-state travel expenses, fleet charges, mailings, supplies, printing and advertising costs, and radio and TV time to increase public awareness of AIS. The costs of developing and producing pamphlets, public service announcements, videos, and similar material are included, as are the costs of developing and maintaining invasive species information on the DNR website.

MANAGEMENT/CONTROL

includes staff time, in-state travel expenses, fleet charges, commercial applicator contracts, and supplies to survey the distribution of AIS in Minnesota and to prepare for, conduct, supervise, and evaluate control activities. Funds provided to local government units and organizations to offset the cost of Eurasian watermilfoil or curly-leaf pondweed management efforts also are included.

INSPECTIONS/ENFORCEMENT

includes the costs that conservation officers incur enforcing invasive species rules and laws, the costs of implementing watercraft inspections at public water accesses, and staff time and expenses associated with promulgation of rules, development of legislation, conducting risk assessments, and other efforts to prevent the introduction of additional invasive species into Minnesota.

RESEARCH includes staff time, travel expenses, fleet charges, supplies, and contracts with the University of Minnesota and other research

organizations to conduct research. These include efforts to develop new or to improve existing control methods, better understand the ecology of invasive species, improve risk assessment tools, and evaluate program success.

STATE AND REGIONAL COORDINATION

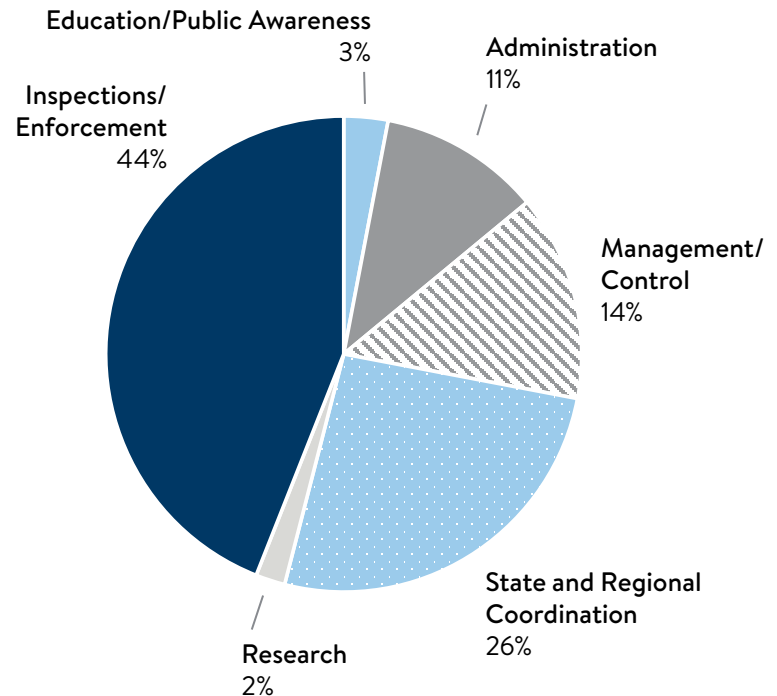
includes general program planning, preparation of state plans and reports, and general invasive species coordination with a wide variety of groups. This category also includes the work of program staff as well as various managers in the Ecological and Water Resources Division who periodically work on invasive species issues. Expenditures primarily represent staff time spent on these activities, as well as staff time and out-of-state travel expenses to work with regional and federal partners on AIS issues; work activities that staff participate in to improve their skills, direct co-workers, or help on other projects; and fleet costs and the cost to purchase and repair boats, trailers, computers, and similar items.

The table below lists expenditures from the Invasive Species account and General Fund account, along with spending from other accounts including grants received from various state or federal funding sources, such as the U.S. Fish and Wildlife Service.

The terrestrial invasive species program expended \$353,000 in fiscal year 2019. The work was funded exclusively from the general fund. Of these funds, \$336,000 were funds budgeted for fiscal year 2019 and the remaining funds were roll-forward money from fiscal year 2018.

The program spent \$3,212,756 from the Invasive Species account in fiscal year 2019, slightly less than the \$3,242,000 appropriated by the Legislature. Unspent funds will return to the Invasive Species account. Prior to the AIS surcharge increase, this return of funds to the account were important to keep the account from going into the negative. General Fund expenditures were \$5,144,124, slightly more than the \$4,924,000 appropriated by the Legislature using roll forward funds from the first year of the biennium.

INVASIVE SPECIES PROGRAM SPENDING



FISCAL YEAR 2019 INCOME

State and Local Funding Invasive Species Account	\$3,242,000
State and Local Funding General Fund	\$4,924,000
Federal Funding: Implement State Management for Aquatic Nuisance Species ...	\$935,359

FISCAL YEAR 2019 EXPENDITURES

	Invasive Species Account	General Fund	Outdoor Heritage Fund	Environmental and Natural Resource Trust Fund	Federal/Other	Total Expenditures
Administration	\$481,902	\$596,252			\$4,804	\$1,082,958
State/Regional Coordination	\$940,781	\$1,324,259			\$63,889	\$2,328,929
Education/Public Awareness	\$59,366	226,244			\$39,891	\$325,501
Management/Control: Aquatic	\$14,197	\$751,762	\$207,714	\$121,747	\$325,886	\$1,421,306
Management/Control: Terrestrial		\$246,000				
Inspections/Enforcement	\$1,716,510	\$1,951,559			\$545,294	\$4,213,363
Research: Aquatic		\$68,048			\$98,040	\$166,088
Total Expenditures	\$3,212,756	\$5,164,124	\$207,714	\$121,747	\$1,077,804	\$9,784,145



Prevention

GOALS

- Prevent the introduction of new invasive species to the state.
- Prevent the spread of AIS within Minnesota.

HIGHLIGHTS

- Invasive species staff worked to prevent the introduction and spread of new AIS in Minnesota by working with partners locally, statewide, regionally, nationally, and internationally. DNR invasive species prevention work includes outreach, enforcement, regulations, permitting, collaboration, and coordination.

Prevention Activities

In 2019, invasive species staff:

- Worked with university and federal partners to convene a meeting of managers, regulators, and researchers to explore issues related to genetic biocontrol of invasive species.
- Increased our capacity to address AIS in trade pathways such as the aquarium, water garden, live food, biological supply, and bait trades.
- Surveyed lakes for AIS and reviewed reports from lake users about suspected AIS.
- Searched for zebra mussels and other AIS on water-related equipment on lakes and at public water accesses. Staff occasionally worked with a DNR Enforcement AIS detection dog.
- Built relationships with local program managers utilizing their county's AIS Prevention Aid funds. Invasive species staff provided technical guidance on AIS prevention and management activities.
- Increased public awareness of AIS by sharing expertise with radio, newspaper and television outlets.



Photo on left:

A Minnesota angler drains water from a bait bucket before leaving a water access. Draining water from bait buckets, livewells, and bilges helps prevent the spread of AIS.



Permits

The DNR has authority to issue permits to allow the public to conduct certain activities with invasive species or in listed infested waters that would otherwise be prohibited under state regulations. The DNR provides training to permittees on how to reduce the risk of spreading AIS. Permit conditions require permittees to take actions to prevent the spread of AIS.

DNR permits related to AIS include:

- Lake service provider permits.
- Infested waters permits.
- Prohibited invasive species permits.
- Bait harvest permits.

LAKE SERVICE PROVIDER PERMITS

Legislation authorizing a permit program for lake service providers (LSPs) to help prevent the spread of AIS in the state took effect in 2012.

Lake service provider business owners are required to complete AIS prevention training and receive a Lake Service Provider Permit before conducting work that involves decontaminating, installing, removing, or renting water-related equipment from or in state waters. Employees who work for an LSP must also successfully complete a free online training course and receive a training certificate. Permits and certificates are valid for three calendar years.

The Lake Service Provider Program offered classroom and online permit training, as well as online employee certificate training.

TOTAL STATEWIDE CERTIFICATIONS AND LSP PERMITS



3,097
certified LSP
employees



1,040
permitted
LSPs

In 2019, the DNR completed a pilot study to evaluate the feasibility of allowing LSP businesses to remove water-related equipment from one of three designated lakes (Lake Minnetonka, Gull Lake and Cross Lake) with zebra mussels attached, and to reinstall the equipment in that same lake without removing the zebra mussels after the equipment has been seasonally stored, serviced or repaired.

The DNR will submit a final report to the Minnesota Legislature on January 15, 2020 on the pilot study.

Photo above:

A Lake Service Provider on the Gunflint Trail prepares a customer for a great day on the water.

2019 Activities

- The DNR completed in-person and online permit trainings for 166 LSP business owners and managers, issuing 158 permits.
- 881 LSP employees completed mandatory online certificate training.
- 1,040 businesses were permitted LSPs at the end of 2019. The current list of businesses is on the DNR website.
- The DNR completed the LSP pilot study to evaluate reinstallation of equipment without removal of zebra mussels after seasonal storage, service or repair.

Future Plans

- Assess ways to improve the LSP permit training course in both classroom and online formats.

INVASIVE SPECIES AND INFESTED WATERS PERMITS

People need a permit to divert or transport water from listed infested waters (Minnesota Rules, part 6216.0500). In 2019, the Invasive Species Program issued ten infested waters permits. Permits for water appropriation and work in public waters issued through the DNR Permitting and Reporting System (MPARS) also include invasive species conditions.

People need a permit to possess, transport, sell, purchase, or import prohibited invasive species. The Invasive Species Program issued 39 prohibited invasive species permits in 2019.

Individuals can access several general permits on the DNR website, for example: to possess certain preserved specimens of prohibited invasive species; for fire departments using infested waters for training purposes; to transport water for water quality sampling; and to transport certain equipment away from a water body to a cleaning or storage location.

PERMITS TO HARVEST BAIT FROM INFESTED WATERS

In Minnesota, commercial bait harvesters need a permit to work in listed infested waters. DNR Fisheries issues permits to licensed minnow dealers who work in infested waters. Permittees must successfully complete AIS training and comply with permit conditions to prevent the spread of AIS from infested waters. For example, permitted commercial bait harvesters must attach tags to equipment used in infested waters and they may not use that gear in waters other than those identified by the tag. In 2019, the DNR updated the online AIS training for minnow dealers to a new format to be in compliance with 2020 internet changes and prepare the training for future revisions.

In general, people cannot harvest bait for personal use from waters listed as infested with AIS.

Regulations

Regulations, including laws and rules, are an important part of Minnesota's AIS prevention strategy. The Invasive Species Program works to review and refine state regulations to prevent the introduction and spread of invasive species and to clarify regulations for the public. That includes establishing new and revising existing regulations to address pathways of AIS spread, designating certain nonnative species as prohibited or regulated invasive species, and listing water bodies as infested with AIS within our existing authorities.

Minnesota state law governing AIS is primarily located in Minnesota Statutes, chapter 84D. Authorities and prohibitions related to AIS also can be found in: chapter 86B, Water Safety and Watercraft; chapter 97C, Fishing; and chapter 103G, Waters of the State. The administrative rules related to AIS are primarily found in Minnesota Rules, chapter 6216.

Past annual reports of the program are also a good source of summaries of changes to statute and rule related to invasive species; many of these are available from the Minnesota Legislative Reference Library.

STATUTE CHANGES IN 2019

In 2019, the legislature made several changes to invasive species laws:

1. Reinstated an expired provision that allows anglers to use cast nets to harvest gizzard shad for bait from infested waters, and making some small changes to that program.
2. Allowed commercial fishermen to reuse nets after they have been decontaminated, and expanded tagging of commercial fishing nets to include starry stonewort.
3. Expanded the Gull Lake and Cross Lake pilot studies to allow enrolled LSP permittees to utilize any water access site on those lakes as part of the program.
4. Increased the AIS watercraft surcharge on the three-year watercraft registration from \$5 to \$10.60. This is the first increase in the AIS registration surcharges since 1993. Watercraft owners will pay the increased fee when registering new watercraft, or when the registrations on existing watercraft come up for renewal.
5. Clarified that area assignments for inland commercial fishing operators must not restrict permits and contracts that the commissioner issues to governmental subdivisions and their subcontractors for invasive species control.
6. Allowed for electronic mailing as a method of notification for landowners affected by an invasive aquatic plant permit.
7. Required the DNR to develop a basic angling curriculum that includes information about AIS.

All of these changes were enacted in 2019 during the First Special Session of the 91st Minnesota Legislature in Laws of Minnesota 2019, 1st Spec. Sess. chapter 4 (S.F. 4). The pilot studies that were changed by provisions summarized in #3 expired December 1, 2019, so service providers enrolled in the pilot studies were not able to take advantage of the increased flexibility that those provisions were intended to provide.

RULE CHANGES IN 2018

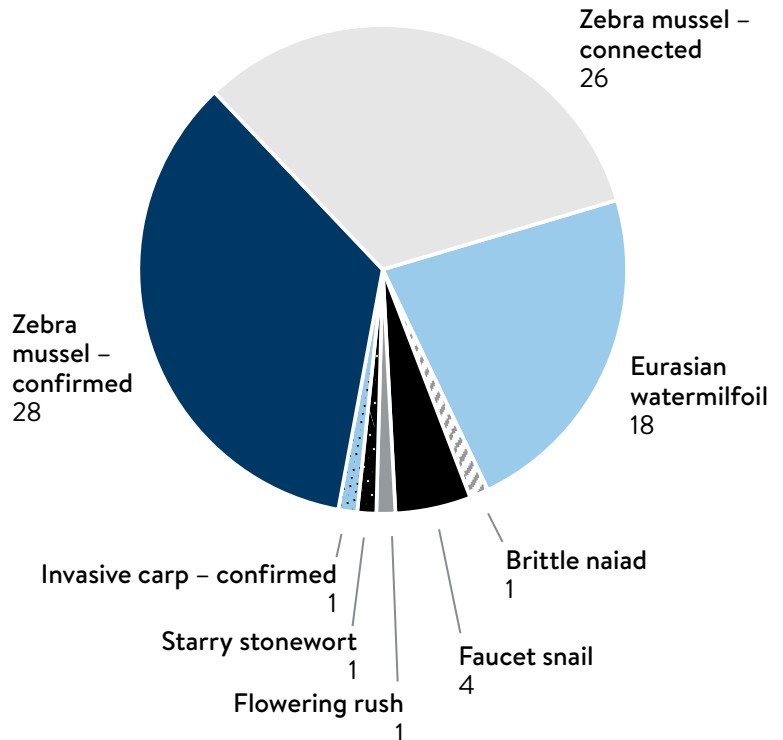
Several rules were changed to be consistent with current statute and to make technical corrections.

The rule changes are summarized in the 2018 Invasive Species Annual Report; for the text of the rule changes as adopted see Appendix C or the Minnesota State Register, volume 43, pp. 683-686.

Infested Waters

The DNR will add a lake, river, pond or wetland to the infested waters list if it contains certain AIS that could spread to other waters. The DNR may also list a lake, river, pond or wetland as infested if it is connected to a body of water where AIS is present. To reduce the risk of spreading AIS, activities like bait harvest, commercial fishing, and water use are managed differently in infested waters.

NEW WATER BODIES LISTED AS INFESTED IN 2019

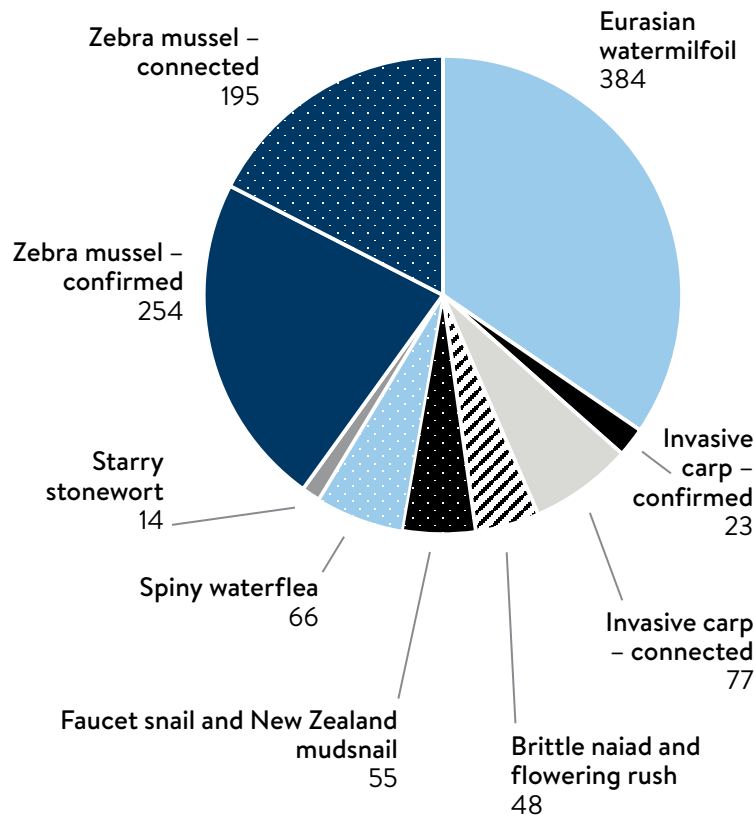


For more information on waters listed in 2019, see Appendix B.

Not included in the summary chart:

- One lake listed as infested with red swamp crayfish.
- Lake Superior, the St. Louis River estuary, and other Superior tributaries are listed as infested with VHS, round goby, ruffe and white perch.

TOTAL WATER BODIES LISTED AS INFESTED



PARTNERSHIPS

The Invasive Species Program partners with other people and organizations in Minnesota, regionally, and nationally to help prevent the introduction and spread of AIS.

Invasive Species Program staff represent the state on two regional panels of the federal Aquatic Nuisance Species Task Force: the Great Lakes Panel on Aquatic Nuisance Species and the Mississippi River Basin Panel on Aquatic Nuisance Species. These panels provide an opportunity to share Minnesota's prevention priorities with other jurisdictions in those regions, and to hear about emerging AIS threats in locations further downstream to inform adaptive management actions in Minnesota.

Invasive Species Program staff also coordinate with partners such as Minnesota Sea Grant and the MAISRC. The U.S. Fish and Wildlife Service provides funding for AIS prevention projects and provides scientific expertise about the risk of AIS to Minnesota.

In 2019, the DNR used funding from the Great Lakes Restoration Initiative, administered by the U.S. Fish and Wildlife Service, for two special projects.

First, the Invasive Species Program worked with partners at the University of Minnesota, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey to organize a meeting about the scientific, legal, and public participation aspects of genetic biocontrol technologies. The meeting took place June 25-27, 2019, in St. Paul, Minnesota. Meeting participants included 56 individuals from natural resource management agencies, regulatory agencies, and research organizations. About half the participants traveled from outside Minnesota to attend. We have an opportunity to be proactive by beginning these discussions now about the potential for future use of genetic biocontrol technologies to control invasive species in Minnesota. Use of these technologies is probably years away. The DNR Invasive Species Program will continue to look for ways to engage partners in this discussion.

Second, the program hired a full-time, temporary staff person in June 2019 to focus on trade pathways for AIS, such as aquarium, water garden, live food, biological supply, and bait trades. This added capacity will strengthen the program's ability to prevent the introduction and spread of AIS through these pathways by working with partners to promote AIS-prevention behaviors.

FUTURE NEEDS AND PLANS

Over the next year, the DNR will continue to:

- Work with partners and stakeholders to plan and implement prevention activities.
- Monitor the distribution of AIS in the state.
- Assess the risk of spreading AIS during different activities.
- Improve and refine the DNR AIS prevention program and supporting regulations.



Education and Public Awareness

GOALS

- Help Minnesota residents and visitors understand their role in preventing the spread of AIS.
- Provide clear actions to prevent the introduction and spread of AIS, including both the Clean, Drain, Dispose steps required by Minnesota law and other specific behaviors recently identified by the DNR and partners.
- Heighten understanding of aquatic invasive species' potential negative impacts on natural resources that are central to Minnesota's ecology, economy, recreation, identity and overall quality of life.
- Increase awareness of DNR AIS research, management and prevention efforts.
- Inform stakeholders, residents and other agencies of available training, funding and educational resources.

HIGHLIGHTS

- The DNR Invasive Species Program continued leading a multi-year effort focused on positive messaging to build community norms around desirable behaviors. Expanding on a community-based marketing model, the program and an expert research group identified which behaviors would have the greatest impact on AIS prevention, the barriers and benefits associated with those behaviors, and effective strategies for implementation. The first phase of the project concluded with a two-day workshop with 67 attendees from across the state.
- To gain deeper understanding of natural resource issues important to Minnesotans, the DNR and the DNR AIS Advisory Committee hosted three public events around the theme: *What can we do to more effectively address the issues of promoting access to Minnesota's lakes and rivers, providing excellent recreational fishing, and stopping the spread of aquatic invasive species?* The events used an Open Space meeting format in which attendees proposed topics, participated in their chosen discussions, and recorded notes. A combined 186 local residents, lake associations, anglers, local governments and

Continued on page 20

Photo on left:

DNR AIS Management Consultant Wendy Crowell teaches state and county staff to identify invasive aquatic plants.

HIGHLIGHTS continued from page 19

other interested participants explored how communities can work together better to address shared concerns. The DNR and the AIS Advisory Committee are working to identify next steps and relevant management actions.

- Program staff significantly updated the invasive species exhibit space in the DNR building at the Minnesota State Fair. Existing messages and displays were updated, including the interactive projection screen with animations teaching people how to prevent the spread of aquatic and terrestrial invasive species. Several old display pieces were eliminated, new ones were added, and traffic flow was reconfigured through a more centralized staff location.
- Giveaway items again provided reasons to engage with staff and interact with the exhibits. This year 7,000 water-resistant cell phone protectors were provided that were printed with pledges on the top that fairgoers could sign to protect Minnesota waters from AIS.

Strategic Communications

DNR information officers continued the integration of news and media relations, web, publications and graphic design, public access signs, advertising and public interactions. Communications staff provided guidance and deeper engagement with projects like a community-based marketing initiative.

Informational Materials

The program continued to assess and revise informational materials for public distribution. Staff provided invasive species content and advertising for the 2020 Minnesota Fishing Regulations handbook. The handbook includes information about AIS laws and watercraft inspections, species identification information, advertising to remind anglers to help prevent the spread of AIS, and information about the infested waters list. More than 900,000 copies of the fishing regulations will be distributed beginning in February.

Advertising

The program continues its research into the most effective traditional and new media advertising channels. Future advertising campaigns will be driven by the results of a community-based marketing project.

Web/Digital

The program made greater use of social media and other new media platforms, in addition to continued traditional media. Numerous web pages were updated in conjunction with new information, such as what the program has learned by tagging and tracking invasive carp. Further specialty web pages were drafted to more effectively reach specific user groups such as SCUBA divers.

Media Relations

In 2019, the program continued to expand placement of more stories about innovations and new steps to reduce the spread of invasive species. Along with information about new AIS confirmations, news releases created greater awareness of proactive steps the program is taking, aggressive treatment of starry stonewort, advances in research and technologies, and the broad range of partnerships with stakeholders across the state. DNR news releases focused more attention on the unique dynamics of each lake and river, including the distribution of a population of AIS in the water body.

Shows and Fairs

Along with the innovative interactive projection at the Minnesota State Fair, staff updated the fair exhibit to generate more traffic and removed several older displays. Staff and volunteers gave away waterproof cell phone cases with a printed pledge to follow AIS laws, along with temporary tattoos, fishing license holders and other items.

Staff again participated in conferences, county fairs, sports and outdoor shows, water festivals, and many other special events throughout the year to educate the public and distribute literature and information. Staff also made presentations to lake associations and community groups to answer questions and discuss invasive species issues and activities.



PARTNERSHIPS

Statewide Aquatic Invasive Species Advisory Committee

This committee plays a vital role in reviewing and guiding the AIS prevention and management work of the Invasive Species Program. Members are appointed by the DNR Commissioner. They bring a range of personal and professional experience to the discussion on preventing the spread and managing impacts of invasive aquatic plants and animals in Minnesota. Their interest and engagement with other stakeholders informs the program regarding policy, outreach, research, operations and other stakeholder interests. Visit mndnr.gov/aisadvisory.

Minnesota Aquatic Invasive Species Research Center

The MAISRC at the University of Minnesota is a valuable partner, working closely with the program on research and advances in AIS management and related information. Many invasive species program staff attended the center's annual showcase and explored new ways to work together. Visit maisrc.umn.edu.

Minnesota Sea Grant

Minnesota Sea Grant continues to partner with the DNR, Wildlife Forever, U.S. Fish and Wildlife Service, National Park Service, U.S. Forest Service and other organizations to help prevent the spread of invasive species. Through scientific research and public education programs, Minnesota Sea Grant works to enhance Minnesota's coastal environment and economy. Visit seagrant.umn.edu.

Wildlife Forever

This nonprofit organization leads the Clean, Drain, Dry Initiative in Minnesota and works with multiple partners to post highway billboards, print ads and PSAs throughout Minnesota and across the country. Visit wildlifeever.org.

FUTURE NEEDS AND PLANS

- Apply community-based marketing findings and related messaging to communications planning and implementation.
- Deepen engagement with community-based marketing experts and trained partners and staff across the state to more effectively build community norms and encourage desirable behaviors.
- Develop and use surveys, pilot testing and focus group instruments to better understand and measure effectiveness of communication efforts.
- Continue to teach invasive species program staff about plain language, community-based marketing, electronic information accessibility and other communication techniques.
- Continue to work collaboratively with the MAISRC, Minnesota Sea Grant, Wildlife Forever, and other stakeholders to pursue research and outreach funding through National Sea Grant, the Great Lakes Restoration Initiative, U.S. Fish and Wildlife Service, foundations and other sources.

Photo above:

Fairgoers learn about invasive species in the DNR Building at the 2019 Minnesota State Fair.



Enforcement

GOALS

- Provide advanced training to conservation officers and train local law enforcement to effectively enforce AIS laws.
- Analyze the DNR AIS laws and work with stakeholders on legislative issues to give Enforcement necessary tools to assist in AIS prevention.
- Continue to emphasize AIS as priority work and a core responsibility.
- Work with lake associations, user groups and media to raise awareness about controlling the spread of invasive species. This includes attending statewide public input meetings to maintain and increase dialogue with concerned stakeholders.
- Continue inspections by conservation officers to reduce the risk of spreading AIS by water-related equipment. Assist Level 1 and Level 2 watercraft inspectors at public access sites and investigate violations reported by inspectors.
- Continue to analyze data, develop protocols and secure equipment to administer AIS check stations safely and effectively.
- Investigate pathways for spreading AIS such as equipment and watercraft, food markets, bait dealers, aquatic plant dealers, etc.
- Train and educate commercial entities to increase compliance with invasive species regulations.



Photo on left:

Conservation Officer Joel Heyn inspects a watercraft at a public access during the waterfowl season.

HIGHLIGHTS

- DNR conservation officers provided 12,578 hours of AIS enforcement and education.
- The Enforcement Division conducted media interviews on the importance of AIS regulation compliance.
- The Enforcement Division’s three zebra mussel detection canine officers assisted conservation officers and inspectors. The dogs improved the efficiency of conservation officers, with faster and more thorough inspections of water-related equipment. The canine teams provided educational demonstrations at several public events.
- Six conservation officers, designated as Water Resource Enforcement Officers, continued to dedicate a significant portion of their work toward aquatic invasive species enforcement.
- Conservation officers staffed AIS booths and conducted demonstrations at major sport and outdoor shows.
- Enforcement pilots worked with the Minnesota Seaplane Association to develop recommendations to prevent the spread of AIS by seaplanes.
- Enforcement pilots assisted the DNR’s Fish and Wildlife Division with spraying hybrid invasive cattails.



ENFORCEMENT CONTACTS (CITATIONS/WARNINGS)

Numbers vary due to officer staffing levels, public compliance, length of open-water season, local law enforcement involvement and outreach efforts.

	2019	2018	2017	2016	2015	2014
Citations issued	98	95	127	123	244	343
Warnings	485	476	557	671	911	847



AQUATIC INVASIVE SPECIES CHECK STATIONS (SPRING TO FALL 2019)

The Minnesota DNR uses roadside check stations to inspect watercraft and watercraft equipment transported in Minnesota to detect and prevent the spread of AIS in state waters.

County	Number of Inspections	Operational Hours	Violation Delay (in minutes)	No Violation Delay (in minutes)	Criminal Citation	Warning	Civil Citation	Violation Rate
Lake of the Woods	57	4	4.5	2.52	0	4	0	7%
Aitkin	15	4	5	2.00	0	5	0	33%
Washington	30	4	5.66	2.72	3	0	0	10%
Lake of the Woods	75	4	7.16	4.47	2	4	0	8%
St. Louis	84	5	18.14	6.40	11	15	0	31%
Brown	7	4	4	4.00	0	1	0	14%
Aitkin	44	4	5	2.00	1	15	0	36%
Koochiching	164	4	5	2.00	3	26	1	18%
Rice	2	4	0	2.50	0	0	0	0%
Wright	6	4	0	1.83	0	0	0	0%
Statewide Totals and Averages	484	41	5.45	3.04	20	70	1	19%

Statewide Open Water Season Enforcement Results

Compliance with invasive species regulations at Enforcement check stations remains steady from 86% in 2015, 82% in 2016, 84% in 2017, 85% in 2018 to 81% in 2019. This has sharply increased from 63% in 2012.

PARTNERSHIPS

Enforcement of Minnesota's invasive species regulations is essential to preventing their spread into and across Minnesota. Conservation officers continue to work with local law enforcement, lake associations, local government units, user groups and other DNR divisions to assist in controlling the spread of invasive species.

FUTURE NEEDS AND PLANS

The Enforcement Division continues to focus its efforts on enforcement and education, both critical tactics in preventing the introduction and spread of invasive species.

We will continue to monitor and evaluate our actions to provide the most effective measures available. We will work with the public and private entities on legislative issues to provide Enforcement with the tools necessary to prevent the spread of AIS.

We will continue to emphasize invasive species enforcement as priority work and a core responsibility.

Photo on upper left:

A conservation officer (Hannah Mishler) and a zebra mussel-sniffing K9 (Storm) inspect watercraft at a public access area.

Photo on lower left:

Conservation officers and DNR watercraft inspectors look over an incoming boat as it enters a public access at a check station.



Watercraft Inspections

GOALS

- Conduct watercraft inspections at public water accesses throughout Minnesota and require watercraft users to decontaminate their watercraft if AIS or water are found.
- Increase public awareness about AIS and reduce the potential for boaters to transport species between water bodies.
- Increase education efforts with stakeholder and user groups.
- Distribute information at events throughout the state.
- Hire 46 Level 1 and 46 Level 2 watercraft inspectors.

HIGHLIGHTS

- Hired 86 watercraft inspectors for the 2019 season.
- Trained 922 local government inspectors at 87 Level 1 training classes and 33 Level 2 training classes.
- Completed a record high 511,000 incoming and outgoing watercraft inspections with the DNR and local government watercraft inspectors.
- Worked alongside the Division of Enforcement to conduct 10 roadside check stations for AIS, inspecting 484 watercraft.
- 292,000 incoming watercraft were in compliance with state laws. Three percent of incoming watercraft were found with plants, invasive animals, mud or water.
- 96.5% incoming watercraft arrived in compliance with state drain plug laws.

Photo on left:

A Level 2 inspector checks water temperature during an engine decontamination. Watercraft inspectors completed a record number of inspections in 2019.

Transportation of Invasive Species

Boaters in Minnesota remove drain plugs from watercraft and livewells to reduce the risk of transporting AIS like spiny waterflea or zebra mussel larvae, as required by the state's "drain plug law." People in Minnesota also may not transport aquatic plants under most circumstances. This helps prevent the spread of invasive plants as well as other AIS that can be attached to plants, like zebra mussels.

In 2019, watercraft inspectors observed that the majority of people arriving at accesses were in compliance with state AIS prevention laws. DNR-authorized watercraft inspectors took the following actions to follow-up with the few individuals who were in violation of state laws.

- 96.5% of people arriving at accesses had removed drain plugs from their watercraft.
- 97% of people arrived at accesses with watercraft and trailers that were free of aquatic plants.
- Watercraft inspectors found zebra mussels on 191 incoming watercraft (2018 had 226 occurrences). Twenty-five were at water bodies not known to be infested with zebra mussels. Watercraft inspectors instructed owners not to launch until all zebra mussels had been removed. In some cases, removal is done at the access. Zebra mussel violations are forwarded to DNR Enforcement for follow-up.

- Watercraft inspectors required decontamination prior to launching for any watercraft with vegetation or attached zebra mussels attempting to enter a water body. Decontamination methods include hand removal, draining or a high-pressure, hot water treatment.

Decontamination Units

The Watercraft Inspection Program hires Level 2 watercraft inspectors to decontaminate watercraft with high-pressure, hot-water wash units. DNR staff used 23 portable wash units around the state to perform 1,982 decontaminations. Local inspection programs operated an estimated 34 decontamination units in addition to DNR operated units. Partner units decontaminated an additional 2,789 watercraft. DNR decontamination units were located at high-use watercraft accesses on zebra mussel-infested water bodies.

DNR Volunteer Training

The Watercraft Inspection Program conducts AIS volunteer training sessions to teach people how to educate watercraft users at waters where they live or recreate. In 2019, there were 15 AIS volunteer training sessions, training 105 volunteers. In the last three years, 352 people have received training. Volunteers receive classroom training every three years, with an online refresher course each year between classroom training. Volunteers must pass a yearly background check.

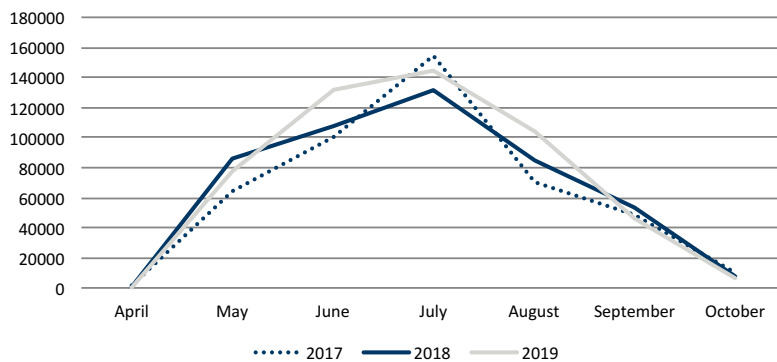
NUMBER OF DNR WATERCRAFT INSPECTIONS

	2019	2018	2017	2016	2015	2014
Inspections	70,762	66,833	84,824	102,445	103,500	119,000
Inspection Hours	25,451	21,826	29,400	38,000	35,000	49,550
Inspections per Hour	2.78	3.06	2.88	2.70	2.96	2.42

NUMBER OF DNR WATERCRAFT INSPECTIONS BY REGION

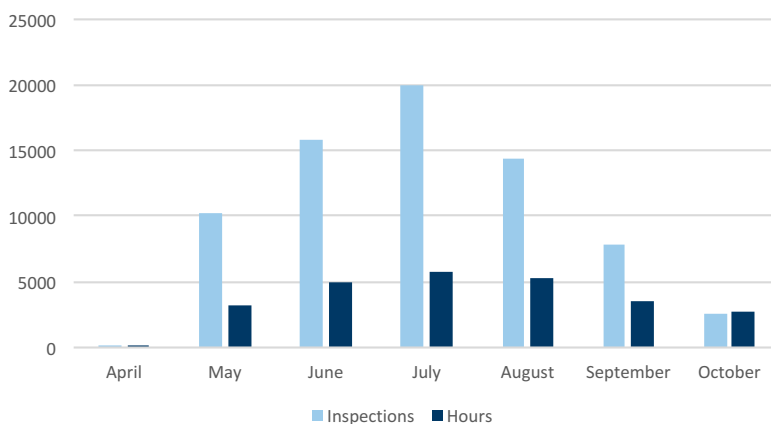
DNR Region	2019	2018	2017	2016	2015	2014
Northwest - 1	19,437	13,539	17,857	23,575	20,250	26,500
Northeast - 2	8,152	7,266	11,413	13,770	12,450	14,100
Central - 3	40,623	43,653	51,513	62,150	67,800	74,900
Southern - 4	2,550	2,375	4,041	2,950	3,000	3,600
Total Inspections	70,762	66,833	84,824	102,445	103,500	119,100

DNR AND LGU INSPECTIONS PER MONTH: 2017-2019



Authorized watercraft inspections start in early April, peak in July, and fall off in October when most inspection programs end and boat activity reduces.

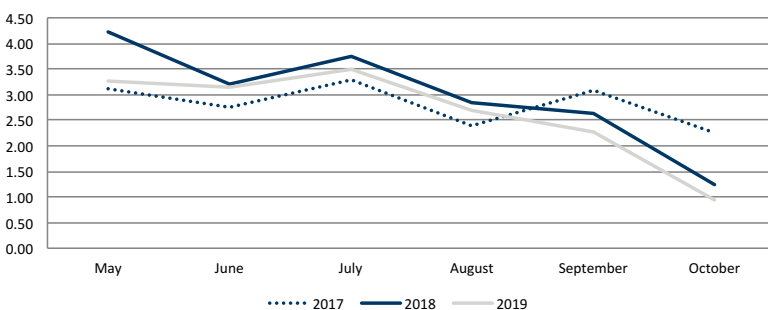
DNR INSPECTIONS AND HOURS PER MONTH



Inspections are performed statewide from April through October. The number of inspections peak in July, while staff presence remains fairly consistent.

DNR INSPECTIONS PER HOUR, BY MONTH

Hours do not include drive time.



DNR inspections per hour have followed a consistent pattern each year since 2017.

PARTNERSHIPS

Local and Tribal Governments

Local and tribal governments can partner with the DNR through a delegation agreement. This agreement allows governments to hire authorized watercraft inspectors to support local watercraft inspection programs. There were 62 active delegation agreements during the 2019 season, which allowed an additional 922 watercraft inspectors to be hired. The total number of active delegation agreements increased by two, however overall Local Government Unit (LGU) inspection staff dropped by 46 as compared to 2018.

The local and tribal government employees follow the DNR watercraft inspection process using DNR survey questions. The findings are reported to the Watercraft Inspection Program through a statewide watercraft inspection mobile application.

FUTURE NEEDS AND PLANS

In 2020, the Watercraft Inspection Program will work with partners to increase access coverage and inspection consistency in Minnesota. This year set a new record high for watercraft inspected during the open water season, which creates an increased demand for data quality assurance and quality checking. The program is currently working to create a new data interface for internal staff and external partners which will increase the efficiency of data corrections and analysis.

Program staff are developing training modules to engage trainees and improve inspections at public accesses. Additional materials, guidance and tools will be available to local inspection partners for their staff during the open water season.

The program will review 2019 data to refine the survey process and adjust the hours and days spent at watercraft accesses to try to increase our inspections per hour. The program will train people to conduct AIS education at local watercraft accesses and work to expand the number of partnerships with tribal and local governments in an effort to increase total watercraft inspection capacity throughout the state.



Aquatic Invasive Species Prevention Aid

The Minnesota Legislature provides \$10 million directly to Minnesota counties to help prevent the spread of aquatic invasive species: AIS Prevention Aid. The funds are allocated based on each county's share of watercraft trailer launches (50%) and watercraft trailer parking spaces (50%).

Each county board and/or designated local government decides how to use the funds. Each county submits a copy of its guidelines for use of the funding to the DNR by December 31 of each year. The DNR Invasive Species Program has two full-time staff dedicated to working with these local programs.

GOALS

- Annually review and document county AIS plans and resolutions.
- Provide opportunities for local government staff to share and learn from one another's collective experiences.
- Provide opportunities for local government staff to maintain strong relationships with stakeholders such as other local governments, state and federal agencies, nonprofits, businesses, lake associations, outdoor recreation groups, etc.
- Provide technical support and training to local governments and their partners as they develop, implement and evaluate their local prevention strategies.

HIGHLIGHTS

- Facilitated four regional workshops statewide, attracting 97 attendees. Workshops were designed to help local AIS program managers and their partners be more successful in their AIS prevention work.
- Worked with counties to revise and put into practice a metrics template designed to capture data and stories about local AIS prevention programs. This information helps demonstrate the statewide impact of AIS Prevention Aid.
- Hosted a two-day AIS Behavior Change Design Workshop. The 67 participants learned about the results of the DNR community-based marketing project and collectively developed behavior change strategies for anglers, shoreline property owners, and the aquarium and aquatic plant trades.



Photo on left:

The DNR hosts a two-day AIS Behavior Change Workshop for local governments staff, statewide partners, and DNR staff. Participants brainstorm ideas on sticky notes, organize them onto flip chart paper, and present their ideas to the group.

Technical support

- Provided technical support to local governments and their partners as they develop, implement and evaluate their AIS prevention strategies.
- Received and provided feedback on guidelines (resolutions and plans) from the 83 Minnesota counties receiving funds.
- Provided information on DNR AIS programs (e.g., public outreach, watercraft inspection, invasive aquatic plant management, community-based marketing). This included updating key resources and promoting available support from the DNR on the AIS Prevention Aid webpage (mndnr.gov/invasives/ais/prevention).
- Played an advisory role on county AIS Task Forces and Advisory Committees.
- Developed passive (guidance documents, online resources) and active (workshops, presentations) ways to relay information to counties and their local stakeholders.
- Provided feedback on communication materials developed by local AIS program managers to promote consistent messages about AIS and prevention steps (e.g., Clean, Drain, Dispose).
- Revised a template of metrics based on comments received from counties. The template provides a voluntary way for local AIS program managers and their partners to track accomplishments and demonstrate how AIS Prevention Aid is making a difference in their communities. For example, with 39 counties submitting a template at the end of 2018, we learned that 565 jobs were created and supported with AIS Prevention Aid, and \$803,000 in additional funds were leveraged to support AIS prevention activities. In addition, 36,000 residents and visitors were educated about AIS, and 23,000 children were taught about AIS in schools across Minnesota.

Engaged local governments and partners

- Maintained a network of support by continuously updating a primary contact list of county AIS program managers online and encouraged them to use the list to collaborate with one another.
- Held four regional workshops around the state in February and March. The 97 attendees included at least one representative from 40 counties, 17 people from partner organizations, and 17 DNR staff. The workshops brought neighboring counties together to share their AIS prevention experiences, discuss successes and challenges, support collaborative efforts, and build stronger inter-county relationships.
- Hosted a two-day AIS Behavior Change Design Workshop bringing in 44 people from 33 counties, 7 statewide partners and 16 DNR staff. The 67 participants (1) became familiar with community-based marketing principles and the DNR project, (2) were updated on the results, (3) used the results to brainstorm creative behavior change strategies and (4) took ideas and experiences home with them to use in their local jurisdictions. These efforts aim to bridge the gap between awareness and action, so that all lake and river users consistently practice AIS prevention steps.
- Presented AIS Prevention Aid information to a variety of audiences such as the DNR Statewide AIS Advisory Committee and watercraft inspectors hired by local governments. Provided general AIS education to groups such as lake associations, high school fishing teams and youth events.



PARTNERSHIPS

- Along with multiple partners representing local governments, lake associations, and nonprofits, the two DNR planners participated in two civic governance pilot projects in Ramsey and Cass counties. The projects promoted the community's common good by addressing complex public policy issues like AIS.
- Continued to provide technical support to a group of AIS leads from the 12 counties that receive the most AIS Prevention Aid. This self-organized group meets to brainstorm ideas on how they can work together to have a greater statewide impact.

Photo above:

The DNR hosts a workshop in Brainerd to provide local government staff and their partners an opportunity to share and learn from each other's experiences.

FUTURE NEEDS AND PLANS

AIS Prevention Aid funded programs are diverse, at different stages of development and implementation, and cover a spectrum of AIS activities. As the needs of the programs change, so will the technical support provided.

- Work to improve online resources, like the DNR Local Aquatic Invasive Species Prevention Aid web page, to provide a "one-stop shop" of resources local governments and their partners can use to develop and implement their programs.
- Support implementation of local projects that use community-based marketing strategies.
- Continue to support communication and collaboration among local program managers about AIS prevention strategies. For example, continue to host regional workshops and learning sessions.
- Continue to provide technical support, tools, and resources to help local governments achieve their goals and run successful AIS prevention programs.



Invasive Aquatic Plant Management

GOALS

- Reduce the impacts of invasive aquatic plants on Minnesota's ecology, society and economy.
- Prevent the spread of invasive aquatic plants within Minnesota.

We are committed to working with our partners to meet these goals by:

- Providing technical assistance to individuals and organizations.
- Permitting management with herbicides or mechanical control.
- Providing grants to help fund costs of control done by partners as funding allows.
- Supporting and using research that leads to improved aquatic invasive species control techniques.

HIGHLIGHTS

- In 2019, starry stonewort (*Nitellopsis obtusa*) was discovered in Lake Beltrami. That population was small enough for DNR staff to hand pull the plants. Three other populations were recently discovered in Medicine, Grand, and Pleasant lakes. The DNR funded and supported staff time and aggressive treatment, in cooperation with local and county organizations. Funding was provided in part by a Great Lakes Restoration Initiative grant. Results are promising: starry stonewort was successfully reduced to very low levels in the treated areas.
- To understand the effectiveness of various algaecides on starry stonewort the DNR contracted with Dr. Ryan Wersal and Minnesota State University, Mankato, to run a series of lab trials using mesocosms and aquaria. This research will also evaluate the potential harm the algaecides may cause to native plant species.
- The DNR began work with cooperators to implement recommendations from the University of Minnesota's Assessment to Support Strategic Coordinated Response to Invasive *Phragmites australis* in Minnesota.



Photo on left:

DNR staff collects curly-leaf pondweed from Coon Lake in Anoka County.

Management

Invasive aquatic plant management is an attempt to reduce the abundance or distribution of an invasive plant in a waterbody or wetland. The DNR's invasive plant management program supports efforts to minimize harmful effects caused by invasive plants, while also protecting natural resources. The program works to preserve and enhance the native aquatic plant community for the ecological benefits those plants provide. Sometimes, invasive plant management is done to help prevent the spread of that species to other uninfested waterbodies.

Plant management is complex, and reductions in invasive plants often require long-term and resource-intensive efforts. Management that involves either mechanical removal of plants or application of herbicides to public waters requires a permit from the DNR. Permits may be issued to property owners, lake organizations and local governments. Permit applications are accepted through the Minnesota DNR Permitting and Reporting System (MPARS). Commonly managed aquatic invasive plants include:

- Eurasian watermilfoil (*Myriophyllum spicatum*)
- Curly-leaf pondweed (*Potamogeton crispus*)
- Flowering rush (*Butomus umbellatus*)

The Invasive Species Program has provided grants for the control of Eurasian watermilfoil and/or curly-leaf pondweed since 2006. The program was not able to offer invasive species control grants in 2019 due to fewer revenues coming into the Invasive Species account than the enacted budget and the fact that the AIS surcharge had not been increased in 25 years. A funding increase passed during the 2019 legislative session will allow these grants to be offered again in 2020.

In 2019, the DNR confirmed starry stonewort (*Nitellopsis obtusa*) in Beltrami Lake in Beltrami County. Starry stonewort was first confirmed in Minnesota in Lake Koronis and connected Mud Lake in Stearns County in August 2015. Since the initial discovery, treatment methods have included herbicide application, Diver Assisted Suction Harvesting (DASH), suction dredging, and hand-pulling followed by herbicide treatment.

The DNR, in cooperation with local and county organizations participated in starry stonewort control efforts on four lakes in 2019. All of the starry stonewort found in newly infested Beltrami Lake was hand pulled. A 15-acre area in Medicine Lake

INVASIVE AQUATIC PLANT MANAGEMENT PERMITS ISSUED PER SPECIES

Species	2019	2018	2017	2016	2015
Curly-leaf pondweed	184	216	184	148	168
Eurasian watermilfoil	110	114	110	102	110
Curly-leaf pondweed and Eurasian watermilfoil	1	26	12	9	5
Flowering rush	15	14	8	5	10
Purple loosestrife	5	2	1	3	0
Nonnative <i>Phragmites</i>	11	3	2	3	0
Yellow iris	3	2	2	2	0
Starry stonewort	10	13	6	7	0
Brittle naiad	0	0	2	0	0

INVASIVE AQUATIC PLANT MANAGEMENT PERMITS ISSUED FOR CURLY-LEAF PONDWEED OR EURASIAN WATERMILFOIL OR BOTH

Region	2019	2018	2017	2016	2015
Northwest	33	30	26	15	17
Northeast	39	31	38	28	38
Central	188	250	205	185	199
Southern	35	45	37	31	29
Total	295	356	306	259	283

(Hennepin County) was treated with a series of copper sulfate and hydrothol 191 treatments for the second year in a row. Similar to last years' treatment, these treatments reduced starry stonewort to very low levels. Pleasant Lake (Wright County) was treated by hand pulling followed by treatment with a copper based algaecide for the second year in a row. Starry stonewort in the lake has been reduced from the initial 25 square feet found in 2018 to less than one square foot in September 2019. Starry Stonewort was hand-pulled in Grand Lake (Stearns County) for the third year in a row. These treatments have been very effective at reducing the extent and biomass of starry stonewort since its initial discovery.

Staff worked with permit applicants and contractors to provide permits for work, advice on best management practices for treatments, and assistance in monitoring the results of the management project.

PARTNERSHIPS

An Aquatic Plant Identification Workshop was convened by the DNR in partnership with University of Minnesota Extension and the MAISRC. This workshop was open to the public and was attended by private consultants who do plant surveys for hire, AIS detectors, and county and local government staff. Using live specimens of over 50 species, participants learned how to identify many common and some rare aquatic plants, both native and invasive.

The DNR again participated with MAISRC and the University of Minnesota Extension, along with counties and local partners, for a statewide search for waters infested with starry stonewort. The event, called Starry Trek, involved more than 250-trained volunteers searching 234 Minnesota lakes. No new waterbodies were found with starry stonewort this year during Starry Trek.

FUTURE NEEDS AND PLANS

- Continue to work with stakeholders and refine issuing permits and grants for the control of invasive aquatic plants.
- Work with partners to manage invasive aquatic plants.
- Monitor the distribution of invasive aquatic plants in the state, with emphasis on verification of reports of new occurrences.
- Assess risks posed to Minnesota by various nonnative aquatic plants.
- Continue to work with researchers to improve our understanding of the ecology and management of invasive aquatic plants, including nonnative *Phragmites*, the macroalgae starry stonewort, and hybrids of Eurasian watermilfoil.
- Review and revise best management practices for herbicide treatment of aquatic invasive plants, in light of results from ongoing research and pilot projects.



Photos above: Three commonly managed invasive aquatic plants in Minnesota; Eurasian watermilfoil, flowering rush, and curly-leaf pondweed.



Invasive Aquatic Animals — Zebra Mussels

GOALS

- Prevent the introduction of zebra mussels (*Dreissena polymorpha*) to lakes and rivers in Minnesota.
- Support, assist and conduct research on zebra mussel ecology, biology, life history and other aspects to help manage and prevent spread.

HIGHLIGHTS

- DNR staff conducted zebra mussel surveys on Lake Sarah (Murray County) to look at a newly infested shallow lake with high nutrient levels. Staff also assisted Murray County AIS staff and Southwest Minnesota State College faculty in monitoring this new population during the 2019 season.
- Region 3 Invasive Species staff conducted a zebra mussel population survey after initial discovery of a mussel in Bone Lake (Washington County), planned a rapid response chemical treatment with copper control material and conducted post-treatment survey work for this pilot project response action. The efficacy of this treatment will be assessed in following seasons.



Photo on left:

Zebra mussels can reach such high density in our lakes that they can completely overwhelm objects.



Photo above:

Even small amounts of aquatic plant material can have many small zebra mussels attached, highlighting the importance of cleaning boats and recreational equipment to prevent spread.

Photo above right:

Zebra mussels can be many sizes. A quarter helps show the varying sizes.



Research

The Watercraft Inspection Program Coordinator recently completed research in cooperation with the MAISRC on potential movement of zebra mussel larvae (veliger) in residual water in recreational watercraft, focusing on water in ballast tanks and engines. These findings help direct efforts at preventing movement of veligers between lakes.

DNR staff continued working with a national boating group examining boat design to change recreational watercraft so there are fewer risks of movement of zebra mussels and other AIS.

DNR biologists continued monitoring zebra mussels in lakes throughout Minnesota. Notable work included:

- Monitored the zebra mussel population size in White Bear Lake (Washington County).
- Continued research monitoring number and size of zebra mussels in Green Lake (Kandiyohi County).
- Continued to assist in monitoring for zebra mussels in Ruth Lake (Crow Wing County).

Volunteer Zebra Mussel Monitoring Program

Volunteers with the Zebra Mussel Monitoring Program monitor lakes or rivers. They regularly look at docks, lifts, boats, recreational equipment, shorelines and other objects. Volunteers provide important help in tracking zebra mussel distribution throughout the state. People who live and recreate on lakes in Minnesota are often the first to discover and report new zebra mussel populations.

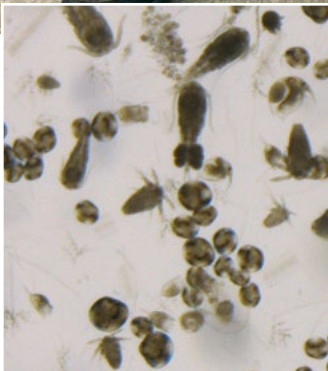


Photo above:
DNR staff collect water samples for research on veliger movement in residual water in recreational watercraft.

Photo left:
Veligers can reach high abundance in lake waters.

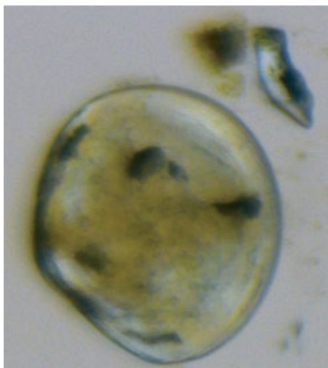


Photo bottom left:
Microscopic view of a zebra mussel veliger found in residual water.

PARTNERSHIPS

Minnesota Aquatic Invasive Species Research Center — University of Minnesota

DNR biologists continued to provide technical assistance, expertise and input on project proposals, priority species list development and publications from zebra mussel research.

FUTURE NEEDS AND PLANS

- Examine potential uses of pesticides to control zebra mussels as opportunities arise.
- Monitor, with partners, the post-treatment efficacy of previous control projects.
- Work with stakeholder groups to provide control advice and education.



Invasive Aquatic Animals — Invasive Carp

GOALS

- Prevent or limit the range expansion of the following invasive carp at strategic locations: bighead carp (*Hypophthalmichthys nobilis*), black carp (*Mylopharyngodon piceus*), grass carp (*Ctenopharyngodon idella*), and silver carp (*Hypophthalmichthys molitrix*).
- Monitor Minnesota waters for changes in population sizes, range expansion and reproduction.
- Encourage and support research on control strategies.

HIGHLIGHTS

- The invasive fish coordinator continues to participate in regional efforts to prevent the expansion of invasive carp populations.
- Tracking a tagged bighead carp resulted in capturing and removal of four invasive carp.
- The University of Minnesota—Twin Cities completed a three-year evaluation of flow and acoustic deterrents to impede invasive carp movement. The results will inform efforts at locks and dams to slow invasive carp expansion.

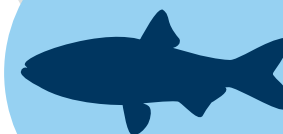


Photo on left:

Minnesota DNR biologists are surgically implanting an acoustic tag into a silver carp. The carp was captured on the St. Croix River while tracking a tagged bighead carp.

New Detections of Adult, Juvenile, and Larval Invasive Carp

The DNR relies on six methods to detect and monitor the expansion of invasive carp into Minnesota:

- Traditional fisheries monitoring programs.
- Targeted sampling.
- Contracted commercial fishing.
- Monitoring the commercial catch.
- Public reported sightings.
- Tagging.

The invasive carp monitoring crew received 16 encounter reports from the public in 2019. All reports were investigated in person, by phone or via e-mail.

- Nine reports were confirmed as an invasive carp.
- Five reports were confirmed not to be invasive carp based on photographs.
- Two reports were unlikely to be invasive carp based on discussions.
- Follow up sampling was conducted on seven of the confirmed reports. Two additional carp were captured from follow up sampling.

More invasive carp than usual have been captured in 2019, likely because persistent high water in southern Minnesota, Iowa and Illinois created prolonged “open river” conditions in which fish could move up the Mississippi River unimpeded by the river’s locks and dams. Open river conditions can benefit native species like lake sturgeon and paddlefish, which swim hundreds of miles in search of preferable habitat. Unfortunately, these conditions also allow other, nonnative species to move upriver more easily.

Invasive Carp Tracking

The Minnesota Legislature granted the DNR authority to tag invasive carp for research. This allows the DNR to better understand the movements of individual fish and leads researchers to other invasive carp. Currently, the DNR has one tagged bighead carp in the St. Croix River. Fish biologists have been tracking its movement using active boat tracking and the passive receiver array since July 28, 2017. The bighead carp’s movement was similar in both 2018 and 2019. It commonly moved upstream and downstream between Bayport and Afton State Park, except for one, short period (2–4 days) each June where the fish swam into the Mississippi River, then returned to the St. Croix

INVASIVE CARP CAPTURES IN 2019

Location	Species	Date of Capture	Method of Capture
St. Croix River	Silver carp	4/4/2019	Commercial fisher
St. Croix River	Bighead carp	5/17/2019	DNR personnel (result of tracking tagged carp)
Mississippi River Pool 9	Silver carp	5/22/2019	Commercial fisher
Mississippi River Pool 4	Silver carp	5/24/2019	Angler
Mississippi River Pool 4	Silver carp	6/4/2019	Electrofishing (Xcel energy)
St. Croix River	Bighead carp	6/20/2019	DNR personnel (result of tracking tagged carp)
Mississippi River Pool 6	Silver carp	6/25/2019	Bow angler
Mississippi River Pool 6	Silver carp	6/29/2019	Bow angler
Mississippi River Pool 6	Grass carp	6/29/2019	Bow angler
Mississippi River Pool 8	Grass carp	6/29/2019	Bow angler
Mississippi River Pool 3	Bighead carp	7/12/2019	DNR personnel (result of tracking tagged carp)
St. Croix River	Silver carp	9/10/2019	Contract commercial fisher (result of tracking tagged carp)
Mississippi River Pool 6	Silver carp	11/19/2019	Commercial fisher
Mississippi River Pool 6	Silver carp	11/19/2019	Commercial fisher
Mississippi River Pool 6	Grass carp	11/19/2019	Commercial fisher
Mississippi River Pool 5A	Silver carp	12/4/2019	Commercial fisher
Ocheyedan River	Silver carp	12/17/2019	DNR personnel
Ocheyedan River	Silver carp	12/19/2019	DNR personnel

River. The fish overwinters in Lake St. Croix below the I-94 bridge. Researchers will continue to monitor and locate the tagged fish in 2020.

The invasive carp monitoring crew regularly deployed netting efforts where the tagged fish was actively located. While the tagged carp was not recaptured, four additional invasive carp were caught. It is highly unlikely that these fish would have been captured without the aid of tracking the tagged fish. A silver carp captured in September during one of these efforts was implanted with a tag. Unfortunately, the silver carp died five days later. The brief data set showed that the fish initially moved downstream of the release site and then swam upstream where it perished below the I-94 bridge. This project has received funding to maintain its dedicated tracking crew in 2020.

PARTNERSHIPS

MAISRC–University of Minnesota

Dr. Peter Sorensen's lab completed a lock and dam evaluation project sponsored by the DNR and funded by the Outdoor Heritage Fund and U.S. Fish and Wildlife Service. The project team submitted a final report in the first quarter of 2019. The research helps understand how fish move around and pass through Lock and Dam 2. This understanding can be applied to other lock and dam structures where deterrent systems are being considered. The research also evaluated the effectiveness of an acoustic system that was installed at Lock 8 in 2014. The study showed that the acoustic system as constructed was ineffective at blocking common carp (a surrogate for invasive carp). In 2018, the Sorensen lab updated the acoustic system with better equipment and technology. The lab is currently evaluating the updated system.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service leads environmental DNA (eDNA) sampling for invasive carp. In 2019, water samples were collected from the Mississippi River down river from Minnesota and in the St. Louis Estuary. There were zero positive results for bighead and silver carp in the St. Louis Estuary. Results are at fws.gov/midwest/fisheries/edna.html.

Upper Mississippi River Collaboration

The DNR is an active partner in a multi-state and federal agency collaboration working on preventing the expansion and reducing the impacts of invasive carp. This workgroup operates at an Upper Mississippi River basin level rather than the individual state level to develop projects and strategies to meet objectives. This includes a system-wide detection and evaluation program, implementing a commercial harvest program at the reproduction front, and deploying a deterrent strategy. The DNR represents the collaboration at federal briefings, meetings, and conferences.

Asian Carp Regional Coordinating Committee (ACRCC)

The ACRCC was formally established in early 2010 and represents the collective efforts of international, federal, state and municipal agencies to combat the spread of invasive carp into the Great Lakes. The ACRCC provides oversight and coordination of interagency prevention activities through development and implementation of an annual Asian Carp Action Plan and complementary Monitoring and Response Plan. The work of the ACRCC is supported by the Great Lakes Restoration Initiative, as well as partner agency resources. The ACRCC works to ensure a sustainable population of invasive carp do not become established in the Great Lakes by funding monitoring, control and technological development for invasive carp. The DNR is an active member of the committee.

FUTURE NEEDS AND PLANS

Funding is needed for additional prevention, monitoring and response projects, as identified in the Minnesota Invasive Carp Action Plan.



Terrestrial Invasive Species Program

GOALS

- Improve or enhance the ability of DNR staff to effectively manage terrestrial (land-based) invasive species on DNR-managed lands through prevention, management and inventory, outreach and communication, and research.
- Prevent or limit the negative impacts on Minnesota's ecology, economy and human health that can result from terrestrial invasive species such as Oriental bittersweet, wild parsnip, buckthorn, garlic mustard, earthworms, emerald ash borer and gypsy moth.
- Prevent and manage terrestrial invasive species to protect and/or restore habitats for wildlife species, especially those species in greatest conservation need.

HIGHLIGHTS

Prevention

Jumping worms (*Amyntas agrestis* and related species) are a new type of invasive earthworm reported in Minnesota that damages plants and soils. They are called “jumping worms” because of their unusual behavior: active when disturbed, they move like a snake and sometimes appear to jump. The program worked with partners to examine how regulations, research, and outreach can prevent jumping worm spread in Minnesota. Visit mndnr.gov/invasives/terrestrialanimals/jumping-worm.

The program worked with DNR staff to ensure they have the training and equipment needed to prevent the spread of invasive species during the course of DNR activities.

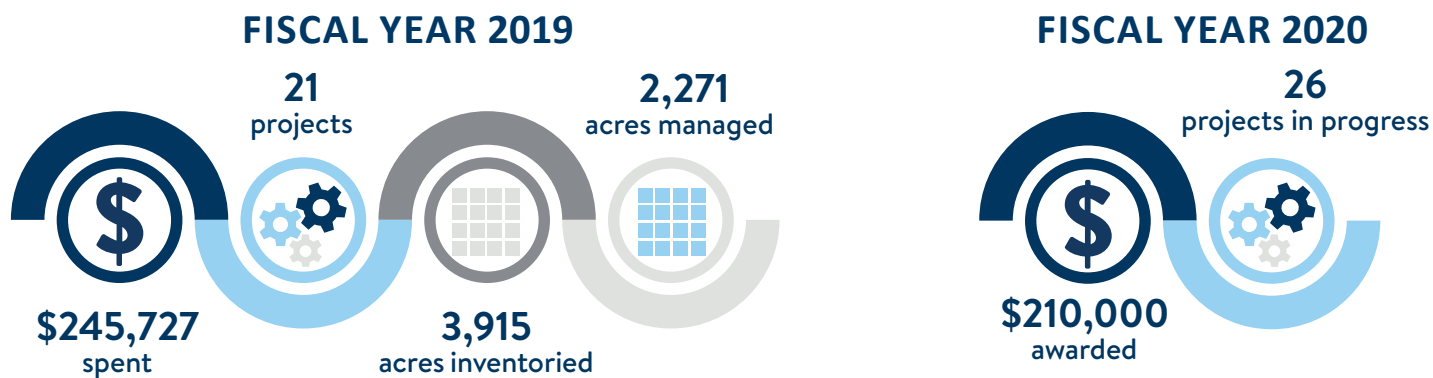
Management and Inventory

The Invasive Species Program initiated a funding program in 2006 for the management and inventory of terrestrial invasive plant species on state managed lands. Funds are dispersed to DNR divisions and regions. Priorities include treatment of early detection invasive plants and management on high quality habitats.



Photo on left:

A crew from Urban Roots, a St. Paul youth organization, hauls away buckthorn as part of invasive species management in the land around the DNR Central Regional offices and hatchery (Willowbrook).



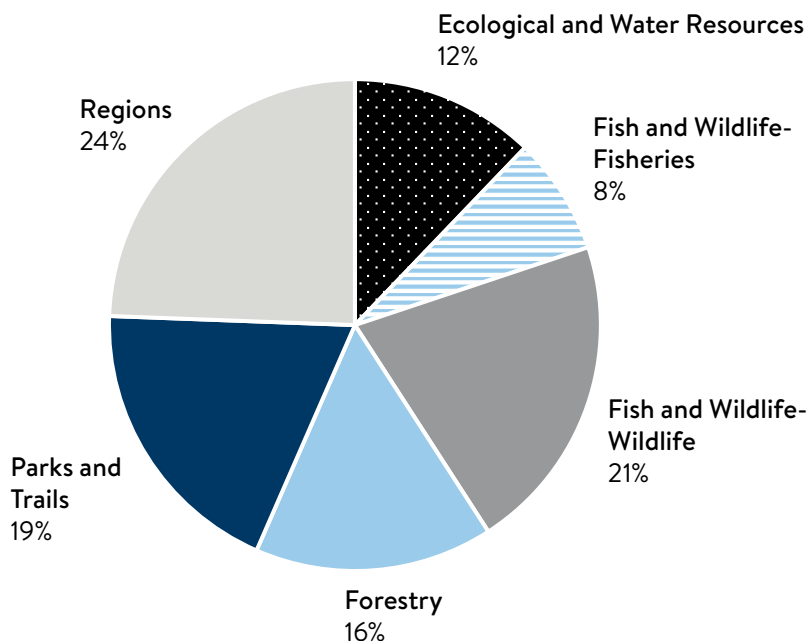
FUNDING HISTORY AND RESULTS

Fiscal Year/s	Dollars Spent	Acres (Inventoried and Managed)	Number of Projects
2006-2007	\$365,000	27,375	31
2008	\$435,660	26,523	32
2009	\$610,807	40,000 est.	47
2010	\$606,777	27,955 + 40,000 from aerial survey	42
2011	\$438,000	18,258	33
2012	\$178,340	24,989 + 13,500 from aerial survey	26
2013	\$160,000	7,547	22
2014	\$144,249	11,860	18
2015	\$270,674	12,994	26
2016	\$192,339	5,501	23
2017	\$219,834	5,755	21
2018	\$173,824	6,592	24
2019	\$245,727	6,186	21
2020	\$210,000	In progress	26

The following species were inventoried and/or managed in fiscal year 2019 projects:

Amur maple, bird's foot trefoil, black locust, bull thistle, burdock, Canada thistle, common buckthorn, common teasel, crown vetch, cutleaf teasel, garlic mustard, glossy buckthorn, hairy vetch, Japanese barberry, Japanese hops, Japanese and Bohemian knotweed, leafy spurge, meadow knapweed, moth mullein, motherwort, multiflora rose, nonnative hawkweeds, nonnative honeysuckle, ox-eye daisy, poison hemlock, Queen Anne's lace, Siberian elm, Siberian peashrub, spotted knapweed, tansy, and wild parsnip

FISCAL YEAR 2019 FUNDING DISTRIBUTION



Outreach and Communication

The Minnesota State Fair invasive species display brought prevention messages to many state fair visitors. Visitors learned the *PlayCleanGo: Stop Invasive Species in Your Tracks* message, used an interactive screen demonstrating prevention techniques, viewed educational materials, and talked with invasive species experts.

Research

In 2017, the Technical Advisory Group for Biological Control Agents of Weeds recommended that the root mining weevil, *Ceutorhynchus scrobicollis* be released for the biological control of garlic mustard in the United States. As of 2019, the U.S. Department of Agriculture continues to work with the U.S. Fish and Wildlife Service on the next regulatory steps. The University of Minnesota completed additional research on the weevil and rare plants. Research was supported by the Minnesota Terrestrial Invasive Plants and Pests Center (MITPPC), through an appropriation from the Environmental and Natural Resources Trust Fund.

The program worked with researchers at the University of Minnesota to develop a risk assessment for jumping worms for the MITPPC. The program also worked with researchers to develop a research proposal for the MITPPC that focuses on detecting jumping worms, understanding their survival and pathways of spread, and studying potential management methods.

PARTNERSHIPS

Minnesota Department of Agriculture

The Minnesota Department of Agriculture (MDA) is the state regulatory lead for terrestrial invasive plant pests (such as emerald ash borer and gypsy moth) and noxious weeds. Visit mda.state.mn.us.

The DNR is a member of the Noxious Weeds Advisory Committee convened by the MDA to evaluate plant species for invasiveness, difficulty of control, cost of control, benefits, and amount of injury caused by the species. For each species evaluated, the committee recommends to the MDA commissioner whether the species should be placed on a noxious weed list. Visit mda.state.mn.us/plants/pestmanagement/weedcontrol/mnnwac.

Minnesota DNR's Forest Health Program

The DNR Forest Health Program in the Forestry Division is responsible for surveys, evaluations, and impact assessments of forest pests and diseases as well as technical assistance on tree and forest health and invasive species. Visit dnr.state.mn.us/treecare/forest_health.

PlayCleanGo

The PlayCleanGo program is built around partnering and using consistent messaging to prevent the introduction and spread of invasive species. As of September 2019, PlayCleanGo had more than 580 partners in the United States, Canada and Mexico. Visit playcleango.org.

Minnesota Invasive Species Advisory Council

The Minnesota Invasive Species Advisory Council (MISAC) continues to provide a mechanism for interagency and inter-organization communication and collaboration on invasive species issues. MISAC produced a 2020 wall calendar highlighting 12 invasive species and issues of concern to Minnesotans. Visit mninvasives.org.

Minnesota Invasive Terrestrial Plants and Pests Center

The DNR collaborates with the Minnesota Invasive Terrestrial Plants and Pests Center at the University of Minnesota on research that may lead to the biocontrol of garlic mustard and emerald ash borer, early detection of invasive jack pine dwarf mistletoe and management of buckthorn via native vegetation planting. Funding for this work was provided by the Environment and Natural Resources Fund (ENRTF). Visit mitppc.umn.edu.

FUTURE NEEDS AND PLANS

Within the DNR, there is an ongoing need to expand awareness, data, tools and resources to reduce impacts of terrestrial invasive species on state-managed lands. Funding for terrestrial invasive species work has decreased since 2010. The terrestrial invasive species program plans to continue to work to meet the growing needs for outreach materials, data, tools and resources.

ECOLOGICAL AND WATER RESOURCES DISTRICTS BY COUNTY

NORTHWEST REGION (1 - BEMIDJI)

North district: Beltrami, Cass, Clearwater, Hubbard, Kittson, Lake of the Woods, Marshall, Pennington, Polk, Red Lake, Roseau, and Wadena

South district: Becker, Clay, Douglas, Grant, Mahanomen, Norman, Otter Tail, Pope, Stevens, Traverse, and Wilkin

NORTHEAST REGION (2 - GRAND RAPIDS)

East district: Carlton, Cook, Lake, and St. Louis

West district: Aitkin, Crow Wing, Itasca, Koochiching, and Pine

CENTRAL REGION (3 - ST. PAUL)

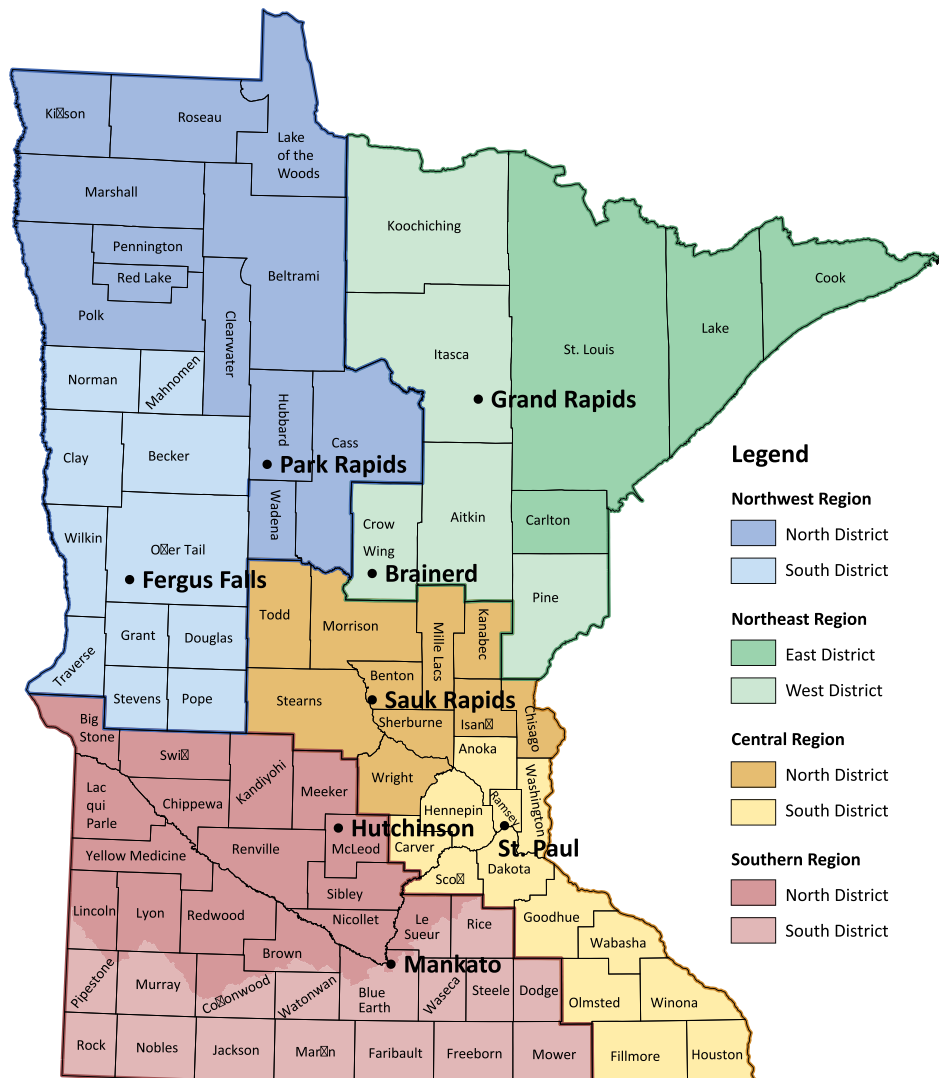
North district: Benton, Chisago, Isanti, Kanabec, Mille lacs, Morrison, Sherburne, Stearns, Todd and Wright

South district: Anoka, Carver, Dakota, Fillmore, Goodhue, Hennepin, Houston, Olmsted, Ramsey, Scott, Wabasha, Washington, and Winona

SOUTHERN REGION (4 - NEW ULM)

North district: Big Stone, Brown, Chippewa, Cottonwood—north of the Minnesota River, Kandiyohi, Lac qui Parle, LeSueur—north of the Minnesota River, Lincoln, Lyon, McLeod, Meeker, Nicollet, Redwood, Renville, Sibley, Swift, and Yellow Medicine

South district: Blue Earth, Cottonwood—south of the Minnesota River, Dodge, Faribault, Freeborn, Jackson, LeSueur—south of the Minnesota River, Martin, Mower, Murray, Nobles, Pipestone, Rice, Rock, Steele, Waseca, and Watonwan



APPENDIX A

Invasive Species Program Staff

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APPENDIX B

Water Bodies Listed as Infested in 2019

This table includes all water bodies added to the infested waters list in 2019. Explanations of the last two columns are below:

Year species was first confirmed, or connected water body: Either 1) the year in which we first confirmed a population of the aquatic invasive species in the water body, or 2) “connected” to indicate that we listed the water body because it is connected to a water body where the aquatic invasive species has been confirmed; this column may also contain the name and/or DOW number of the connected, confirmed water body.

DOW number: an identifying number for lakes. DOW stands for the former DNR Division of Waters. Ponds and wetlands that are not on the public waters inventory are listed with “none” in the number column. Most rivers and streams on the public waters inventory are listed without a number or “NA” in the number column; some river pools are identified with a DOW number.

WATER BODY NAME	COUNTY	LISTED FOR AQUATIC INVASIVE SPECIES	YEAR SPECIES WAS FIRST CONFIRMED, OR CONNECTED WATER BODY	DOW NUMBER
Alexander	Morrison	zebra mussel	2019	49-0079
Amor	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-0381-01
Andrew	Kandiyohi	Eurasian watermilfoil	2019	34-0206
Bass	Faribault	Eurasian watermilfoil	2019	22-0074
Beltrami	Beltrami	starry stonewort	2019	04-0135
Bender Creek from Bender Creek Road downstream to First Crow Wing (29-0086)	Hubbard	faucet snail	connected to First Crow Wing (29-0086)	NA
Big McDonald	Otter Tail	zebra mussel	2019	56-0386-01
Bigfork River between Dora (31-0882) and Itasca County Road 14 bridge	Itasca	zebra mussel	2017	NA
Birch	Wright	Eurasian watermilfoil	2019	86-0066
Bone	Washington	zebra mussel	2019	82-0054
Bowstring River between Little Sand (31-0853) and Dora (31-0882)	Itasca	zebra mussel	2017	NA
Brown	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-1628
Cornelia Pool Pond (Unnamed wetland)	Hennepin	Eurasian watermilfoil	2018	27-0679
Davies	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-0311

WATER BODY NAME	COUNTY	LISTED FOR AQUATIC INVASIVE SPECIES	YEAR SPECIES WAS FIRST CONFIRMED, OR CONNECTED WATER BODY	DOW NUMBER
Dead	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-0383
Duck	Hubbard	faucet snail	2019	29-0142
Eagle	Otter Tail	zebra mussel	2019	56-0253
Eagle	Stearns	zebra mussel	connected to Big Fish (73-0106)	73-0112
East Battle	Otter Tail	zebra mussel	2019	56-0138
Fannie	Isanti	Eurasian watermilfoil	2019	30-0043
Fourth Crow Wing	Hubbard	faucet snail	2019	29-0078
French	Aitkin	Eurasian watermilfoil	2019	01-0104
Gilchrist	Pope	zebra mussel	2019	61-0072
Grants	Douglas	zebra mussel	2019	21-0150
Grants	Douglas	flowering rush	2019	21-0150
Hand	Cass	zebra mussel	2019	11-0242
Hanks	Crow Wing	Eurasian watermilfoil	connected to Crooked (18-0041)	18-0044
Indian	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-0327
Jay Gould	Itasca	zebra mussel	connected to Blandin Reservoir (31-0533)	31-0565
Lake of the Woods	Lake of the Woods	zebra mussel	2019 - veligers	39-0002
Langdon	Hennepin	Eurasian watermilfoil	2018	27-0182
Little Jay Gould	Itasca	zebra mussel	connected to Blandin Reservoir (31-0533)	31-0566
Lomond	Clearwater	zebra mussel	2019 - veligers	15-0081
Long	Ramsey	zebra mussel	2019	62-0067
Lotus	Hennepin	zebra mussel	2019	10-0006
Lundsten	Carver	Eurasian watermilfoil	2019	10-0043
Maple Northeast	Wright	zebra mussel	connected to Upper Maple (86-0134-01)	86-0134-03

WATER BODY NAME	COUNTY	LISTED FOR AQUATIC INVASIVE SPECIES	YEAR SPECIES WAS FIRST CONFIRMED, OR CONNECTED WATER BODY	DOW NUMBER
McCarron	Ramsey	zebra mussel	2019	62-0054
McDonald	Otter Tail	zebra mussel	connected to Big McDonald (56-0386-01)	56-0386-03
Middle Cormorant	Becker	zebra mussel	connected to Upper Cormorant (03-0588)	03-0602
Mineral	Otter Tail	zebra mussel	connected to Swan (56-0781)	56-0589
Mississippi River from Lake Winnibigoshish to Mississippi Lake	Itasca	zebra mussel	connected to Blandin Reservoir (31-0533)	NA
Mud	Wright	zebra mussel	connected to Upper Maple (86-0134-01)	86-0134-02
Nelson	Becker	zebra mussel	connected to Upper Cormorant (03-0588)	03-0595
Normandale	Hennepin	Eurasian watermilfoil	2018	27-1045-01
North Fork Crow River downstream of Farmington Ave. SE (west of Rockford), downstream to confluence with the Mississippi River	Wright	zebra mussel	2019	NA
Ocheyedan River from Lake Bella dam to Iowa border	Nobles	silver carp	2019	NA
Oscar	Douglas	zebra mussel	2019	21-0257
Pelican	Pope	zebra mussel	2019	61-0111
Pimushe	Beltrami	zebra mussel	2019	04-0032
Pokegama	Itasca	zebra mussel	connected to Blandin Reservoir (31-0533)	31-0532
Portage	Crow Wing	Eurasian watermilfoil	connected to Crooked (18-0041)	18-0050
Red	Beltrami	zebra mussel	2019 - veligers	04-0035
Rouchleau Mine Pit (connected to Mesabi Mt. or Missabe Mtn. Pit)	St. Louis	zebra mussel	2019	69-1292
Round	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-0522
Sauk Lake (77-0150) tributaries from their mouths upstream 500 feet or to the posted boundaries	Todd	zebra mussel	connected to Sauk (77-0150)	NA
Shady Oak	Hennepin	Eurasian watermilfoil	2019	27-0089

WATER BODY NAME	COUNTY	LISTED FOR AQUATIC INVASIVE SPECIES	YEAR SPECIES WAS FIRST CONFIRMED, OR CONNECTED WATER BODY	DOW NUMBER
Shotley Brook	Beltrami	zebra mussel	connected to Red (04-0035)	NA
South Twin	Mahnomen	zebra mussel	2019	44-0014
Spectacle	Isanti	zebra mussel	2019	30-0135
Star	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	56-0385
Stream segments between West McDonald (56-0386-02) and Walker (56-0310)	Otter Tail	zebra mussel	connected to West McDonald (56-0386-02)	NA
Sunfish	Washington	Eurasian watermilfoil	2018	82-0107
Sunnybrook	Washington	Eurasian watermilfoil	2019	82-0133
Susan	Carver	brittle naiad	2019	10-0013
Swan	Otter Tail	zebra mussel	2019	56-0781
Tamarac River	Beltrami	zebra mussel	connected to Red (04-0035)	NA
Ten Mile	Cass	zebra mussel	2019 - veligers	11-0413
Unnamed	Otter Tail	zebra mussel	connected to Swan (56-0781)	56-1118
Unnamed	Otter Tail	zebra mussel	connected to Swan (56-0781)	56-0588
Unnamed	Otter Tail	zebra mussel	connected to Swan (56-0781)	56-0605
Unnamed stream between Crooked (18-0041) and Maple (18-0045)	Crow Wing	Eurasian watermilfoil	connected to Crooked (18-0041)	NA
Unnamed wetland downstream of Upper Cormorant	Becker	zebra mussel	connected to Upper Cormorant (03-0588)	03-0752
Upper Bottle	Hubbard	faucet snail	2019	29-0148
Upper Cormorant	Becker	zebra mussel	2019	03-0588
Upper Maple	Wright	zebra mussel	2019	86-0134-01
Upper South Long	Crow Wing	Eurasian watermilfoil	2019	18-0096
West McDonald	Otter Tail	zebra mussel	2019	56-0386-02
Wirth Beach Wetland	Hennepin	Eurasian watermilfoil	2019	none

APPENDIX C: REGULATIONS CHANGES IN 2019

This appendix presents only the statute and rule language, with deletions shown in ~~strikeout~~, new text indicated by an underline, and effective dates shown inside brackets.

Numbered changes to statute correspond to the summary of legislative changes in the Prevention chapter, under “STATUTE CHANGES in 2019.”

For complete, updated statute and rule language see the Minnesota Office of the Revisor of Statutes website www.revisor.leg.state.mn.us.

CHANGES TO MINNESOTA STATUTES.

1. Minnesota Statutes, section 84D.03, subdivision 3: Bait harvest from infested waters.

(a) Taking wild animals from infested waters for bait or aquatic farm purposes is prohibited except as provided in paragraph (b) or (c) and section 97C.341.

(b) In waters that are listed as infested waters, except those listed as infested with prohibited invasive species of fish or certifiable diseases of fish, as defined under section 17.4982, subdivision 6, taking wild animals may be permitted for:

(1) commercial taking of wild animals for bait and aquatic farm purposes as provided in a permit issued under section 84D.11, subject to rules adopted by the commissioner; and

(2) bait purposes for noncommercial personal use in waters that contain Eurasian watermilfoil, when the infested waters are listed solely because they contain Eurasian watermilfoil and if the equipment for taking is limited to cylindrical minnow traps not exceeding 16 inches in diameter and 32 inches in length.

(c) In streams or rivers that are listed as infested waters, except those listed as infested with certifiable diseases of fish, as defined under section 17.4982, subdivision 6, the harvest of bullheads, goldeyes, mooneyes, sheepshead (freshwater drum), and suckers for bait by hook and line for noncommercial personal use is allowed as follows:

(1) fish taken under this paragraph must be used on the same body of water where caught and while still on that water body. Where the river or stream is divided by barriers such as dams, the fish must be caught and used on the same section of the river or stream;

(2) fish taken under this paragraph may not be transported live from or off the water body;

(3) fish harvested under this paragraph may only be used in accordance with this section;

(4) any other use of wild animals used for bait from infested waters is prohibited;

(5) fish taken under this paragraph must meet all other size restrictions and requirements as established in rules; and

(6) all species listed under this paragraph shall be included in the person's daily limit as established in rules, if applicable.

(d) Equipment authorized for minnow harvest in a listed infested water by permit issued under paragraph (b) may not be transported to, or used in, any waters other than waters specified in the permit.

(e) Bait intended for sale may not be held in infested water after taking and before sale unless authorized under a license or permit according to Minnesota Rules, part 6216.0500.

(f) In the Minnesota River downstream of Granite Falls, the Mississippi River downstream of St. Anthony Falls, and the St. Croix River downstream of the dam at Taylors Falls, including portions described as Minnesota-Wisconsin boundary waters in Minnesota Rules, part 6266.0500, subpart 1, items A and B, harvesting gizzard shad by cast net for noncommercial personal use as bait for angling, as provided in a permit issued under section 84D.11, is allowed as follows:

(1) nontarget species must immediately be returned to the water;

(2) gizzard shad taken under this paragraph must be used on the same body of water where caught and while still on that water body. Where the river is divided by barriers such as dams, the gizzard shad must be caught and used on the same section of the river;

(3) gizzard shad taken under this paragraph may not be transported off the water body; and

(4) gizzard shad harvested under this paragraph may only be used in accordance with this section.

2. Minnesota Statutes, section 84D.03, subdivision 4: Restrictions in infested and noninfested waters; commercial fishing and turtle, frog, and crayfish harvesting.

(a) All nets, traps, buoys, anchors, stakes, and lines used for commercial fishing or turtle, frog, or crayfish harvesting in an infested water that is listed because it contains invasive fish, invertebrates, aquatic plants or aquatic macrophytes other than Eurasian watermilfoil, or certifiable diseases, as defined in section 17.4982, must be tagged with tags provided by the commissioner, as specified in the commercial licensee's license or permit. Tagged gear must not be used in water bodies other than those specified in the license or permit. The license or permit may authorize department staff to remove tags after the from gear is that has been decontaminated according to a protocol specified by the commissioner if use of the decontaminated gear in other water bodies does not pose an unreasonable risk of harm to natural resources or the use of natural resources in the state. This tagging requirement does not apply to commercial fishing equipment used in Lake Superior.

(b) All nets, traps, buoys, anchors, stakes, and lines used for commercial fishing or turtle, frog, or crayfish harvesting in an infested water that is listed solely because it contains Eurasian watermilfoil must be dried for a minimum of ten days or frozen for a minimum of two days before they are used in any other waters, except as provided in this paragraph. Commercial licensees must notify the department's regional or area fisheries office or a conservation officer before removing nets or equipment from an infested water listed solely because it contains Eurasian watermilfoil and before resetting those nets or equipment in any other waters. Upon notification, the commissioner may authorize a commercial licensee to move nets or equipment to another water without freezing or drying, if that water is listed as infested solely because it contains Eurasian watermilfoil.

(c) A commercial licensee must remove all aquatic macrophytes from nets and other equipment before placing the equipment into waters of the state.

(d) The commissioner shall provide a commercial licensee with a current listing of listed infested waters at the time that a license or permit is issued.

3. Minnesota Statutes, section 84D.108, subdivision 2b: Gull Lake pilot study.

(a) The commissioner may include an additional targeted pilot study to include water-related equipment with zebra mussels attached for the ~~Gull Narrows State Water Access Site, Government Point State Water Access Site, and Gull East State Water Access Site~~ water access sites on Gull Lake (DNR Division of Waters number 11-0305) in Cass and Crow Wing Counties using the same authorities, general procedures, and requirements provided for the Lake Minnetonka pilot project in subdivision 2a. Lake service providers participating in the Gull Lake targeted pilot study place of business must be located in Cass or Crow Wing County.

(b) If an additional targeted pilot project for Gull Lake is implemented under this section, the report to the chairs and ranking minority members of the senate and house of representatives committees having jurisdiction over natural resources required under Laws 2016, chapter 189, article 3, section 48, must also include the Gull Lake targeted pilot study recommendations and assessments.

(c) This subdivision expires December 1, 2019.

Minnesota Statutes, section 84D.108, subdivision 2c: Cross Lake pilot study.

(a) The commissioner may include an additional targeted pilot study to include water-related equipment with zebra mussels attached for the ~~Cross Lake #1 State Water Access Site~~ water access sites on Cross Lake (DNR Division of Waters number 18-0312) in Crow Wing County using the same authorities, general procedures, and requirements provided for the Lake Minnetonka pilot project in subdivision 2a. The place of business of lake service providers participating in the Cross Lake targeted pilot study must be located in Cass or Crow Wing County.

(b) If an additional targeted pilot project for Cross Lake is implemented under this section, the report to the chairs and ranking minority members of the senate and house of representatives committees having jurisdiction over natural resources required under Laws 2016, chapter 189, article 3, section 48, must also include the Cross Lake targeted pilot study recommendations and assessments.

(c) This subdivision expires December 1, 2019.

4. Minnesota Statutes, section 84D.15, subdivision 2: Receipts.

Money received from surcharges on watercraft licenses under section 86B.415, subdivision 7, civil penalties under section 84D.13, and service provider permits under section 84D.108, ~~shall~~ must be deposited in the invasive species account. Each year, the commissioner of management and budget ~~shall~~ must transfer from the game and fish fund to the invasive species account, the annual surcharge collected on nonresident fishing licenses under section 97A.475, subdivision 7, paragraph (b). Each fiscal year, the commissioner of management and budget shall transfer ~~\$750,000~~ \$375,000 from the water recreation account under section 86B.706 to the invasive species account.

Minnesota Statutes, section 86B.415, subdivision 7: Watercraft surcharge.

A \$5 \$10.60 surcharge is placed on each watercraft licensed under subdivisions 1 to 5 for control, public awareness, law enforcement, monitoring, and research of aquatic invasive species such as zebra mussel, purple loosestrife, and Eurasian watermilfoil in public waters and public wetlands.

5. Minnesota Statutes, section 97C.815, subdivision 2: Assignment.

(a) The commissioner shall assign licensed inland commercial fishing operators to commercial fishing areas and each operator ~~shall be~~ is obligated to fish in the area that the commissioner has assigned to them. The commissioner's assignment ~~shall be~~ is valid as long as the assigned operator continues to purchase a license, continues to provide an adequate removal effort in a good and professional manner, and is not convicted of two or more violations of laws or rules governing inland commercial fishing operations during any one license period. In the operator assignment, the commissioner shall consider the proximity of the operator to the area, the type and quantity of fish gear and equipment possessed, knowledge of the affected waters, and general ability to perform the work well.

(b) Area assignments must not restrict permits and contracts that the commissioner issues to governmental subdivisions and their subcontractors for invasive species control.

6. Minnesota Statutes, section 103G.615, subdivision 3a: Invasive aquatic plant management permit.

(a) "Invasive aquatic plant management permit" means an aquatic plant management permit as defined in rules of the Department of Natural Resources that authorizes the selective control of invasive aquatic plants to cause a significant reduction in the abundance of the invasive aquatic plant.

(b) The commissioner may waive the dated signature of approval requirement in rules of the Department of Natural Resources for invasive aquatic plant management permits if obtaining signatures would create an undue burden on the permittee or if the commissioner determines that aquatic plant control is necessary to protect natural resources.

(c) If the signature requirement is waived under paragraph (b) because obtaining signatures would create an undue burden on the permittee, the commissioner shall require an alternate form of landowner notification, including news releases or public notices in a local newspaper, a public meeting, or a mailing or electronic transmission to the most recent permanent physical or electronic mailing address of affected landowners. The notification must be given annually and must include: the proposed date of treatment, the target species, the method of control or product being used, and instructions on how the landowner may request that control not occur adjacent to the landowner's property.

(d) The commissioner may allow dated signatures of approval obtained for an invasive aquatic plant management permit to satisfy rules of the Department of Natural Resources to remain valid for three years if property ownership remains unchanged.

7. Laws 2019, 1st Special Session, Chapter 4, Sec. 113. BASIC ANGLING CURRICULUM.

The commissioner of natural resources must develop a basic angling curriculum that includes basic fishing techniques and information about aquatic invasive species, tournament etiquette, conservation, water safety, and related matters. The commissioner must make the basic angling curriculum available without cost to nonprofit organizations operating fishing leagues for high schools.

CHANGES TO MINNESOTA RULE (2018)

In December 2018, the DNR changed several rules to be consistent with current statute and to make technical corrections. The summary of the rule changes was included in the 2018 annual report but not the text of the changes to rule, so we are including both here.

Summary

We made the following changes to update rule so that it is consistent with statute:

- Replaced the requirement to publish the infested waters list in the State Register with a requirement for the commissioner to provide access to a copy of the listed infested waters.
- Removed requirements to drain watercraft when leaving only certain infested waters, because current statute requires that people remove drain plugs from equipment when leaving all water bodies, not only infested waters.
- Made the definition of Eurasian watermilfoil consistent with the definition in statute.
- Allowed for issuing prohibited invasive species permits for the purpose of decontamination.

We made the following technical corrections:

- Updated sources of nomenclature for scientific and common names of several invasive species.
- Corrected and updated scientific names for several invasive species.

We changed the word “list” to “designate” so that “designate” refers to the process of classifying species as invasive and “list” refers to the process of listing water bodies as infested. This returned parts of rule to the terms used before a 2014 change.

The text below reflects the changes made by this rule, which was adopted on December 10, 2018 in the State Register, volume 43 page 683.

6216.0100 PURPOSE.

The purpose of ~~parts 6216.0100 to 6216.0600~~ this chapter is to prevent the spread of invasive species, including prohibited and regulated invasive aquatic plants and wild animals, into and within the state as authorized by Minnesota Statutes, sections 17.497 and 840.12, while allowing flexibility for conditional possession of invasive species. ~~Parts 6216.0100 to 6216.0600~~ This chapter also ~~provide~~ provides a public process for listing of infested waters and

~~classification classifying and listing of~~ designating nonnative species according to criteria in statute.

6216.0230 NOMENCLATURE.

The scientific taxonomic nomenclature used in ~~parts 6216.0100 to 6216.0600~~ this chapter follows the nomenclature assigned by the following sources, which are incorporated by reference. The sources are available through the Minitex interlibrary loan system and are not subject to frequent change:

A. The American Fisheries Society, Common and Scientific Names of Fishes from the United States, ~~Canada~~, and ~~Canada~~ Mexico (~~fifth~~ seventh edition 1991 2013);

B. John J. Mayer and I. Lehr Brisbin, Jr., Wild Pigs in the United States (1991);

C. The American Ornithologists' Union, Checklist of North American Birds (~~sixth~~ seventh edition 1983 1998 and subsequent supplements);

[For text of item D, see Minnesota Rules]

E. Ronald M. Nowak, Walker's Mammals of the World, volumes I and II (~~fifth~~ sixth edition 1991 1999);

[For text of items F to H, see Minnesota Rules]

6216.0250 PROHIBITED INVASIVE SPECIES.

Subpart 1. **Listing Designation.** The species in subparts 2 to 5 and any hybrids, cultivars, or varieties of the species are ~~listed~~ designated as prohibited invasive species.

Subp. 2. **Aquatic plants.** The following aquatic plants are ~~listed~~ designated as prohibited invasive species:

[For text of items A to E, see Minnesota Rules]

F. Eurasian watermilfoil (*Myriophyllum spicatum*) Linnaeus, including its hybrids;

[For text of items G to K, see Minnesota Rules]

L. starry stonewort (*Nitellopsis obtusa*) Linnaeus (N.A. Desvaux) J. Groves;

[For text of items M and N, see Minnesota Rules]

Subp. 2a. **Federal noxious weed list.** For purposes of this part, the aquatic plants listed in Code of Federal Regulations, title 7, section 360.200, are also ~~listed~~ designated as prohibited invasive species except for Chinese water spinach (*Ipomoea aquatica*) Forsskal.

Subp. 3. **Fish.** The following fish are ~~listed~~ designated as prohibited invasive species:

[For text of items A to Q, see Minnesota Rules]

R. stone moroko (*Pseudorasbora parva*) Temminck & Schlegels Schlegel;

S. tubenose goby (*Proterorhinus semilunaris*) Heckel or (*Proterorhinus marmoratus*) Pallas;

T. wels catfish (*Silurus glanis*) Linnaeus;

[For text of items U and V, see Minnesota Rules]

W. zander (*Sander lucioperca*) or (*Stizostedion lucioperca*) Linnaeus.

Subp. 4. **Invertebrates.** The following invertebrates are listed designated as prohibited invasive species:

[For text of items A to F, see Minnesota Rules]

Subp. 5. **Mammals.** The following mammals are listed designated as prohibited invasive species:

[For text of items A to C, see Minnesota Rules]

D. nutria, any strain (~~*Myocastor coypu*~~ *Myocastor coypus*).

6216.0260 REGULATED INVASIVE SPECIES.

Subpart 1. **Listing Designation.** The species in subparts 2 to 6 are listed designated as regulated invasive species.

Subp. 2. **Aquatic plants.** The following aquatic plants are listed designated as regulated invasive species:

[For text of items A to G, see Minnesota Rules]

Subp. 3. **Fish.** The following fish are listed designated as regulated invasive species:

[For text of items A to E, see Minnesota Rules]

Subp. 4. **Invertebrates.** The following invertebrates are listed designated as regulated invasive species:

[For text of item A, see Minnesota Rules]

B. Chinese mystery snail, Japanese trap door snail (*Cipangopaludina* spp.) Hannibal or (*Bellamya chinensis*) Reeve;

[For text of items C and D, see Minnesota Rules]

Subp. 5. **Birds.** The following birds are listed designated as regulated invasive species:

A. Egyptian goose (~~*Alopochen aegyptiaca*~~ *aegyptiaca*) Linne;

B. mute swan (*Cygnus olor*) Gmelin; and

C. Sichuan pheasant (*Phasianus colchicus* ~~*strachi*~~ *strauchii*).

Subp. 6. **Reptiles.** The following reptile is listed designated as a regulated invasive species: red-eared slider (*Trachemys scripta elegans*) Wied-Neuweid.

6216.0265 PERMITS FOR PROHIBITED AND REGULATED INVASIVE SPECIES.

[For text of subpart 1, see Minnesota Rules]

Subp. 2. **Exemptions and alternate permits for regulated invasive species.** In lieu of an additional permit issued under Minnesota Statutes, section 840.11, permits and licenses issued under Minnesota Statutes, sections 17.4981 to 17.4994, and Minnesota Statutes, chapter 97C, and rules adopted thereunder, may authorize the introduction of regulated invasive species, provided that the conditions specified in those permits and licenses are in accordance with the conditions specified under this part.

Subp. 3. **Prohibited invasive species permit limitation.** A person may apply for a permit for prohibited invasive species only for the purposes of disposal, decontamination, control, research, or education according to Minnesota Statutes, section 840.11, subdivision 1.

[For text of subpart 4, see Minnesota Rules]

Subp. 5. **Permit application.**

A. Written application for a permit for a prohibited or regulated invasive species shall be made on a form pre-scribed by the commissioner and shall contain the following:

[For text of subitems (1) to (6), see Minnesota Rules]

(7) an agreement to comply with the requirements of parts ~~6216.0100 to 6216.0600~~ this chapter.

[For text of items B and C, see Minnesota Rules]

[For text of subparts 6 to 8, see Minnesota Rules]

Subp. 9. **Revocation of permit.**

A. The commissioner may revoke all or part of a permit issued under this part when:

(1) the commissioner determines that a permittee has failed to comply with parts ~~6216.0100 to 6216.0600~~ this chapter; or

[For text of subitem (2), see Minnesota Rules]

[For text of items B to D, see Minnesota Rules]

[For text of subparts 10 and 11, see Minnesota Rules]

6216.0270 UNREGULATED NONNATIVE SPECIES.

Subpart 1. **Listing Designation.** The species in subparts 2 to 5 are ~~listed~~ designated as unregulated nonnative species. These nonnative species are not subject to regulation under Minnesota Statutes, chapter 84D.

Subp. 2. **Fish.** The following fish are ~~listed~~ designated as unregulated nonnative species:

[For text of items A to G, see Minnesota Rules]

Subp. 3. **Invertebrates.** The following invertebrates are ~~listed~~ designated as unregulated nonnative species: subtropical, tropical, and saltwater invertebrates.

Subp. 4. **Mammals.** The following mammal is ~~listed~~ designated as an unregulated nonnative species: rat (*Rattus norvegicus* and *Rattus rattus*).

Subp. 5. **Birds.** The following birds are ~~listed~~ designated as unregulated nonnative species:

[For text of items A to H, see Minnesota Rules]

6216.0290 PROCESS FOR REVIEW OF PROPOSED INTRODUCTIONS OF UNLISTED NONNATIVE SPECIES.

[For text of subparts 1 to 5, see Minnesota Rules]

Subp. 6. **Listing Designation and notification.** After completion of completing the review of a proposal to introduce an unlisted nonnative species and ~~making a determination of determining~~ the appropriate classification, the commissioner shall ~~list~~ designate the species and notify the applicant as required under Minnesota Statutes, section 840.06.

6216.0300 LISTING, NOTICE, AND MARKING OF INFESTED WATERS.

Subpart 1. **Listing of infested waters and notice.** The commissioner shall maintain a list of infested waters and provide access to a copy of the listed waters. ~~The commissioner shall publish the names of listed water bodies in the State Register before May 1 of each year and provide notice through other available means where practical.~~ The department shall post signs describing the infestation at all public accesses to listed water bodies. At any time, the commissioner may list additional water bodies or remove from listing those water bodies which no longer are infested waters.

[For text of subparts 2 and 3, see Minnesota Rules]

6216.0400 RESTRICTED ACTIVITIES ON INFESTED WATERS; PERMITS.

Subpart 1. **Taking bait from infested waters.** The Taking of wild animals from infested waters for bait or aquatic farm purposes is prohibited, except:

[For text of item A, see Minnesota Rules]

B. harvest for bait purposes from waters that are ~~designated~~ listed as infested waters solely because they contain Eurasian watermilfoil is allowed for noncommercial personal use; and

[For text of item C, see Minnesota Rules]

[For text of subparts 1a to 4, see Minnesota Rules]

REPEALER. Minnesota Rules, part 6216.0500, subpart 3, is repealed.



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