



AQUATIC INVASIVE SPECIES IN MINNESOTA'S WATERS – AN AQUADEMIC Position Paper and Recommendations of Minnesota Waters (Adopted April 29, 2009)

*** Executive Summary – Full Position Paper Available at www.minnesotawaters.org ***

How do you describe a condition where harmful polluting agents spread rapidly to new lakes and rivers, are self-replicating, and cannot be treated effectively or eradicated once they have been introduced?

Minnesota Waters calls this condition an Aquatic Epidemic – or an Aquademic.

“Our lakes and rivers are under attack by aquatic invasive species (AIS). These aggressive, non-native organisms are a direct threat to the diversity and abundance of our native aquatic species, and to the ecological stability of our state’s waters. AIS are a huge problem because our native habitats have no natural controls – predators, pathogens, or parasites – to slow or limit the expansion of AIS populations. This unchecked AIS growth can quickly overrun an aquatic ecosystem and its species, as well as a devastating impact on businesses and recreation activities that rely on them.” - Harry Gibbons, President, North American Lake Management Society.

At Minnesota Waters, we believe the current AIS aquademic is one of our state’s defining ecologic, economic, and social crises. And while education, awareness and voluntary actions have greatly increased Minnesotans’ knowledge of AIS – and prompted some positive action to stem their spread -- more must be done. AIS are a serious and pervasive threat to our lakes and rivers. To beat them, we will need to make equally serious investments and cultural changes. We need to change the game.

What are aquatic invasive species (AIS)?

Aquatic Invasive Species are non-native plants, animals, and pathogens that live primarily in water, thrive in a new environment, and cause economic loss, environmental damage, and harm to human health.

The senior science editor for *Discover*, Alan Burdick, refers to this new era as the ‘Homogocene’ – where the greatest threat to biological diversity is “not bulldozers or pesticides, but in a sense, nature itself.” Aquatic invasive species are responsible for several categorical problems, including:

- Ecology. AIS cause ecological damage through predation, competition and displacement of native plants and animals, or through habitat alteration and destruction.
- Economy. AIS can have dramatic economic impacts, including reduced tourism and property values.
- Recreation. AIS overrun desirable species, impede water access, foul swimming areas, and reduce an area’s aesthetic appeal.
- Commerce and public infrastructure. AIS impede commercial transport, clog water intakes and have other physical impacts and impediments to infrastructure and commerce.
- Human health. AIS may cause or contribute to human health concerns including disease, the accumulation of toxins and infections in fish, and in the case of zebra mussels, unsafe beaches caused by the accumulation of sharp shells. Also, there are cases where drowning victims have become entangled in milfoil.

AIS In Minnesota

AIS have been in our state for more than a century (e.g., common carp, curlyleaf pondweed); however, their recognition as a threat worthy of special attention has occurred more recently. Our modern AIS era began with the discovery of Eurasian watermilfoil (EWM) in Lake Minnetonka in 1987. EWM has since spread to many other lakes -- including many in the Metro area.

There are currently about a dozen species of plants and animals in Minnesota's waters that cause significant damage, and for which we have little or no control. Some AIS infest hundreds of Minnesota's waters, while others currently only infest a few waters, or have yet to arrive in our state. However, the spread of AIS within Minnesota's inland waters is rapidly increasing and the infestation within individual water bodies will most likely be exponential.

The spread of AIS is primarily caused by recreational watercraft moving to and from Minnesota's waters -- both within the state, and from outside the state. Minnesota has a large number of lakes and rivers and a high per capita boat ownership and use. And our laws, regulations and culture, have evolved to allow broad use and enjoyment of our abundant water resources. Unfortunately, this long tradition of love and appreciation for aquatic activities now facilitates the spread of AIS.

Why AIS a serious problem that needs to be addressed now

- New AIS continue to enter Minnesota. (The species nearest Minnesota and of highest concern include hydrilla and VHS).
- The number of Minnesota lakes and rivers infested with AIS is increasing.
- All AIS have harmful impacts to some degree.
- There are no known cases where AIS have been eradicated from a body of water once it has been introduced.

Barriers to solving the problem

Our response to date has been far from adequate. When EWM was discovered in Lake Minnetonka, lawmakers and local communities were quick to take action. However, the effort gradually lost momentum. Current research on control and prevention of AIS is minimal, both in Minnesota and across the nation. Existing prevention efforts rely mainly on education, awareness and voluntary actions. That's a good start. But it's not nearly enough. Unless we substantially change our underlying philosophy, management, control systems and investments, the AIS problem will continue to spread.

There are a number of obstacles that make it difficult for our state to mount an effective response to the AIS problem:

- **Scale and complexity.** Given the size and complexity of the issue, it is easy to throw up our hands and accept the spread of AIS as inevitable.
- **Lack of effective controls.** For most AIS, there are no known eradication methods. For many others, there are no control methods. Moreover, for AIS that can be controlled, the methods often carry public stigma. For example, curlyleaf pondweed or Eurasian watermilfoil can be controlled with herbicides that do not harm native plants and have been deemed safe by government regulators; however, use of these herbicides often face stiff resistance from the public.

- **Culture and Attitudes.** Perhaps the single greatest challenge to confronting and improving our state's AIS prevention and management system is our culture and attitudes. We love our lakes and rivers, and are reluctant to change how we use them – even if those changes are necessary to protect them. Because AIS primarily spread by hitchhiking on watercraft, we must reexamine our systems for inspecting and controlling. Does it make sense to allow unfettered movement of watercraft if that unfettered movement destroys the value and integrity of the waters themselves?

It's not too late...but we can't wait

Minnesota's response to the AIS problem has evolved over the past two decades in a piecemeal fashion. As a result, we lack a comprehensive management system, and we lack a sense of urgency.

Because AIS pose larger political, economic, cultural and social challenges, many comprehensive or critical analyses tend to shy away from, rather than confront, these implications of AIS impacts. Many citizens, resources users and management agencies have demonstrated a kind of 'hot potato' approach to confronting AIS problems – the 'hot potato' being the obvious conflicts or confrontations with the scale, scope and scariness of the AIS problem.

Because an effective AIS response will require us to change how we use our state's waters, many people instinctively react with skepticism. This kind of skepticism typically goes through three stages:

- First, they tell you you're wrong and can prove it
- Second, they tell you you're right, but it doesn't matter
- Third, they tell you it matters but it's too late to do anything about it.

The good news is that it's not too late for us to tackle the AIS problem. At least not yet. Thanks to the statewide cooperation of citizens, recreationalists, tourism industries, businesses, and agencies, *less than 1% of Minnesota's waters are currently infested* with AIS like zebra mussels and Eurasian watermilfoil. Of course, this also means that 99% of our waters are still at risk and need to be protected.

Recommendations

We are now at a fork in the road. We can continue down our current path that has evolved over the past two decades into a collective body of laws and programs that have proven to be inadequate. Or we can choose a better path.

In our view, the status quo is not an option. Neither are incremental, patchwork fixes. "You can optimize individual pieces up to a point," says Thomas Friedman in *Hot, Flat & Crowded*, "[But] if you don't scrap the whole system and put a new system in place, ultimately everything will be constrained. [On the other hand,] if you put together a new system, and you do it right, everything starts to get better."

Unless we transform our approach, AIS will steadily overrun Minnesota's lakes and rivers – with devastating results for our state's businesses, communities, and recreation. The AIS management system in Minnesota is constrained by outdated laws and cultural norms and is seriously broken. We need to re-examine the legal, regulatory cultural framework that has allowed AIS to become a large problem, and establish a new system for stemming the AIS aquademic.

1. **Minnesota Waters recommends** the state adopt an AIS management system that prioritizes its activities, especially by devoting more focus and resources to prevention.

2. **Minnesota Waters recommends** that 80% of all state resources for AIS be devoted to prevention¹. As well, prevention programs and activities should be diversified to include education/awareness, containment of new AIS infestations, containment of AIS in ‘super spreaders,’ licensing of service providers, more enforcement of state laws and rules, uniform AIS prevention laws, reducing invasibility and allowing/supporting citizen-based prevent programs.

3. **Minnesota Water recommends** a flexible and multi-faceted approach to AIS that recognizes and responds to situational differences among various regions of the state.

4. **Minnesota Waters recommends** increased funding for the AIS prevention program (excluding grant funding) - should be doubled compared to the 2009 program.

5. **Minnesota Waters recommends** increased funding for AIS prevention and control grants to local interests¹.

<u>Program</u>	<u>Current Funding</u>	<u>Funding that is Necessary</u>
• AIS Prevention Grants	\$100,000 per year	\$1,500,000 per year
• Milfoil Nuisance Control	\$200,000 per year	\$200,000 per year
• EWM & CLP Pilot Projects	\$400,000 per year	\$1,500,000 per year

6. **Minnesota Waters recommends** that AIS (plant) control be encouraged in manners that protect native plants and encourage restoration by requiring Lake Vegetation Management Plans (LVMPs), providing grant funding for LVMPs, eliminating permit fees and encouraging lake-wide controls by eliminating riparian consents.

7. **Minnesota Waters recommends** that a dialog be initiated among Minnesota’s resource managers and policy makers to re-examine the legal, cultural and social framework that now prevents consideration of Level 3 (a more stringent level described in the full report) AIS management system that includes these elements: quarantine² of waters, significant increases in fines and penalties for AIS laws, new funding, inspection fees, providing local authorities to control accesses (while protecting public access rights).

Perhaps most important, we must find a way to balance the issues of access and control. Changes that threaten to interfere with our boating culture -- such as ‘quarantines,’ ‘fees,’ ‘restrictions,’ ‘herbicides’ and ‘inspections’ – tend to elicit a knee-jerk response. But in order to save the waters we love so much, these concepts must at least be on the table for discussion and evaluation. Too often, people try to rationalize their resistance through statements such as ‘Eurasian watermilfoil is good for fishing’ or ‘AIS are carried by waterfowl and can’t be stopped.’ Unless we are willing to tackle the cultural issue, and confront the difficult conflicts between access and control, Minnesota’s waters are at high risk of being permanently and irreversibly damaged.

¹ Summary of state funding recommendations – AIS Prevention, \$10 million annually; AIS control, \$2.5 million annually.

² Here we use quarantine to mean a very strict monitoring, inspection and assurance of recreational watercraft and other vectors being AIS-free as opposed to the absolute prohibition of public access to lakes and rivers.