2025 – 2027 Beltrami County Prevention & Management Plan for Aquatic Invasive Species

IN COOPERATION WITH:
Minnesota Department of Natural Resources &
Beltrami County SWCD

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I. Introduction

Aquatic invasive species (AIS) are a serious threat to Minnesota waters and are one of the greatest conservation challenges of our time. The growth potential of AIS in an aquatic ecosystem without natural predation or disease can become explosive. 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. These unchecked organisms cause changes in waterbodies that can be rapid, permanent, and harmful to environmental, human, and economic health.

As defined by the Minnesota Department of Natural Resources (MNDNR), the discovery of a new AIS in Minnesota waters is considered an "introduction". When an AIS that is already present in the state is discovered in another waterbody, it is considered an "infestation". Preventing the introduction of new species and new infestations is the foremost strategy in AIS management, and crucial to avoiding their establishment, spread, and irreversible consequences.

The Beltrami County AIS Plan serves to guide the use of annual funding provided to Beltrami County from the Aquatic Invasive Species Prevention Aid. This plan outlines existing and proposed strategies for preventing the spread and mitigating the effects of AIS introductions to Beltrami County waters. AIS prevention requires a broad effort from a variety of stakeholders: shoreline owners, anglers, water recreators, lake service providers, local government, and lake associations or coalitions. This document, in collaboration with partners, will aid in defining activities that can improve existing guidelines for AIS prevention and management.

While exact numbers are largely debated, Beltrami County has around 183 lakes – 113 of those being designated fishing lakes. The Minnesota DNR, along with local townships and City of Bemidji administrators, manage around 70 Public Water Access (PWA) sites in the County. Beltrami County currently has 39 infested waters, including portions of rivers or streams. The primary AIS affecting Beltrami County waters are as follows: **zebra mussels, starry stonewort, and faucet snails**.

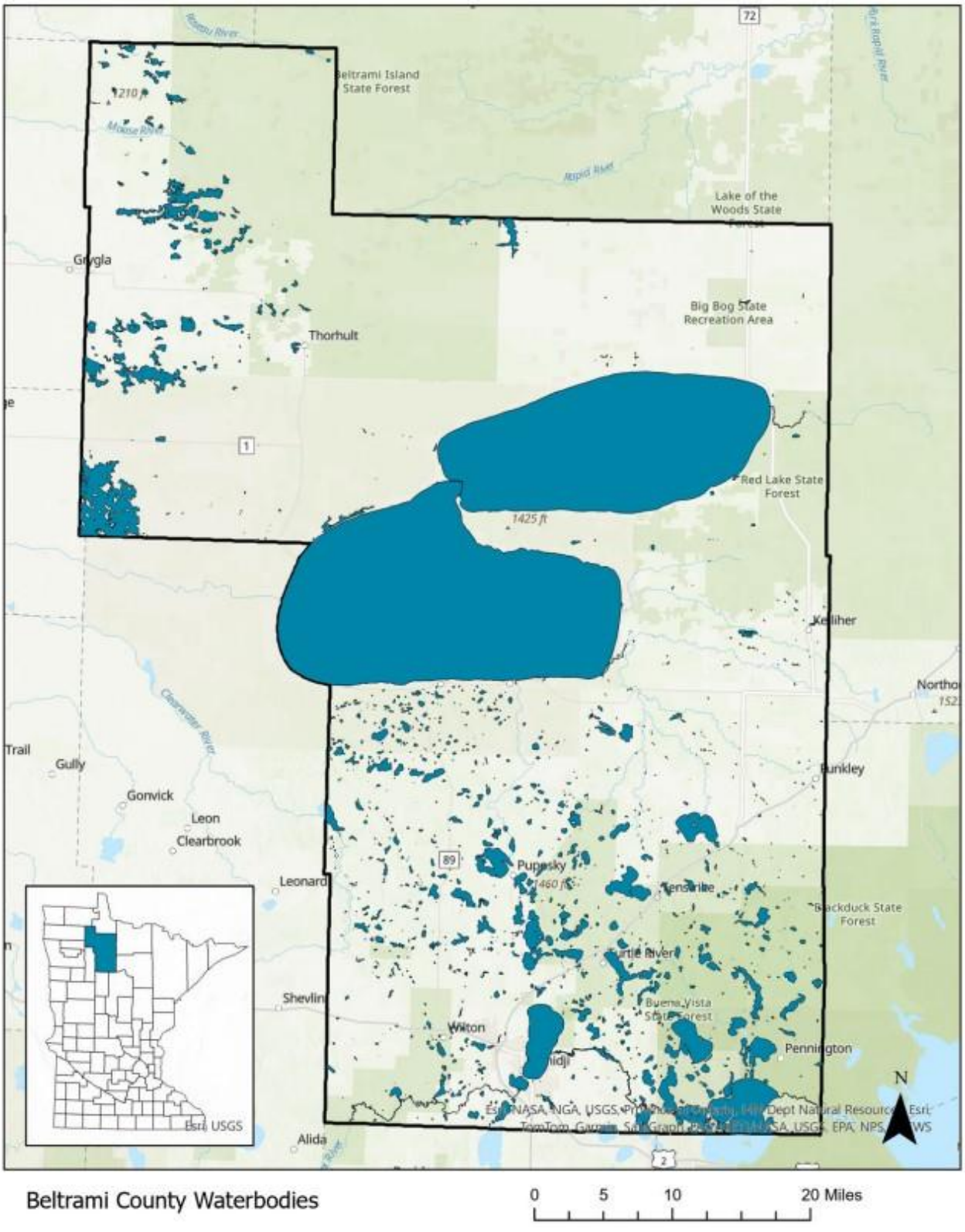

Fig. 1.1, Beltrami County Waterbodies

II. Assessing the Risk of Invasive Species in Beltrami County

Evaluating the scope of potential aquatic invasive species introductions into uninfested Beltrami County lakes is critical in defining the plan to manage AIS. Criteria such as waterbody size, number of access sites, connectivity, and rate of use are considered when determining risk of infestation. Additionally, water chemistry and substrate makeup can affect the suitability for some AIS, such as zebra mussels.

i. Plan Development and Program History

In 2015, Beltrami County adopted a full-time position for an AIS Technician to develop and implement the program as it stands today. Since its adoption, the AIS Program has used its Prevention Aid to fund the full-time AIS Technician position, the watercraft inspection program, monitor for potential invasive communities, and to fund aquatic plant surveys and/or removal projects. The Program is valuable to local entities such as lake associations and watershed organizations, coalitions, and other relevant groups seeking AIS education and prevention tactics. It is critical that the public understand the availability to call on the County's AIS Technician for concerns and outreach opportunities.

Since 2015, the AIS Technician has been available to local entities in numerous ways; organizing aquatic plant surveys, support for lake associations, and coordinating invasive plant removals performed by contracted professionals. It is the sole job of the AIS Technician to provide information to residents and lake stewards, and to implement the watercraft inspection program for inspections and courtesy decontaminations at local PWAs. Without this program, Beltrami County waters would be highly susceptible to invasive infestations – this position allows for further protection of County waterbodies, and rapid responses to new infestations.

ii. Aquatic Invasive Species Prevention Aid

In 2014, a county tax bill was passed that provides funding for aquatic invasive species prevention. Through this bill, $10 million is provided annually to Minnesota counties to support AIS prevention programs. The distribution of funds is based on a calculation considering each county's share of watercraft trailer launches and watercraft trailer parking spaces. In 2025, Beltrami County was credited with having 47 trailer launches and 438 parking spaces; a total aid of $203,876 will be received in 2026. Beltrami County works closely with local, state, and federal governments, as well as nonprofit and private organizations, to develop and implement the Beltrami County AIS Program. Funds for the program are spent in accordance with Minnesota statute, and under the guidance of MNDNR laws and regulations.

For the last decade, Minnesota has led the nation in preventing the spread of AIS through the deliverance of Prevention Aid. However, in 2025, the Minnesota legislature amended the AIS funding law, altering the available funding for counties

henceforth. For aid payable in 2025 and 2026, $10 million is allocated annually, whereas for 2027 and annually thereafter, $5 million will be appropriated. The expected 50% cut of Prevention Aid will amount to approximately $101,938 for Beltrami County in 2027.

See more information regarding the Local AIS Prevention Aid Grant.

iii. AIS Affecting Beltrami County Waters

The Minnesota DNR defines AIS as non-native aquatic organisms that disrupt natural resources and economic prosperity – but 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 native species, thus ultimately coexisting without destroying or displacing native species. Beltrami County waters are currently most affected by invasive aquatic plant starry stonewort (*Nitellopsis obtusa*), and invasive invertebrate zebra mussel (*Dreissena polymorpha*).

The introduction and subsequent spread of AIS typically results in habitat alteration, ecosystem degradation, and a loss of biodiversity due to heightened resource competition. Because AIS are non-native, they have few natural predators and can reproduce rapidly; they are also more aggressive than native species, which ultimately diminishes the success of native species. Along with threats to native aquatic wildlife, AIS have the potential to impede recreational opportunities and disrupt municipal, industrial, and agricultural uses of public waters. It is important to note that AIS infestations often span geographic and jurisdictional boundaries; it is crucial to coordinate management and prevention strategies across watershed and political boundaries to address and mitigate the spread of AIS.

Starry stonewort (*Nitellopsis obtusa*)

Starry stonewort (*Nitellopsis obtusa*) was identified in 2016 on Moose Lake in Beltrami County; since its introduction, 14 lakes have been identified as infested with starry stonewort. Starry is a freshwater, bright green macroalgae known as a charotype (a group that include muskgrasses and chara, both native to Minnesota). Starry stonewort is native to parts of Europe and Asia and can look quite similar to some native charotypes. Starry has whorls of long, narrow branchlets in groups of 4 to 6 coming off main shoots. Small, white, star-shaped bulbils are a distinguishing feature that gives it the name "starry" stonewort.

Fig. 1.2 Starry stonewort, Credit: Paul Skawinski

Starry stonewort is incredibly impactful in a non-native environment; it grows densely and forms surface mats that interfere with boating and recreational activities. The dense growth can inhibit sunlight from reaching lake beds, impeding habitat for aquatic wildlife, and outcompeting native plants for resources. Starry stonewort is largely understudied, and its ecological impacts are not well understood.

One thing that is understood are its vectors of spread, or how starry enters an aquatic habitat. The white, star-shaped bulbils produced by starry stonewort allow for vegetative reproduction; this means that any bulbil left in the substrate has the potential to create an entirely new plant. Any fragment of starry stonewort can reproduce, or clone itself, like the bulbil to create a new plant and establish a population. Accidental movement by human interaction via boat transfer is the most likely means of dispersal in Minnesota; most of the known infestations across the state occur in high-use waterbodies and especially near boat accesses. In Beltrami County, all 14 starry-infested waterbodies' populations are located at the waters' boat access.

Zebra mussels (*Dreissena polymorpha*)

Fig. 1.3 Zebra mussels attached to native clam, Credit: MAISRC

Zebra mussels are ¼ -1 ½ inch-long bivalve (2-shelled) molluscs. They have a D-shaped shell, which is often marked by alternating brown and yellow bands in a zigzag pattern. They live on lake and river bottoms, rocks, aquatic plants, docks, lifts, and boats to which they attach using small dark fibers called "byssal threads". Zebra mussels are native to large rivers and lakes in southern Russia. They appeared in North America in 1988, spreading rapidly via shipping vessels throughout the Great Lakes and large rivers. As of May 2018, the Minnesota DNR has listed 335 waterbodies in the state as infested due to either confirmed zebra mussel presence or connection to a waterbody with a confirmed presence.

Zerba mussels pose economic harm in North America of over one billion dollars annually. Their expansive populations attach to hard surfaces underwater, clogging intake pipes for water treatment and power generating facilities, encrust boat motors and hulls, reduce lakefront property values, and cut swimmer's feet with razor-sharp shells. Ecologically, they filter enormous quantities of microscopic algae and alter energy flow through aquatic ecosystems and food webs, a huge threat to

fisheries and overall populations of native fish. A single zebra mussel can filter one liter of water every day.

This AIS is incredibly difficult to manage once established in a waterbody. On average, zebra mussels live 2-5 years and can reproduce by their second year. Annually, a mature female zebra mussel may release up to one million eggs, while the male may release more than 200 million sperm into the water where fertilization takes place. In about two days, fertilized eggs develop into free-floating larvae called veligers, which can be transported over long distances via water currents. Within 2-3 weeks, veligers begin to settle under the weight of forming shells and attach to firm, underwater surfaces. In addition to water currents, zebra mussels can be transported by hitch-hiking on boats, boat trailers, sea planes, and other aquatic equipment. Beltrami County currently has 23 infested waterbodies, including rivers and connected waterbodies.

iv. Pathways of Introduction and Spread

The routes by which species are introduced to new environments are called 'pathways' or 'vectors' of spread. AIS introductions can be both intentional and unintentional by nature. Some invasive species are unintentionally imported through produce and livestock, by transport equipment such as packing material or a ship's ballast tank or attached to an engine or boat trailer when moving between waterbodies. Other species are intentionally released to a waterbody 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, tubes, jet skis);
- waterfowl hunters and angler gear (i.e. waders and boots);
- water gardens or shoreline restorations;
- bait buckets;
- and wildlife (less common).

Although attempts are made to eradicate a population of AIS from an infested waterbody, it is typically unlikely to completely remove a population once it has established. The key to AIS management is to prevent the introduction and spread of invasive species before they arrive.

In 2020, the University of Minnesota Extension Program, Minnesota Aquatic Invasive Species Research Center (MAISRC), developed an interactive model called "AIS

Explorer". The model uses data from Minnesota DNR-authorized watercraft inspector surveys, as well as current infestations of zebra mussels, starry stonewort, Eurasian watermilfoil, and spiny water flea to assign risk. AIS Explorer uses two dashboards: one for *Introduction Risk for Surveillance*, and one for *Prioritization of Watercraft Inspections*. AIS Explorer shows lakes within a county infested with either starry stonewort or zebra mussels – two of the most likely AIS to cause widespread economic and ecological damage. This model and its data are incredibly useful in determining which lakes should take priority for watercraft inspections and which lakes have the highest use. Additionally, the model allows for tracking predicted boater movement, or which lakes boaters travel to when leaving their initial lake. This portion of the watercraft inspection surveys helps to determine which uninfested lakes are most at risk for AIS introductions.

III. Minnesota AIS Laws and Regulations

Minnesota has several state laws intended to minimize the introduction and spread of invasive species of aquatic organisms and plants. Minnesota's AIS laws are codified as Chapter 84D of Minnesota Statutes. Section 84D.03 authorizes the Commissioner of the Department of Natural Resources to designate waters as infested if:

- The water contains a population of an aquatic invasive species that could spread to other waters if use of the water and related activities are not regulated to prevent this; or
- The water is highly likely to be infested by an aquatic invasive species because it is connected to a water that contains a population of an aquatic invasive species.

Using a four-tiered system, invasive species are classified as **prohibited**, **regulated**, **unregulated nonnative** species, or are unclassified and remain as **unlisted nonnative** species. This classification system establishes the level of regulation and allowable uses for each species. The Minnesota DNR has regulatory authority over aquatic plants and animals, and terrestrial vertebrates.

Prohibited Invasive Species:

Certain invasive species that can threaten natural resources and their use have been designated as prohibited invasive species in Minnesota. It is unlawful (misdemeanor) to possess, import, purchase, transport, or introduce these species except under a permit for disposal, control, research, or education.

Regulated Invasive Species:

It is legal to possess, sell, purchase, and transport regulated invasive species, so long as they are not introduced into a free-living state, such as being released or planted in public waters.

Unregulated Nonnative Species:

A select number of nonnative species are not subject to regulation under Minnesota Invasive Species Statutes but refer to fishing and hunting regulations for guidance on fishing, hunting, or transporting these species. The unregulated invasive species include fish, invertebrates, mammals, and birds. A full list can be found here.

Unlisted Nonnative Species:

Unlisted nonnative species are those that are not prohibited, regulated, or unregulated. Several steps must occur before an unlisted nonnative species may be legally released into a free-living state:

- The individual proposing to release the species must file an application and supporting information with the Minnesota DNR.
- The DNR must conduct a thorough evaluation.
- The species must be designated into an appropriate classification.

Transportation Prohibitions:

Current Minnesota law prohibits transportation of all aquatic plants (with a few exceptions). This law aids in preventing the spread of Eurasian watermilfoil and Starry stonewort, but also aids in reducing the risk of zebra mussels being transported while attached to aquatic plants. In addition, it reduces the inadvertent transport of other harmful plants into or within the state.

Under Minnesota law, it is **unlawful** to:

- **Transport aquatic plants**, except as allowed in statutes ($100 civil penalty or misdemeanor)
- **Transport zebra mussels** and other **prohibited** species of animals ($500 civil penalty or misdemeanor)
- Place or attempt to place into waters of the state a boat, seaplane, or trailer that has aquatic plants ($200 civil penalty), zebra mussels, or other **prohibited** invasive species attached ($500 civil penalty or misdemeanor)

As of July 1, 2012, a boat lift, dock, swim raft, or associated equipment that has been removed from any water body **may not be placed in another water body** until a minimum of **21 days** have passed.

Regulations on Transport of Water:

As of July 1, 2012, the following regulations apply to the transportation of water in boats and any other water-related equipment by boaters from all waters in the state ($100 civil penalty or misdemeanor):

- A person leaving waters of the state must **drain all water** from water-related equipment, including bait containers, live wells, and bilges, by removing 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 water body.
    - The following are exempt from this subdivision:
        - 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.

Regulations in Infested Waters:

The Minnesota DNR designates waters that contain populations of bighead carp, brittle, naiad, Eurasian watermilfoil, faucet snail, flowering rush, grass carp, New

Zealand mud snail, zebra mussel, ruffe, round goby, silver carp, spiny water flea, starry stonewort, VHS fish disease, and white perch as infested waters.

The following regulations apply to activities in infested waters:

- Taking wild animals (fish, frogs, crayfish, etc.) from infested waters for bait or aquatic farms is prohibited except for:
  - Commercial purposes by permit in some infested waters
  - Noncommercial bait harvest for personal use in waters that contain Eurasian watermilfoil if:
    - The infested waters are designated solely because they contain Eurasian watermilfoil, and
    - Equipment for taking is a cylindrical minnow trap not exceeding 16x32 inches.
  - All nets, buoys, traps, anchors, stakes, and lines used for commercial fishing or turtle, frog, or crayfish harvesting in an ingested water that is designated because it contains invasive fish, invertebrates, or certifiable diseases, may not be used in any other waters. (Section 17.4982)
  - Equipment used for commercial fishing purposes in infested waters that are designated solely because they contain Eurasian watermilfoil must be dried or frozen before being used in uninfested waters (misdemeanor).

Regulations on Transport of Infested Water:

Under Minnesota law, the following regulations apply to the transportation of water from infested waters:

- Water from infested waters may not be used to transport fish except by permit.
- Water from infested waters may not be transported on a public road or off riparian property on infested waters except in emergencies or under permit ($200 civil penalty or misdemeanor).

Infested Waters Diversion or Transportation Permit Application

Infested Waters List

Minnesota Statute 84D – Invasive Species

IV. AIS Best Management Practices

The Minnesota DNR promotes many practices that everyone can follow to help stop the spread of AIS, and comply with state laws:

- ***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, live well, and baitwell by removing drain plugs before leaving a water access or shoreline property.
- ***Dry*** docks, lifts, and rafts for 21 days before moving them from one waterbody to another.
- ***Dispose*** of unwanted bait, including minnows, leeches, and worms, in the trash; refill bait containers with bottled or tap water if you plan to keep bait.

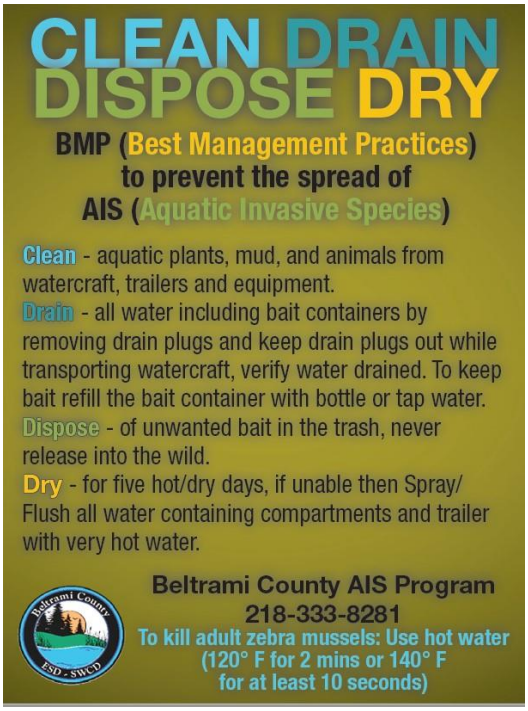

Figure 1.4

Some AIS are small and difficult to identify; to properly remove AIS from your watercraft or equipment, take one or more of the following precautions before moving to another waterbody (especially when exiting zebra mussel and spiny waterflea infested waters:

- ***Spray*** with high-pressure water.
- ***Rinse*** with 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 before entering another waterbody.

Beltrami County has partnered with the Minnesota DNR to provide a courtesy decontamination unit available for public use in Bemidji, and around the state. During a decontamination, DNR-authorized watercraft inspectors help boaters comply with invasive species laws and reduce the risk of spreading AIS by thoroughly inspecting and decontaminating boats, trailers, and water-related equipment. **Beltrami County's, Courtesy Watercraft Decontamination** is stationed at **2405 Adams Avenue NW, in Bemidji**. Watercraft owners seeking a decontamination may call **218-760-8519** to schedule with a DNR-authorized Level 2 inspector. Please allow at least 15 minutes prior to scheduled time to allow for equipment set up.

More information on the decontamination process and locations can be found on the Minnesota DNR's Courtesy Decontamination website.

V. Rapid Response Plan

This plan has been adapted from the Minnesota DNR Early Detection, Rapid Response framework.

When new invasive species reach a previously uninfested water, we can minimize impacts through Early Detection and Rapid Response (EDRR). There are some invasive species that are known to cause large impacts elsewhere in neighboring states but are not widely distributed or present in Minnesota. Identifying and managing invasive plant populations while they are small allows for a better chance of controlling the population and preventing the species from spreading to new waterbodies. A successful EDRR plan is dependent upon effective monitoring and reporting programs to alert professionals to potential AIS introductions.

Figure 1.5

Rapid Response Process	Associated Tasks
1. AIS Detected	▪ Citizen report of suspected AIS in a new location – inform Beltrami County AIS Technician or DNR Regional AIS Specialist ▪ Trained AIS Detectors report suspected AIS in a new location to EDDMapS (or to DNR AIS Specialist/AIS Technician) ▪ Beltrami County AIS Technician makes observation of suspected AIS in new location – report findings to EDDMapS and to DNR AIS Specialist ▪ Watercraft Inspectors or DNR Educational Ambassadors report suspected AIS to AIS Technician/DNR AIS Specialist ▪ Natural Resource Professionals from local organizations, agencies, or other DNR programs report suspected AIS to DNR AIS Specialist or AIS Technician
2. Receiving & Investigating Reports of Suspected AIS	▪ Staff from DNR, partner organizations, or members of the public enter reports of suspected AIS on EDDMapS to notify professionals to identify and verify. ▪ Beltrami County AIS Technician or trained AIS Detectors can obtain samples or photos and detailed information from the identifier. ▪ DNR AIS Specialist will officially verify (or deny) presence of suspected AIS. AIS Technician to provide support when necessary. ▪ If species identification is NOT AIS, the DNR Specialist will mark as so on the EDDMapS database and communicate to impacted parties. **IF SUSPECTED AIS IS "NEGATIVE", RAPID RESPONSE ENDS HERE.**

3. Communication to Partners & Stakeholders	▪ MN DNR responsible for public news release for any confirmed AIS – AIS Technician to hold information until formal press release is made. ▪ AIS Technician to make necessary contact with all stakeholders to notify of confirmed new AIS infestation. ▪ AIS Technician to inform local resort owners, coordinate with DNR to provide DNR "Infested Water" and "Stop Aquatic Hitchhikers" signs when requested for private accesses. ▪ AIS Technician to notify lakeshore owners, lake associations/coalitions of new AIS infestations – encourage to post messages to their social media/newsletters. ▪ AIS Technician to be main resource for local AIS Detectors, lake associations, LSPs, and other stakeholders to provide relevant handouts, outreach, or educational information.
4. Assessment of Risk	▪ AIS Technician to collaborate with MN DNR, MAISRC, Tribes, and neighboring counties to determine risk of new AIS infestations.
5. Population Assessment	▪ Combine efforts with the DNR (and other relevant agencies) to determine extent of infestation when applicable (submerged aquatic vegetation). ▪ AIS Technician to coordinate with AIS Detectors (or other relevant trained professionals) to complete further monitoring of new infestations of submerged aquatic vegetation around the waterbody. (Emphasis on high use areas to determine further potential spread). ▪ If/When DNR is unable to complete delineation surveys, Beltrami County AIS Program will coordinate with lake associations to cost share delineations (where applicable).
6. Action	▪ AIS Technician to review Watercraft Inspection Program plans and implement changes when necessary. ▪ AIS Technician to adjust locations/hours for inspectors to accommodate newly infested waterbodies to minimize spread. ▪ AIS Technician to communicate with DNR and relevant partners for possible control or management options, as well as funding and future monitoring needs.

VI. Resources for Implementing Beltrami County AIS Management Plan

Aquatic invasive species utilize multiple vectors of spread, making it incredibly difficult to manage when or how AIS might enter a water body. It is of great importance to maintain partnerships with local government agencies, tribes, and lake associations to gather a wide range of knowledge and support. Below are resources used by the Beltrami County AIS Program:

Figure 1.6

Organization	Contact	Role
Federal Government (USFS, NRCS, NPS)	Eric Raitanen, Chippewa USFS Michelle Heiker, Chippewa USFS	USFS: technical support; participation in signage at USFS PWAs; grant opportunities for SSW removals
State Government (DNR, BWSR, MAISRC)	Gina Kemper, DNR Tina Fitzgerald, DNR Doug Jensen, DNR Megan Weber, MAISRC	DNR: AIS coordination, guidance, outreach MAISRC: relevant research, technical support, tools
Leech Lake Band of Ojibwe (Department of Resource Management)	Kate Hagsten, DRM, Plants Raining White, DRM, Plants Ellie Isaakson, DRM	LLBO: partnering for AIS removals and management, shared waters with the tribe
Local Government Units/SWCDs	Hubbard; Clearwater; Itasca; Cass	Critical partnerships with neighboring counties/SWCDs for projects on shared waters and watersheds
City	City of Bemidji; City of Turtle River	Funding opportunities, partners for proposed projects
Townships	Farden; Frohn; Turtle Lake; Turtle River; Port Hope; Northen	Funding opportunities, partners for proposed projects
Lake Associations	BCLARA; TRWA; Big Lake; Grace Lake	Priority partnerships with lake associations aid in outreach, funding & support, inspection program
Resorts	Ruttger's on Birchmont; Eagle Ridge; Fox Lake; Pimushe Resort; Kohl's; Pike Point	Partnering with resorts to provide educational material, receive suspected AIS reports, provide signage at private accesses
Schools	Gene Dillon, Kelliher, Blackduck, Red Lake Elementary Schools; Local High Schools; Colleges	Outreach, Water Festivals, AIS education, volunteer inspectors, presentations

VII. Strategies for Implementation

The Beltrami County AIS Program relies on a combination of education and outreach, prevention efforts of the watercraft inspection and decontamination programs, and early detection and continuous monitoring to effectively manage AIS. This section of the plan serves as a flexible framework to guide the use and activities of the AIS Prevention Aid funds by Beltrami County.

a. Education and Engagement

A key component of the Prevention and Management Plan is to reach members of the public to prevent further spread of aquatic invasive species, and the importance of the taking appropriate actions to do so. The Beltrami AIS Program utilizes local communication services such as TV, radio, social media, and print media to spread messaging to the public. The Program has established relationship with local resorts, fishing guides, seasonal entities, and bait retailers to supply and distribute AIS educational material. The AIS Technician also attends educational events for school-aged children, hosts presentations for local schools, and provides AIS curriculum to interested teachers.

Figure 1.7, Red Lake DNR WaterFest AIS Table, 2025

The Beltrami AIS Program is heavily reliant on maintaining relationships between state, tribal, and county AIS leaders for the sharing of information and resources. These lines of communication and avenues of collaboration are vital in addressing AIS management issues across county-lines; by using a watershed-based approach, AIS management efforts are better achieved.

The AIS Technician is a readily available resource for the public, local entities, and private shoreline owners alike. The AIS Technician regularly attends local lake association meetings, engages with private access operators, resort owners, and any other interested parties who seek information or technical assistance. Beltrami County residents are welcome to contact the AIS Technician for any questions or concerns involving AIS, including concerns about AIS impacts on shoreline and habitat for a given waterbody.

b. Watercraft Inspection Program

The Watercraft Inspection Program is a vital service administered by Beltrami County under the delegation of the Minnesota Department of Natural Resources. Public water accesses (PWA) are a major contact point for interacting with watercraft owners and operators, which make the Watercraft Inspection Program a top priority in AIS prevention and management. Watercraft inspectors are DNR-trained and authorized to interact with boaters, inspect watercraft and equipment, and deliver AIS information and education. The inspection season can run through the open water season in any given boating season. Inspectors are staffed strategically at high-risk and high-use PWAs, to minimize the spread of AIS from high-use infested waters. Inspectors are also staffed at high-use uninfested waters, with the goal of preventing any attached or unnoticed AIS from entering an uninfested waterbody.

c. Watercraft Decontamination

In 2017, the Watercraft Inspection Program adopted a watercraft decontamination service available to the public. Watercraft decontamination is a process developed by the MNDNR to clean watercraft and kill any live AIS (specifically, attached zebra mussels) with hot and/or high-pressure water. The Beltrami Watercraft Inspection Program utilizes a stationary decontamination unit. Watercraft owners may utilize the service by calling 218-760-8519 at least 15 minutes prior to allow for staff travel time and equipment set up. Access to a decontamination unit is a key component in Best Management Practices (BMP) for preventing the spread of AIS. It is ultimately to responsibility of watercraft owners to decontaminate their watercraft; however, Beltrami County has a responsibility to assist watercraft owners by having BMP options available at no cost.

Additionally, the Beltrami County AIS Program is the administrator for 7 CD3 stations, made available through state funding in 2022-23, and administered through partnerships with the Minnesota Lakes and Rivers Advocates (MLRA), and the United States Forest Service (USFS). CD3 stations are located at 7 PWA sites throughout Beltrami County: Big Turtle Lake, Cass Lake – Bimijiwan Recreation Area, Lake Beltrami, Moose Lake, Pimushe (USFS), West Wind Resort – Upper Red Lake, and Wolf Lake. These sites were chosen specifically due to current starry stonewort infestations at each waterbody. CD3 stations are waterless, solar-powered, AIS removal units equipped with a wet/dry vacuum, grabber tool, brush, and high-pressured air hose available to watercraft owners utilizing a PWA. The CD3 stations are a free, effective way for watercraft owners to ensure they are not transporting AIS via watercrafts or equipment.

d. Early Detection and Monitoring

Figure 1.8, Equipment for aquatic plant survey conducted on Wolf Lake with Leech Lake DRM, 2025.

Early detection monitoring provides opportunities to detect new AIS introductions before they become established in a waterbody, which increases the feasibility of a rapid response effort. By adopting an effective early detection routine, significant funds are saved in the form of reduced long-term control expenses, and the protection of existing natural resources. The Beltrami AIS Program is a responsible entity within the County tasked with mitigating AIS effects on our water resources. Such responsibilities include vegetation surveys and participating in water quality monitoring events.

Additionally, the AIS Technician is responsible for organizing and hiring professionals for AIS surveys, treatments, and removals when applicable. Through the MNDNR, Invasive Aquatic Plant Management (IAPM) Permits are obtained by application to legally assess and remove invasive aquatic plants. When feasible, the Beltrami County AIS Program can offer cost-shares for AIS removal and surveying projects when proposed by local lake associations or organizations interested in deploying AIS management.

e. Volunteer Efforts

Efforts to include and promote public engagement within the Beltrami County AIS Program continue to develop; some incredible resources for the public are the University of Minnesota Extension's 'AIS Detector Program' or 'Starry Trek'. The University's Extension Program offers a host of resources and information for community engagement or individual learning. The AIS Detector Program offers training for lakeshore owners, water recreators, or novice lake-lovers seeking additional AIS knowledge. Through the program, volunteers learn to sample and identify AIS, and reporting protocols for potential findings.

'Starry Trek' is an annual event organized by the Minnesota Aquatic Invasive Species Research Center (MAISRC) to enlist volunteers across Minnesota to search their local lakes for invasive species. Beltrami County hosts a local training site for this event which includes training volunteers and providing them with equipment and directions to monitor local lakes. Any species found by volunteers are collected for identification and reported to the MNDNR. During the 2025 event, local volunteers

identified and confirmed two previously unknown starry stonewort populations in Beltrami County: Gull Lake and Three Island Lake.

VIII. Amending the Plan

Minnesota counties receiving AIS Prevention Aid are required by statute to submit a plan or resolution annually to the Minnesota DNR outlining activities funded by Prevention Aid. This plan will be submitted to the MNDNR to meet MN Statute 477A.19 requirements, which states, “Each county must submit a copy of its guidelines for use of the proceeds to the Department of Natural Resources by December 31 of the year the payments are received.” This plan will be updated or amended annually in accordance with state statutes to ensure AIS Prevention Aid dollars are appropriated correctly.

IX. Beltrami County Public Water Accesses

Water Site Access	Administrator	Boat Launch Type
Plantagenet, North	Beltrami County	Trailer Launch
Erick	Beltrami County	Gravel, Carry-In
Grant	Beltrami County	Trailer Launch
Whitefish	Buzzle Township	Trailer Launch
Little Buzzle	Buzzle Township	Trailer Launch
Bemidji, Cameron Park	City of Bemidji	Trailer Launch
Bemidji, Nymore	City of Bemidji	Trailer Launch
Bemidji, Northwoods	DNR P&T	Trailer Launch
Bemidji, State Park	DNR P&T	Trailer Launch
Bemidji, Lavinia	Northern Township	Trailer Launch
Irving	City of Bemidji	Trailer Launch
Bullhead	City of Kelliher	Trailer Launch
Turtle River Lake, West	City of Turtle River	Trailer Launch
Turtle River Lake, North	DNR P&T	Trailer Launch
Cass Lake, Allen's Bay	DNR P&T	Carry-In
Puposky	DNR P&T	Carry-In
Sandy	DNR P&T	Trailer Launch
Wolf	DNR P&T	Trailer Launch
Rabideau	DNR P&T	Trailer Launch
Island	DNR P&T	Trailer Launch
Grace	DNR P&T	Trailer Launch
Deer	DNR P&T	Trailer Launch
Campbell	DNR P&T	Trailer Launch
Beltrami	DNR P&T	Trailer Launch
Gull	DNR P&T	Trailer Launch
Turtle Lake	DNR P&T	Trailer Launch
Moose	DNR P&T	Trailer Launch
Dellwater	DNR P&T	Trailer Launch
Balm	DNR P&T	Trailer Launch
Big Bass	DNR P&T	Trailer Launch
Blackduck, East	DNR P&T	Trailer Launch
Three Island	DNR P&T	Trailer Launch
Medicine	DNR P&T	Trailer Launch
Julia	DNR P&T	Trailer Launch
Puposky, North	DNR Division of Wildlife	Carry-In, No Dock
Cass Lake, Knutson Dam	USFS	Trailer Launch
Anderson	USFS	Carry-In
Andrusia, North	USFS	Trailer Launch, No Dock
Silver	USFS	Carry-In
Pimushe	USFS	Trailer Launch
North Twin	USFS	Trailer Launch
South Twin	USFS	Trailer Launch
Gilstad	USFS	Trailer Launch
Webster	USFS	Trailer Launch
Benjamin	USFS	Trailer Launch
Upper Red Lake, Homestead		
Big Lake	USFS	Trailer Launch
Upper Red Lake, Big Bog	DNR P&T	Trailer Launch

X. Beltrami County Infested Waters List

This list of infested waters is current as of 2025; subject to updates as needed. A current, complete list of infested state waters can be found here.

Water body name	County or counties	Listed for aquatic invasive species	Year listed as infested	Year species was first confirmed, or connected water body	DOW number
Andrusia	Beltrami	zebra mussel	2014	2016	04-0038
Beltrami	Beltrami	starry stonewort	2019	2019	04-0135
Bemidji (includes Stump)	Beltrami	zebra mussel	2018	2018	04-0130
Bemidji (includes Stump)	Beltrami	starry stonewort	2022	2022	04-0130
Big	Beltrami	zebra mussel	2021	2021	04-0049
Big Rice	Beltrami	zebra mussel	2014	connected to Cass (04-0030)	04-0031
Blackduck	Beltrami	faucet snail	2018	2018	04-0069
Blackduck	Beltrami	starry stonewort	2023	2023	04-0069
Buck	Beltrami	zebra mussel	2014	2016	04-0042
Carr	Beltrami	zebra mussel	2018	connected to Bemidji (04-0130_	04-0141
Cass	Beltrami	starry stonewort	2016	2016	04-0030
Cass	Beltrami	zebra mussel	2014	2014	04-0030
Gull	Beltrami	starry stonewort	2025	2025	04-0120
Irving	Beltrami	zebra mussel	2018	connected to Bemidji (04-0130_	04-0140
Kitchi	Beltrami	zebra mussel	2014	connected to Cass (04-0030)	04-0007
Little Rice	Beltrami	zebra mussel	2014	connected to Cass (04-0030)	04-0015
Marquette	Beltrami	zebra mussel	2018	2025	04-0142
Mississippi River between Wolf Lake (04-0079) and Andrusia Lake (04-0038)	Beltrami	starry stonewort	2021	2021	NA
Mississippi River from Carr (04-0141) to Wolf (04-0079)	Beltrami	zebra mussel	2018	connected to Bemidji (04-0130_	NA
Moose	Beltrami	starry stonewort	2016	2016	04-0011
North Twin	Beltrami	starry stonewort	2023	2023	04-0063
Pimushe	Beltrami	starry stonewort	2021	2021	04-0032
Pimushe	Beltrami	zebra mussel	2019	2019	04-0032
Pug Hole	Beltrami	zebra mussel	2014	2017	04-0003
Red	Beltrami	zebra mussel	2019	2019 (veligers)	04-0035
Shotley Brook	Beltrami	zebra mussel	2019	connected to Red (04-0035)	NA

Tamarac River	Beltrami	zebra mussel	2019	connected to Red (04-0035)	NA
Three Island	Beltrami	starry stonewort	2025	2025	04-0134
Turtle (Big Turtle)	Beltrami	starry stonewort	2016	2016	04-0159
Turtle River Lake	Beltrami	starry stonewort	2022	2022	04-0111
Turtle River Lake	Beltrami	zebra mussel	2024	2024	04-0111
Unnamed stream connecting Big Rice, Little Rice and Kitchi Lakes	Beltrami	zebra mussel	2014	connected to Cass (04-0030)	NA
Unnamed stream connecting Kitchi, Pug Hole and Cass Lakes	Beltrami	zebra mussel	2014	connected to Cass (04-0030)	NA
Upper Red	Beltrami	starry stonewort	2016	2016	04-0035-01
Wolf	Beltrami	zebra mussel	2014	connected to Cass (04-0030)	04-0079
Wolf (Big Wolf)	Beltrami	starry stonewort	2018	2018	04-0079

XI. Aquatic Plant Surveyors

This list is for local aquatic plant surveyors, or surveyors who will travel to northern MN; for a complete list of Minnesota Aquatic Plant Surveyors, visit the DNR website.

Company Name	Staff	Phone	Email
Aquatic Survey Professionals	Steve Henry	320-491-9647	aquaticsurveyprofessionals@gmail.com
AIS Consulting Service	Eric Fieldseth	320-492-8582	AISConsultingMN@gmail.com
Environs, LLC	Krista Espelien	651-955-8111	Krista.environs@gmail.com
Limnopro Aquatic Science, Inc.	Ethan Hosey; Dan McEwen; Linnea Thomas	320-342-2210	ethan@limnopro.com; dan@limnopro.com; linnea@limnopro.com
Moore Engineering	Nick Omodt	612-699-0427	tara.ostendorf@mooreengineeringinc.com
RMB Environmental Laboratories	Phillip Oswald	218-846-1465	
Tigris	Sonja Wixom; Matt Swanson	469-588-2919; 320-733-3914	swixom@tigrisusa.com; mswanson@tigrisusa.com

XII. Commercial Aquatic Pesticide Companies

Below is a list of aquatic pesticide applicators who are licensed through the state of Minnesota to apply pesticides in aquatic environments. Most commonly, pesticide applicators are utilized for invasive aquatic plant management; in some cases, they can be hired for treating native plant communities. An updated list of companies can be found here.

Company Name	Staff	Phone	Email
Aquatic Solutions of MN	Craig Mueller	763-463-0365	craig@aquaticsolutionsmn.com
Bug Commander Pest Solutions	Brandt Rohman	320-292-0527	info@bugcommander.com
Central MN Aquatics	Ronald Duy Jr.	218-963-7345	centralmnaquatics@q.com
Solitude Lake Management	Jimm Kannenberg	262-674-1780	Jim.kannenberg@solitudelake.com
Jacobson Environmental, PLLC	Wayne Jacobson	612-802-6619	jacobsonenv@msn.com
Lake Improvement Consulting, Inc.	Paul Kaari	952-944-2565	paul@lakeimprovementconsulting.com
Lake Management	Mike O'Connell	651-433-3282	mike@lakemanagementinc.com
Lake Region Aquatic Harvesting	Steve Gordon	218-784-8067	Sgordon2010.sq@gmail.com
Tigris	Matt Swanson	320-733-3914	mswanson@tigrisusa.com
Lake Restoration, Inc.	Paul Kretsch	763-428-9777	service@lakerestoration.com
Lakescape Enterprises, LLC	Cory Culbert	507-271-3727	Cory.culbert@gmail.com
Limnopro Aquatic Science, Inc	Daniel McEwen	320-828-7685	dan@limnopro.com
Midwest AquaCare, Inc	Kevin Ekstam	952-403-6879	kevin@midwestaquacare.com
PLM Lake & Land	Patrick Selter	218-270-3338	patricks@plmcorp.net