



Scott County Aquatic Invasive Species Prevention Plan 2023 – 2024



Photo source: U of M



Potamogeton crispus
curly pondweed
Photo by Frank Koshorek

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AIS Plan Review Committee

Scott Watershed Management Organization (SWMO)

Prior Lake Spring Lake Watershed District (PLSLWD)

Cedar Lake Improvement District (CLID)

O’Dowd Chain of Lakes Association

MN Department of Natural Resources

Introduction

Aquatic invasive species (AIS) are threatening Minnesota waters. These nonnative species harm fish populations, water quality, and water recreation. They are defined in MN Statutes as a nonnative species that: (1) causes or may cause economic or environmental harm or harm to human health; or (2) threatens or may threaten natural resources or the use of natural resources in the state.

This plan is made possible by the State of Minnesota taking steps to ensure our water resources will be enjoyed by future generations by committing to AIS prevention efforts. The 2014 Legislative Session enacted Law Chapter 308 to provide Minnesota Counties with Aquatic Invasive Species Aid. Under the program, counties are tasked with aiding in the prevention of aquatic invasive species through activities that “may include but are not limited to, site-level management, countywide awareness, and other procedures that the county finds necessary to achieve compliance.” The state administered \$4,500,000 for the year of 2014, and \$10,000,000 in 2015 and each year thereafter if statute remains unchanged. The amount designated to each county is based on the number of public water accesses as well as the number of watercraft trailer parking spaces within the county.

The purpose of this plan is to provide a framework to facilitate county-wide coordination and cooperation on AIS, and this plan outlines the efforts that Scott County will undertake to help prevent the spread of harmful AIS within Minnesota. We hope to accomplish a greater public awareness of AIS and prevent any new discoveries in Scott County’s waterbodies. There is a main strategy that the Scott WMO has in its watershed plan to manage AIS, they are: Aquatic Invasive Species (AIS), that involves management of curlyleaf pondweed and rough fish control through cost sharing with local organizations.

This plan is led by the Scott County Natural Resources office and partners on activities and projects listed in this plan with the following agencies and organizations: Minnesota Department of Natural Resources, Prior Lake Spring Lake Watershed District, Cedar Lake Improvement District, and O’Dowd Chain of Lakes Association.

Updating and Amending the Plan

This plan will be reviewed annually by the plan development committee and updated as needed.

Current Status of County Waters

As of October 26, 2022 the following waters in Scott County were listed as infested with AIS by the Minnesota Department of Natural Resources (MDNR).

Table 1: Infested Waters List for Scott County as of October 26, 2022

Waterbody Name	AIS listed for	Year Listed as Infested	DOW number
Cate's	Eurasian watermilfoil	2007	70-0018
Cedar	Curlyleaf pondweed	1980	70-0090
Cleary	Curlyleaf pondweed	1995*	70-0022
Cynthia	Curlyleaf pondweed	Unknown	70-0052
Fish	Curlyleaf pondweed	1995*	70-0069
Lower Prior	Eurasian watermilfoil	1995	70-0026
Lower Prior	Zebra mussel	2009	70-0026
Lower Prior	Curlyleaf pondweed	1995*	70-0026
McColl	Eurasian watermilfoil	2009	70-0017
McMahon	Eurasian watermilfoil	2007	70-0050
McMahon	Curlyleaf pondweed	1995*	70-0050
Murphy	Curlyleaf pondweed	1995*	70-0010
Murphy	Eurasian watermilfoil	2020	70-0010
O'Dowd	Eurasian watermilfoil	2002	70-0095
O'Dowd	Curlyleaf pondweed	1995*	70-0095
Pike	Eurasian watermilfoil	2014	70-0076
Pike	Curlyleaf pondweed	Unknown	70-0076
Pike	Zebra mussel	2021	70-0076
Quarry	Eurasian watermilfoil	2016	70-0343
Spring	Curlyleaf pondweed	1982	70-0054
Spring	Eurasian watermilfoil	2021	70-0054
Spring	Zebra mussel	2022	70-0054
St. Catherine	Curlyleaf pondweed	Unknown	70-0029
Thole	Eurasian watermilfoil	2002	70-0120
Thole	Curlyleaf pondweed	1995*	70-0120
Unnamed wetland	Eurasian watermilfoil	2009	70-0153
Upper Prior	Eurasian watermilfoil	2000	70-0072
Upper Prior	Zebra mussel	2009	70-0072
Upper Prior	Curlyleaf pondweed	2018	70-0072

*Observation date found in EDDMaps Midwest website (www.eddmaps.org/midwest) & <https://www.dnr.state.mn.us/invasives/ais/infested.html>

Exact observation year unknown

Unknown: Exact observation year unknown

Plan Objective

The purpose of this plan is to present the ongoing efforts that Scott County will undertake to help prevent the spread of harmful AIS within Minnesota and Scott County and is not intended to be an exhaustive discussion of AIS strategies. AIS prevention is a relatively new field to water resource management and is continually changing and developing. Scott County will take an adaptive management approach that involves learning from experiences and outcomes and adjusting strategies as they become better understood. Due to uncertainties of long-term AIS funding, County Natural Resources and Water Management staff will review this plan on a yearly basis. At that time, amendments will be made and priorities identified.

AIS Watch List

The following list of AIS are the invasive plants and animals that have been confirmed in the surrounding counties and that are currently found in Scott County lakes, therefore, are a high risk of infesting Scott County waterbodies.

Table 1. AIS Watch List for Scott County Lakes (as of November 9, 2022)

Invasive Species Name	AIS type	County Identified In
Brittle naiad	Plant	Carver, Dakota, Hennepin,
Eurasian watermilfoil	Plant	Carver, Dakota, Hennepin, Le Sueur, Ramsey, Rice, Scott
Flowering rush	Plant	Dakota, Hennepin, Le Sueur, Ramsey, Rice
Starry stonewort	Plant	Hennepin
Zebra mussel	Animal	Carver, Dakota, Hennepin, Ramsey, Scott, Washington

Strategies

The following describes the strategies Scott County and its partners will implement to meet the Objective of this Plan. The MDNR Invasive Species Program started working on a Community-Based Social Marketing (CBSM) and AIS Prevention Project in 2017. The purpose is to apply behavioral psychology techniques to address human behaviors that contribute to the introduction and spread of AIS in Minnesota waters. This plan incorporates some of those behavior change strategies.

Partnerships

Achieving prevention in the spread of aquatic invasive species to our water resources is a shared responsibility between state and local government and the public. We will consider partnering with various groups and organizations to meet our Plan objective.

- Collaborate with other counties, watershed organizations, lake associations and improvement districts, sportsman's groups, bait shops and marinas on implementing this Plan.
- Seek additional funds or funding from state or federal agencies to implement unfunded actions in the County Prevention Plan
- Facilitate the establishment of volunteers to create partners and build capacity in implementing the AIS Plan
- Cultivate partnerships with organizations interested in AIS prevention (e.g., lake associations, sportsman's groups) to support AIS surveys in water bodies (infested and non-infested) and on docks and lifts.
- Scott County staff will attend trainings and regional meetings with the state focused on achieving the state's objective of preventing the spread of AIS.

Education & Public Outreach

Education and outreach will focus on engaging audiences and raising awareness about aquatic invasive species through newsletter articles, radio ads, brochures, and messaging close to the location where the action should take place. Behavior change strategies will be used to promote the adoption and consistent practice of desirable AIS prevention behaviors. Strategies include raising awareness, removing barriers, promoting motivators, using trusted messengers, using preferred communication channels, and gathering commitments.

- Develop tailored messages at high traffic public accesses aimed at boaters regarding the clean, drain, and dispose messaging.
- Work with the Stop Aquatic Hitchhikers campaign to strengthen awareness of AIS issues in the county.
- Explore partnership opportunities with existing outreach efforts developed by the MDNR, Minnesota Sea Grant Program & University of MN's Minnesota Aquatic Invasive Species Research Center (MAISRC).
- Utilize existing or create new educational materials targeted to buyers and sellers of aquatic plants and animals focused on proper care and disposal of unwanted plants and pets.
- Work with lake related businesses to educate and create awareness of stopping the spread of AIS through live bait and proper disposal of live bait.
- Educate the public on emerging aquatic invasive species in our region
- Work with shoreline residents and lake associations to create awareness and compliance with the 21-day dry law for docks, lifts, rafts and associated equipment.

Watercraft Inspection & Decontamination

The MDNR's goal to prevent the spread of invasive species within Minnesota is through boater education, watercraft inspections and watercraft decontaminations at various public water accesses. The MDNR dedicates ~500-600 inspector hours per year at Upper and Lower Prior Lake access & ~ 100+ hours at several other lakes (see Inspection Program Allocation Hours table on page 10)

- Work with MDNR annually to announce times and locations of the MDNR decontamination station for lake users (www.mn.dnr.gov/decon)
- Apply for additional MDNR grant funding (if available) for extra inspector hours
- Allocate \$15,000 per year to the Prior Lake Spring Lake Watershed District for watercraft inspections

Monitoring & Early Detection

Finding new infestations of AIS early is key to preventing further spread and ensuring that many people who use our water resources know what AIS to look for. This will also ensure that local discoveries of AIS are quickly communicated and a rapid response is deployed.

- Continue the zebra mussel volunteer monitoring program
- Continue aquatic plant surveys on Cedar, McMahon, O'Dowd & Thole lakes for early detection
- Encourage county staff, businesses, and individuals to submit samples of suspected AIS to the MDNR
- Encourage volunteers to participate in the AIS Detector Training program offered by the University of Minnesota Aquatic Invasive Species Research Center (MAISRC). This plan would allocate up to \$1,500 to pay the registration fee for volunteers wanting to become an AIS Detector. (<https://www.maisrc.umn.edu/ais-detector>) (5 people per year to be trained, 10 total over 2023-2024)

Managing Existing Populations of AIS

The AIS *Potamogeton crispus*, or curlyleaf pondweed, was first detected in Scott County lakes as early as 1980. The Scott Watershed Management Organization completed a Total Maximum Daily Load study and Implementation Plan on Cedar & McMahon Lakes in 2012 and have been implementing curlyleaf control on several lakes since 2012. Currently, the lakes infested with zebra mussels in Scott County are Upper and Lower Prior Lakes, Pike and Spring lakes. At this time, there is no cost-effective treatment for the management of zebra mussels except preventing their spread to other lakes.

- Coordinate with the MDNR for information on management of AIS, and adopt control plans utilizing safe and cost-effective techniques.
- Allocate up to \$12,000 to the Prior Lake Spring Lake Watershed District and Scott WMO for curlyleaf pondweed control. The allocation to PLSLWD may be used for treatment costs or delineation surveys.

Rapid Response

This strategy ensures that new infestations are properly communicated and a rapid response is deployed to maximize prevention efforts.

- Coordinate with the MDNR to publicize new infestations at access sites, in lake association newsletters, and other local publications.
- Allocate \$50,000 in reserve AIS prevention funds in case of a new AIS detection such as zebra mussels, starry stonewort, spiny water flea, etc.
- Scott County Rapid Response Plan is included in Appendix B

Enforcement

This action will extend the knowledge of local law enforcement to ensure compliance with Aquatic Invasive Species laws.

- Ensure the county's & cities peace officers, including water safety patrol staff have been trained to enforce AIS laws on roadways

Plan Participants

Table 2: Plan Participants

Organization	Contact(s)	Role(s)
State government (e.g., MDNR, University of Minnesota Extension)	MDNR Watercraft Inspections- Travis Kinsell MDNR – April Londo MDNR – Tina Fitzgerald	Watercraft inspection schedule, technical support, Response to infestation reports
Tribes	Scott Walz- Shakopee Mdewakanton Sioux Community	Education
Scott County Sherriff – Water Patrol	Maxwell Kes	Enforcement/Education
Neighboring counties/SWCDs	Le Sueur Co, Rice Co, Dakota Co, Carver Co, Hennepin Co	Education

Organization	Contact(s)	Role(s)
Townships	Helena Twsp; Cedar Lake Twsp; Spring Lake Twsp; Sand Creek Twsp; Louisville Twsp	Education, Report new infestations
Cities	Shakopee Parks & Recreation Dept.; Prior Lake – Pete Young	Education, report new infestations
Lake Associations	Cedar Lake Improvement District; O’Dowd Lake Chain Association; Prior Lake Association; Spring Lake Association	Education, report new infestations
Sportsman Clubs	New Prague Sportsman Club; New Market Sportsman Club	Education, report new infestations
Lake service providers	See list in Appendix A	Education, report new infestations, possible decontamination opportunity
Environmental learning centers	Savage Environmental Learning Center – Jon Allen	Education
Realtors		Education
Property owners		Education
Other organizations as appropriate	-Scott Watershed Planning Commission -Prior Lake Spring Lake Board	Education

MDNR Statewide Inspection Program Allocation in Hours (By DNR staff 2022)

Table 3: MDNR Statewide Inspection Program Allocation Hours

Access name	Waterbody	AIS Species	MDNR Inspection Hours
Cedar – East	Cedar	CLP	0
Spring	Spring	CLP	78.75
Lower Prior/Sand Pt	Lower Prior	Zebra Mussels, EWM	334.75
Upper Prior Lake	Upper Prior	Zebra Mussels, EWM	143
McMahon	McMahon	EWM	11.5
O’Dowd	O’Dowd	CLP, EWM	17.5
Thole	Thole	CLP, EWM	9

Characterization of Lakes in Scott County

Table 4: Characterization of Lakes in Scott County

Number of lakes more than 10 acres in size	126
Number of lakes designated as infested with aquatic invasive species	9
Total number of public water accesses	18
Number of public water accesses owned or operated by the MDNR	11
Number of public water accesses owned or operated by MDOT	0
Number of public water accesses owned or operated by the county	2
Number of public water accesses owned or operated by a township	0
Number of public water accesses owned or operated by a city	6

Acronyms

AIS:	Aquatic Invasive Species
CLP:	Curlyleaf pondweed
BWSR:	Board of Water & Soil Resources
EWM:	Eurasian watermilfoil
MDA:	Minnesota Department of Agriculture
MDNR:	Minnesota Department of Natural Resources
MPCA:	Minnesota Pollution Control Agency
MDOT:	Minnesota Department of Transportation
SWCD:	Soil & Water Conservation District

Budget

Scott County has been receiving the AIS Prevention funds from the Minnesota Legislature since 2014. Each year we have not spent the entire allocation due to the anticipation of more guidance on Community Based Social Marketing strategies for prevention. The MDNR completed a study on public behaviors towards AIS which we will use moving forward and may increase our budget in some years to start to use some of the surplus held in the AIS general fund account as we discover new strategies to change the public’s behavior on preventing the spread of AIS.

Table 5: AIS Program Budget (2023-2024)

Strategy	2023	2024
Admin/Coordination/ Partnerships	\$4,000	\$4,000
Education & Public Outreach	\$2,500	\$2,500
Watercraft Inspections	\$45,000	\$45,000
Monitoring & Early Detection	\$7,350	\$7,050
-Aquatic plant surveys	\$6,300	\$6,300
-AIS Detector Program	\$750 AIS Detector	\$750 AIS Detector
-Zebra mussel monitoring	\$300	
Managing Existing Populations of AIS	\$24,000*	\$24,000*
-Curlyleaf Pondweed treatments		
Rapid Response	\$70,000**	\$70,000**
Enforcement	\$100	\$100
-Sherriff’s Dept training on AIS laws		
Total	\$82,950	\$82,650
State Legislature Allocation	\$69,422	\$69,000 (estimated)
Fund Balance	\$247,695****	\$234,045 (estimated)

*\$12,000 for PLSLWD & Scott WMO for curlyleaf treatment.

**\$70,000 in Rapid Response funds is held in the AIS Prevention General Fund account until needed and carries over in the budget annually

****An approximation until EOY reporting & reconciliation to SWMO is complete. Balance includes \$70,000 dedicated to Rapid Response

APPENDIX A
MDNR PERMITTED LAKE SERVICE PROVIDERS

Here is the current (11/8/2022) list of lake service providers permitted by the MDNR.

The list of permitted lake service providers is made available for the convenience of the public only. The State of Minnesota, the Minnesota Department of Natural Resources and Scott County neither endorse the services listed nor accept any liability arising from the use of the services listed.

Company	City	Contact	Phone
Midway Dock & Marine	Belle Plaine	Michael Smoak	952-217-1165
Bigwave Lake Service	Prior Lake	Blake Reimer	952-687-1349
Donkey Docks S-Corp	Prior Lake	Nate McLain	952-212-3625
Great Outdoors Services, LLC	Prior Lake	Trevor Pope	612-470-3625
Knotty Oar Marina	Prior Lake	Thane Tande	952-447-4300
Lind Power Sports	Prior Lake	Douglas Lind	952-292-9630
Minnesota Mermaid Paddle Board Rental	Prior Lake	Jemma Wahl	612-849-9996
MN Foil	Prior Lake	Joseph Jedynek	763-350-5220
Prior Lake Pontoon Rental LLC	Prior Lake	Dolan Seurer	612-327-8873
Creekside Waterfront Services	Savage	Josh Bendell	952-456-1573
Brick's Boatworks Inc	Shakopee	Travis Brick	952-233-2191
RSI Marine	Shakopee	Mike Thorson	952-233-2084
TK Marine	Shakopee	Tom Kluge	651-210-1741
Tracker Marine Boating Center	Shakopee	Matt Ness	952-233-3434

APPENDIX B
SCOTT COUNTY RAPID RESPONSE PLAN



AQUATIC INVASIVE SPECIES RAPID RESPONSE PLAN

2023

Scott County Natural Resources
Scott County Government Center
200 Fourth Avenue West
Shakopee, MN 55379

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SCOTT COUNTY AQUATIC INVASIVE SPECIES (AIS) RAPID RESPONSE PLAN

1.0 PLAN PURPOSE

This plan describes Scott County's approach to early detection of and response to potential new infestations of aquatic invasive plants and animals. It does not address efforts to prevent AIS in Scott County waters, the Scott County AIS Prevention Plan addresses those efforts.

In 2014, Scott County, in partnership with the Prior Lake Spring Lake Watershed District (PLSLWD) and lake associations, implemented a county-wide Aquatic Invasive Species Prevention Program to benefit multiple communities, watersheds and parks and prevent the spread of AIS in Scott County." This program focused on the following actions:

- Action Item 1 - Public awareness and education: Conduct education for the general public, water users, and lake association members.
- Action Item 2 – Watercraft inspections: Develop and implement a shared, centralized seasonal watercraft inspections program for Scott County.
- Action Item 3 – Early Detection: Develop and implement a coordinated and prioritized early detection program for Scott County lakes.

AIS present in Scott County include zebra mussels, Eurasian watermilfoil, curlyleaf pondweed, and common carp. The management strategies in this report focus on the first three species but should be considered a living document that will evolve as new threats are identified.

There are 13 public boat launches in Scott County. At the time of this report, Eurasian watermilfoil is found in eleven (11) Scott County public waters with public access except: Cedar, Cleary, Fish, Lower Prior, and Spring lakes. Zebra mussels are located in Upper and Lower Prior Lakes, Jeffers Pond, Spring and Pike Lake. Pike Lake was recently discovered to have zebra mussels in 2021, it is downstream of Prior Lake.

2.0 EARLY DETECTION

All Aquatic Invasive Species

Aquatic (water-dwelling) invasive species are non-native plants, animals and other organisms that have evolved to live primarily in water (aquatic habitats) rather than on land and have spread or been introduced beyond their native range and are either causing harm or has the potential to cause harm. Aquatic invasive plants include algae, floating plants, submerged plants, and emergent plants. Aquatic invasive animals include insects, fish, reptiles, mollusks, crustaceans, and amphibians. The Minnesota DNR's list of invasive aquatic [plants](#) and [animals](#) provide links to more detail information and facts about each species. The Minnesota Aquatic Invasive Species Research Center (MAISRC) [prioritizes](#) certain AIS for research to develop effective prevention or management/control programs.

2.1 Aquatic Plant Surveys

As stated in the Scott County AIS Prevention Plan, Scott County performs monitoring annually through aquatic plant surveys on Cedar, McMahan, O'Dowd and Thole lakes for early detection of aquatic invasive species. The Prior Lake Spring Lake Watershed District (PLSLWD) performs aquatic plant surveys on Fish, Prior and Spring lakes.

2.2 Zooplankton sampling

When funding allows, Scott County will perform zooplankton sampling on high-risk lakes to look for evidence of zebra mussel veligers, spiny water flea, or other invasive species. Zooplankton sampling occurred on Cedar Lake in late July 2021 and will be sampled again in spring 2022. The PLSLWD plans to sample zooplankton in the following lakes and budget year: Lower Prior (2021), Upper Prior (2022), and Spring (2023).

2.3 Zebra Mussels

As water temperatures warm, monitoring for veligers (planktonic larval form) is a possible method to detect the presence of zebra mussels, but when there is a low density of spawning adults there is a low probability of detection. Veliger monitoring is a technique to be considered through zooplankton sampling.

In early summer (May-June), zebra mussel spawning has not yet started, so new veligers would not have settled in areas and developed into juveniles. However, from the previous year, adults may have detached and re-attached on hard substrates in shallow water. Finding new juveniles on hard substrates produced from spawning adults during the growing season might not be detected until August-September when they would be large enough to be observed.

2.4 Volunteer Monitoring

Volunteers on Cedar, McMahon, O'Dowd, Thole, Upper and Lower Prior, and Spring lakes monitor monthly for zebra mussels each season by hanging a zebra mussel sampler (see photo to right) off their dock and looking for signs of zebra mussels attached. The samplers are hard flat surfaces on which zebra mussels will settle after they complete their larval ("veliger") stage.



3.0 RAPID RESPONSE

3.0.1 For New Infestations

All actions from this point forward will be coordinated with, and under the direction of the Minnesota Department of Natural Resources (DNR), Central Region, St. Paul AIS Specialists.

<https://www.mndnr.gov/AIScontacts>. April Londo, AIS Specialist is the current primary contact at april.londo@state.mn.us or (651) 259-5861.

If a new infestation of **plant or animal** is detected (or suspected) in a lake, a new coordinated rapid response protocol will be triggered. Key components of AIS rapid response include:

- 1.) Initial notifications to DNR and County AIS Coordinator
- 2.) Verification of introduction of new AIS by DNR
- 3.) Field assessment to delineate the extent of presence by DNR or contracted surveyor
- 4.) External/public communications by DNR, County, PLSLWD, and lake associations/LID
- 5.) Obtain and organize resources (County/ PLSLWD, lake associations/LID)
- 6.) Identification of measures (e.g., physical or policy) to prevent further spread (DNR & County/ PLSLWD)
- 7.) Take available and relevant control actions (County or PLSLWD)
- 8.) Implement longer-term monitoring (County or PLSLWD)

Refer to the Minnesota DNR's [Minnesota Early Detection and Response Plan for Aquatic Invasive Species](#) for more details.

3.0.2 WHAT TO DO IF YOU THINK YOU DETECTED A NEW AQUATIC INVASIVE SPECIES

Anyone that suspects an aquatic invasive plant or animal is new to an area, should:

1. Note the exact location (GPS point / point on a map, lake, county, nearest city, etc.) where you found the plant or animal.
2. Take a photo or collect a specimen:
 - a. Clear photos with all parts of the plant/animal and item for scale. Make sure to include close-ups of leaflets (leaves), their attachment to the stem, any flowering structures and smaller growth structures of plants that might be present.
 - b. Place in tightly sealed container (plastic bag or jar) with small amount of water.
 - c. Label with specific location, date, your name.
 - d. Refrigerate the sample.
 - e. You may transport directly to a DNR office for identification without a permit.
3. Contact the [DNR Invasive Species Specialist](#) in your region.
4. Optional: Report it online using [EDDMapS](#) or the GLEDN App (free in the [Apple Store](#) or [Google Play](#)). This report will notify the AIS Specialist based on the county the species was observed.
5. *If it turns out you don't need to submit the physical sample to a DNR invasive species specialist, please dispose of the sample properly as directed by the DNR.

3.0.3 AIS Watch List

The following list of AIS are the invasive plants and animals that have been confirmed in the surrounding counties and that are currently found in Scott County lakes, therefore, are a high risk of infesting Scott County waterbodies.

Table 1. AIS Watch List for Scott County Lakes (as of November 9, 2022)

Invasive Species Name	AIS type	County Identified In
Brittle naiad	Plant	Carver, Dakota, Hennepin,
Eurasian watermilfoil	Plant	Carver, Dakota, Hennepin, Le Sueur, Ramsey, Rice, Scott
Flowering rush	Plant	Dakota, Hennepin, Le Sueur, Ramsey, Rice
Starry stonewort	Plant	Hennepin
Zebra mussel	Animal	Carver, Dakota, Hennepin, Ramsey, Scott, Washington

3.3 STEPS IN PREPARATION FOR A RESPONSE

3.3.1 AQUATIC INVASIVE PLANTS

Verification of introduction of new AIS by DNR

If a new infestation of plant is detected (or suspected) in a lake, it will trigger a rapid response assessment under the direction of the Minnesota Department of Natural Resources AIS Specialists. The first action will be to verify that a suspect plant is actually an invasive species and has not already been reported. This will be done by the area DNR AIS Specialist.

Field assessment

Upon verification of a new invasive plant in a lake, a rapid response assessment will take place. The assessment includes an initial search (conducted by DNR or contracted surveyor) of the most probable locations to delineate the density and distribution to map the location(s) of the invasive plant.

Assessment of Risk & Action Recommendations

Depending on the new species of plant discovered, the DNR will assess risks to native species populations in the lake associated with potential response actions. The DNR will make an action recommendation. Control options may include:

Mechanical & manual control , either hand pulling, raking, or harvesting. Depending on the species, it may or may not result in long term control.
Chemical control , with contact or systemic herbicides. Generally, the aim is for selective control of the invasive plant while retaining, the native plant community.
Biological control , (biocontrol) is the use of parasitoid, predator, pathogen, antagonist or competitor populations to suppress a pest population. The only known biological control at this time is the milfoil weevil for control of Eurasian watermilfoil and the leaf-eating beetle for control of purple loosestrife.
No attempt to control
Spread prevention , through education, outreach, and/or watercraft inspection.

External/public communications

When a new AIS population is confirmed, the DNR may choose to draft a news release. The local organization will not release a news release until after the DNR news release has been distributed. Local partners should coordinate on a local news release to the public and local lake groups. See communication process on page 15.

Obtain and organize resources

A response guidance group made up of DNR staff, local organization representatives (County or PLSLWD) and other experts as needed will convene. The group will discuss available funding, pros/cons of various

control options and monitoring that will be needed.

Implement response actions

A control and monitoring plan will be developed between the organization and DNR if a decision is made to take action. When applicable, DNR staff issue a permit for control.

Long-term monitoring

The local organization will coordinate with the DNR to determine monitoring actions and frequency, with the local organization communicating information about the monitoring results to partners and stakeholders annually or as needed. Adaptive management will be implemented as monitoring results are reviewed.

3.3.2 AQUATIC INVASIVE ANIMALS

All actions from this point forward will be coordinated with, and under the direction of the Minnesota Department of Natural Resources, Central Region, St. Paul AIS Specialists.

<https://www.mndnr.gov/AIScontacts>. April Londo, AIS Specialist is the current primary contact at april.londo@state.mn.us or (651) 259-5861.

Follow the steps on page 8 under 3.2 WHAT TO DO IF YOU THINK YOU DETECTED A NEW AQUATIC INVASIVE SPECIES if you found an aquatic animal that may be non-native and not detected or identified already in the location you found it.

New infestation steps including field assessment, risk assessment, external/public communications, and any recommended control actions will be directed by the DNR.

3.3.3 ZEBRA MUSSELS

Rapid Response Assessment

Zebra mussels are present in Lower & Upper Prior Lakes, Spring and Pike lakes in Scott County. Zebra mussel spread within the county is a high risk to our other lakes with public access, for this reason, steps in preparation for a zebra mussel response is included here in more detail. Zebra mussel detection (or suspected) in a lake will trigger a rapid response assessment under the direction of the Minnesota Department of Natural Resources AIS Specialists. The first action will be to verify that a suspect mussel is actually a zebra mussel.

Upon verification of zebra mussels in a lake, a rapid response assessment will take place. The assessment includes an initial search (conducted by DNR or surveyor) of the most probable locations to determine the density and distribution of zebra mussels. All zebra mussel locations will be mapped.

Typically, new zebra mussel introductions have come in at a public access or on lake equipment such as boat docks or lifts. Finding a new zebra mussel by searching boat lifts and docks around the entire shoreline is time consuming and inefficient therefore, the most efficient search effort is inspecting boat landing areas. Unless a lake resident observes an attached zebra mussel on a piece of lake equipment as it goes in, there is little chance of finding this zebra mussel on a random lake wide search of lake equipment. Therefore, a search effort should be concentrated to the public access area(s).¹

Rapid Response Action

If only 1 to 2 zebra mussel sites are found after the rapid response assessment, then treatment may be attempted but it is limited to the location of initial observation. The feasibility of a successful eradication will be evaluated by comparing conditions to other lakes that have attempted eradication treatments. DNR, Scott County, PLSLWD (if in their jurisdiction), lake associations and consultants will coordinate

decision making to determine if a rapid response action will go forward.

If the results of the rapid response assessment indicate all zebra mussels found are in a small area and the Eradication Index score is suitably high (800), an eradication attempt may be considered. If the Index score is low, the odds of successful eradication are low, going forward with a response action should be carefully considered and should not occur.

Zebra Mussel Eradication Index

As a component in the rapid response assessment, to help evaluate the zebra mussel status and make an eradication attempt determination, a semi-quantitative approach can be considered using a zebra mussel Eradication Index (McComas, unpublished). The Index has been used for a number of lakes. The highest score recorded to date was for Christmas Lake where an Index score of 730 out of a possible 1,000 points was calculated. This has been the best candidate for a zebra mussel eradication attempt as of October 2015. However, zebra mussels were found in October 2015 in Christmas Lake three months after the final eradication attempt. Eradication was not successful in Christmas Lake. This indicates that for a successful eradication, an Index score above 730 may be required.

Table 1. Eradication Index (McComas unpublished)

Criteria	Poor 0-30	Fair 30-60	Excellent 60-100
Minimum of 30 hours and 7,000 objects checked monthly in early detection surveys. Plate or tube samplers should be deployed and checked monthly			
Monthly early detection inspections indicate zebra mussels came into the lake within a month. Alternatively, there is specific knowledge of a recent introduction on an object (for example recent installation of a used boatlift with zebra mussels).			
Rapid response assessment involves up to 90 hours of additional searching and 20,000 objects should be checked.			
Zebra mussels are found at 1 or 2 sites. If three sites or more are found the probability of eradication decreases. Low numbers of zebra mussels should be present at the site of occurrence. If zebra mussel densities are high, the odds increase that they have detached and drifted to other locations.			
Zebra mussels should be immature. It has to be assumed immature zebra mussels were introduced on objects			
Individual mature zebra mussels should be separated by distance. If two or more mature zebra mussels are found in close proximity successful spawning is likely to have occurred and dispersal of veligers and juveniles may be widespread but undetected.			
Wave action on containment barriers along open stretches of shoreline causes leakage of treatment water and dilution by lake water reducing the chemical concentration of the toxic agent within the containment area. It is best if the containment area is in a secluded location such as a bay or a cove.			
Treatment area should be at least 3 times larger than known area of distribution at a site. A total area greater than 10 acres will be difficult to administer. Treatment should occur as soon as possible after the rapid response assessment.			
The probability of reintroduction should be low. Is the public access gated, are inspectors present from sunup to sundown, etc? Also do nearby lakes have zebra mussels?			
The smaller the lake the better. The odds of a successful eradication for lakes greater than 300 acres in size is low.			
Total Score			

If rapid response action is considered, containment barriers may be installed to attempt to contain the population until controls can be implemented.

Table 2: Rapid Response Action Options (McComas unpublished)

Rapid Response Action	Pros	Cons	Costs for 0.5 acre Treatment (22,000 square feet)
EarthTec (copper sulfate compound)	Used in Christmas and Independence and results indicated lethal concentrations can be achieved. Registered for zebra mussel control.	In some cases, less than 100% mortality of zebra mussels. Other organisms will be killed. Public access will be closed for a month.	Installation of a containment barrier up to 8 applications of CuSO4 over a 4-5-day period. Total: \$10,000
Potash (potassium chloride, a molluscicide)	Proven technique in a Virginia quarry and in Lake Winnipeg harbors. Can achieve 100% mortality.	Not a registered pesticide. Need special permission to use it. Public access will be closed for a month.	Containment barrier and single treatment: Total: \$8,000
Zequanox (biopesticide)	Proven technique. Used in Christmas Lake. Registered to use for zebra mussel control.	Less than 100% mortality of zebra mussels. Public access will be closed for a month.	Containment barrier and product: Total: \$44,400
Tarp or Pond Liners	Used in Lake Waco, Texas and Lake Tahoe, Nevada (Asian clams). Access remains open.	Need to remove tarps after a month. Need special permits. Organisms under the tarp will be killed.	\$1/sf x 22,000 sf = \$22,000 + labor Total: \$22,000
Sand Blanket (3 to 6 inches of sand added to area)	No chemicals needed. Access remains open. Theoretical 100% mortality.	Still experimental and untested.	\$0.65 sf for 6 inch thickness Total: \$14,300 \$0.33 sf for 3 inch thickness Total: \$7,260 + labor to spread the sand
Drawdown (dewater the infested area using a water dam)	Can completely dewater and dry out an infested area for a theoretical 100% mortality.	Other organisms will be killed in dewatered area as well.	Rental for 441 feet of a water dam for a containment area: Total: \$46,000 + labor Purchase of 441 ft of a water dam Total: \$113,000 + labor
Do Nothing	No cost	Zebra mussels will likely multiple and spread to other areas of the lake eventually causing ecological damage	Total: \$0

**Options created by Blue Water Science in Zebra Mussel Early Detection, Rapid Response, and Control Plan for Bone Lake, Washington Co., Minnesota*

Currently Minnesota rules and regulations will determine which method(s) of treatment will be allowed during a response effort. The DNR AIS Specialist will help determine which action(s) can be taken. At this point in time, zebra mussel control efforts are reviewed on a case-by-case basis and must meet specific requirements in order to be considered. More information on zebra mussel pilot projects and results can be found [here](#).

Long term monitoring after zebra mussel colonization

All actions from this point forward will be coordinated with, and under the direction of the Minnesota Department of Natural Resources, Central Region, St. Paul AIS Specialists. April Londo, AIS Specialist is the current primary contact at april.londo@state.mn.us or (651) 259-5861.

To date, there has not been a successful method to eradicate zebra mussels once they have been introduced to a lake. Managing an established population is often unsuccessful.

Several Scott County lakes are monitored annually through the Citizen-Assisted Lake Monitoring Program (CAMP) for water quality parameters of total phosphorus, chlorophyll-a and transparency and will continue into the future. Monitoring zebra mussel densities should be considered as well at these water quality sampling locations. In the future, zebra mussel densities could be correlated with water quality results. In addition, plant assessments and fish surveys will continue and potential changes may be associated with zebra mussel densities.

If resources are available, Scott County may partner in research and monitoring pre and post invasions. We are hopeful that continued research through the Minnesota Aquatic Invasive Species Research Center (MAISRC) at the University of Minnesota will advance the knowledge needed to reduce impacts of AIS on our surface waters.

4.0 FINANCING RAPID RESPONSE

Scott County has \$70,000 set aside for a response for a new infestation (\$50,000 treatment, \$20,000 survey/delineation) in the 2023-2024 Scott County AIS Prevention Plan budget. Coordination for early detection and rapid response is included in the annual budget of the AIS Prevention Plan.

5.0 COMMUNICATION PROCESS

The following communication flow chart describes the general flow of communication between partner organizations throughout the rapid response process.

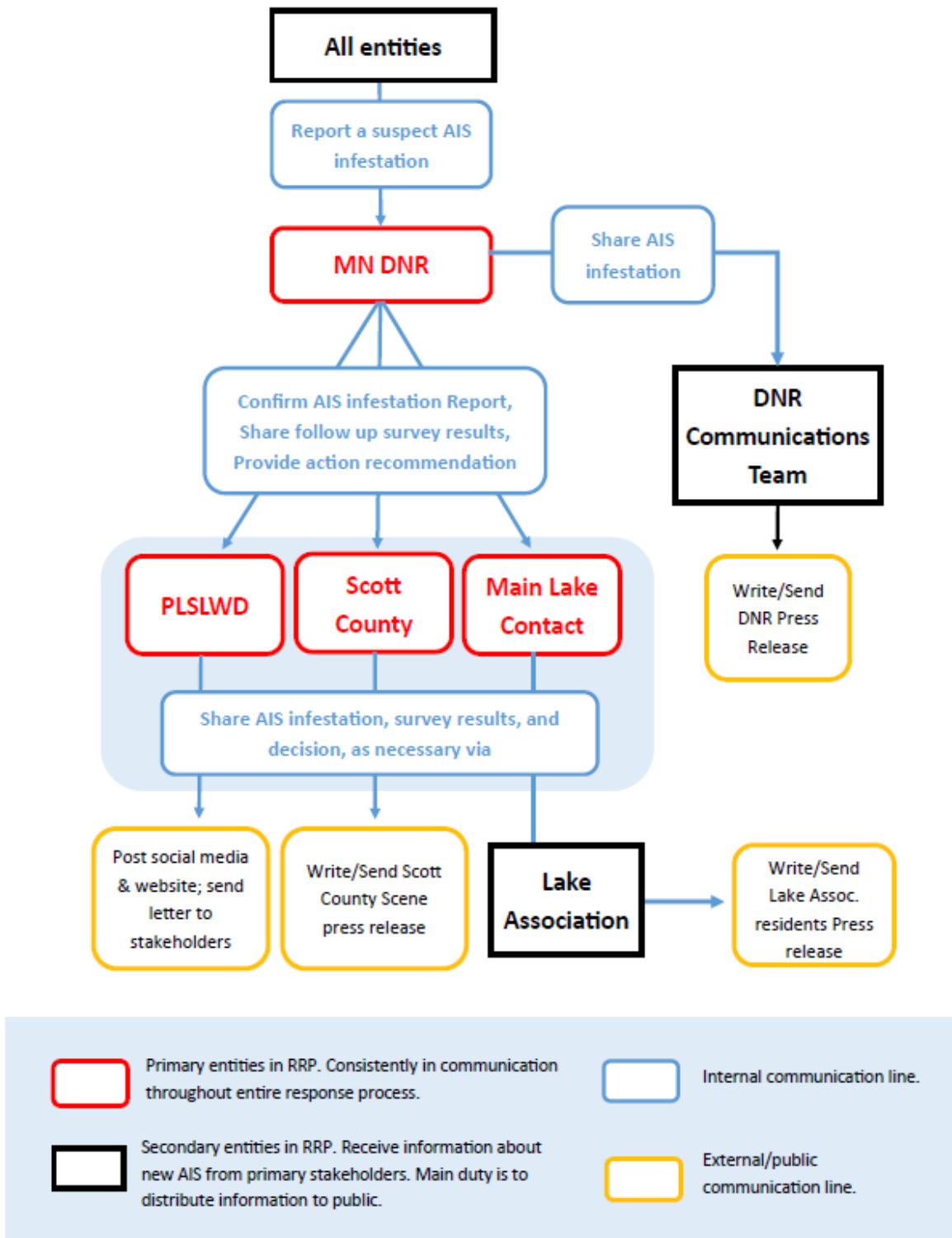


Figure 1. Scott County/PLSLWD Rapid Response Communication Process.

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APPENDIX A

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