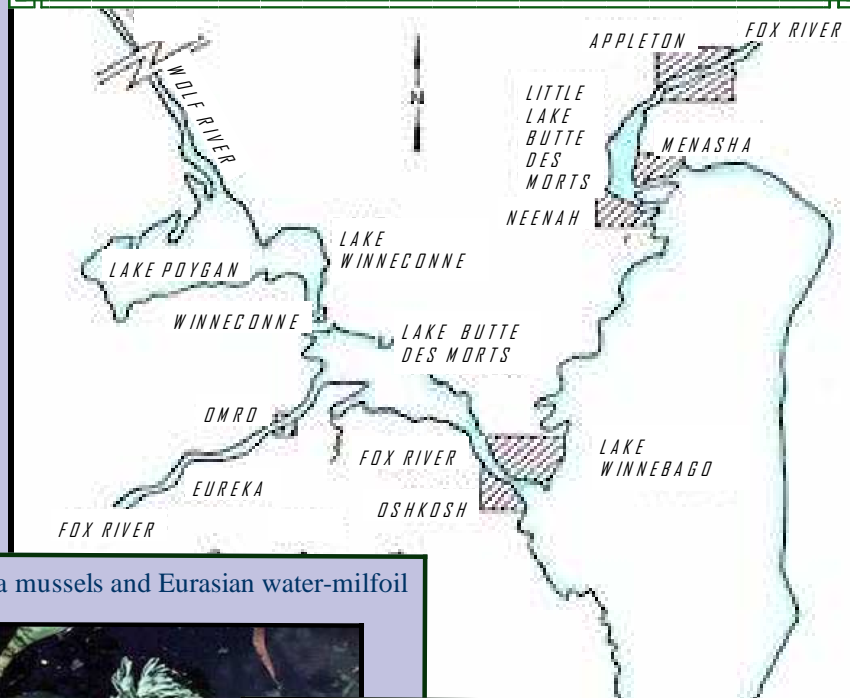


Aquatic Invasive Species Strategic Plan for the Winnebago Pool Lakes



Zebra mussels and Eurasian water-milfoil



Aquatic Invasive Species Strategic Plan for the Winnebago Pool Lakes

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Aquatic Invasive Species Strategic Plan for the Winnebago Pool Lakes

Participants

The Aquatic Invasive Species Strategic Plan was created by the Winnebago Pool Lakes Aquatic Invasive Species Advisory Group, which was funded by a Wisconsin DNR AIS Control Grant awarded to the Winnebago Lakes Council. The Advisory Group included nineteen representatives of state agencies, academic institutions, nongovernmental organizations and related businesses. Additional agency representatives and stakeholders provided valuable technical input and review. Public participants provided invaluable real world input and insight. This plan could not have been written without the commitments of time and energy given by this group. In addition, the Advisory Group drew upon the work of others who have previously developed aquatic invasive species management plans.

Winnebago Pool Lakes Aquatic Invasive Species Advisory Group:

Mike Arrowood- *Walleyes for Tomorrow*
Stephen Brand- *Oshkosh Public Works*
Mike Buettner- *Appleton Water Treatment Utility*
Bill Bush- *Fox River Navigational System Authority*
Todd Close- *Wolf River Conservation Alliance*
Bob Haase- *Muskie Clubs Alliance*
Eugene McLeod- *Calumet County Land and Water Conservation*
Steve McNeil- *Winneconne Village Administrator*
Gary Olson- *Appleton Yacht Club*
Arlene Schmuhl- *Oshkosh Convention and Visitors Bureau*
Dick Sickinger- *Fox River Bait and Tackle*
Rob Way- *Winnebago County Parks Department*
Bob Wojcik- *Winnebago Lakes Council*

Steering Committee:

Chad Cook- *UW-Extension*
Mike Lizotte- *University of Wisconsin Oshkosh*
Catherine Neiswender- *UW- Extension*
Rob McLennan- *Wisconsin DNR*

Consultant:

Anne Forbes- *Partners in Place LLC, Madison*

Project Coordinator:

Candice Mortara- *Winnebago Lakes Council*

Preface

This report is a landmark contribution to the effort of preventing the spread of aquatic invasive species (“AIS”) into and from the Winnebago Pool. It is a major undertaking to assemble strategies for one of the largest and most heavily used lake systems on the planet. The extraordinary features of the lake system made up by Lakes Winnebago, Butte des Morts, Winneconne, and Poygan can be recognized at state and national levels:

- the largest lake system within Wisconsin, with 166,000 acres making up 17% of the inland surface water in the state;
- the 7th largest freshwater lake system all or mostly within the lower 48 US states (after Lakes Superior, Michigan, Erie, Champlain, Okeechobee, and Red Lake);
- over 2,000,000 people reside within a day trip distance of 75 miles.
- over 250,000 people using the lakes for drinking water
- heaviest inland boater use in Wisconsin
- over \$300 Million in annual economic activity from recreational fishing
- the only sustainably harvested Lake Sturgeon population in the world

The management challenges are on a similarly large scale. While special state and federal programs exist for funding to protect the Great Lakes, Lake Champlain (NY/VT), and Lake Okeechobee (FL), the Winnebago Pool lakes are limited to state programs developed for Wisconsin’s 15,000 much smaller systems (the smallest 12,000 would not add up to the Winnebago Pool acreage). The aquatic invasive species threat may be higher for the Winnebago Pool than for any other inland lake in the entire USA, given its proximity to the huge reservoir of exotic species in the Great Lakes (less than 35 miles to the Pool lakes and their watershed), its popularity for boating and fishing, and the weak regulatory and law enforcement climate in Wisconsin compared with how other states are addressing this issue. People continue to change the system, most recently with efforts to restore locks on the lower Fox River that will re-establish direct boat access from the Lake Michigan (after a hiatus of about 30 years).

But there are management precedents and recommendations. In 1989, the Wisconsin Department of Natural Resources published The Winnebago Comprehensive Management Plan, which covers all four lakes, specifically listed as a critical objective to “prevent sea lamprey and other exotic fish from entering”. The main focus of this recommendation was to protect the fishery. They noted that once in the Winnebago System, *sea lamprey* would have access to over 500 miles of spawning habitat via the Wolf and Fox Rivers. The management plan also contains a strong case for prevention before invasion by noting the failure to control the *common carp*, introduced over 120 years ago and the subsequent disturbance of habitat and loss of aquatic plant beds. The 1989 Plan is conspicuously silent on the non-fish AIS.

A more thorough and updated management plan is needed to protect the Winnebago Pool from AIS, and to keep the Winnebago Pool from passing AIS to the rest of the state. The introduction below recounts how subsequent reports and databases have identified a much longer

list of exotic and invasive species that now inhabit the Winnebago Pool. As the list of new species grows, the importance of the Winnebago Pool as a source of AIS to the rest of the state has increased. The spread of zebra mussels into central Wisconsin occurred within years of their entry into the Winnebago Pool. With the Winnebago Pool lakes gaining a new invasive species about every 3-5 years, prevention here will also slow the spread of aquatic hitchhikers statewide.

The future will also present changes in technology, infrastructure, and society will change the risk of new AIS outbreaks. Some changes, included some recommended in this document, may improve prevention by making it easier to clean boats and gear, or discouraging lake users from moving lake to lake without taking precautions. But other changes may increase the risk by removing barriers, or encouraging the trailering of boats to avoid fees or high fuel costs. Attitudes of lake users are the most difficult to predict, but our work continues in faith that future generations will lean more strongly towards stewardship.

This draft regional plan for AIS prevention and control was produced through a partnership between Winnebago County, UW Extension, UW Oshkosh, and the Winnebago Lakes Council, with grant support from the Wisconsin DNR. Their grant proposal was billed as Phase I with the main goals of drafting a strategic plan, implementing proven public education programs (such as Clean Boats Clean Waters), analyzing current infestations, and implementing outreach activities. The draft regional plan is based on input by local residents, government, business, and organizations representing conservation, recreation, and environmental concerns. The Winnebago Lakes Council plans to lead a Phase II, in which these recommendations will be used to devise specific actions, and implementation of the plan will be pursued with the 4 counties and 27 towns and cities that reside on the shores of the Winnebago Pool.

The contributions of the Advisory Group deserve special recognition. These individuals donated their time and energy. They were asked to “wear many hats” by representing their organizations, considering their roles in society, and sharing their personal thoughts. They generated fresh ideas, and helped with public sessions to gather input from a wider range of citizens. I am certain that their work will help lead policymakers as well as citizens to make the changes necessary to protect the Winnebago Pool Lakes for future generations.

Michael Lizotte
President, **Winnebago Lakes Council**

I. Introduction

Aquatic Invasive Species (AIS) are plants and animals present in an ecosystem beyond their native range. They may threaten native species and interfere with commercial, agricultural, or recreational activities. In their native environments there are typically predators, parasites, pathogens, and competitors that keep these invasive species in check and create a balance. However, when they are transported to a new environment, the natural checks are usually left behind. This gives invasive plants and animals a jump on the native competition. Additionally, native species haven't "grown up" with these new species, so they often don't know how to eat them or compete against them. This means that often AIS can grow and reproduce without hindrance for several years after introduction. Eventually some native plants and animals might adapt and put in place that natural check, but if the AIS are particularly hearty, they may choke out the locals before they have time to learn how to compete.

The Great Lakes are a source for AIS. There are over 180 non-native species found in their waters and a good number of those are considered invasive. Most have been introduced into the Great Lakes in the discharged ballast water of ocean-going ships. Additional species made their way by way of canals created for shipping. Some species were intentionally stocked. Others were likely introduced when unused bait was discarded. Gardening and aquarium retailers and hobbyists, as well as the aquaculture industry, also inadvertently introduced invasive plants and animals.

Once in the waters that border Wisconsin, aquatic invasive species often hitch rides to inland water bodies (for purposes of this plan – specifically Lakes Winnebago, Butte des Morts, Winneconne and Poygan which are known as the Winnebago Pool Lakes) on the boats, trailers, and equipment that get moved from place to place. Anglers can transport them in bait buckets and live wells. Other things that move between waters, including birds and seaplanes, also have the ability to carry "hitchhikers." The means by which AIS are moved from one location to another are considered vectors.

In 2004 the DNR (with UW Extension and the Poygan Sportsmen's Club) published a report on "Water Quality in the Lake Winnebago Pool" (DNR Publ. No. FH-229-04) which addressed what AIS had made it into the Winnebago Pool Lakes via these vectors. *Common carp*, *zebra mussels*, and *eurasian watermilfoil* were listed as the most problematic species. *Curly leaf pondweed*, and *purple loosestrife* were also mentioned. Additionally, the Wisconsin State Herbarium lists *reed canary grass* and *flowering rush* as present in Winnebago Pool marshes and the U.S. Geological Survey now includes parts of the system in its maps of *rusty crayfish* distribution. *VHS* (Viral Hemorrhagic Septicemia -- an infectious viral disease of fish) first appeared in the system in 2007..

In that same report, the DNR also notes the highest potential threats for future AIS as being *round goby*, *spiny waterflea*, *fishhook waterflea*, *sea lamprey* and *white perch*. This determination was made based on these species success in Lake Michigan (not necessarily equivalent habitat to the shallow Winnebago Pool).

The Winnebago Pool Lakes constitute the largest lake system within Wisconsin. Their 166,000 acres make up 17% of the inland surface water in the state, and approximately 10% of

Wisconsin citizens live in the surrounding counties (Winnebago, Fond du Lac, Waushara, Calumet and Outagamie). As a measure of potential users, over two million people reside within 75 miles. This usage brings much to the state's economy. A 2006 study completed by UW-Green Bay found that angling contributes \$155.5 million of direct spending annually to the region. Almost 3,500 jobs are attributed to this direct spending. An additional indirect and induced impact of \$78.5 million and 800 jobs is also felt in the region, resulting in a total economic impact of \$234 million and 4,300 jobs.

The system is extremely valuable, for both economic and quality of life reasons. Its ecological health needs to be protected. The following Aquatic Invasive Species Strategic Plan is to be put in place to help accomplish a piece of that protection.

Process and Participation

Winnebago Lakes Council (Council) decided to look into the problem of AIS and in November 2005 invited Dick Sachs (DNR, Coordinator for AIS programs) to give a presentation on state AIS programs and to discuss the threats to the Winnebago Pool. Attendees included Council board members, Council advisors from DNR, UWEX, and East Central Wisconsin Regional Planning Commission, officers from local conservation and fishing clubs, and interested citizens. The general consensus was that the Winnebago Pool Lakes were in need of a strategic plan for AIS prevention and control, and that the Council should develop this proposal. A second meeting was held in December to brainstorm ideas related to prevention and control measures. This resulted in a range of ideas in areas of education, citizen-based monitoring, law enforcement, ordinance development, incentives to promote good behaviors, and partnerships. Feedback from Dick Sachs was that the Council's ideas were consistent with the state AIS Control grant program. Council then contacted the Wisconsin Association of Lakes (the Council is a member). WAL responded with suggestions for possible strategic planning committee members, an update on their AIS expertise and initiatives, and a list of lake associations in nearby counties who may wish to be involved or stay informed of this project. In 2006, Council received a Wisconsin Aquatic Invasive Species Control Grant to proceed with this project.

From this grant, a project coordinator was hired and the Winnebago Pool Lakes Aquatic Invasive Species Advisory Group (Advisory Group) was assembled to include a wide range of stakeholders representing municipalities, conservation organizations, bait sellers, universities, utilities and boaters. The goal was to develop a comprehensive plan to *address the introduction and spread of Aquatic Invasive Species to and from the Winnebago Pool Lakes in order to minimize the harmful ecological, economic and human health impacts of the invasive species.*

Their specific charge included:

- Informing themselves and others in the group about AIS
- Representing their individual group or interest
- Challenging themselves to address the issue in an effective way which will lead to behavior change in the public where needed
- Assisting with public input and outreach activities

- Providing content for and review of the draft comprehensive plan.

The Advisory Group met as a whole as well as in smaller focus groups and assisted with five public meetings between June and October of 2007. During that time, they went through an extensive brainstorming process looking at what they thought could be done to decrease the risk of transporting AIS, what things could possibly encourage activities in line with this decreased risk, and what is currently preventing the right thing from being done. This information was then honed into a set of narratives. The narratives were designed to be taken to the public meetings and presented the Advisory Group's ideas for increasing compliance and participation in practices that prevent or manage AIS.

The public meetings were held in Oshkosh, Winneconne, Stockbridge, Menasha and Fond du Lac.

The goals of these meetings were five fold:

1. To find what the individuals knew and what they didn't know about AIS and the practices which prevent AIS.
2. To determine what practices they were currently doing and why.
3. To hear what they thought was the current state of compliance to the AIS law.
4. To then educate them on the AIS in this system and those species most likely to be introduced next.
5. To get detailed feedback on proposed narratives.

Information was gathered on the first 2 points by means of a worksheet. The 3rd point was discussed in small groups. Materials used and the summary of answers gathered are found in Appendix A and B respectively. The bulk of the evening was spent reviewing the list of narratives. They were asked to evaluate these ideas by identifying their pros and cons and asked also to offer ways to improve them.

The narratives were split into three categories for ease of presentation: Public Outreach/Education, Facilities and Regional Approach. These categories have since been incorporated into the Coordination/Collaboration, Prevention, and Policy sections. The full texts of the narratives as well as the public responses to each are found in Appendix C. Based on combined public reaction, aspects of these narratives have been incorporated into the draft plan and aspects have not been recommended at this time. Other suggestions were taken from public input and added into the plan where they were deemed feasible and likely to be effective.

The Advisory Group took final review and acceptance of this draft strategic plan in March of 2008.

Transport Vectors

Invasive species transport vectors are the means by which they are moved from one location to another. Natural pathways could include means such as wind and water currents or animal movements. Other vectors can be enhanced by, or even entirely created through, human activity as was mentioned above.

The Advisory Group has focused on the human-assisted vectors in this plan with the intention of reducing the risk of spreading all AIS that have access to these vectors. Therefore, different preventative measures have not been distinguished by species but are distinguished by vector. If further differentiation is shown to be necessary in the future, the plan is made to be flexible and those in charge of review will accommodate by developing new strategies.

The Advisory Group recognizes the potential threat from the following vectors:

Recreational Boating and Fishing. The transportation of boats and their trailers between water bodies presents a risk of introduction through hull fouling, entanglement, and water discharge from bilge pumps and bait buckets. The use of recreational boats for fishing poses the additional risk of the release of imported bait species or species that serve as hosts for AIS.

Nursery/Water Gardens/Aquarium Suppliers. Nonnative marine and freshwater organisms can be introduced accidentally or purposefully after being imported for use in aquaria and water gardens. Species distributed for use in these gardens are often selected due to their ability to survive and grow with minimal care under a range of environmental conditions and so prove to be hearty and potentially harmful. Of additional concern is the mislabeling of imported organisms, particularly aquatic plants, which may then be confused with native or innocuous species and released.

Construction and Restoration Industry. Installation of docks, platforms, bulkheads, and breakwaters can lead to the introduction of unwanted AIS. Similarly, the use of heavy machinery, such as harvesters and dredges, to remove AIS and/or sediments from infested water bodies can spread AIS from one site to another if the equipment is not properly cleaned between projects. Introduction of nonnative plants for habitat restoration and/or erosion control can lead to invasive spread. Equipment used during habitat restoration and subsequent monitoring, if not properly cleaned can also lead to AIS transfer.

Aquaculture Industry. Aquaculture is the cultivation of the natural produce of water (as fish or shellfish). Game fish have been widely transferred to stock sport fishing waterways – these transferred fish have the potential of being infested with AIS. Growth and maintenance of fish in open systems such as raceways, flow-through tanks, and net pens can quickly expose surrounding aquatic systems to any present pathogens. Cultured fish can also represent imported or altered genetic stocks that are selected for maximum growth or some other desirable trait and can be at a disadvantage in competing with wild populations.

Bait Industry. The shipment of live organisms into or around the state for use as bait may serve as pathways of introduction through their release (fish or invertebrates). Packing materials are often comprised of plant or algal matter and could harbor additional organisms.

Seaplanes. Invasive aquatic plants and other AIS can be transported from one body of water to another through entanglement on aircraft pontoons.

Existing AIS Efforts

Wisconsin Sea Grant is a leader in research and outreach related to these aquatic nuisance species. Current efforts focus on educating the public about zebra mussels and other invasive species, developing ways to control their spread, reducing their adverse effects, and combining conceptual and analytical tools required to evaluate fishery restoration efforts.

The **DNR** and UW-Extension have many programs dedicated to help limit the introduction and spread of AIS.

The *Aquatic Invasive Species Program* focuses on preventing the introduction of new invasive species to Wisconsin, preventing the spread of invasives that are already in the state, and controlling established populations when possible.

The *Watercraft Inspection Program* involves dissemination of information to anglers and recreational boaters to make them aware of what invasive species look like and what precautions they should take to avoid spreading them. It also involves visual inspection of boats to make sure they are "clean" and demonstration to the public of how to take the proper steps to clean their boats, trailers, and boating equipment. Watercraft inspectors also install signs at boat landings informing boaters of infestation status, state law, and steps to prevent spreading invasives.

The *Volunteer Lake Monitoring Effort* involves monitoring for aquatic invasive species, including zebra mussels, Eurasian water milfoil, spiny waterfleas, and rusty crayfish. For zebra mussels, it involves collecting samples for veliger (larval zebra mussel) analyses and deployment of substrate samplers. There are also specific sampling procedures for spiny waterfleas and rusty crayfish. For Eurasian water milfoil, it involves inspection of watercraft for invasive plants or visual shoreline inspections.

Information and Education Efforts, in close cooperation with UW Extension Environmental Resources Center and Wisconsin Sea Grant, focus on working with resource professionals and citizens statewide to teach boaters, anglers, and other water users the steps to take to prevent transporting aquatic invasives to new waters. Efforts also involve addressing other potential mechanisms of introduction, including aquarium pet release and water gardening. Many educational tools are used to reach the public - brochures and publications, watch cards and wild cards, public service announcements and displays at parks, sport shows, convention and symposiums.

A citizen based project focused on *Purple Loosestrife Biological Control* that emphasizes using two safe, purple loosestrife foliage-feeding beetle species, in combination with traditional methods, for controlling this invasive plant. Citizens of all ages make up the backbone of this cooperative program by rearing and releasing these insects in their local wetlands - and learning about these precious places in the process.

The *Clean Boats Clean Waters Program*, sponsored by the DNR, UW Extension, and the Wisconsin Association of Lakes, offers training to volunteers on how to organize a watercraft inspection program, how to inspect boats and equipment, and how to interact with the public. Volunteers are also encouraged to help monitor for aquatic invasive species.

These DNR programs are statewide and are not all currently employed around the Winnebago Pool Lakes.

UW Oshkosh is partnering with the DNR and UW-Extension to bring and expand *Clean Boats Clean Waters* programs to the Winnebago Pool Lakes, that will:

- Educate boaters at boat launches about AIS issues, laws, and prevention steps
- Conduct inspections of boats and trailers and survey boaters at boat launches
- Use the Watercraft Inspection Daily Work Diary to record data as boaters are entering or leaving the water body, and enter this data into an online DNR database
- Retrieve data in annual increments to analyze for various parameters
- Survey AIS infestations and facility conditions at all public boat launches
- Provide training sessions for volunteer watercraft inspectors and AIS monitors
- Conduct outreach at local events

The strategies suggested in this plan are meant to be complementary to the existing efforts.

II. Management Strategies and Actions

Coordination and Collaboration

STRATEGIC ACTION 1: Coordinate Winnebago Pool System AIS Management Activities

Issue addressed: The size of the Winnebago Pool System makes it imperative that the strategic plan be accepted and effectuated by a large number of the area conservation groups. A steering committee will be necessary for effective implementation of the AIS prevention strategies.

Task 1A: Convene an 18-20 member steering committee.

Creation of the steering committee is the most significant aspect of this plan in that it will allow and afford all other pieces to be implemented. It will facilitate cooperation and collaboration around the lakes on this issue. It does not leave the burden of this plan on any one organization or county and their funding, but shares the burden and resources among many.

During production of this plan, area organizations were contacted to get their view and input and were also asked for commitments to the AIS steering committee.

Task 1B: The steering committee will meet quarterly for at least 3 years to assure that the process of this plan is on track.

The committee will facilitate distribution of strategies/tasks to area conservation groups, will be available for action when new problems are identified, will research solutions, and will help the plan adapt to changing circumstances.

Task 1C: The AIS steering committee will meet annually with the Wisconsin DNR (DNR) and Wisconsin Sea Grant (WSG) to identify priority species and sites for management and to coordinate overall invasive species control efforts.

Task 1D: The AIS steering committee will also consult DNR and WSG as to what measures adjacent states are taking to combat AIS.

This will allow for the possibility of bringing in new strategies that have proven effective elsewhere.

Prevention

STRATEGIC ACTION 2: Prevent new introductions of AIS via recreational boating and fishing.

Issue addressed: Enhanced education and outreach efforts will be necessary to control the spread of fouling organisms and aquatic weeds to uninfested water bodies via recreational boating and fishing. Laws currently in place requiring the removal of plant and algal species from recreational vehicles need to be effectively communicated to the public as does the general importance of the issue of AIS.

Task 2A: Develop and implement an “It’s the Law” campaign.

The main focus of this campaign will be to educate the public on the current laws and best management practices. It will also work to shift people’s awareness so that they will view themselves as a participant in the fight against AIS. The campaign will be light hearted and humorous and will:

- State the current AIS prevention law
- State the fine/consequence for not following the law
- State how AIS effects the area recreationally and economically

Task 2A1: Encourage area wardens, sheriffs and police to enforce the current AIS prevention laws by issuing citations to those in non-compliance during one 30 day period toward the beginning of each boating season.

Input from the public impressed upon the Advisory Group that simply knowing the information will not change behavior without a true threat of consequence.

Task 2B: Create a short AIS questionnaire to be given when purchasing licenses, launch permits and boating registrations.

The questionnaire will acknowledge the rules and the importance of AIS prevention. The steering committee will work with area businesses and license distributors to develop the most convenient method for delivery of this questionnaire.

Task 2B1: Encourage area businesses to present the AIS questionnaire to their customers during purchase of licenses, permits, and registrations.

This face-to-face component will complement the marketing strategy and will work to personalize the message. It will be voluntary, so early buy-in by businesses is imperative to success.

Task 2C: Encourage DNR to add additional AIS information to the existing boater education program.

Education needs to be consistent, so the AIS portion of the boater’s safety course needs to be updated and expanded to adequately inform those who take it. The steering committee will work with the statewide safety warden coordinator to accomplish this.

Task 2D: Encourage removal of weeds from boat landings by developing an Adopt-a-Launch program.

This program will ask individuals or groups to select a boat landing which they will habitually take responsibility for the removal of all weeds. Pursuing this option, as opposed to structural alterations to discourage weed accumulation, will not only mitigate spread but will also provide opportunity for hands-on participation in the fight against AIS. Eventually, additional training can be given to those who Adopt-a-Launch so that they can identify and monitor aquatic invasive plants.

Task 2D1: Research and implement a plan for adaptive reuse of aquatic plants to alleviate weed disposal issues so municipalities and parks do not have to deal with the increased waste product.

Task 2E: Assess existing boat launches for practicality and effectiveness of providing tools or structures to facilitate boat cleaning.

Possibilities include providing packets of peroxide to be used for live well cleansing, small rakes to be used for removal of weeds from the boat, or pressurized water to assist with hull cleansing.

Task 2F: Work with UW-Oshkosh to continue Clean Boats Clean Waters.

The goal of this volunteer program is to provide:

- Education and watercraft inspections
- Surveys of AIS infestations and facilities at all public boat launches
- Training sessions for volunteer watercraft inspectors and AIS monitors
- Outreach at local events

Task 2F1: Explore possible partnerships with other area universities and other local organizations in order to expand the Clean Boats Clean Waters program.

Task 2G: Advocate that the boat cleaning station at Rapid Croche be built to specifications and that operations be held to standards approved by the DNR to prohibit transfer of AIS.

The plan to renovate and re-open the set of locks on the Lower Fox River will allow boats to travel directly upstream from the Great Lakes for the first time since the 1980's. The Authority charged with redeveloping the locks has focused their AIS prevention on building a boatlift to by-pass the lock at Rapid Croche, which will remain permanently closed. The steering committee will be cognizant of this project and will advocate for the standards approved by the DNR.

STRATEGIC ACTION 3: Prevent new introductions of AIS through the Aquarium Trade, Nurseries and Water Garden Suppliers, and other Wetland Vegetation Growers.

Issue addressed: Species distributed for use in aquaria and water gardens are often selected due to their ability to survive and grow with minimal care under a range of environmental conditions. Intentional or unintentional release of these organisms is common, and several harmful introductions have been documented through these pathways worldwide.

Task 3A: Identify area aquarium and water garden suppliers and provide them with materials to educate themselves and their employees on the issue of AIS and how it applies to their profession.

Materials are already assembled and available through Minnesota Sea Grant.¹

STRATEGIC ACTION 4: Prevent new introductions of AIS through the Construction and Restoration Industry.

Issue addressed: Representatives of this industry may be unaware of the problems with AIS introductions, their possible role in the spreading of AIS, and the existing options for management. As more waterfront development and redevelopment takes place, it will be increasingly important for participants in this industry to realize the facts on this issue.

Task 4A: Identify area construction industry consultants to assess current practices and develop appropriate preventative measures if needed.

Consider guidelines for decontamination of construction equipment, tools and protective clothing.

¹ Aquatic Invasive Species and Water Gardening. [Posters, Tip Cards, Plant Tags, and Plant Sticks]. Minnesota Sea Grant. [On-line] Available: <http://www.seagrants.umn.edu/ais/watergardening>

Task 4B: Identify area restoration industry consultants to assess current practices and develop appropriate preventative measures if needed.

Work with consultants and other groups conducting habitat restoration projects or landscaping projects to encourage the use of native species or noninvasive non-native species, and minimize the transfer of AIS.

STRATEGIC ACTION 5: Monitor AIS prevention actions taken by the Aquaculture Industry.

Issue addressed: Representatives of this industry are well aware of the problems with AIS and have worked to adapt their practices to prevent spread. Monitoring of the industry is needed to assure continued action as circumstances change.

Task 5A: Consult with the Wisconsin Aquaculture Association and the DNR to monitor actions taken by this industry.

Currently, the Wisconsin Aquaculture Association has worked closely with the DNR and the Wisconsin Department of Agriculture, Trade and Consumer Protection to develop a comprehensive program to help prevent the spread of VHS in Wisconsin public waters and aquaculture operations through their industry's actions.²

The DNR has completed a comprehensive review of hatchery and field operations to make sure fish disease biosecurity procedures and best management practices minimized the risk of spreading VHS. Improved hatchery biosecurity measures include quarantines of hatcheries which receive spawn from potentially infected sources and disease testing of all hatchery brood stock, large fingerlings, forage minnows purchased from outside vendors and open hatchery water supplies.³

This plan acknowledges the work and coordination going into assuring the Aquaculture Industry does not spread VHS. It is believed that these practices will also hamper the spread of other AIS, but monitoring is needed.

Task 5B: Reassess need for action if a new invasive is found in system or new information is gained pertaining to this vector.

STRATEGIC ACTION 6: Monitor AIS prevention actions taken by the Bait Industry.

Issue addressed: Representatives of this industry are well aware of the problems with AIS and have worked to adapt their practices to prevent spread. Monitoring of the industry is needed to assure continued action as circumstances change.

Task 6A: Consult with the Wisconsin Fish and Bait Dealers Association and the DNR to monitor actions taken by this industry.

The Wisconsin Fish and Bait Dealers Association has worked closely with the DNR and the Wisconsin Department of Agriculture, Trade and Consumer Protection to develop a comprehensive program to help prevent the spread of VHS in Wisconsin public waters and bait operations.⁴

² Staggs, Michael. (2007) Joint Legislative Hearing on Viral Hemorrhagic Septicemia. [On-line]. Available: http://dnr.wi.gov/fish/vhs/vhs_hearingtestimony_11072007.pdf

³ Ibid.

⁴ Ibid.

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The Department of Agriculture, Trade and Consumer Protection (DATCP) has substantial statutory authority in the area of fish health. Because of this, the Wisconsin DNR is working closely with that agency to improve fish disease quality control in the bait minnow supply in Wisconsin. DATCP establishes fish health standards for all imported and stocked fish, as well as fish farms. Recently they have developed standards for fish harvested from wild sources and distributed for use as bait.⁵

This plan acknowledges the work and coordination going into assuring the Bait Industry not spread VHS. It is believed that these practices will also hamper the spread of other AIS, but monitoring is needed.

Task 6B: Reassess need for action if a new invasive is found in system or new information is gained pertaining to this vector.

STRATEGIC ACTION 7: Prevent new introductions of AIS by seaplanes.

Issue addressed: An unusual feature of Lake Winnebago is the presence of large numbers of seaplanes that come to attend the Experimental Aircraft Association (EAA) Fly-In at Oshkosh each summer. Currently the EAA provides information to pilots, but the education effort is not specific about their potential role in spreading AIS.

Task 7A: Work with EAA to develop educational opportunity for seaplane pilots on the topic of AIS and its prevention.

A temporary seaplane base on Lake Winnebago hosts ca. 130 seaplanes for one week. Due to the concentrated nature of this event, and the high reputation of the EAA, this could be a very high profile event for educating pilots about AIS and seaplane inspections.

Monitoring and Early Detection

STRATEGIC ACTION 8: Monitor the Introduction and Spread of AIS in the Winnebago Pool Lakes.

Issue addressed: Monitoring is essential to identify and quantify what is currently in the Winnebago Pool, its location, and to also recognize as new invaders enter. Resource issues necessitate a volunteer program. The following is meant to compliment the work already being performed by the DNR.

Task 8A: Work with UW Oshkosh to develop a Volunteer Lake Monitoring Program.

A partnership between a non-profit and UW Oshkosh will be needed to oversee this effort. Participants will include trained professionals, students, and citizen volunteers. The program will include monitoring sentinel sites, the entire system and taking input from observations.

Sentinel sites will be established which will be visited multiple times per year with consideration to the life cycle timing of the invasive species. These sites will include representative sites for possible human introduction that can take place by means of:

⁵ Staggs, Michael. (2007) Joint Legislative Hearing on Viral Hemorrhagic Septicemia. [On-line]. Available: http://dnr.wi.gov/fish/vhs/vhs_hearingtestimony_11072007.pdf

- Vehicle- Boat launches, locks, seaplanes and marinas
- Drainage- Retention ponds, drainage ditches and storm water outfalls
- Landscaped shorelines- Yards, farms and parks

A *system-wide survey* is recommended once every two years, which will be a spatially extensive sampling to include natural habitats. The network of volunteers will accomplish this biennial survey in place of the sentinel site sampling at the needed intervals.

Lastly, *opportunistic observations* will continue to be encouraged so that those individuals on the water for work or recreation report unusual sightings of animals, plants or die-offs that might signal an invasive issue or disease.

Task 8B: Collect and share the results of the Lawrence University Rapid Croche monitoring program from the Fox River Navigational System Authority.

Monitoring for aquatic invasive species will take place from May to September. The monitoring will be performed by Lawrence University students under the direction of a university professor and will include sampling in the navigation pools up and downstream from Rapid Croche Lock. Sampling methods will target fish and invertebrates. Monitoring has already begun to establish a baseline before the transfer operation commences.

Rapid Response

The size of the system increases the challenges of a physical rapid response to a new invader. Each new AIS sighting will need to be evaluated for physical control by the DNR. No changes to the current system of physical response are recommended.

STRATEGIC ACTION 9: Develop a refined system for dissemination of recent AIS information.

Issue addressed: Dissemination of timely information is an important aspect of gaining assistance from the general public which is necessary to limit the spread of newly detected AIS. A coordinated system is needed to effectively accomplish information sharing in a prompt manner.

Task 9A: Develop a mechanism to distribute short messages to the public informing them as to when a new invasive species is found or a new law or suggestion is in place to deal with the existing AIS.

An email distribution tree will be created in conjunction with area conservation organizations. Consideration will also be given to those not belonging to conservation organizations, and efforts to reach this audience will include dissemination to bait shops, dealers, printed guides etc.

Possible test message: Push weeds out of the way before launching or landing a boat as an easier solution to cleaning off trailers.

Task 9B: Locate written warning and educational materials on species already present in the upper Midwest or Great Lakes (which are deemed high threat species), but not yet present in the Winnebago Pool Lakes.

These collaborated materials will then be easily accessible and available to distribute on a timely basis if a sighting of a high threat species is confirmed locally.

Research

STRATEGIC ACTION 10: Facilitate area researchers to identify research priorities for the Winnebago Pool Lakes.

Issue addressed: As AIS populations change in size, as new invaders are introduced, as general conditions change on the Winnebago Pool Lakes, priorities for management will change as will research needs. Effective AIS management will require that research priorities are reevaluated periodically, and that these priorities are recognized and addressed by scientists and managers in the region.

Task 10A: Hold a symposium of area researchers for the development of regional AIS research priorities.

Incorporation into a larger area research symposium, if one is available, will add additional information sharing benefits.

Task 10B: Compile a reference list of current research being done on the system.

STRATEGIC ACTION 11: Identify economic research needs for Winnebago Pool Lakes.

Issue addressed: There have been a number of studies done around the world which have begun to document the economic impacts of AIS, but local studies will be helpful. Economic impact may very well be the driving force for change in personal and business actions, management and policy. Prevention is often more cost-effective than control. Economic analysis can help determine this and put forth the case in a rational manner.

Task 11A: Determine if there is a need for an Economic Impact Study on the effects of AIS on the Winnebago Pool Lakes, including the costs and benefits of pathway prevention.

Policy

STRATEGIC ACTION 12: Encourage an integrated, system-wide approach to bring unity to the fight against AIS.

Issue addressed: The success of this plan is going to depend on its acceptance and implementation throughout the entire system. It is imperative that it is looked at as an interconnected Pool System. If the approaches are different in different municipalities or counties, or are unevenly applied or even nonexistent in some places, the benefits of taking action in one area may be undone by setbacks in other areas.

Task 12A: Work with municipalities to investigate feasibility of forming a standardized program for municipal marinas, which will create a single Winnebago Pool Launch fee tag.

Streamlining of the current process will allow for centralized information to be accumulated. Tracking will be used so that funds will be distributed back to the individual municipalities or counties, excluding additional fees administered or contributions made specifically for AIS issues.

Task 12B: Establish a Lake District for the Winnebago Pool Lakes, segmented geographically to allow for better local control.

A lake district is a specialized unit of government designed to manage a lake or group of lakes. It holds statutory responsibilities to the resource, local citizens and taxpayers and has the ability to tax property within the district as well as apply for cost sharing funds and other state assistance. A lake district's day to day operations are carried out by a board of commissioners composed of elected volunteers and local officials. The financial direction of the district is determined by district residents (electors) and property owners at an annual meeting.

Working toward a Lake District is a long-term project which will take much work and will. It will ensure that the work to combat AIS and other potential harms to the system will go forward in a stable and funded manner.

STRATEGIC ACTION 13: Encourage additional statewide AIS funding and education.

Issue addressed: Some tools to bring more funding and effective education to the AIS fight require changes on the state level.

Task 13A: Work with Wisconsin Department of Transportation to investigate the feasibility of requiring a trailer license.

Funds are to be kept in a segregated fund dedicated to the inland lakes and the fight against AIS.

Task 13B: Expand the mandatory boating safety course to include all boaters, regardless of age.

The program as it stands is mandatory for those born after 1989, which only captures a small part of the population and increases very slowly. AIS prevention needs to be taught to all ages on a timelier basis.

Options to consider: increase mandatory age annually by 5 year increments, focus on expanding online course with supplemental volunteer instructors modeled after the hunting safety program, align with neighboring states when possible to increase effectiveness and efficiency, attach economic incentives such as lower insurance costs or reduced launch fees.

An added benefit will be found in ensuring that all boaters are reminded of safety procedures.

STRATEGIC ACTION 14: Make general recommendations for additional State legislative actions to minimize impacts from invasive species.

Issue addressed: As invasive species management evolves in Wisconsin, additional legislative needs may become apparent.

Task 14A: Identify sponsors in the Wisconsin legislature and county governments to support policy issues regarding AIS.

Provide periodic updates on the invasive species situation and activities.

Task 14B: Biennially evaluate legislative and regulatory needs based on the results of implementation efforts outlined in the AIS Strategic Plan.

III. Program Evaluation

The AIS steering committee will generate the first annual work plan based on tasks identified in Sections II through VII. Successes of the plan will be evaluated each year by the steering committee based on progress in meeting the goal of *addressing the introduction and spread of Aquatic Invasive Species to and from the Winnebago Pool Lakes in order to minimize the harmful ecological, economic and human health impacts of the invasive species*. Due to the difficulty in assigning quantitative measures of progress towards this goal, the steering committee will evaluate plan implementation based primarily on the successful completion of specific tasks identified for each year. Results of the evaluation will be summarized in an annual report that will include:

- 1) A qualitative description of progress towards the goal of successfully addressing AIS in the system.
- 2) A complete list of tasks identified in the previous year's work plan, budgetary needs identified for each, resources procured, and resources expended.
- 3) Designation of the implementation status (full, partial, or not implemented) of each task identified in the previous year's work plan and a brief justification of the designation.
- 4) A summary of resource requirements to achieve full implementation of tasks listed as partially or not implemented.

Evaluation of annual work plans will play a major role in directing activities for the following years, as well as restructuring tasks identified in the original plan. Work plans for upcoming years will be produced concurrently with each annual program evaluation document.

IV. Implementation Table for Winnebago Pool Lakes AIS Strategic Plan (Sample)

Strategic Action	Task Description	Lead Entity	Year	Implementation Status
	Coordination and Collaboration			
1A	Convene 18-20 member steering committee			
1B	Steering committee will meet quarterly 3 yrs			
1C	Steering committee will meet annually with the DNR and Wisconsin Sea Grant			
1D	Steering committee will consult as to what measures adjacent states are taking			
	Prevention			
2A	Develop and implement an “It’s the Law” campaign			
2A1	Encourage tickets issuance to those in non-compliance during one 30 day period			
2B	Create a short AIS questionnaire			
2B1	Encourage area businesses to present the AIS questionnaire to their customers			
2C	Add additional AIS information to the existing boater education program			
2D	Develop an Adopt-a-Launch program			
2D1	Research and implement a plan for adaptive reuse of aquatic plants			
2E	Assess boat launches for practicality of providing tools or structures to facilitate boat cleaning.			
2F	Work with UW-Oshkosh to continue Clean Boats Clean Waters			
2F1	Explore possibility of expanding the Clean Boats Clean Waters program.			
2G	Advocate that Rapid Croche be held to standards approved by the DNR			
3A	Identify and educate aquarium and water garden suppliers			
4A	Identify and assess practices used by construction industry consultants			
4B	Identify and assess practices used by restoration industry consultants			
5A	Consult with the Wisconsin Aquaculture Association and the DNR to monitor actions taken by this industry			
5B	Reassess need for action if new invasive is found in system or new information is gained			

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Strategic Action	Task Description	Lead Entity	Year	Implementation Status
6A	Consult with the Wisconsin Fish and Bait Dealers Association and the DNR to monitor actions taken by this industry			
6B	Reassess need for action if new invasive is found in system or new information is gained			
7A	Work with EAA to develop educational opportunity for seaplane pilots			
	Monitoring and Early Detection			
8A	Work with UW Oshkosh to develop a Volunteer Lake Monitoring Program			
8B	Collect and share the results of the Lawrence University Rapid Croche monitoring			
	Rapid Response			
9A	Develop a mechanism to distribute short messages to the public			
9B	Locate written warning and educational materials on high threat species			
	Research			
10A	Hold a symposium of area researchers for the development of regional AIS research priorities			
10B	Compile a reference list of current research being done on the system			
11A	Determine if there is a need for an Economic Impact Study on the effects of AIS on the Winnebago Pool Lakes			
	Policy			
12A	Work with municipalities to investigate feasibility of forming a standardized program for municipal marinas			
12B	Establish a Lake District for the Winnebago Pool Lakes			
13A	Work with Wisconsin Department of Transportation to investigate the feasibility of requiring a trailer license			
13B	Expand the mandatory boating safety course to include all boaters, regardless of age			
14A	Identify sponsors in the Wisconsin legislature and county governments			
14B	Biennially evaluate legislative and regulatory needs based on the results of implementation efforts			

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Appendix A – Public Meeting Worksheet Summary

Aquatic Invasive Species in the Lake Winnebago System

2007 Completed Overview Boaters, Anglers and Water Enthusiasts Worksheet

	Were you aware of this practice before?	Are you doing this practice now?	What difficulties, issues, or problems do you have with this practice?	What would make it easier to do this practice?	
Required by current law	Do not launch a boat with aquatic plants attached.	37- Yes 1- No	19- Always 2- Sometimes 2- Never 8- Not Applicable	<ul style="list-style-type: none"> * Weeds trapped on the trailer & boat, and bunks * Many people do not. * Many people can not get plants off. * Older people have a hard time getting under trailer. * Where do we put the weeds? * Too many weeds in landing * I own a sailboat and have a slip in harbor, but am aware of situation * Have a dumpster at all landings * No wash facilities * Time concern and restraints/Sometimes conditions do not allow * In and out of many lakes and ponds daily * Flushing motor 	<ul style="list-style-type: none"> * Have a pressure washer set-up @ the landing * Keep landing cleaner with water movers, chemicals, rakes * Not a problem/Well published too. * Trash bins. * Treatment at launch sites to kill weeds * Break walls to stop drift in weeds * No weeds at the boat launch * Water level is too low/Having hard time getting in or out * Wash area at boat landings * Tools for plant removal (Long handled brush at landings) * Create a "Cleaning Lane" w/ proper instructions to comply with rules * Enforce laws
	Do not use minnows unless they were purchased from a licensed Wisconsin bait dealer or they were caught from the water that is being fished.	34- Yes 2- No	22- Always 1- Sometimes 2- Never 7- Not Applicable	<ul style="list-style-type: none"> * I always buy bait from a licensed bait shop * Hard to enforce because you cannot identify where minnows are coming from. * Can I reuse my minnows if I do not put in lake water? * Some people have easy access to minnows at home and carry to other lakes * Location of good bait dealers * Not a problem as long as have bait * Do not fish 	<ul style="list-style-type: none"> * Unaware of * I do not fish with minnows * I own a sailboat and have a slip on the harbor, but am aware of the situation. * More ice near landings
	Do not move live fish, including un-used minnows, from these waters. All fish must be dead before leaving the landing or shoreline. Ice the catch and discard the minnows.	34- Yes 4- No	15- Always 4- Sometimes 2- Never 12- Not Applicable	<ul style="list-style-type: none"> * Living on lake. * I clean fish in boat house. * No garbage cans by landing. * No need if you are going to clean fish. * Do not fish *OK as is * Where to place minnows *Cost of minnows * Keeping ice on hot day * Live wells work great! * Dead fish + No ice= BAD! Fish are not always dead, but ICED. 	<ul style="list-style-type: none"> * Trash bins and a barrel. * Put containers by the landing * Larger boats present and a problem with bilges.

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Aquatic Invasive Species in the Lake Winnebago System

2007 Completed Overview Boaters, Anglers and Water Enthusiasts Worksheet Page 2

	Were you aware of this practice before today?	Are you doing this practice now?	What difficulties, issues, or problems do you have with this practice?	What would make it easier to do this practice?	
Required by current law	Drain all water from boat and trailer, containers, and fishing equipment including bait buckets and coolers.	32- Yes 5- No	18- Always 1- Sometimes 2- Never 10- Not Applicable	<ul style="list-style-type: none"> * Bilge water never pumps out completely * Rinse/water availability while on task (otherwise forget) * Bilge pumps to not empty 100% water * Weeds are difficult to remove from low slung trailers * I like using live wells. *Never leave the area * Live wells and other places don't drain well * Tubular trailer frame makes it very difficult to drain all of the water. 	<ul style="list-style-type: none"> * Storage containers at landings for waste disposal * Don't leave the fishing lake. * Trash bins * Younger age/Pressure washer * Different trailer design
Recommended by DNR	Remove all visible plants, animals, and mud from boat and trailer before leaving the launch site.	33- Yes 4- No	16- Always 5- Sometimes 1 -Never 9 -Not Applicable	<ul style="list-style-type: none"> * Impossible to get all weeds out from under boats. * Too many weeds in landing. * Rent a canoe from shore * Where to put plants, mud etc. * Tubular frame of trailer makes it very difficult to drain all of the water * No wash areas * Mud may be difficult to remove without running water 	<ul style="list-style-type: none"> * I launch one a year from my garage to the water and back to the garage, so I haven't paid much attention to these laws & practices. * Water at the launch * Wash areas at landings/or nearby * If landing would provide tools
	Allow boat to dry for 5 days before visiting another water body or if that is not possible, sanitize boat and gear with bleach and provide at least a 5 minute contact time.	2- Yes 9- No	10-Always 6 -Sometimes 4 -Never 12 -Not Applicable	<ul style="list-style-type: none"> * Many active fishermen fish every day: it is unlikely that they are sanitizing every thing each time. * Expense and time constraints * I only fish Lake Winnebago/Do not move boat elsewhere * Leave boat in water/Take out in fall * Cleaning trailer bunks and bilges if going to two lakes in one day. * Depending on the weather. 	<ul style="list-style-type: none"> * I only drive my boat in and out of boat-house. It doesn't go to any other lake. * More visible reminder

Appendix B – Small Group Discussions Summary

ROUND 1

Question: Having heard the overview of AIS, what concerns you the most about the presence of these organisms in our Winnebago system and/or the threat of additional invaders?

Group 1 (Oshkosh)

- Spreading in other parts of the lake
- General public isn't concerned at boat launches
 - Are they not reading/watching?
- Just one person can cause a spread
- Need more policing to stop that one person from spreading
- Lack of information about VHS and its impacts
- Concern that public isn't aware
- DNR isn't doing enough to educate and help do the behaving
- No people with authority to give ticket or prevent
- Landings don't have garbage cans for bait or spray
- Sailing boats did clean off boats at regatta
 - They are more aware
- Out-of-state people do not care

Group 2 (Oshkosh)

- People not really knowing which species are good/which are bad
- More choked bay with EMF
 - Can't boat or canoe
- Take care of lakes
 - AIS serious concern in changing lakes
 - Change the ecology
 1. Makes lake system difficult system to manage
- Importance of keeping lake viable
- Locks system opening is a concern
- Harbor-Wants to preserve what we have
- Duck weed is very intense now

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- Fishermen are very concerned with not spreading to other inland lakes

Group 3 (Oshkosh)

- Losing recreational values of the system and economic values.
- Concerned with economic and recreational loss. What does it cost to manage and haul out aquatic plants from boat landings? It is a very real cost to the City of Oshkosh and the County. Maintenance vs. development of landing.
- Concerned about VHS and fishing impact. Concerned about on-going ship ballast water dumped into the Great Lakes. Wants ballast water sterilization.
- We may not be able to ever get ahead of AIS. We are playing catch-up on the AIS issue. Should have taken care of this problem years ago. Prevention not eradication.
- Intrinsic ecosystem value, just in its mere existence. You cannot replace what you lose.
- This is like a bad science experiment where we don't know how all these species will interact or what the outcome will be.

Group 4 (Oshkosh)

- We are accumulating invasive species and may be close to “tipping” point (point of no return).
- Wish we knew sooner about VHS. If we had known we would have sanitized boats.
- Are other states as proactive as we are?
- Don't boat or fish. Worried about plants.
- Predator fish
- Quality for swimming and shore line
- Biological pollution is much harder to deal with. Multiplies and gets worse vs. “chemical” pollution.
 - People don't seem to understand this.
- Weeds are concern (Fish little, recreational boater)
- Need more education and information dissemination
- Lack of knowledge of how to address the problems.
- Sailing is very difficult because of plants.
 - What do you do to alleviate problems
 - Fairness of solutions (Millers Bay)
- Competing uses
 - Invasive species exacerbate problem
 - Create more tension
- “Gear” doesn't work in these “New” conditions

Group 1 (Winneconne)

- Weeds that we've never had before

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- Can't cast
- Weeds and water levels
 - Got rid of jet skis because of weeds
 - Don't like to boat anymore
 - Kids won't swim or float
 - Boat overheats
- Afraid they will let the lake go back the way it was
- Milfoil is a big concern in Waushara County
- Potential species are big concern
- They've seen what other species *do*

Group 1 (Stockbridge)

- The enormity of the problem
 - The numbers of organisms out there
 - Numerous ways of them to get in the lake and ours into other lakes
- Zebra mussel issue
 - Learning to live with it
- People willing to participate
 - Don't have facilities
 - Who is going to pay?
- Can we really stop it no matter how much we spend on it?
- How do you ever police this?
 - Too many boats in and out
- People coming from many different states into the system
- Fishermen more willing to wash boat than pleasure *boaters*

Group 2 (Stockbridge)

- Zebra mussels
 - Have been here awhile
 - Cause problems on the beach
- Concerned about gizzard shark
- All the changes that are not native
 - Fishing is very difficult
 - Water is too clear
 - Has changed nature of
- Lampreys may come in

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- New changes are frightening
- Eurasian water milfoil is “unbelievably” thick
 - The weeds are terrible
- Algae and weeds that could affect water quality
 - Waste water treatment plant perspective
- Smell is worse than in previous years
- White foam stacks higher
- People exporting what is in the lake

Group 1 (Fond du Lac)

- VHS-Is it that serious?
- Can see using the caution, the way boats move around
- No dumpster to put weeds in-Just laying in parking lot
 - Need to place them
- Weed issue for sailing
 - Trouble for racing
- Especially bad this year-Worse year

ROUND 2

Question: Referring to the “Boaters, Anglers, & Water Enthusiasts” Worksheet, what is the current state of compliance for required and voluntary practices? What might be done to improve overall compliance or participation among all lake users?

Group 1 (Oshkosh)

- Weeds trapped between break and trailer
 - Solve it with no weeds at launch
- Low axle boats
 - Hard to climb under
- Use launch fee to treat the landings and develop a break wall
- More at Oceana/Grunmond landing
- Launch in river to avoid weeds
- 5 days is too long
 - People are going to fish
- New boaters aren’t aware of launch
- Impossible task...Do we still deal with them?

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- Mother Nature
- Is it overreacting?
- Some of the invasive species are cyclical
 - Deal with them on their own
- Do see piles of weeds at ramps
- Even if you bilge/live well pump is emptied, it is still somewhat damp
 - It is happening

Group 2 (Oshkosh)

- 40% compliance among all boaters
- 70% compliance among anglers
- Most boaters won't let boats dry for 5 days
- VHS publicity raised people consciousness
 - Many more people are aware now
- Maybe new suggestion of washing boat will get around and people will start complying once they realize it is necessary.
- Fisheries need inspectors
- Sponsors are making big deal about boat cleaning at tournaments.
 - That would help

Group 3 (Oshkosh)

- Boat launching without plants attached
 - General pool compliance to pretty good
 - Educate
 - Enforce laws
 - Why not?
 1. Too much work
 2. No receptacles or places to put removed weeds
- Minnows
- Live fish
- Drain all water

Group 4 (Oshkosh)

- "Joe Public" pretty aware of some but not all of the invasive species
- "Anglers" horrible compliance
- Need tools and rakes
- Lazy people

- Educate the children
- Everyone needs to pay for it
- Education is underrated
 - Burning
 - Pre-made lessons for children
 - Long range

Group 1 (Winneconne)

- Yes, but they don't apply to me because I leave my boat in all season
- As we observe boat landing, boaters pull off some weeds, but not all of them
- Can only charge to park, not launch boat
- Unified boat launch sticker
 - Too many sticker
 - Could sell to public Lake District this way
 - Municipalities would fear revenue loss
- Multiple lake origins
 - Can meet together in an association
- Type
- Patrick has information on Lake Districts in Waushara County.

Group 1 (Stockbridge)

- This year people started emptying their water
- Small percentage who do practices
 - Aren't usually educated
 - Probably are willing to
- Document incorporated into practice of pare and recreation
- Parks Department
 - Interested in helping with this
- Majority stay on Winnebago system
- 11:00 season passes
- 60% from out of the county

Group 2 (Stockbridge)

- Fish in live well regulation is counter-intuitive
 - Perhaps should promote free ice

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- Free boat cleaning not taken
- Water levels have been low
 - More weed growth
- Recommended practices
 - Cleaning with bleach is not practical
 - Could soap be used?
 - Ease of use questioned
 - Car wash vouchers

Group 1 (Fond du Lac)

- Very knowledgeable about AIS, but still never thought about it when moving boat to Lake Superior
- Carpeting is an issue
- Can't get all the weeds off without lifting boat-Trailer not conducive
- 95% don't launch with them on-Most comply
- Still the law if pulled weeds out of same lake
- Need to pull off weeds before taking boat out or will get stuck
- Wardens at landing will help
 - Giving tickets
- More newspaper coverage

CONCERNS (Fond du Lac)

- Hard to tell AIS
 - Cards are alright but in bottles better
- Channel
 - Algae and weeds etc.
- Locks
 - Hears DNR meetings
 - Has young kids and wants to have
- Lack of management capacity on the lake
 - That can focus on the lake system
- Huge undertaking
 - Daunting to develop a lake district
- Need individuals to take ownership
 - One person can do no harm or good
- There are barriers within the DNR

HOW TO CHANGE BEHAVIORS (Fond du Lac)

- Boat drying for 5 days
 - Difficult to comply with
- Need cleaning stations
- Gravel parking lots/Not comfortable
- Brotherton is bad for weeds
- Dumping minnows?!/Clarification
- See 1 of 10 anglers do the boat and trailer cleaning
 - Education needed

COMMENTS AFTER THE MEETING (Fond du Lac)

This AIS plan must have the locks in it. We can't ignore this and push it off to another process.

Appendix C – Summary of Narratives with Responses

2007 Community Meetings Overview

Narratives That Describe Possible Future Approaches to AIS

The following narratives present some ideas for increasing compliance and participation in practices that prevent or manage aquatic invasive species in the Winnebago System. Please help us evaluate these by identifying their pros and cons, as well as ways to improve them. We'll use your input to help decide which strategies to include in the first draft of the Strategic Plan and to help improve the strategies that we do include. Thanks very much!

Public Outreach/Education

'It's the Law' Campaign. There is no need for a new program or law; the current law is sufficient. The problem is that not everyone knows it is the law. Therefore, the education campaign needs to simply and succinctly state, "It is the law" and then include the specifics of the law and why it is important. When people know about the law, they will generally follow it.

Pros

- "It's the Law" makes sense, the majority will follow the law once they know about it. It will be a good start because won't have to go through political process to get new laws in place

Cons

- People will break laws if they get away with it, if enforcement is not there – so a few citations/ tickets need to be issued to get the word out
- DNR law enforcement staff are limited

Comments

- In order for this to be effective, people need to really understand how it will effect them in regards to fishing and the health of the lake and they really need to understand the fines
- Recognize that "It's the Law" Campaign won't stop the problem
 - Don't stop trying, this could be the first step in a tiered plan
- Who would enforce it? Volunteer policing is a possibility, Parks Department could remind/warn if not complying, Lake District "policing" would be helpful, Wardens need to lamp down
- Need education campaign first to build awareness, then move to this mandate
- High profile/High fine with publicity will help
- Take advantage of tournaments
- This parallels other issues (E.g.: littering, forest fires)
 - Can we learn from these?
- Would be easier to enforce if people could be stopped on transit, although some people do move boats to clean at home -- Law needs to include "Not transporting weeds" (like Minnesota)
- Add light-hearted messages to the campaign
 - (E.g.: Who's the adult here?)
 - John Veverka-Interpretive guru

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Innovative Incentives. We have enough rules and regulations. We need an education campaign that gives citizens an incentive to do what they need to do. For example, there could be a voluntary “Boat Green” program. To be a part of this program, people would need to take all actions to avoid transporting aquatic invasive species, as well as actions that would reduce water pollution and energy use by their boat. In return, they would be a member in the program and would qualify for certain perks.

Pros

- People like incentives
- Almost all people want to do the right thing
 - Give them “socially acceptable” space to do the right thing
 - Create a “Norm” for doing the right thing

Cons

- May not be effective on people who don’t care
 - They do not follow rules anyway
- Could be easy to abuse
- Incentives might not be adequate
- Tried to get unified boat launch fee (5-6 years ago)
 - Did not fly
 - Afraid to lose within municipality
- People who won’t comply won’t do for this (tickets again)
- Smacks of “goody-two-shoes”
- Would need to “pay off”, based on how often you boat

Comments

- Who would administer/track the program?
 - May be hard to check compliance
- Could be combined with “Mandatory Boating Education”
- Perks/ levels of incentives
 - Discount on boat registration
 - Changes in limits
 - Free boat launch permits
 - GPS coordinates to “hot spots”
 - Money is an incentive/Good or Bad
 - Coupons/Points from bait shops/businesses
 - Green life jacket
 - Insurance discount for participants
 - Possibility of a BIG incentive (E.g.: New boat)
 - If you get caught cleaning off weeds, you would get a raffle ticket for the possibility of winning a new boat
 - Packer tickets, fishing package, rods/reels, guns etc

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- High Cliff State Park has its own set of rules
 - They need to be the leader of region
 - Wide effort
- Put information in fishing guidelines
- Locals need to be invested in the issue so others will be
- Incentives need to go to counties to participate in this kind of program as well
- Could advertise with packets of bleach (enough to clean live well) or powdered peroxide
- \$25-\$30 a year
 - Would be willing to pay

Mandatory Boater Education Education on invasive species needs to be mandatory. One of the problems is that much information is printed, handed out, and then never read. The education campaign needs to ensure that all boaters read and understand the importance of not transporting aquatic invasive species. The most efficient way to do this is to attach a requirement to the boating safety course and gradually require all boaters to take the course before they can renew their registration. This has the added benefit of ensuring that all boaters are reminded of safety procedures as well.

Pros

- Great idea!
- If required they would do, it will force people to comply
- Fair and firm
- Would raise awareness
 - Even if they did not get all questions correct

Cons

- Very controversial
 - Cost is high to DNR (States examples: AL, MD, CT...etc.)
- Wouldn't work
 - People wouldn't do it if others didn't
- Stepping on tourism toes
- Wouldn't work for the "weekend angler"
 - This may need to be multi-state to be effective
- Difficult because boat registration is for boat not user of boat
- Education alone won't make people take weeds off, be more careful

Comments

- Charge fee for course
 - Sticker/Card
- Could this be done regionally?
 - County by county?
 - Training requirements

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- Mandate training requirements on tournaments
 - Work through www.tournaments.org
- Could simplify by doing at the DNR when purchasing license
- Align with neighboring states
 - More powerful and economical
- Change to register boat users rather than the boat
 - What about canoes, kayaks and rowboats?
- How does it work for out of state boaters?
 - Could use stickers on Drivers License that shows they've taken a course elsewhere—NASBLA
- Mandatory boater education should be added to youth safety course.
- Attach economic incentive
- Negative consequence
- Reduced consequence in registration fee/launch fee if they do it in order to get early compliance and get program off ground
- Additional benefits to instituting a drivers license
 - Could pull license if drinking
- Copy hunting license model
 - Take course online and buy license here
- Need to use marketing and spend money to be effective
- Show impacts of AIS on TV/Commercials and add humor
- Incentive to get questions correct or you won't get a registration
- Do it with fishing license also
 - Could be a hassle
 - May delay a person by a few minutes, but wouldn't prevent person from getting license
- Verbal may be better
 - Clerk selling license can ask 5 questions, with the feeling of it being more of a survey rather than a quiz, "do you know" or "are you aware"

Facilities

Weed-Free Boat Landings It would be much easier to comply with the current laws if there weren't a lot of weeds at the boat landings. We need comprehensive steps to be taken to prevent weeds from accumulating at the landings. If weed growth is the problem, one solution might be the application of rock or some other substance on the lakebed around the launch so no weeds can grow in the area. If weed drifting is the problem, one solution might be to put up some type of barrier so weeds can't blow into the launch site.

Pros

- Good idea, but feasible? – No, not really
- Weed free boat landings have the best shot in conjunction with enforcement

Cons

- Won't help with viruses, gobies etc.

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- Need to clean and maintain
 - Who would?
- Winds direction would impact usefulness
- High traffic area would be an issue
- Some landings would not work
- Hazard—Need to mark
 - Legal?
- Expensive
 - Only addresses small piece of the problem
- DNR permitting process is tough
- Too many launches
- Permit issues
- Scale of problem varies by launch
- Rocks will cause problems when launching boats
- Low water levels can cause problems
- Too difficult to put up barrier that boat would have to navigate around
- Barriers will make it tough for boaters
 - Is design technology there?
- Barrier may be blamed for shifting weeds elsewhere

Comments

- Build inexpensive wall on one side
- Simplest and easiest is to mechanically and physically remove debris once a day with garden rake
 - Removal at A.M. is helpful
- Deeper launches instead
- Adopt a launch would have secondary benefit of education, but might be considered to hold up boat traffic
- What percentage of boaters belongs to organizations?
 - If High, use that for education and peer pressure
- Just use clubs and students to clean landings (Jefferson launch is doing a good job)

A System of Boat Cleaning Stations It would be much easier to comply with the current law if there were boat-cleaning stations within a certain distance of boat landings. At launch sites equipped with large parking lots, a place in the lot could be designated as a boat cleaning section. At smaller sites there could be signs informing people as to where the closest cleaning site is located. Possible locations could be a local car wash, gas station, or convenience store with a designated area, which would include running water and garbage disposal.

Pros

- Wouldn't work
- What's the point, they fish in the same system

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- What if there is a backlog at the launch?
- Bait is big concern
- Excellent idea
 - Someone had this idea in the town of Winneconne
 1. Funding fell through
- This is a good, convenient way to make it more practical
- Would use to clean boat
- Could be a revenue source
 - Put a meter on water/50 cents
- Waves of boaters in a day
 - Fishermen early, pleasure boaters later
- Facility at launches gives opportunity to clean boat
- A business may jump on this idea as an opportunity to bring other business in

Cons

- Who would pay for water
 - Would be expensive
- People tired when done
 - Won't take advantage of
- Fisheries
 - Too many boats, line would be too long
 - Won't want to wait to clean boat
- Would need high pressure to be helpful
- How effective would water actually be—probably not worth the cost
 - Can provide all of this and pay staff, nothing can get done until people are cited for breaking the law
- Must be financial consequence or people won't do it
- No electricity at most launches
- Need to winterize
- Who funds or operates?
- Need fresh water source
- State has lots of boat launch rules
- In theory, good idea, but not utilized by many people who leave the lake.
- Substantial cost for running water
- Wait time would determine compliance
- Lack of time, in a hurry
- How long does it really take to clean a boat?

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- How to accommodate during high traffic areas
- Where is money coming from to build mountain?
- Water is too expensive
- Hard to get them to go to another location
- Car washes need hand held wands
 - Drive through washes would not work
- Not apply if you are staying in the LWS
- Wash system needs to be at landings
 - Not blocks away/We are spoiled/Would be waste of money
- Can't take too much time
- Would it be effective?
 - Will people just head home
- Potential expense
 - \$5-\$7 to clean at car wash
- Time expense
 - People may not want to wait
- Depends on where they will be fishing next
 - Do you need to clean each time?
- Is there a runoff contamination potential of soaps?

Improvements

- Keep it from getting “panicking” at the launch
 - Emphasize convenience at other locations
- Assure car washes could really “do it right”
 - E.g.: Between trailer and boat
- Weed cutters would help the most
- Like the concept of boat cleaning facilities at larger landings with high pressure wash
- Nothing will work 100%, need to do what we can
- Better if on-site vs. having to drive to another location
- VHS rules may prohibit going to off-site
- May have to change state laws on collecting fees and charging
- This can be combined with increased education or policing
- Hidden cameras like on a toll road
 - Ticket if they do not clean their boats and equipment
- DePere facility with receipts (Fox Point?)
 - Get a voucher from machine to use a car wash

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- Car wash would need to be convenient and on-site
- Pay to get out of lot
- Partnerships to fund boat launches
- Require a cleaning facility on all new boat launches
- Where are they going now to wash it?
- Essential to have boat cleaning stations available
- Need to have something to encourage use
- Educate to do at home
- Average boat is conscientious enough to clean boat at home
- Educate boaters to pull weeds off after parking, so they aren't there (at landing) and get stuck when they take boat out
- Very rare for those to launch with weeds, but if they did, they would have a worse attitude
- Have dealer give customer information on cleaning/AIS etc. while boat is being purchased.
- Would use wash system if fast and cheap
 - Need easy to understand directions
- Cleaning would have to be fast (Less than 10 minutes)
- Couple with education
- Focus on people leaving the LWS
- Must be blended with incentive steps
 - (E.g.: Education awareness)

Regional Approach

We need a coordinated strategy that addresses the prevention and control of AIS in the Winnebago Lakes system as a whole. If the approaches are different in different municipalities or counties, or are unevenly applied or nonexistent in some places, the benefits of taking action in one area may be undone by setbacks in other areas.

Collaboration among Existing Conservation Organizations There are many conservation, boating, and water conservation organizations in the area. We need to bring these organizations together on the issue of AIS and coordinate efforts and resources in order to be effective. One organization needs to take the lead on this and, through a volunteer or staffed position, encourage and facilitate collaboration on needed prevention and control steps.

Pros

- Common issue to rally around
- Flexibility to implement several strategies
- Pool financial resources
- Pool people/volunteers
- Lake district would have a Board and overall organization
- Resource “On the Water” would be helpful
- Lake District would be more personal
 - Group has more control
 - Not DNR or government

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- Lake district would have a Board and overall organization
- Year round property owners might get involved
- Incentives would be land values/or not?
- Most of the work will be done by these groups
- Like this one/Peer pressure
- Already going on
- It is a good idea to help other organizations
 - Could be a resource for groups
- Would not have to rely on the DNR/They are already spread too thin
- Position must be integrated with other agencies/Departments/Towns etc.
- Somewhat being done now by individual groups, but needs more coordination

Cons

- Organizations to diverse to be able to come together and collaborate
 - Some will fight
- Don't need one organization to take the lead, just work together
 - Need to prevent biases, hidden agendas
 - One organization call for others to meet and work together but not lead past that
- Who's going to referee?
- Competing agenda
- Big system
 - Issue slightly different depending on location
- Too big of a system for one volunteer or staff
- Existing network is a good start
- Lack of concerned people overall
- Too many counties (4) with too many ideas and different concerns
- (Counties)-Who would coordinate?
- Tired of DNR getting excluded because of funding
 - They need to have an active role
- WLC should/could be doing this
- Issue is to get group to step forward
 - Hard to get volunteers
- What more could they do?
- They are already doing things.

Improvements

- Would want boating groups involved

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- Kayak, sailboats, etc.
- Launches and cleaning stations manned by municipalities
- Involve politicians
- Involve youth groups
- Partnership with DNR, universities, etc.
- Needs to be much bigger effort
- Conservation Alliance might help them come together
- President of each fishing club be educated and encouraged to educate its members
- Need someone to start it
- WCL should take lead
- Needs to be a diplomat (a liaison, a local person to be effective)
- MWAPMS- has annual conference
 - Can gain more input from participants at this meeting

County Leadership. Each county should have a staff member dedicated to invasive species management. Neither the DNR nor local municipalities can handle this large of a system on their own. A dedicated staff person in each county could coordinate efforts within each county and work with their counterparts in other counties to bring some continuity to the fight against invasive species.

Pros

- Consistent message to all
- Value of system justifies expenditure
- Size may help attract other funds
- Good long term solution
- Enough interest on county board to fund staff member if funded
- Multi-county project to apply for grants
 - Multi-county staff
- Economy of scale to build boat launches at the same time
- Great idea!
 - Would help DNR staff who are already stretched too thin

I. Cons

- Positions and funding at the mercy of County government
- Not as effective as State level coordination
- Big cost to counties
- Rank against other county programs
- Too broad
 - Aquatic or terrestrial

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- Five new employees
 - Won't happen politically
- Only includes properties within 2 mile radius
 - Not large enough of an area
- Tough to establish
- Long process to establish
- Each county has a different way of doing things
 - Coordination can be a problem
- Counties do not want to spend money, but want the problem solved
- Additional taxes won't fly
 - Challenge to convince taxpayers
- Large system
 - Hard to get everyone interested in coming to meetings and getting involved
- It will be a challenge to build concerns with lots of people
- Apathy may be too high
 - Some people aren't very active
- People may not attend
- Could one-county person handle better than existing agencies? (E.g.: UWEX, DNR)
- Would it benefit rural areas?

Improvements

- Aquatic Invasive Species focus
 - Separate Terrestrial person
- Modify district boundaries
- Include all people who drink water
 - User fee
- Pull together aquatic and terrestrial IS
- May need to create such districts to make it manageable
- Create "Groups" within a District to make sure a voice is around all the lake
- Must do outreach before this idea is promoted
- Would tax to pay for staff pay off?
 - What is people's reward?

Establish a Lake District. There needs to be unified management of all practices on the system in order for any of them to be effective. There are many municipalities and it is difficult to coordinate all of their efforts. Funding shortages are also a concern as we take steps to combat AIS and other water issues, even though the lakes are our area's greatest resource. An effective solution would be the creation of a Lake District. A Lake District would be able to collect taxes and have the authority to spend them on the needs of the Winnebago Lakes. It would be the entity that coordinates all of the efforts and would allow for comprehensive action to be taken.

Pros

- Help consolidate boat launch fees
- Could be small amount/property equals large money
- Districts effective in Waushara County
- Lake property owners have vested interest in quality of lake
- People often feel connected to District
- Brings everyone on lake into a District and gives them voting power
- Can parlay District into Federal and State money
- Lake District can get things done
- This would focus on more than just AIS
 - Could be good for the system
 - Would expand thinking
- Yes, good idea, comprehensive approach and control plus could have a L.D. boat sticker

Cons

- People up in arms about setback rules, hard to then tax them
- Need government to help in setting up management system to get past hurdle of collaboration
- Preventing spread will cost money
 - Need to raise it
- In order to pull counties together we need government to pull together
- Yet another layer of government
- Hard to sell to the public
- Too big
 - Tough to get District
- Huge number of members/voters
- Number and amount of taxes already too high
- Only district members taxed/Not all users
- Officials will not vote to support more taxes
- Difficult to include people “off-lake”
- Comes off as a penalty to lake property owners
 - They are not the biggest threat
- Big District/Maybe a couple of them
- Is LWS too big?
 - How to reach concerns us
- Why should I pay tax if I do not benefit from the use of the lakes?
- Would/could only benefit a few

Improvements

- Whole system managed better
 - Water level, buoy, codified
- Start from ground up
 - Not duplicate
- Agency's mission focused on AIS
- Need to educate on how people will benefit—how everyone will benefit
- People are willing to pay for things they use
- Authority vs. District
- If people realize the seriousness of the issue, they will support it
- Authority might be quicker to get done
- Boundary might need better definition
- Network with other that have done this (Champlain)
- Reallocate would be an easier sell
 - From Parks Department
 - Granted to L.D.
- Security cameras
- Marinas work to educate its members
- Political will is in question
- Could L.D. members pay a lower boat launch fee than non-members as an incentive?
- A L.D. would/could also be involved w/tangible stuff (E.g.: Weed cutting)
- Where would we go if a L.D. were created?
 - Education, incentives, monitoring etc.
- Would "User Fees" be better than a tax?
 - There are too many fees as is