

2021 - 2025

Dakota
County
Aquatic
Invasive
Species Plan



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Acronyms

AIS – Aquatic Invasive Species

Committee – Dakota County AIS Advisory Committee

DCSWCD – Dakota County Soil and Water Conservation District

Extension – University of Minnesota Extension

LGU – Local Government Unit

MN DNR – Minnesota Department of Natural Resources

VRWJPO – Vermillion River Watershed Joint Powers Organization

WMO – Watershed Management Organization

Special thanks to Dakota County residents, City, township, and WMO staff and representatives for participating in the plan development process. Your insights and assistance have been invaluable at every stage of this process and has been greatly appreciated by all involved!

We would also like to acknowledge the new partnership with the Dakota County Sheriff's Department. Enforcement at local boat launches has increased boater education and AIS compliance.

Dakota County Aquatic Invasive Species Plan: 2021 - 2025
Adopted by the Dakota County Board of Commissioners on December 15th, 2020

Plan prepared for the Dakota County Environmental Resources Department
by the Dakota County Soil and Water Conservation District



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Introduction

Since the early 2000s, the introduction and spread of aquatic invasive species (AIS) has occurred at an alarming rate throughout Minnesota and continues to be a growing concern across the state. Residents in Dakota County are not immune to these concerns. The county is bisected by the Vermillion River (Figure 1), many lakes and wetlands pocket suburban neighborhoods, and three major rivers define all or portions of the County's northern, eastern, and southern borders (the Minnesota, Mississippi, and Cannon Rivers, respectively).

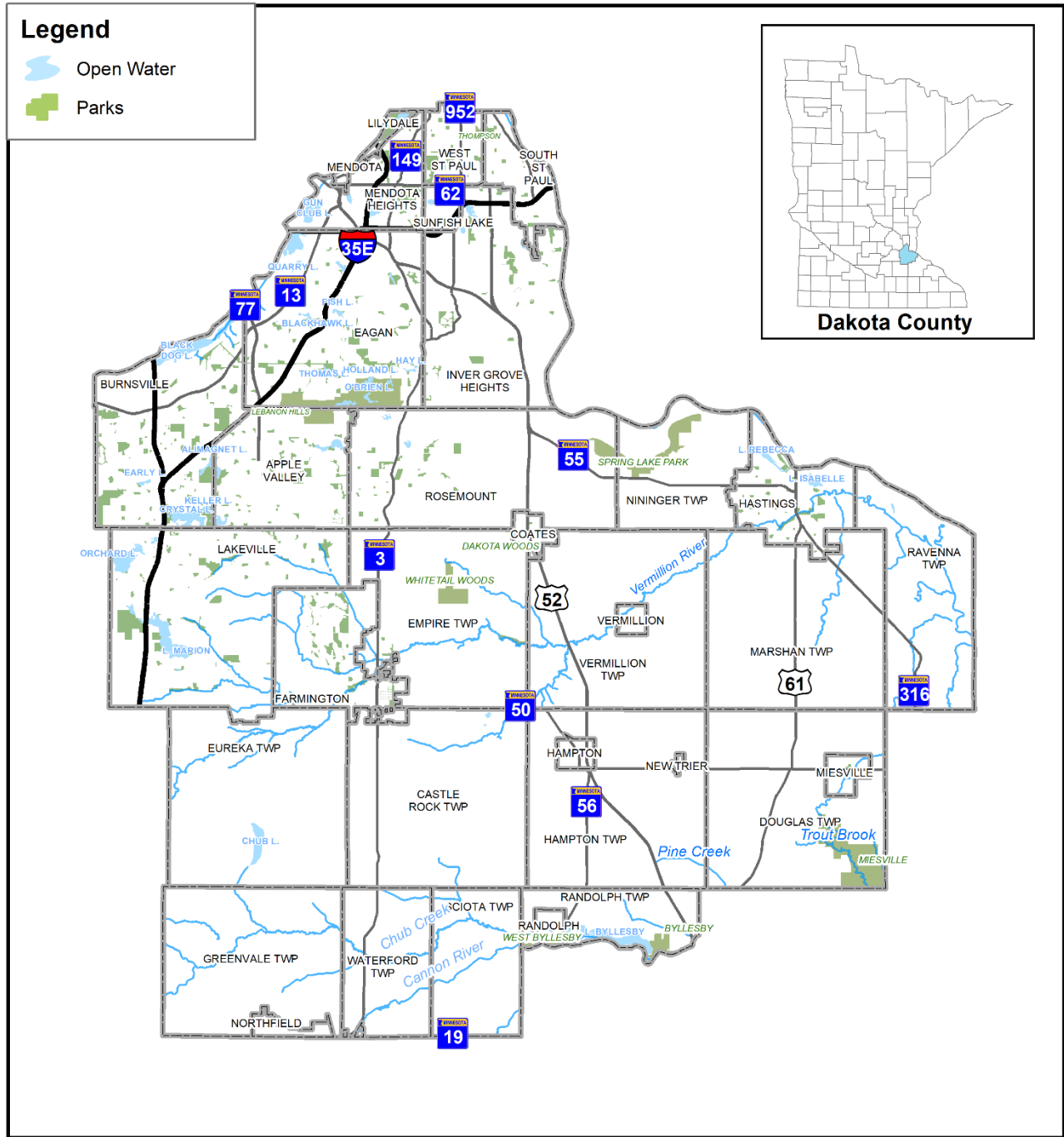


Figure 1. Dakota County waterbodies

The introduction of non-native species (fish, plant, invertebrate, and viruses and disease-causing microorganisms), unhindered by natural predators or disease, can cause quick, permanent, and detrimental alterations to a stream or lake ecosystem. As a result, these changes can have a negative impact on the recreational suitability of the stream or lake, which in turn, can impact the economic viability of the local community. AIS have already been detected in numerous Dakota County lakes, as well as the Vermillion (including its tributaries), Minnesota, and Mississippi Rivers. There are several invasive species not currently found in Minnesota, that have the potential to negatively impact the health of waters in Dakota County.

The Dakota County Aquatic Invasive Species Plan (Plan) serves to guide the use of annual funding provided to Dakota County from the Minnesota Department of Natural Resources' (MN DNR) Local AIS Prevention Aid program. The plan outlines the strategies utilized by the Dakota County AIS program to help prevent the spread of AIS, within the county and greater Minnesota. Through this program, Dakota County aims to support existing monitoring and implementation efforts by local government units (LGUs), including lake associations and watershed organizations, fill gaps by monitoring waterbodies not currently covered by LGUs, assess AIS suitability within the County parks system (particularly Lake Byllesby), and promote County-wide outreach efforts.

The AIS program is overseen by the Dakota County Environmental Resources Department. In 2015, the Dakota County AIS Advisory Committee (Committee) was formed to provide ongoing management, oversight, and implementation of programs supported by the state AIS Prevention Aid funding. The Committee consists of Dakota County and Dakota County Soil and Water Conservation District (DCSWCD) staff members, with additional input from a broad range of stakeholders.

The Committee works with local, state and federal governments, as well as nonprofit and private organizations operating in Dakota County, to develop, implement, and support AIS prevention programs. Organizations and interested citizens assist the Committee to better prioritize resources and develop workable strategies to prevent the spread of AIS in local waters. The Plan promotes engagement with stakeholders by a variety of methods including developing and coordinating outreach tools, providing training opportunities, and supporting strategies that adhere to best management practices to increase AIS awareness, monitoring, and management.

Dakota County Profile

Dakota County is 587 square miles in area and has a population of approximately 400,000. Situated in the southeast corner of the Twin Cities Metropolitan area, Dakota County is the third most populous county in the state of Minnesota. Founded in 1849, Dakota County was one of the original nine counties created by the Minnesota Territory Legislature, thus, it was established before Minnesota was considered a state. The County seat was first established in Kaposia in 1853, was moved to Mendota in 1854, and then moved to Hastings in 1857, where it currently resides. Mendota, directly across the river from Fort Snelling, became the first European settlement in Minnesota. Before European settlement, Dakota County was part of an expansive territory of the Dakota tribe of American Indians.

Dakota County features a land use ratio of approximately one-third urban, one-third suburban, and one-third rural. The confluence of two major rivers (the Mississippi and Minnesota) that form the county's northern and eastern borders further compliments Dakota County's unique geography. The County's development and history have been greatly influenced by its proximity to these rivers. Between 1990 and 2000, Dakota County's population grew by nearly 30 percent. Development has continued to move outwards from the urban core of Minneapolis and St. Paul

into suburban municipalities (Burnsville, Eagan, Inver Grove Heights, Apple Valley, Farmington, Lakeville, and Rosemount), resulting in the dramatic increase in population in recent years.

What are Aquatic Invasive Species

According to the MN DNR, AIS are aquatic organisms that are non-native to Minnesota and cause harm to both the economic prosperity and natural resources of a given community or waterbody, as well as have potentially negative impacts on human health. Not all non-native species become ‘invasive.’ Some species fail to thrive in their new environment and naturally die off without harming the ecosystem. Others survive, but are unable to outcompete the native species, thus they ultimately coexist without destroying or displacing the native species.

Commonly found invasive aquatic plant species in Dakota County include curly-leaf pondweed, Eurasian watermilfoil, and purple loosestrife. Although less common, aquatic invasive invertebrates such as zebra mussels, rusty crayfish, and Chinese mystery snail are also present within the County.

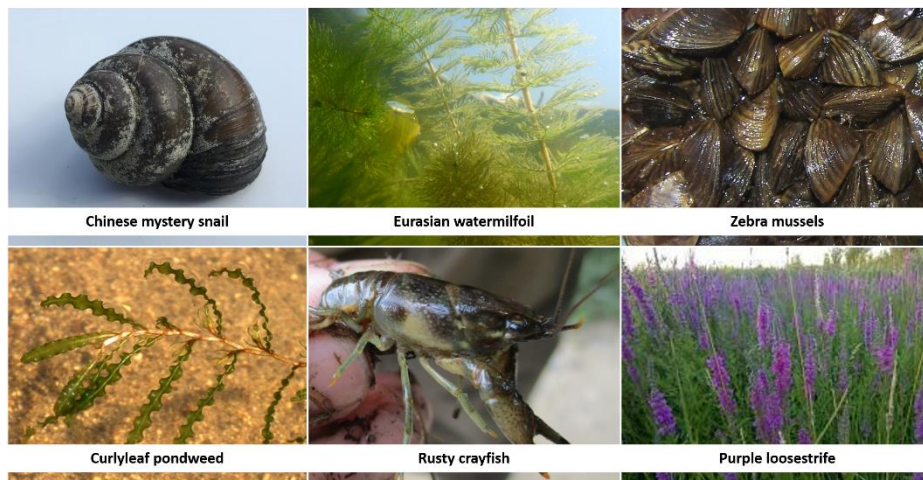


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The introduction and subsequent spread of AIS typically results in habitat alteration, ecosystem degradation, and a loss of bio-diversity due to intensified competition for resources. AIS typically have few natural predators, reproduce rapidly, and are more aggressive than native species (which ultimately diminishes the success of native species). Along with negatively affecting aquatic wildlife, AIS have the potential to impede recreational opportunities and disrupt industrial, municipal, and agricultural uses of public waters.

AIS infestations often span geographic and jurisdictional boundaries; thus, it is critical to coordinate management and prevention strategies across watershed and political boundaries to address and mitigate the spread of AIS.

Pathways of Introduction and Spread

The means and routes by which species are introduced into new environments are called ‘pathways’ or ‘vectors.’ Invasive species introductions can be both unintentional and intentional by nature. Some invasive species are unintentionally imported, arriving through livestock and produce, by transport equipment such as packing material or in a ship’s ballast water, or attached to an engine or boat trailer when moving between waterbodies. Other species are intentionally introduced to a lake or river for various purposes, but these species either escape from captivity or are carelessly released into the environment.

Other pathways by which AIS can be introduced to an ecosystem include:

- Docks and lifts (moved from an infested waterbody to an uninfested waterbody)
- Water recreational equipment (i.e. water trampolines, rafts) and vehicles (i.e. tubes or jet skis)
- Waterfowl hunters/angler gear (i.e. waders and boots)
- Water gardens or shoreline restorations
- Bait buckets
- Wildlife

Although several attempts are often made to eradicate AIS from an infested waterbody, it is typically impractical to completely remove a population once it has been established. Working to prevent the introduction and spread of invasive species is the most effective way of protecting healthy, non-infested ecosystems.

Laws and Regulations

Current Minnesota state [law](#) prohibits the transportation of most aquatic plants. This law will not only help prevent the spread of Eurasian watermilfoil and other aquatic plants, but also it will reduce the risk of zebra mussels or other invasive animal species being transported while attached to aquatic plants. In addition, it will reduce the inadvertent transport of other harmful plants into or within the state.

Under state law, it is unlawful to:

- Transport aquatic plants, except as allowed in [statutes](#)
- Transport zebra mussels and other prohibited species of animals
- Place or attempt to place into waters of the state a boat, seaplane, or trailer that has aquatic plants, zebra mussels, or other prohibited invasive species attached

Certain invasive species that can threaten natural resources and their use have been designated as *prohibited invasive species* in Minnesota. According to the MN DNR, it is a misdemeanor to possess, import, purchase, transport, or introduce these species except when under a [permit](#) for disposal, control, research, or educational purposes. Some of the prohibited invasive species found in Dakota County include Eurasian watermilfoil, curly-leaf pondweed, and purple loosestrife.

Other invasive species are considered *regulated invasive species*. It is legal to possess, sell, buy, and transport regulated invasive species, but they may not be released or planted in public waters. Both the rusty crayfish and the common carp are examples of regulated invasive species found in Dakota County. Other regulated species not currently found in Dakota County (as of 2020) include water hyacinth and spiny waterflea. A complete list of prohibited, regulated, and unregulated invasive species (both aquatic and terrestrial), as well as information regarding the transport of water and regulated activities in infested waters, can be found on [MN DNR's website](#).

As of July 1, 2012, a boat lift, dock, swim raft, or associated equipment that has been removed from any waterbody may not be placed in another waterbody until a minimum of 21 days have passed. [Regulations](#) relating to the transportation of water in boats and other water-related equipment by boaters from all waters in the state include:

- A person leaving waters of the state must drain all water from water-related equipment, including bait containers, live wells, and bilges. They must also remove the drain plug before transporting the watercraft and equipment from the water access or riparian property
- Drain plugs, bailers, valves, or other devices used to control the draining of water from ballast tanks, bilges, and live wells must be removed or opened while transporting watercraft and water-related equipment
- Emergency response vehicles and equipment may be transported on a public road with the drain plug or other similar device replaced only after all water has been drained from the equipment upon leaving the waterbody
- The following are exempt:
 - Portable bait containers used by licensed aquatic farms
 - Portable bait containers used when fishing through the ice, except on waters designated infested for viral hemorrhagic septicemia (VHS)
 - Marine sanitary systems

Businesses that are defined by Minnesota [law](#) as lake service providers must attend an aquatic invasive species training and apply for a lake service provider [permit](#) every three years. Employees are also required to take an online training in order to be certified to work in Minnesota waters. More information about the lake service provider training and permitting process can be found on [MN DNR's website](#).

AIS Best Management Practices

The MN DNR promotes several best practices that everyone can follow to help stop the spread of AIS:

- *Clean* all aquatic plants, zebra mussels, and other invasive species from watercraft, trailers, and water-related equipment before leaving any water access or shoreland
- *Drain* water-related equipment (boat, ballast tanks, portable bait containers, motor) *and* drain bilge, livewell, and baitwell by removing drain plugs before leaving a water access or shoreline property. *Keep drain plugs out* and water-draining devices open during transport
- *Dispose* of unwanted bait, including minnows, leeches, and worms, in the trash; refill the bait container with bottled or tap water if planning on keeping bait

Some invasive species are small and difficult to see at the access. In order to properly remove AIS from your watercraft or other equipment, take one or more of the following precautions before moving to another waterbody, especially after leaving zebra mussel and spiny waterflea infested waters:

- *Spray* with high-pressure water
- *Rinse* with very hot water (120°F for at least 2 minutes; or 140°F for at least 10 seconds to kill zebra mussels)
- *Dry* for at least 5 days

Reporting AIS

Potential new AIS findings are to be reported to the MN DNR using, [EDDMapS Midwest](#), the AIS online reporting platform. The EDDMapS (Early Detection and Distribution Mapping System) is accessible through a desktop website, but it also has an associated smartphone and tablet app to make it easy to report locations of invasive species while out in the field.

All data submitted through EDDMapS is reviewed by state verifiers at the MN DNR to ensure the accuracy of submissions. Once confirmed, infestation reports are freely available to scientists, researchers, land managers, landowners, educators, conservationists, ecologists, farmers, foresters, and state and national parks.

EDDMapS combines data from other databases and organizations, as well as volunteer observations, to create a national network of invasive species distribution data which is used by the MN DNR to track the spread of AIS in Minnesota. For more information about AIS in your area or questions about the AIS reporting process, contact a local [DNR invasive species expert](#).

Local AIS Prevention Aid Program

In 2014, the Minnesota state legislature passed a county aid tax bill (Chapter 308, HF3167: Omnibus tax bill. Article 1: Property Tax Aids and Credits. Section 11) providing \$10 million annually to Minnesota counties to help prevent the spread of AIS. The distribution of funds is based on a calculation considering each county's share of watercraft trailer launches and watercraft trailer parking spaces (Figure 2).

In July 2014, \$4.5 million dollars was distributed to the 87 Minnesota counties. In 2015 and thereafter, that value was increased to \$10 million per annum. In accordance with the legislative directive (Minnesota State Statute 477A.19, Appendix D), between 2014 and 2017, Dakota County received \$437,217. In 2018, Dakota County was allocated \$120,396, \$120,177 in 2019, \$119, 720 in 2020, and is projected to receive \$119,521 in 2021.

Counties are required by statute to establish and submit guidelines, either by resolution or through the adoption of a county plan, that detail how the Local AIS Prevention Aid funding will be used. Counties must use the funds to prevent or limit the spread of AIS at all accesses within the county. Funds may be appropriated directly, or a portion of the funds can be directed towards LGUs, park districts, joint powers boards, watershed districts and watershed management organizations (WMOs), as well as lake associations and non-profit groups located in the county, to be used for AIS prevention.

Each county is responsible for deciding how to best use the funds while abiding by all current laws and regulations at the state level. See more information about the [Local AIS Prevention Aid Grant](#).

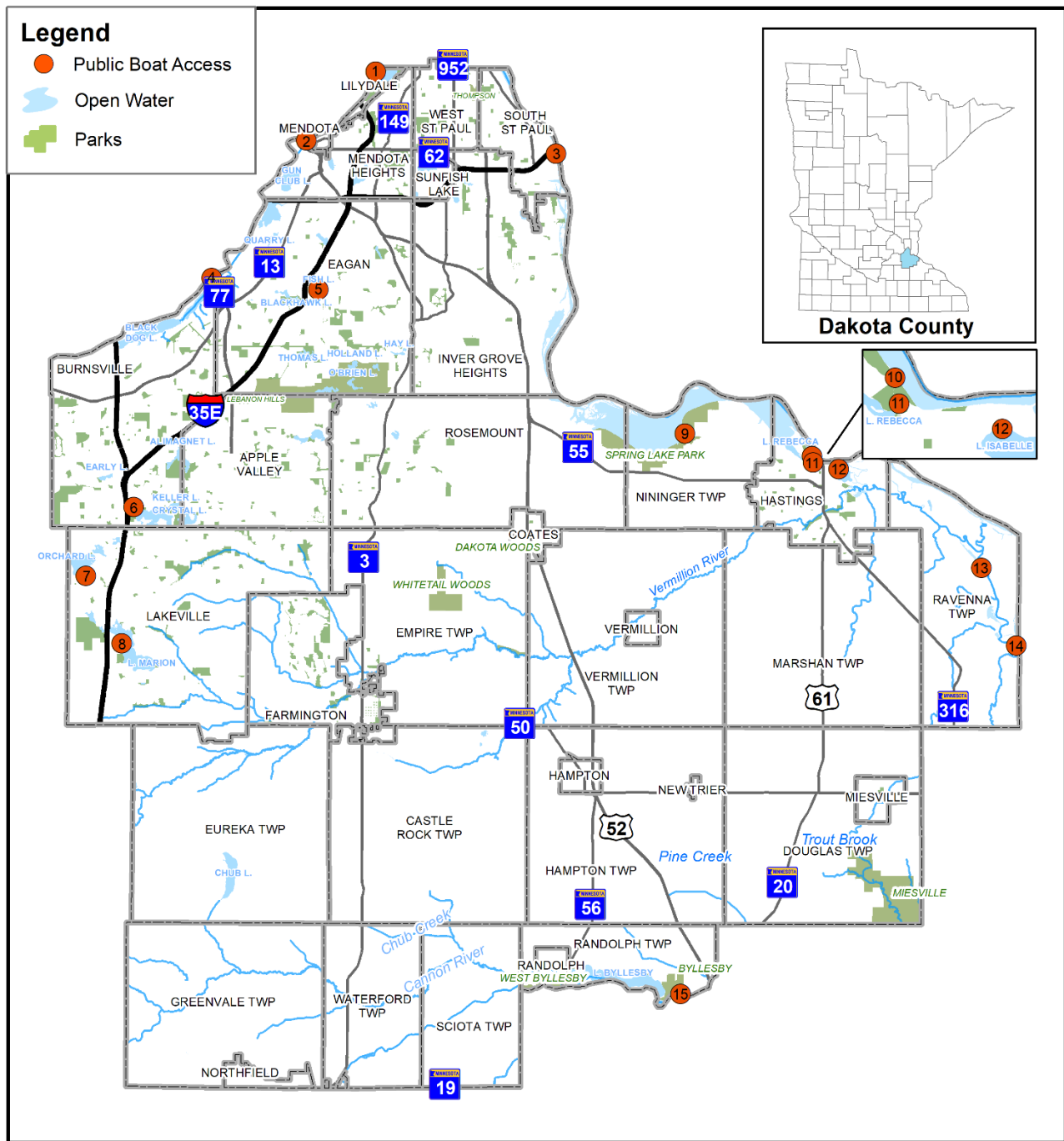


Figure 2. Motorized boat launches in Dakota County

- | | |
|---|--|
| 1. Lilydale Regional Park (Lilydale) | 9. Spring Lake Regional Park (Nininger Township) |
| 2. Minnesota River (Fort Snelling State Park) | 10. Mississippi River south of Lock and Dam No. 2 (Hastings) |
| 3. MN DNR boat launch (South St. Paul) | 11. Lake Rebecca (Hastings) |
| 4. Cedar Avenue Bridge/Blackdog Road (Burnsville) | 12. Lake Isabelle (Hastings) |
| 5. Fish Lake (Eagan) | 13. Vermillion River (Ravenna Township Dushane’s Landing) |
| 6. Crystal Lake (Burnsville) | 14. Vermillion River (Ravenna Township) |
| 7. Orchard Lake (Lakeville) | 15. Lake Byllesby (Lake Byllesby Regional Park) |
| 8. Lake Marion (Lakeville) | |

Plan Development and Program History

The purpose of the County's AIS program is to prevent the introduction of new AIS, prevent further spread of existing AIS, and reduce the potential for environmental and economic impact brought on by AIS infestations. To this effect, in 2015 the Dakota County Board of Commissioners passed a resolution (14-587) adopting the following guidelines for using the AIS Prevention Aid grant:

- Prepare a comprehensive inventory of boat launches and waterbodies at risk
- Undertake an awareness campaign
- Develop early detection and response procedures
- Manage existing populations of aquatic invasive species
- Establish partnerships with local units of government, water management organizations, Soil and Water Conservation District, or lake associations

First-Generation Plan Development

Dakota County's first-generation plan was approved by the Dakota County Board of Commissioners in December 2016 for the duration of 2017-2020. When that plan was in development, the AIS committee reviewed existing AIS Plans by other Minnesota counties and the MN DNR, hosted a stakeholder roundtable to gather perspectives on AIS work that was being done and what gaps existed, and communicated with the MN DNR AIS Prevention Planner and Invasive Aquatic Plant Specialist to make sure the Dakota County plan included key elements and did not duplicate existing efforts by the MN DNR or other water-related agencies.

AIS Program – Historical Activities

From 2014 to 2020, Dakota County received \$797,510 to undertake projects and implement programs to prevent the spread of AIS. Activities are broken out by year and are categorized as follows – *Early detection, Prevention, AIS management and treatment, and Education and awareness.*

2014

- *Education and awareness:* Updated MN DNR AIS signage at boat launches in the County, focused on waterbodies with motorized boat launches and associated parking lots.

2015

- *Education and awareness:* Updated AIS signage at smaller waterbodies and those that do not have motorized boat launches and/or associated parking lots. Promoted *Clean, Drain, and Dry* AIS messaging as part of a highway billboard and local business outreach campaign. Began building a resource library of AIS educational materials to be shared with local schools or community groups. Developed content to be displayed on the [County's AIS web page](#).

2016

- *Early detection:* Hired a consultant to conduct AIS early detection surveys on 20 lakes on County-owned property and installed zebra mussel sampler plates at four high use lakes around the County.
- *Education and awareness:* Continued to add resources to the AIS resource library (zebra mussel sampler plates, ID guides). Transitioned the AIS public awareness campaign to more point of contact outreach with educational displays at County parks and boat launches. Installed 'Clean In, Clean Out' pavement stencils at several boat launches in Lakeville, Burnsville, and at the Dakota County boat launch on Lake Byllesby. Supported AIS identification training for volunteers with the Wetland Health Evaluation Program (WHEP) and youth outreach learning stations at the annual Metro Area Children's Water Festival, and hosted an AIS display at the Dakota County fair.

2017

- *Early detection:* Hired a consultant to conduct AIS early detection surveys on Chub Lake. Hired a consultant to conduct an Alternative Pathways Project. Hosted Starry Trek volunteer AIS monitoring event.
- *Prevention:* Hired watercraft inspectors for the Dakota County Lake Byllesby motorboat access. Hosted a roundtable meeting with cities, watershed management organizations, and the AIS consultant to report on monitoring activities and discuss collaboration opportunities. Purchased a watercraft decontamination unit for the Dakota County Lake Byllesby access.
- *AIS management and treatment:* Established the Dakota County AIS grant program to help fund AIS prevention, management, and education activities undertaken by local entities.
- *Education and awareness:* Supported AIS learning stations at the Metro Area Children's Water Festival and AIS identification training for WHEP volunteers. Sponsored Dakota County residents' participation in the University of Minnesota AIS Detectors program and hosted a local training site for Starry Trek volunteers. Hosted an AIS display at the Dakota County fair. Designed tear/water-proof maps for Lake Byllesby and purchased other educational materials for outreach events.

2018

- *Prevention:* Hired watercraft inspectors for public boat launches at Byllesby, Crystal, Marion, and Orchard Lakes. Partnered with the Dakota County Sherriff's office to increase enforcement support to watercraft inspectors. Purchased a watercraft decontamination unit for the access at Lake Byllesby.
- *AIS management and treatment:* Continued the Dakota County AIS grant program to help fund AIS prevention, management, and education activities undertaken by local entities.
- *Education and awareness:* Supported AIS learning stations at the Metro Area Children's Water Festival and AIS identification training for WHEP volunteers. Sponsored Dakota County residents' participation in the University of Minnesota AIS Detectors program and hosted a local training site for Starry Trek volunteers. Hosted an AIS display at the Dakota County fair. Designed tear/water-proof maps for Crystal and Marion Lakes and purchased other educational materials for outreach events.

2019

- *Prevention:* Partnered with Goodhue County and LGUs to hire watercraft inspectors for public boat launches at Byllesby, Crystal, Marion, and Orchard lakes. Partnered with the Dakota County Sherriff's office to increase enforcement support to watercraft inspectors. Maintained the watercraft decontamination unit for the access at Lake Byllesby.
- *AIS management and treatment:* Continued the Dakota County AIS grant program to help fund AIS prevention, management, and education activities undertaken by local entities.
- *Education and awareness:* Partnered with other counties around the state to purchase AIS focused ad time during local television programming. Supported AIS learning stations at the Metro Area Children's Water Festival and AIS identification training for WHEP volunteers. Sponsored Dakota County residents' participation in the University of Minnesota AIS Detectors program and hosted a local training site for Starry Trek volunteers. Hosted an AIS display at the Dakota County fair. Purchased educational materials for outreach events.

2020

- *Prevention:* Partnered with Goodhue County and LGUs to hire watercraft inspectors for public boat launches at Byllesby, Crystal, Marion, and Orchard Lakes. Partnered with the Dakota County Sherriff's office to increase enforcement support to watercraft inspectors. Maintained the watercraft decontamination unit for the access at Lake Byllesby.
- *AIS management and treatment:* Continued the Dakota County AIS grant program to help fund AIS prevention, management, and education activities undertaken by local entities.
- *Education and awareness:* Hired a consultant to design and fabricate a display and supporting materials (two origami, 4 separate "handhelds" on zebra mussels, starry stonewort, spiny waterflea and watermilfoil, chalkboard find AIS game, and a puzzle) to motivate behavior change to prevent or reduce the spread of AIS. Supported AIS learning stations at the Metro Area Children's Water Festival and AIS identification training for WHEP volunteers. Sponsored participation by Dakota County residents in the University of Minnesota AIS Detectors program and hosted a local training site for Starry Trek volunteers. Hosted an AIS display at the Dakota County fair. Purchased educational materials for outreach events.

Second-Generation Plan Development and Outreach

In the spring of 2019, County and SWCD staff met to discuss the development of the second-generation plan, valid from 2021-2025. Stakeholder input was key to updating plan strategies and goals so that the plan addressed the needs of the community. County engaged with stakeholders in a variety of ways, including a roundtable meeting in fall 2019 and an online survey in late summer 2020.

At the roundtable session, staff met with Cities, WMOs, and lake association representatives. Discussion centered around what was working and what needed to be improved, as well as how to develop the second-generation plan and ideas to improve the grant program. Key takeaways from the roundtable was that partners felt that the educational resources and the County-supported inspector program were working well, along with the grant program. A targeted education strategy (such as bait management, spiny waterflea, goldfish releases) with associated outreach materials plus more opportunities for collaboration between organizations and stakeholders were two suggestions for where the AIS program could be improved to ensure future success.

In August 2020, Dakota County sought feedback from a variety of stakeholders (LGUs, WMOs, and lake associations) on AIS management activities currently performed on MN DNR designated waterbodies throughout the County. The purpose of conducting the survey was to reach a broader audience than those who could attend an in-person roundtable. Questions focused on identifying potential gaps in AIS-related programming that could be filled with financial, logistical, or programmatic support from the County through the funding provided by Local AIS Prevention Aid.

65 people participated in the survey and 94% of respondents *strongly agreed* or *agreed* that Dakota County is on the right course to prevent and slow the spread of AIS. Survey participants ranked *early detection and rapid response* (lake surveys, rapid response treatment, rapid response plans) and *prevention* (inspections and decontamination) as highest priorities. *Treatment* (chemical or mechanical removal of invasive species), *grants* (to cities, lake associations and watersheds), and *education and outreach* (events, materials, educational content) were a lower priority for respondents.

Key takeaways from the survey include high marks for the inspection program, as well as the partnership with Dakota County Sheriff's Department. Respondents also voiced concerns for several non-AIS related issues (parking spaces, non-resident use of lake, aquatic plant removal in nearshore area, dredging). These issues were compiled and have been shared with responsible entities.

Stakeholder comments contributed as part of the roundtable discussion and survey findings were incorporated into the plan update. After the draft plan was developed, the stakeholders were given an opportunity to comment on the plan before it was submitted to the County Board for approval.

Adaptive Management

This plan serves as a working document to guide activities and the use of the Local AIS Prevention Aid funds by Dakota County. The fluid nature of this plan provides a framework from which to establish programs that can best deal with new infestations or promote new outreach opportunities with community partners.

The management of AIS is a relatively new field in water resource management, particularly at the County level. With that, experience and research findings will be incorporated into future actions to prevent and manage the presence of AIS. As such, this plan will be reviewed by the Dakota County AIS Advisory Committee on a yearly basis; any necessary amendments will be made to plan priorities at that time.

Inventory and Assessment

Various types of AIS have been present in Minnesota over the last 200 years, but the rate of reported infestations is increasing at an alarming rate. Since the 1950s, public awareness of the importance of preventing new AIS introductions into Minnesota and managing existing infestations also increased. Public demand for AIS research, management, and education strategies has been particularly intensified the last 20 years.

In order for management and prevention activities to be as effective as possible, the types and extent of AIS within Dakota County and surrounding areas must be known. This section highlights known AIS infestations in the state of Minnesota and Dakota County, focuses on priority species currently studied by state researchers, and provides information about the MN DNR's Infested Waters List.

AIS Infestations in Minnesota

At this time, there are 17 species of aquatic animals and 10 species of aquatic plants known to be invasive in Minnesota. Many of these species, such as the common carp, have been present in Minnesota for several decades. Others, such as the rapid invasion of zebra mussels, along with growing concerns about the spread of invasive carp, have brought AIS-related issues to the forefront more recently.

As of August 2020, the [MN DNR Infested Waters list](#) includes 8 percent of Minnesota's public waters. The List features selected *prohibited invasive species* (including Brazilian elodea, brittle naiad, Eurasian watermilfoil, faucet snails, flowering rush, New Zealand mud snails, round goby, ruffe, white perch, and zebra mussels), selected *regulated invasive species* (spiny waterflea), and *diseases* (Viral Hemorrhagic Septicemia (VHS)). Lakes, rivers, ponds, and wetlands are added to the infested waters list by the MN DNR if it contains an aquatic invasive species that could spread to other waters. The MN DNR may also list a lake, river, pond or wetland as infested if it is connected to a body of water where an aquatic invasive species is present.

For more information about AIS infested waterbodies in Minnesota, visit the [Infested Waters List](#) to find the official list of infested waters, including all rivers and stream segments of infested waterbodies. A [map](#) option is also available through EDDMapS Midwest, though it only displays infested lakes, wetlands, and major river pools.

Current AIS Research in Minnesota

Researchers at the Minnesota Aquatic Invasive Species Research Center (MAISRC), a research center based in St. Paul and working in cooperation with the MN DNR and University of Minnesota Extension, are studying detection, prevention and control techniques for close to three dozen AIS that are considered high-risk for Minnesota. Several of the key species being studied by MAISRC are increasing in distribution across the state.

The following tables identify AIS of concern and are grouped by fish, plant, invertebrate, and disease species (Tables 1-4 respectively). Researchers evaluated each species' existing distribution throughout (or near) Minnesota, their distribution potential, and their potential to adversely impact ecosystems once established. MAISRC focuses its research efforts on species that have been prioritized based on their proximity to Minnesota, pathway of spread, and impact and in need of research into their detection, prevention and control.

Table 1. Priority invasive fish species in Minnesota as designated by MAISRC

Common Name	Scientific Name	Distribution	Risk of Spread	Potential Impacts
Common carp/Koi	<i>Cyprinus carpio</i>	Widespread	High	High
Bighead carp	<i>Hypophthalmichthys nobilis</i>	Localized	Spreading	High
Silver carp	<i>Hypophthalmichthys molitrix</i>	Localized	Spreading	High
Grass carp	<i>Ctenopharyngodon idella</i>	Localized	Spreading	High
Rainbow smelt	<i>Osmerus mordax</i>	Localized	Spreading	High
Ruffe	<i>Gymnocephalus cernua</i>	Localized	Spreading	High
Round goby	<i>Neogobius melanostomus</i>	Localized	Spreading	High
Goldfish/Prussian carp	<i>Carassius auratus/gibelio</i>	Localized	Spreading	High
Northern snakehead	<i>Channa argus</i>	Not found in MN	Presumed High	Presumed High
Zander	<i>Sander lucioperca</i>	Not found in MN	Presumed High	Presumed High
Black carp	<i>Mylopharyngodon piceus</i>	Not found in MN	Presumed High	Presumed High

Note that plant species with control potential (i.e. chemical treatment or mechanical harvesting) are indicated in Table 2.

Table 2. Priority invasive plant species as designated by MAISRC

Common Name	Scientific Name	Distribution	Risk of Spread	Potential Impacts	Control Potential
Curly-leaf pondweed	<i>Potamogeton crispus</i>	Widespread	High	High	Yes
Eurasian watermilfoil, hybrid watermilfoil	<i>Myriophyllum spicatum</i> , <i>M.spicatum x sibiricum</i>	Widespread	High	High	Yes
Hybrid/narrow leaf cattail	<i>Typha x glauca</i> , <i>T. Angustifolia</i>	Widespread	High	High	Yes
Purple loosestrife	<i>Lythrum salicaria</i>	Widespread	High	High	Yes
European haplotype-common reed	<i>Phragmites australis</i>	Localized	High	High	
Brittle naiad	<i>Najas minor</i>	Localized	High	High	
Flowering rush	<i>Butomus umbellatus</i>	Localized	High	High	
Starry Stonewort	<i>Nitellopsis obtusa</i>	Localized	High	High	
Hydrilla	<i>Hydrilla verticillata</i>	Not found in MN	High	Likely High	
Yellow-floating heart*	<i>Nymphoides peltata</i>	Not found in MN	Moderate	Likely High	
Cabomba*	<i>Cabomba caroliniana</i>	Not found in MN	Moderate	Likely High	
European frog-bit*	<i>Hydrocharis morsus-ranae</i>	Not found in MN	Moderate	Likely High	

*Species not likely to be found in MN, but have spread and caused impacts in inland waters of regions with a climate similar to that of MN

Table 3. Priority invasive invertebrate species as designated by MAISRC

Common Name	Scientific Name	Distribution	Risk of Spread	Potential Impacts
Spiny water flea	<i>Bythotrephes longimanus</i>	Established	High	High
Zebra mussel	<i>Dreissena polymorpha</i>	Established	High	High
Quagga mussel	<i>Dreissena rostriformis</i>	Established	High	High
Faucet snail	<i>Bithynia tentaculata</i>	Established	High	High
Rusty crayfish	<i>Orconectes rusticus</i>	Established	Unknown	Unknown
New Zealand mud snail	<i>Potamopyrgus antipodarum</i>	Established	Unknown	Unknown
A Ponto-Caspian amphipod	<i>Echinogammarus ischnus</i>	Established	Unknown	Unknown
Red Swamp Crayfish	<i>Procambarus clarkii</i>	Established	Unknown	Unknown
Bloody red shrimp	<i>Hemimysis anomala</i>	Not found in MN	Unknown	High
Killer shrimp	<i>Dikerogammarus villosus</i>	Not found in MN	Unknown	High

Table 4. Priority invasive diseases as designated by MAISRC

Microbe Species	Potential Impacts
Viral Hemorrhagic Septicemia virus (VHSV)	Species fit into one or more of the following categories: 1). Species that generally harm multiple species 2). Pathogens that cause high mortality or morbidity 3). Species with high economic impact 4). Species that can transform ecosystems
Baitfish viruses	
Heterosporis	
Didymosphenia geminata	
Rickettsia-like organisms (RLOs)	
Cyprinid Herpes Virus-3 (CyHV-3)	
Chytrid fungus	

More information about MAISRC’s mission to “develop research-based solutions that can reduce the impacts of aquatic invasive species in Minnesota by preventing spread, controlling populations, and managing ecosystems; and to advance knowledge to inspire action by others” can be found by visiting [MAISRC’s website](#).

AIS Infestations in Dakota County

As of August 2020, there are 29 waterbodies in Dakota County listed on the MN DNR's [Infested Waters List](#) (Figure 3; Table 5). Since December 2017, five new infestations on three new lakes have been observed.

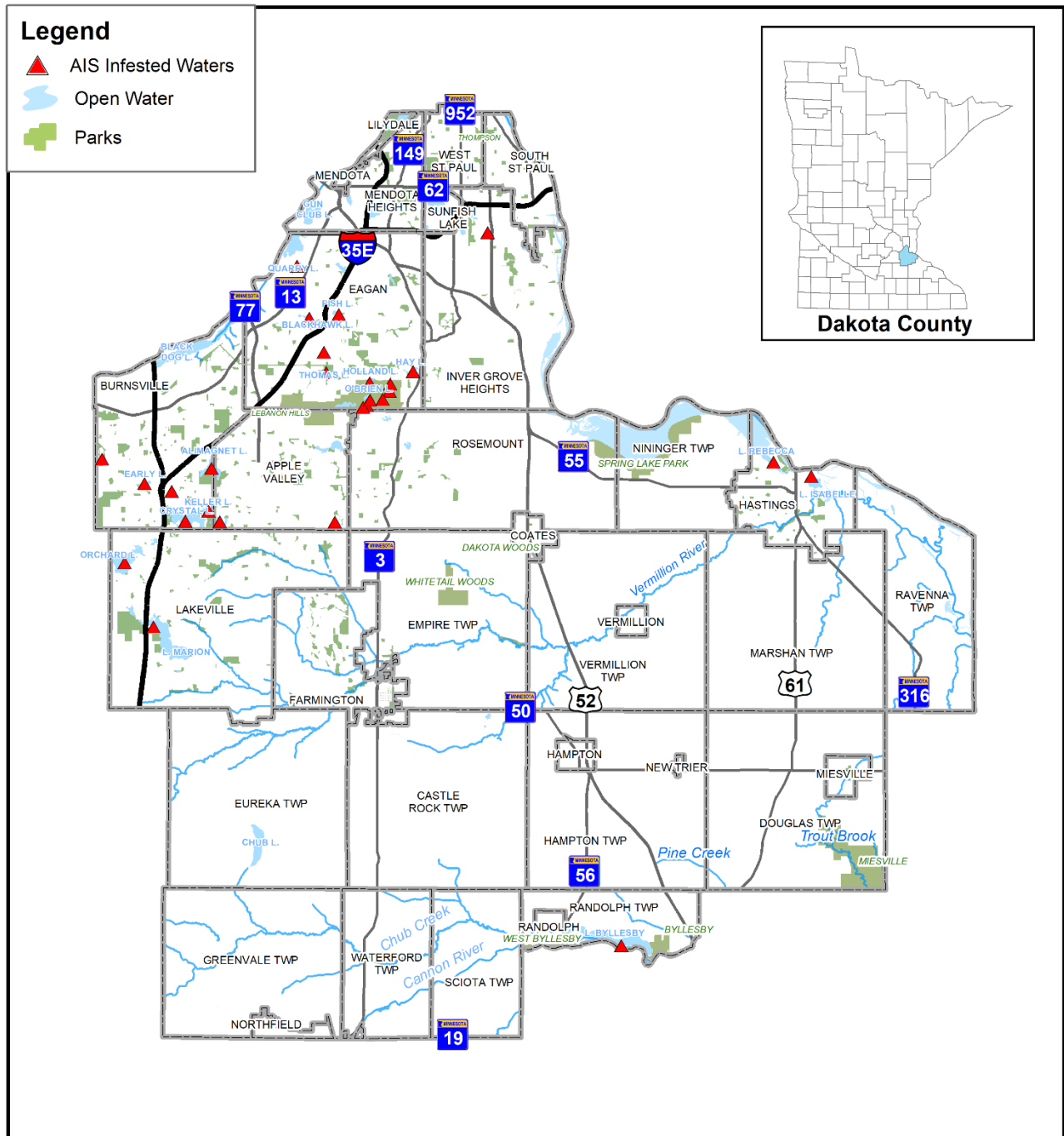


Figure 3. Dakota County Aquatic Invasive Species Infested Waters

Table 5. MN DNR Infested Waters in Dakota County

Waterbody Name	City or Jurisdiction	Invasive Species	Year Listed	Dow Number
Alimagnet	Burnsville	Eurasian watermilfoil	2014	19-0021
Blackhawk	Eagan	Eurasian watermilfoil	2017	19-0059
Bridge	Dakota County	Eurasian watermilfoil	2016	19-0179
Byllesby	Dakota County	Flowering rush	2016	19-0006
Cobblestone	Apple Valley	Eurasian watermilfoil	2012	19-0456
Crystal	Burnsville	Eurasian watermilfoil	2007	19-0027
Earley	Burnsville	Eurasian watermilfoil	2007	19-0033
Fish	Eagan	Eurasian watermilfoil	2009	19-0057
Hay	Eagan	Flowering rush	2018	19-0062
Heine Pond	Eagan	Eurasian watermilfoil	2010	19-0153
Holland	Dakota County	Eurasian watermilfoil	2009	19-0065
Isabelle	Hastings	Zebra mussel	2018	19-0004
Keller	Burnsville	Eurasian watermilfoil	2007	19-0025
Lac Lavon	Burnsville	Eurasian watermilfoil	2007	19-0446
Lac Lavon	Burnsville	Brittle naiad	2007	19-0446
Lily	Dakota County	Eurasian watermilfoil	2016	19-0180
Marion	Lakeville	Eurasian watermilfoil	2007	19-0026
Marion	Lakeville	Zebra mussel	2017	19-0026
McDonough	Dakota County	Eurasian watermilfoil	2016	19-0076
O'Brien	Dakota County	Eurasian watermilfoil	2016	19-0072
Orchard	Lakeville	Eurasian watermilfoil	2017	19-0031
Portage	Dakota County	Eurasian watermilfoil	2016	19-0074
Quarry	Eagan	Eurasian watermilfoil	2007	19-0128
Rebecca	Hastings	Zebra mussel	2009	19-0003
Schultz	Dakota County	Eurasian watermilfoil	2007	19-0075
Sunset Pond	Burnsville	Eurasian watermilfoil	2007	19-0451
Thomas	Eagan	Eurasian watermilfoil	2012	19-0067
Twin Lakes	Burnsville	Eurasian watermilfoil	2007	19-0028
Unnamed lake	Inver Grove Heights	Eurasian watermilfoil	2016	19-0035
Unnamed lake	Eagan	Flowering rush	2007	19-0064
Valley Pond	Lakeville	Eurasian watermilfoil	2007	19-0348

It is important to note that not all AIS identifications will trigger a listing on the infested waters list by the MN DNR. Of this subset of species, curly-leaf pondweed, reed canary grass, yellow iris, purple loosestrife, rusty crayfish, and Chinese mystery snail have been located in Dakota County, but are not included in Table 5.

Curly-leaf pondweed, reed canary grass, and purple loosestrife have been present in the County for a significant number of years, whereas rusty crayfish and Chinese mystery snails were found by volunteer groups in 2016. Rusty crayfish were found in the Vermillion River (Farmington and Hastings) and North Creek (Farmington) in the fall of 2016. Specimens were collected as part of routine biomonitoring activities performed by DCSWCD staff and by Hastings High School students participating in the VRWJPO's Vermillion River Watch program. The Chinese mystery snails were discovered while monitoring Thompson Lake (West St. Paul) by volunteers participating in Dakota County's Wetland Health Evaluation Program (WHEP).

Several other prohibited and regulated AIS are known to be present within Dakota County or are in adjoining or high use lakes in other parts of the state. These species (Table 6) are a growing concern due to their potential to spread to new waterbodies in Dakota County.

Table 6. Common AIS in Dakota County and greater Minnesota/Wisconsin

Common Name	Type	Status	Nearest Infested Water	Location
Banded, Chinese mystery snail	Invertebrate	Regulated	Thompson Lake	West Saint Paul, MN
Bighead carp	Fish	Prohibited	Mississippi River – Pool 1, 2, 3	
Brittle naiad	Plant	Prohibited	Lac Lavon	Burnsville, MN
Common carp, koi	Fish	Regulated	Lake Marion and East Lake	Lakeville, MN
Eurasian, hybrid watermilfoil	Plant	Prohibited	Widespread	Northern Cities
Faucet snail	Invertebrate	Regulated	Mississippi River – Pool 4	
Flowering Rush	Plant	Prohibited	Cannon River	Goodhue County, MN
Goldfish	Fish	Regulated	Vermillion River	Farmington, MN
Grass carp	Fish	Prohibited	Mississippi River – Pool 1, 2, 3	
New Zealand mudsnail	Invertebrate	Prohibited	Lake Superior	Duluth, MN
Rusty crayfish	Invertebrate	Regulated	Vermillion River	Farmington, MN
Silver carp	Fish	Prohibited	Mississippi River – Pool 1, 2, 3	
Spiny waterflea	Invertebrate	Regulated	Lake Mille Lacs	Mille Lacs County, MN
Starry stonewort	Plant	Prohibited	Medicine Lake	Plymouth, MN
Yellow iris or yellow flag	Plant	Regulated	Kingsley Lake	Lakeville, MN

Management of AIS on the Mississippi and Minnesota Rivers is a collaborative process between several state and federal agencies including the MN DNR, the US Army Corps of Engineers, and the National Parks Service, amongst others. At this time, the MN DNR is leading all monitoring and management activities related to AIS infestations on the Mississippi River within Minnesota jurisdiction, so management of those species identified as inhabiting the Mississippi River (namely the three carp species listed in Table 6) will not be addressed in this Plan.

Coordinating AIS efforts in Dakota County

Since its inception, Dakota County staff have sought input from local, regional, and state partners in order to make the AIS program as productive and all-encompassing as possible. Engagement has focused on monitoring and outreach efforts as these are integral to preventing activity overlap and identifying AIS-related programmatic gaps that could be filled with financial, logistical, or programmatic support from the County through the funding provided by Local AIS Prevention Aid.

The Dakota County AIS Committee has used online surveys and roundtable meetings to learn about local efforts for AIS management and outreach. These have produced valuable guidance to the development of this plan, strategies for dealing with AIS, and determining management responsibilities. In order to prevent overlap, LGUs and Dakota County Parks lead AIS management activities on all waterbodies (lakes, stormwater ponds, and wetlands with a MN DNR identification number) within their jurisdiction. Dakota County plays more of a supportive role by directing the grant program and coordinating outreach material development and purchasing. Dakota County is also responsible for managing the watercraft inspection program at County-owned launches as well as partnering with LGUs to support inspectors at local launches.

Implementation Plan

This section of the Plan describes strategies proposed by Dakota County to prevent, detect, and manage AIS infestations. Using funds made available through Local AIS Prevention Aid, Dakota County will continue AIS monitoring activities on lakes with County-owned accesses or on County property on a rotational basis, as well as support AIS monitoring activities undertaken by neighboring counties that share waterbodies. Dakota County will also support efforts to prevent the occurrence and spread of AIS in the County by supporting watercraft inspection and decontamination activities, as well as annual monitoring surveys, public awareness campaigns, and volunteer programs.

Local interest in efforts to counteract the spread of AIS within Dakota County has led to the development of monitoring, management, and outreach partnerships between lake associations, city and county governments, local watershed management organizations, and the MN DNR. Funding from the Local AIS Prevention Aid will also be used to support AIS-related projects undertaken by LGUs and non-profits that operate in Dakota County through a grant program.

As mentioned previously, it is important to consider this plan to be fluid in nature, in that implementation activities discussed in this plan are subject to change over time due to advances in research on AIS management, the detection and potential establishment of new AIS in the County, and future opportunities for various educational or outreach programming or partnerships.

As the Local AIS Prevention Aid funding amounts are not set for 2021 – 2025, the total expenditures shown in the Appendix are based upon the amount allocated to Dakota County in 2021 (\$119,521). If Dakota County receives less than that amount in the coming years, less money will be allocated to the grant program in order to maintain the budget.

Prevention

AIS can be spread throughout the County via numerous pathways. Each pathway poses varying levels of risk depending on the water body and the specific AIS. Common pathways through which AIS spread include boat accesses, docks and boat lifts, and attached to water recreational gear.

Watercraft Inspections

Beginning in 2017, Dakota County has hired Level 1 watercraft inspectors to conduct watercraft inspections at the boat launch in Lake Byllesby Regional Park.

All other motorized accesses within the county are owned and operated by LGUs or the state of Minnesota. Those entities are responsible for conducting watercraft inspections at their accesses. That year, inspectors performed 2,730 inspections at two accesses - one on Lake Byllesby and the other at Lake Marion (inspector sponsored by the City of Lakeville and partially funded through the Dakota County grant program).



Level 1 boat inspector at Lake Byllesby boat launch

The inspector program grew in 2018 and 2019 to include more accesses, and increased inspection hours and total number of inspections. County partnered with Goodhue County to hire inspectors to monitor boat launches on both the Dakota and Goodhue sides of Lake Byllesby. Through the grant program, the Cities of Burnsville and Lakeville hired inspectors for Crystal, Orchard, and Marion Lakes All told, 3,500 hours of inspections were performed between fishing opener and Labor Day and almost 11,000 inspections conducted. 99% of all watercraft were recorded as arriving with drain plugs out.

In 2018, Dakota County purchased a watercraft decontamination unit. This unit is stationed at the Lake Byllesby Regional Park boat launch. Watercraft decontamination consists of a high-pressure spray and hot water rinse. The hot water kills the AIS, and the high pressure removes them. Between 2019 and 2020, there was a 127% increase in the number of decontaminations by inspectors at Lake Byllesby – 51 in 2019 and 116 in 2020.



Inspector performing decontamination of boat leaving Lake Byllesby

Partnership with the Sheriff's department

In 2019, Dakota County partnered with the Dakota County Sheriff's Department to train and deploy Sheriff's deputies to perform AIS inspections and enforcement activities at six boat launch sites located in Dakota County, as well as roadside checks near marinas located in South St. Paul and Hastings. In its first year, 11 local law enforcement officers attended an AIS training hosted by MNDNR authorities. Deputies coordinated enforcement efforts at local boat launches during high watercraft periods primarily on Fridays, Saturdays, Sundays, and holidays during the 2019 boating season beginning May 1 and continuing through Labor Day weekend (Monday September 2). Deputies recorded 1303 interactions with boaters over 183 hours and issued 48 warnings to boaters (not all AIS related).

The partnership was renewed in 2020 following a similar enforcement schedule. Future program considerations include coordinating with Goodhue County Sheriff's department regarding enforcement activities at the Lake Byllesby launches

Lake Service Provider Certification

In 2011, the Minnesota state legislature passed new laws related to the prevention and management of AIS that apply to lake service providers (marinas, dock haulers, lawn irrigators and others who install or remove equipment from state waters for hire). Based on this new law, service providers must obtain a permit from the MN DNR in order to legally work in lakes and rivers throughout the state. Service providers can obtain the permit by attending an AIS training hosted by the MN DNR and passing the certification test.

In 2013, the law was updated to include any businesses that rent or lease any type of boats or other water-related equipment. At this time, Dakota County Parks and



Canoes for rent

Recreation Department has various watercrafts (canoes, kayaks, paddleboards) that are available to the public to rent during the summer season at the Lebanon Hills Visitor Center for use in Lebanon Hills Regional Park. In accordance with the updated law, County parks staff attend certification trainings every spring and are in possession of the MN DNR service provider permit.

Alternative Pathways Assessment

AIS can also be introduced into the environment, intentionally or accidentally, through the dumping of live plant and animals purchased at local pet stores and nurseries into local waterbodies. Hundreds of species of plants, invertebrates, and fish from all over the world are sold through these businesses and are available for purchase by Dakota County residents. Such activities are high-risk pathways for AIS, but once identified, outreach efforts can be targeted to address these pathways. In 2017, Dakota County hired a consultant to investigate alternative pathways and identify potential sources of AIS.

The study found that pet stores are a source of prohibited species in Dakota County, and both pet stores and garden centers are a source of regulated species and early detection targets. Throughout Minnesota, very little is being done to educate the vendors and the public on the dangers of these purchased plants, fish and other pets. Continued work to improve AIS education to different audiences utilizing the Habitattitude program was advised as well as follow up with corporate offices to discuss outreach partnerships. See more information on the [Habitattitude program website](#).

Early Detection

Early detection monitoring provides opportunities to detect new AIS introductions before they become established in a given waterbody, ultimately increasing the feasibility of a rapid response/eradication effort. Significant cost-savings can be realized by adopting an effective early detection monitoring program in the form of reduced long-term control and management expenses, in addition to protecting existing natural resource investments.

Dakota County recognizes LGUs and WMOs as the responsible entities for primary management of the water resources within their boundaries. Such responsibilities include surface water monitoring and tracking water quality trends, vegetation surveys (in-water and riparian), and implementing other lake and river water quality management actions. Because of the high level of water resources management currently undertaken by LGUs and WMOs, Dakota County staff will prioritize AIS monitoring and detection efforts on waterbodies that are within the County Parks system (particularly Lake Byllesby). Dakota County continues to support LGUs with their monitoring activities and will take on monitoring and assessment activities if and when assistance is requested.

Monitoring and Assessments

Current early detection monitoring activities on lakes with County-owned accesses include:

- Aquatic vegetation surveys (point-intercept)
 - Species of interest: Eurasian watermilfoil, curlyleaf pondweed, flowering rush
 - Visual observations for cylindro (blue-green algae) and common carp
- Suitability Assessments with reference to lake bottom sediments for AIS
 - Hydrilla, purple loosestrife, rusty crayfish, spiny waterflea, starry stonewort, Chinese and banded mystery snail, faucet snail, invasive carp, and snakehead
- Installation of zebra mussel plate samplers at boat launches or fishing accesses

A baseline AIS survey and suitability assessment was conducted on several waterbodies within the Lebanon Hills Regional Park in 2016. Twenty lakes and ponds were surveyed in early and late summer in 2016. Curlyleaf pondweed, a nonnative invasive plant species, was observed in 9 lakes. Eurasian watermilfoil, a non-native invasive species, was observed in 7 lakes. The most common native species was coontail and it was found in 19 out of 20 lakes.

Since then, the County has developed a multiyear aquatic vegetation monitoring program plans in which all waterbodies in the County parks system are monitored on a rotational basis. Aquatic vegetation surveys are conducted twice during the growing season in order to identify new AIS, delineate existing AIS populations, and track the spread of AIS within a given waterbody. The goal of the program is to continue to monitor the presence of AIS in County parks and assess the potential for spread between waterbodies within the parks system.

Lake Byllesby Assessments

Because of the potential for an AIS infestation in Lake Byllesby to negatively impact the Byllesby Dam, preventing an AIS introduction (particularly zebra mussels) in Lake Byllesby is a top priority for Dakota County. Both Dakota and Goodhue counties own and operate public water accesses on Lake Byllesby, necessitating the importance of collaborative partnerships to prevent new AIS infestations in the lake. Since 2018, Goodhue County has conducted aquatic vegetation surveys of Lake Byllesby on an annual basis to monitor changes in the lake.

Volunteer Monitoring Network

Providing volunteers with the necessary training to identify and report potential infestations is one strategy to help prevent the spread of AIS within Dakota County. Each year, the County supports citizen involvement through their participation in volunteer programs including the University of Minnesota Extension's AIS Detector program, Starry Trek, and the Wetland Health Evaluation Program. Participants with the AIS Detectors program learn general principles of aquatic ecology; AIS identification and monitoring methodology; reporting protocols. Upon completing the course, participants eligible to participate in the AIS Detectors volunteer program by completing annual AIS-related volunteer activities of their choice. See more information on the [AIS Detector program on the MAISRC website](#).

Starry Trek is an annual statewide event coordinated by the MAISRC and hosted by local organizations. Dakota County hosts this event which includes training volunteers and providing them with equipment and directions to monitor local lakes. Any species found (native and invasive) are collected for identification and reported to the MNDNR. During this event, Starry Trek volunteers have discovered previously unknown populations of various

invasive species (including starry stonewort, zebra mussels, Eurasian watermilfoil, and Chinese and banded mystery snails) in lakes all around the state.

Dakota County coordinates the Wetland Health Evaluation Program ([WHEP](#)), a volunteer program focused on determining the health of wetlands in the County. WHEP volunteers are trained and work on community-based teams to collect data on wetland plants and macroinvertebrates, providing valuable information to local governments and decision makers. Beginning in 2016, and annually thereafter, Dakota County provided AIS funds to WHEP to incorporate AIS plants and macroinvertebrates into the training materials, monitoring protocols, and reference guides used by the volunteers.

Rapid Response

Rapid assessment and response involve assessing the size of the AIS infestation relative to the resources and tools available to completely remove the infestation (“eradication”). The best defense against an AIS infestation in a local waterbody is utilizing strong preventative actions, like boat inspections at launch sites and educating the public about rules and regulations relating to AIS, in order to prevent AIS from ever entering the waterbody in the first place. Early detection of a new infestation, and a subsequent response to that infestation, are considered the “second line of defense,” following prevention.

Early detection and rapid response are core tenets of any effective invasive species management program. When the introduction of new AIS is detected, a prompt and coordinated response to contain the affected area (and, if feasible, provide treatment in order to eradicate the species) can reduce the potential establishment, spread, and harmful impacts of a given species. Early detection and response to a new infestation can result in lower overall costs and reduced damage to the resource than implementing a long-term control program after an invasive species is established in the waterbody. Regular monitoring is necessary in order to detect new infestations in a timely manner so that the response plan can be as effective as possible.

In order to properly and efficiently deal with new AIS infestations, Dakota County wrote a rapid response plan outlining different response strategies to employ when a new infestation is reported and a rapid response contingency fund that is available to LGUs to use when responding to a new infestation.

Rapid Response Plan

Eradication is always the primary goal of a rapid response plan. Failing to completely eradicate AIS from a waterbody means that the infestation will be a reoccurring problem in future years. Unfortunately, as is often the case, once AIS is established in a waterbody, successful eradication is unlikely, which further emphasizes the importance of prevention and early detection monitoring.

The final response plan may have one of several possible goals relating to the infestation, such as containing the entirety of the AIS infestation within a given area, suppressing the population in order to slow its spread to other parts of the lake or river, or containing the AIS and preventing its spread to new locations by completely eradicating it. It is important to keep in mind that not all AIS infestations will necessitate a rapid response effort going into effect, so each new AIS infestation will be responded to on a case-by-case basis.

The Dakota County AIS Advisory Committee utilized resources produced by the MN DNR to develop a rapid response plan for new infestations in 2017. The Dakota County AIS Rapid Response Plan:

- Focuses on rapid response for new and isolated AIS occurrences
- Is adaptable to be useful in a variety for different species and waterbody types
- Aligns with the MN DNR AIS Rapid Response Plan

For more information, see [MN DNR's AIS Rapid Response Plan](#), go to the subheading 'Responsibilities.'

Rapid Response Contingency Fund

A portion of the funding provided to Dakota County through the Local AIS Prevention Aid Grant is set aside on an annual basis to assist with rapid response activities in the county. Because all AIS infestations are unique, rapid response procedures will be initiated in partnership with, and following recommendations by, state and/or local agencies.

Once a response plan for a new infestation has been decided upon, contingency funds are made available to LGUs. These funds can be used for direct response activities such as monitoring or treatment (chemicals, staff, supplies) or for public engagement (community notifications, outreach activities, educational materials).

Outreach and Education

One of the keys to successfully preventing AIS from spreading is to engage the public on AIS issues (major species of concern and their potential impact) and to communicate the importance of personal responsibility regarding prevention. In doing this, Dakota County will continue to explore partnership opportunities with local businesses and community organizations, strengthen existing relationships with LGUs and lake associations, and support established outreach campaigns (such as those developed by the MN DNR and [Minnesota Sea Grant](#)) to promote consistent messaging across the County.

Outreach Materials

Roundtable discussions with LGUs often focus on partnership opportunities. Discussions have indicated that all parties would be best served by the County developing AIS-related outreach materials and supporting educational programming that could be used throughout the County. Using this direction, the County has purchased or created various AIS outreach materials to be shared with partners. Purchased materials include AIS identification guides, brochures, and specialty items.

The County created waterproof bathymetric maps for Lake Byllesby, Crystal Lake, and Lake Marion with information related in invasive species laws, regulations, and best management.

These materials are available to County residents and have been handed out at the County Fair, provided to Starry Trek volunteers and attendees of other outreach events, and distributed by watercraft inspectors at local boat launches.

In 2020, Dakota County hired a consultant to develop an educational display to promote behavior change and to move Dakota County residents to ‘care about’ and ultimately ‘care for’ preventing the spread of aquatic invasive species, using a social marketing approach.



Lake Byllesby

STOP AQUATIC HITCHHIKERS!
Be a Good Guest. Clean, Drain, Dry.

Aquatic Invasive Species Prevention

Report your watercraft and water-related equipment for the presence of aquatic invasive species (AIS) through our AIS Reporting in-watercraft inspection, or help you learn where to look for AIS, that might otherwise hitchhike to another lake.

- CLEAN** your watercraft and all water-related equipment before leaving any water access or launch by removing all aquatic invasive species.
- DRAIN** all water from equipment and Mfg., Sewell and bilgeball by removing drain plugs before leaving.
- DISPOSE** of unused bait and baitparts in the trash – see other side for laws.
- RINSE AND DRY** your watercraft and equipment before going to another body of water. Rinse with city hot water and let watercraft dry for at least five days.

Dakota County maintains water levels

Dakota County maintains the Lake Byllesby water level and summer water levels. A permit from the Minnesota Department of Natural Resources establishes the elevation requirements.

The Lake Byllesby winter summer elevation is 85.07 feet from May 15 to Oct. 15. The winter elevation is 85.37 feet from Oct. 15 to May 15. The fall drawdown gradually lowers the water level to just below the sill of the Byllesby Dam. This lowers adjacent groundwater levels, accommodating local agricultural needs. Annual refilling of the reservoir begins in May 15.

For weather station and lake level data, visit www.dakotacounty.com/LakeByllesby

Legend

- Boat Launch
- Boat Launch – Non-motorized
- Picnic Area

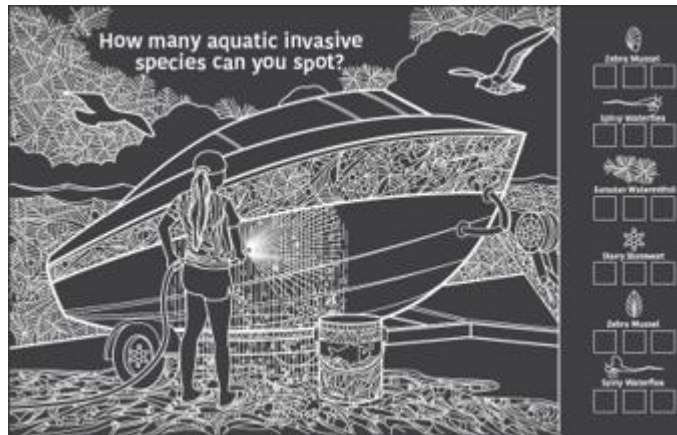
The display, and supporting materials, seek to both inform/educate and to change behavior. The display will be used at community events, and libraries and atriums when the coronavirus pandemic is resolved.

The main display shows a healthy ecosystem on one side and an unhealthy ecosystem, as a result of aquatic invasive species, on the other.



An innovative approach to interactivity is evident in these supporting educational materials:

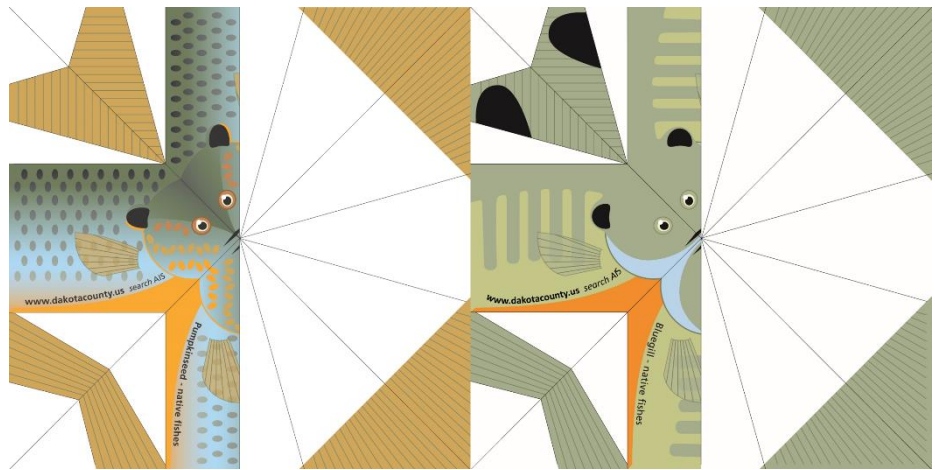
- Chalkboard



- 4 handheld signs – zebra mussels, starry stonewort, spiny waterflea and water milfoil



- Origami – pumpkinseed and bluegill



- Spiny waterflea maze



Youth and Family Outreach Programs

The Dakota County AIS Committee will continue to promote and support education activities that serve various groups within local communities. Both the AIS Detectors program and WHEP have been cornerstones to the Committee’s outreach campaign. Supporting volunteer engagement through these programs has increased the number of volunteers trained in AIS identification and reporting who can then support local AIS efforts.

For the past several years, Dakota County has contributed both financially and in-kind to the Metro Area Children’s Water Festival, an annual water education event organized for children in the Minneapolis/St. Paul metropolitan area. The purpose of the festival is to educate fourth grade students from local schools about water related topics including water quality and quantity, macroinvertebrates, and aquatic invasive species. Each year, 200 to 250 students from schools in Dakota County participate in hands-on opportunities to learn about water and its importance to people and the natural environment. The goal is to engage students about ways they can help ensure future protection and management of water quality and quantity. In recent years, AIS has taken on a

larger focus at the festival, serving as a first point of contact for many children to not only learn about AIS, but also find out what they can do to help prevent the spread.

Dakota County has hosted a rendezvous site for Starry Trek, a single day AIS volunteer monitoring event organized by the University of Minnesota Extension and MAISRC, since it began in 2017. The statewide monitoring effort has averaged over 220 volunteers monitoring local lakes for AIS each year and has resulted in 42 new infestations being reported. At Starry Trek, volunteers participate in a brief AIS identification and monitoring training before heading to local boat launches to search for AIS. Suspected AIS are collected and returned to the coordinator at the rendezvous site for identification confirmation and reporting. In 2018, Dakota County volunteers discovered a zebra mussel infestation in Lake Isabelle in Hastings; an infestation that would probably not have been discovered had there not been volunteers participating in the event. The Dakota County rendezvous location has had the highest number of volunteers participate in the event each year and feedback from the event continues to be glowing as volunteers are excited to learn more skills and want to continue to be engaged in other monitoring activities in the county.

Grant Program

In 2017, the Dakota County AIS Committee started a [grant program](#). The program's goal is to promote and support AIS management or education efforts by local organizations within the county. Those eligible to propose projects and compete for available funds include local municipalities, townships, watershed organizations, lake associations, and non-profits located in Dakota County. Collaborative proposals between partner groups are recommended to strengthen the effectiveness and positive outcomes of a given project. Projects must be conducted on waterbodies or waterways within Dakota County.

The County considers a range of project proposals including:

- Early detection and population assessment
- Management of new or established AIS populations
- Watercraft inspection and decontamination programs
- Education and outreach activities and resource development

The grant program is held on an annual basis in late winter/early spring in order to align with field season planning and permit application due dates. Since its inception, the program has:

- Funded 17 different projects at \$156,000 (40% of funding spent across three years)
- Leveraged \$136,000 in matching funds contributed by partner organizations.
- Grantees include:
 - Cities
 - Watersheds
 - Lake associations
- Funded projects include:
 - Watercraft inspections on local lakes
 - Outreach materials
 - Rapid response plan development
 - Early detection monitoring
 - Vegetation management



AIS observations being made on Crystal Lake in 2019 by Blue Water Science. This project was made possible, because the City of Burnsville received an AIS Grant from Dakota County

The grant program has been a successful tool for supporting partner organizations as they are on the frontline for AIS management and outreach activities in the county. The program will continue to be a key strategy employed by the Dakota County AIS Committee to forge relationships with outside entities and promote for conservation and education opportunities.

Appendix A - Dakota County AIS Implementation Plan 2021 – 2025 Budget

<i>Category</i>	<i>Dakota County Actions</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>	<i>2025</i>
<i>Prevention</i>	Level 1 AIS watercraft inspectors at local launches	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
<i>Prevention</i>	Dakota County Sheriff inspection enforcement	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
<i>Prevention</i>	Decontamination Unit maintenance	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500
<i>Early Detection</i>	AIS monitoring assessments	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
<i>Early Detection</i>	AIS volunteer monitoring network	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
<i>Rapid Response</i>	AIS Rapid Response Contingency Fund	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
<i>Outreach and Education</i>	Purchase and develop AIS outreach materials	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
<i>Outreach and Education</i>	Support youth AIS outreach programs in local communities	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
<i>Grant Program</i>	AIS grant program	\$ 42,000	\$ 38,500	\$ 38,500	\$ 38,500	\$ 38,500
<i>Administration</i>	AIS program administration	In-kind	In-kind	In-kind	In-kind	In-kind
<i>Administration</i>	Dakota County AIS Plan development					In-kind
	Total	\$ 118,000	\$ 114,000	\$ 114,000	\$ 114,000	\$ 114,000

Appendix B - Dakota County Partner Survey – AIS management activities

In August 2020, Dakota County sought feedback from LGUs, WMOs, and lake associations on AIS management activities currently performed on MN DNR designated waterbodies throughout the County. The purpose of conducting the survey was to identify potential gaps in AIS-related programming that could be filled with financial, logistical, or programmatic support from the County through the funding provided by Local AIS Prevention Aid.

Stakeholders were invited to participate in a survey using SurveyMonkey. Sixty-five city staff, township representatives, and lake association members and residents responded. Most respondents, (57 or 88 percent) were lake association members and lake residents.

Ninety-four percent of respondents strongly agreed or agreed that Dakota County is on the right course to prevent and slow the spread of AIS. Survey participants were asked to rank, in order of importance, the topics that help slow or prevent the spread of AIS. Early detection and rapid response (lake surveys, rapid response treatment, rapid response plans) and prevention (inspections and decontamination) and received scores of 3.93 and 3.86, respectively, on a 5-point scale. Treatment (chemical or mechanical removal of invasive species) scored 3.36 with grants (to cities, lake associations and watersheds) and education and outreach (events, materials, educational content) receiving 2.38 and 1.56 scores, respectively.

When asked what other topics Dakota County should consider in its AIS work, respondents indicated:

- No parking signs on the frontage road to limit extra boats on the lake to reduce transient boats
- Long range planning – what new species might we need to look for, new tools or technology to prevent or control, alternatives to pesticide, partnerships with other agencies
- Dredging the lake
- Alum treatment
- Mandatory lakeshore maintenance requirements, effect of lawn chemicals, buffer enforcement to minimize runoff from lawns
- More mechanical cutting/harvesting and use as few chemicals within lakes as possible
- Prohibit putting a boat into any lake that has not been dry for required number of days to kill AIS
- Add lake association members to the AIS task force

Dakota County has awarded AIS grants for treatment, education and outreach including watercraft inspections and early detection projects. Forty-six (75 percent) respondents agree that the grant program is very effective and somewhat effective. Suggested changes to improve the grant program include:

- Allow communities to reapply under previous years' grants
- Grants to individuals to address problems on their shorelines

- Remove plants with harvesting, more chemicals to kill weeds and remove muck and silt that promotes weed growth
- Weed removal twice per year
- Let homeowners know what they can do to reduce weeds
- More watercraft inspections and more boater education
- Invest in a mechanical cutting craft/boat to help lakes cut and harvest AIS
- Awareness

Survey respondents noted that during the summer of 2020, there were “thousands of new boaters who were ignorant to the issues of using multiple lakes.”

The survey asked if Dakota County should continue to lead inspection contracts or leave it up to individual cities to manage. Forty-two (nearly 67 percent) respondents indicated that the County should continue having inspections under one contract and one delegation agreement from the DNR. Thirty percent were not familiar with the process.

When asked for feedback that survey respondents heard regarding watercraft inspections at boat launches, several comments were in regard to the inspectors prevented more AIS in the lake, they were professional, and raised awareness about AIS at exactly when/where boaters need to be most aware – and have a challenging job dealing with the public who may be combative at times. A few comments regarded watercraft not consistently inspected and the inspector missed some weeds under jet ski trailers. In addition, it was noted that more inspectors are needed as many boaters are ignorant or careless.

The survey asked what changes would improve watercraft inspections at boat launches. The following themes emerged from the responses:

- Add trash cans on the left side of the ramp for disposal of weeds removed from trailers and boats
- Add portable boat washing equipment
- Better signage
- Hire inspectors all summer, increase hours for inspections, more consistent coverage, full time
- Coordinate with safety and parking violations
- Enforce limits on non-resident boat traffic, including prohibit parking on the I-35 frontage road, particularly on weekends

The survey also asked what changes Dakota County could make to prevent or slow the spread of AIS. Responses included these themes:

- Education
 - Hands on education
 - Work with local media and community groups to help with education, see what the State is doing and customize it for the County

- Signage on clean, drain dry
- Limit the number of outside boats allowed on the lake by the number of parking spots for boat trailers
- Monitoring
 - Proactive monitoring and prompt responses to any invasive species detected
- Mechanical removal
 - Removing weeds is the best way to slow the spread, it would also lessen the impact of muck and silt buildup
 - Weed removal twice per year
- Treatment
 - Treat the bays more aggressively
 - More aggressive treatment to protect lakes
 - Early detection and treatment
- Inspections
 - More inspections
 - Inspector needs to be at the boat launch full time

Respondents indicated the following programs and services should be maintained in the AIS Plan update:

- Keep inspector at boat launch
- Muck reduction to increase oxygen in the lake bottom for fish and habitat
- Grant program for treatment
- Harvesting
- Alum treatments
- Lake surveys
- Prevention planning
- Education
- Keep current in new technologies and findings for prevention
- Detection and treatment
- Refunds to homeowners for chemical treatment