



Construction and Integration of Aquatic Invasive Species (AIS) Prevention Areas at Recreational Boating Facilities

States Organization for Boating Access



Acknowledgements

Publication of this guide was made possible by the support of the States Organization for Boating Access (SOBA) Board and the gracious participation of the following Aquatic Invasive Species (AIS) Taskforce members:

Nancy Stewart – Minnesota Department of Natural Resources

Craig Walker – Utah Division of Wildlife

Glenn Dolphin – Oregon Marine Board

Todd Mize – Alabama Department of Conservation and Natural Resources

Bob Wakeman – Wisconsin Department of Natural Resources

Anne Smith – Virginia Institute of Marine Science

Brian Bohnsack – U.S. Fish and Wildlife Service

Laura Norcutt – U.S. Fish and Wildlife Service

Wendy Flynn – Connecticut Department of Energy and Environmental Protection

Kirsten Barta – Minnesota Department of Natural Resources

Additional thanks is conveyed to members of the Aquatic Nuisance Species Task Force and all of those who volunteered to participate in the review process to ensure that this guide conveyed useful information to boating access and AIS program interests throughout the nation.

Table of Contents

Acknowledgements	i
Table of Contents.....	ii
Foreword	iii
Introduction.....	1
Section 1: Clean and Drain Areas.....	3
Section 2: Watercraft Inspection	8
Section 3: Decontamination and Boat Wash Stations	18
Section 4: Messaging and Outreach	23
Section 5: Funding.....	32

Foreword

The States Organization for Boating Access (SOBA) is pleased to present the first edition of ***Construction and Integration of Aquatic Invasive Species (AIS) Prevention Areas at Recreational Boating Facilities***.

This Guide expands on many issues discussed during the development and review process undertaken by the SOBA AIS Task Force, SOBA members, and members of the Aquatic Nuisance Species Task Force (ANSTF). Five specific topics are discussed in detail in this Guide as they relate to the development of on-site and off-site AIS control and prevention efforts specifically related to boater access facility enhancements.

This document is designed to serve as a guide only. Additional resources, some of which are cited in this guide, are available to aid readers as they develop boater access facility improvements to control the spread of AIS in their state or region. We hope that this document will eventually be reviewed and endorsed by ANSTF as part of their objective to "promote use of guidance documents, best management practices, and other outreach materials related to aquatic nuisance species".

For more information on ANSTF and other regional AIS control programs, visit the SOBA website or go to <http://anstaskforce.gov/default.php>.

On Behalf of the SOBA Board and the SOBA AIS Task Force we would like to personally thank all those SOBA members, ANSTF members, and other stakeholders who participated in the Guide review and development process.

Janine Belleque
SOBA President
Grants and Contracts Coordinator
Boating Facilities Section
Oregon State Marine Board

James Adams
SOBA Past President
Facilities Director, Infrastructure Division
Virginia Department of Game & Inland Fisheries

Introduction

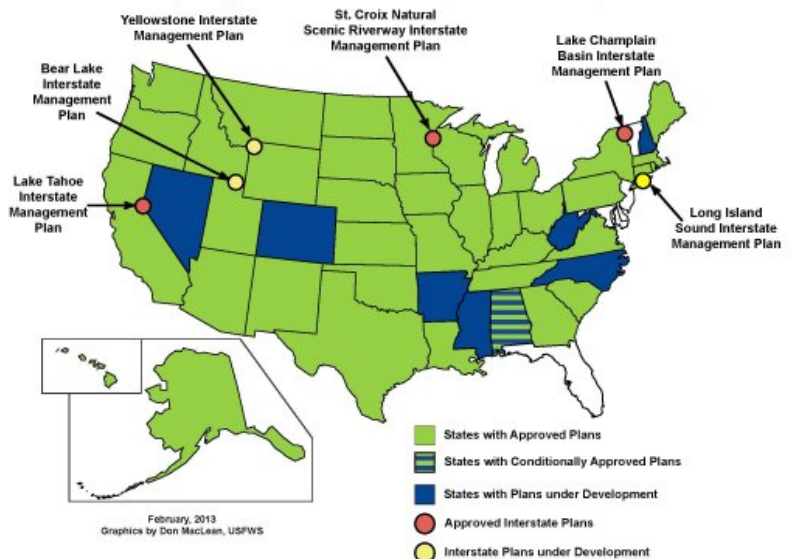
SOBA is an organization devoted to all aspects of boating facilities nationwide, and serves in part as a forum of exchange for ideas, concepts, and experiences. SOBA was formed in 1986 by a small group of state boating officials who wanted to promote the acquisition, development, and administration of recreational boating facilities across the nation. Membership is available to all 50 states and territories, and includes not only state boating officials, but also consultants, engineering firms, manufacturers, suppliers, publishers, and other persons interested in boating access.

Although Recreational boating and fishing are important economic drivers for local and state economies and represent important outdoor recreational opportunities for millions of Americans; water delivery, power production, navigation, and flood control remain among the primary purposes for operation and maintenance of many waters (e.g., reservoirs and regulated rivers) in the United States. Infestation of a water by an aquatic invasive species (AIS) can impede recreational boating and fishing activities and, in some instances (e.g., after infestation by quagga or zebra mussels), can interfere with water delivery and power production. Aquatic invasive species (AIS) prevention has, therefore, become a concern for managers of publicly-accessible waters and boater access facilities as well as businesses associated with boating, water delivery, and power production.

Given that boats are one of the major vectors for the transport of AIS, resource managers and businesses are striving to prevent the spread of AIS. Many state and federal agencies have taken on the problem of invasive species through involvement in the Aquatic Nuisance Species Task Force, an intergovernmental

organization assembled to prevent and control the spread of AIS through the implementation of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. However, on-the-ground prevention activities vary widely across states; ranging from full-fledged prevention programs with high levels of staffing, funding, and legislative support to undeveloped programs with limited or no staffing, funding, or legislative support. Depending on the program, various methods including interdiction, education, decontamination, and boat design innovations are being pursued. Additionally, in extreme cases, temporary or permanent public boating access closures have been prescribed by water managers to prevent AIS infestation.

Status of State ANS Management Plans (41 Approved Plans - 38 State, and 3 Interstate)



Currently, 41 states have developed ANSTF-approved AIS Management Plans. These states are engaging or are poised to engage in on-the-ground AIS control activities.

Starting at the 2007 SOBA conference, SOBA members began to discuss the potential impact of Aquatic Invasive Species (AIS) on boating. Recognizing that boats are one of the primary

vectors of AIS transport, it made sense to expand these discussions and begin talking about proactive ways SOBA members could work together to prevent the spread of AIS by boaters and assist ongoing state and federal AIS prevention efforts. These discussions resulted in the development of SOBA's AIS Task Force (Task Force) in 2010.

At that time, the Task Force was charged with the development of a Best Management Practices (BMP) guide for use by state administrators of boating access/marina development programs as they engage in the control and prevention of AIS. This document represents the culmination of a multi-year effort to assemble BMP related to:

- AIS Outreach efforts,
- development of clean, drain, and dry areas for boaters at access sites,
- incorporation of manned decontamination stations at access sites,
- development of unmanned decontamination stations at access sites, and
- development of watercraft inspection stations.

The BMP discussed in this document are designed to allow administrators of boating access facilities to incorporate various AIS prevention methods individually or in concert into their operations at a range of costs. A wide variety of ideas are presented; ranging from signs and flyers to re-constructing or designing boating access facilities to maximize the effectiveness of AIS prevention efforts. Readers should view this guide as a learning tool and starting point for AIS control efforts at boating access facilities. The BMP presented here are by no means comprehensive and many cited resources should be consulted for further information related to AIS prevention efforts. Additionally, a site-specific plan for AIS prevention should be in place before modifying boating access facilities to ensure optimal use of funding and staff time.

Section 1: Clean and Drain Areas

Introduction

The purpose of designing/modifying boat access sites with boat clean and drain areas is that it will give boaters a designated area with visible reminders and tools for completing aquatic invasive species (AIS) prevention activities. The intent is for these areas to be used by boaters when there are no staff present at the site. However the areas will work in combination with watercraft inspections, boat washing and decontamination.

Boat clean and drain areas are for “AIS prevention activities”, which includes moving around the watercraft, trailer and other equipment to:

- Remove aquatic plants, animals, mud, and debris,
- Drain water from live wells, bilges, bait buckets, motor, (remove plug), and
- Dispose of (unwanted) bait.

It should be noted that additional actions may be required/recommended depending upon the laws of your state.

Boat clean and drain areas can be placed on the way into the access, on the way out of the access, or both. The make-ready lane(s) and tie-down lane(s) can be good places to create these areas if they already exist. However, it could also be done in a parking space or in a drive lane where temporary parking is allowed.

Safe and efficient traffic flow at the site should always be considered when deciding on the location for boat clean and drain areas. If space is sufficient to handle anticipated traffic flows, it may be possible to modify an existing access area (e.g., make-ready or tie-down lane) to incorporate clean and drain areas. However, where safety and traffic flow might be impacted as a result of incorporation of a clean and drain area, a separate boat clean and drain area may be needed.

Clean and drain area requirements should be considered when designing new or redeveloped sites. The boat clean and drain area should stand out from the rest of the site. The following components of boat clean and drain areas can be incorporated to make it more visible.

Pavement markings and stencils can be a great way to make the area stand out at a boating access site while minimizing the need for signs. Stencils can be used for important messages and directional instruction when appropriate (i.e., paintable surfaces are present at the site).



Stencil for clean and drain areas at boat ramp

Disposal Bins (garbage, compost) can be placed near clean and drain areas so that boaters have a place to put materials removed from their watercraft when performing any required AIS prevention activities. Aquatic vegetation, mussels, bait bucket water, and unwanted bait



Disposal bins and signs adjacent to clean and dry areas in Minnesota and New York

are examples of materials that can be placed in compost bins. Separate garbage bins should be provided adjacent to compost bins to minimize the need for separation of non-biodegradable materials when cleaning out the compost bin. Additionally, unwanted worms (also considered invasive species) should be disposed of in the garbage bin. Signs can be installed to provide boaters with appropriate disposal instructions. Collected materials should be disposed of properly.



Sign placed at disposal bins

Tables or hanging racks with tools that aid in AIS prevention activities can be added adjacent to delineated clean and drain areas.

Tools such as:

- Plant removal tools (litter pickers - rods with hooks on the end) can help boaters reach places underneath their boat to remove vegetation,
- Sponges can be available for soaking up the last bits of water from live wells, bait wells, and bilges and wiping down other interior surfaces, and
- Plastic scrapers could be useful at waterbodies with known Zebra or Quagga Mussels infestations for scraping watercraft and other equipment

A fresh water source, if readily available, could be provided for rinsing watercraft, trailer and equipment, or exchanging bait bucket water to save bait where state law allows for transport of live fish.

Web cameras could be useful for viewing boater activity in the boat clean and drain area (or the whole access) from a remote location. Installation of cameras where appropriate could be an easy way to study boater behavior and learn how the site is being used. The presence of the camera could be enough to encourage proper use of the boat clean and drain area and tools and minimize vandalism. A remotely controlled camera website could be made available to the public so they can also check on weather conditions, availability of parking, and ensure their own vehicle and trailer are safe while in the parking area. Camera features often allow pan, scan and zoom options, or can be set with a specific view.



Sign placed at disposal bins

The benefits of boat clean and drain areas include:

1. Improved visibility of AIS messages including laws and required actions,
2. Improved safety for boaters when moving around their boat to remove aquatic vegetation and drain water,

3. Versatility since it can work well at access sites of all sizes and locations,
4. Flexibility with implementation, site administrators can incorporate all or just a few of the suggested components,
5. Low initial investment, and
6. Minimal maintenance costs in the absence of vandalism

The site requirements for boat clean and drain areas include:

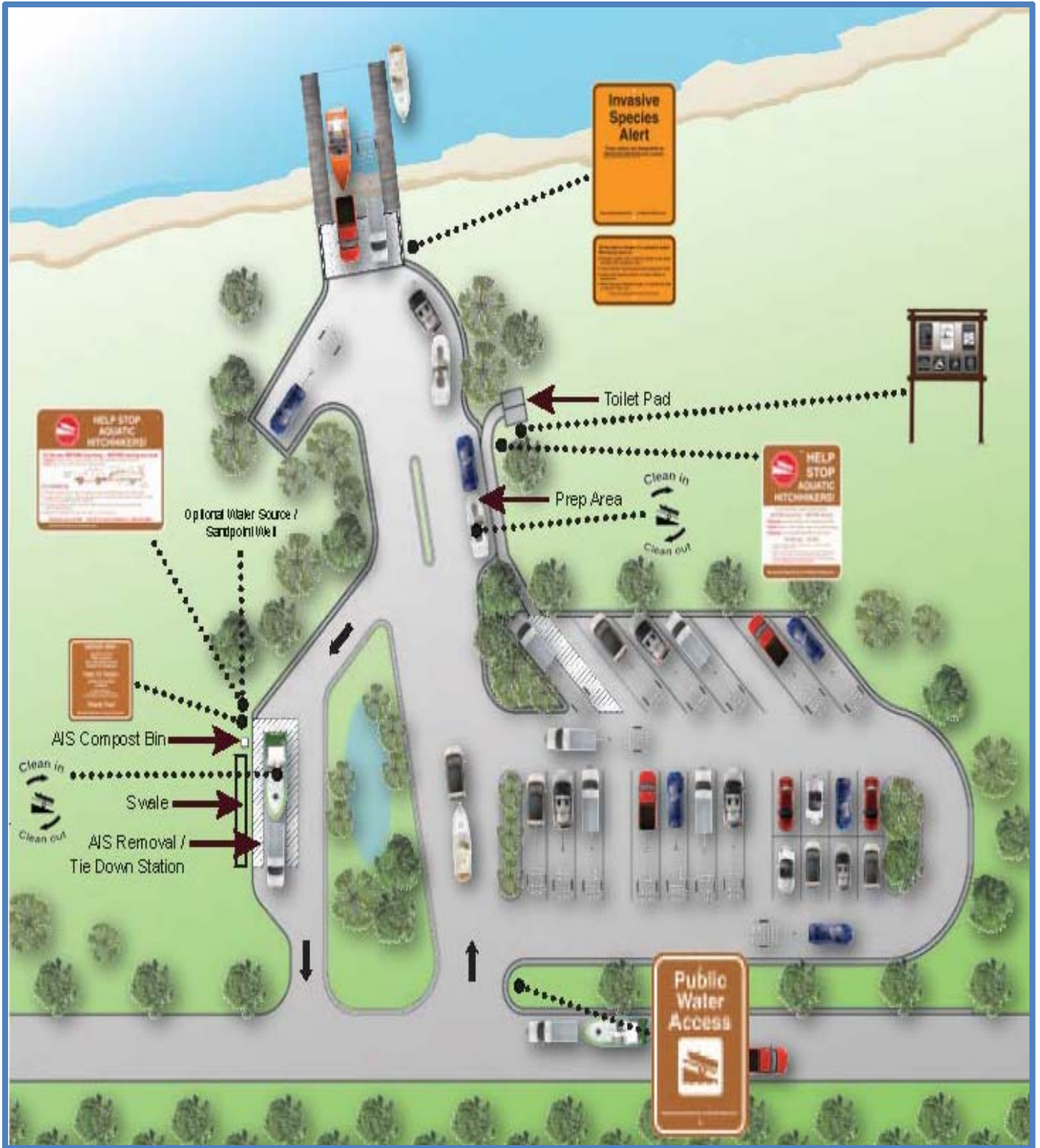
1. A large area of 21' x 54' (i.e., an 11' x 49' trailer parking stall surrounded by a 60" aisle along the side and rear) is needed for user safety and to meet Americans with Disabilities Act (ADA) requirements,

2. A level site, no more than a 2% slope in any direction for ADA accessibility, and
3. Drainage away from the waterbody (preferably into its own filtration catchment or swale).

It should be noted that, as with many site improvements, components of clean and drain areas can be subject to vandalism, accumulation of litter, or theft. Additionally, when boating access sites are unstaffed, clean and drain facilities can be misused or underutilized by boaters.

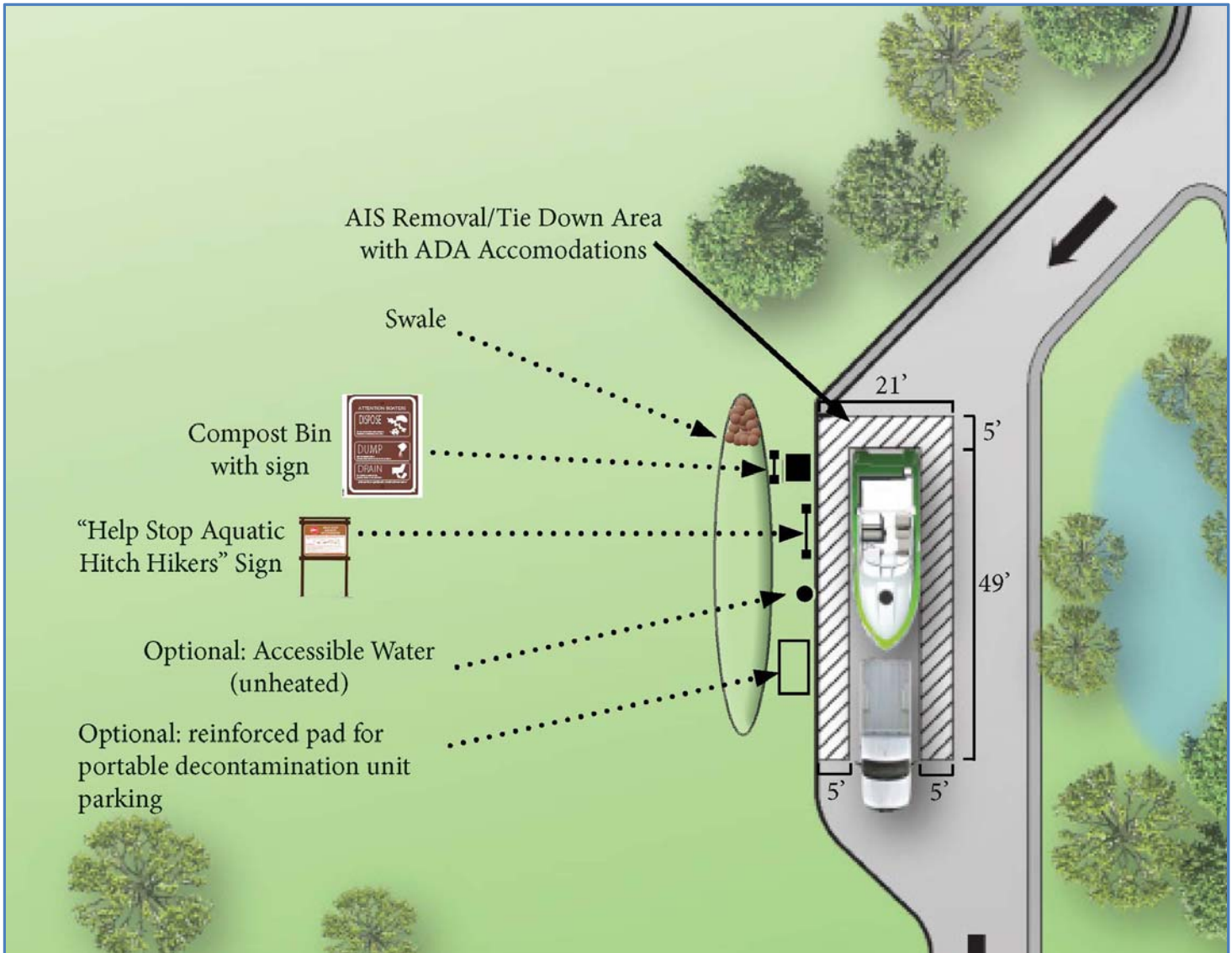


A clean drain and dry area with sign, disposal bin, and pavement stencil/parking box (MN)



Example site layout

Below is an example of a site designed by Minnesota DNR with all of the suggested components for an AIS activity area. Layouts would vary by site based on design and use patterns (MN).



Example tie-down layout with clean and drain components

Below is an example of a tie-down area designed by Minnesota DNR that incorporates clean and drain components.

Section 2: Watercraft Inspection

Introduction

Watercraft inspections can be an effective way to ensure that AIS are not transported between waterbodies. Additionally, inspections are also an effective way to educate boaters on appropriate AIS prevention steps.

Generally, an inspection is performed by a trained staff member or volunteer stationed at an access point. These inspectors check over the watercraft visually and/or tactilely to locate plants, animals, debris and mud for removal and confer with boaters regarding AIS prevention procedures. Inspectors may also survey boaters regarding recent boating activity in an effort to determine whether the boat presents a heightened AIS transport risk. All of these activities can be performed before entering/departing a waterbody and/or state.

There are multiple ways to set up a watercraft inspection program depending on the needs of the implementing agency. Number and size of waterbodies can be a factor, as well as budgetary constraints and the volume of boater traffic at access facilities. This section will show examples of how to set up watercraft inspection stations at boating access sites.

Purpose

The main purposes of a watercraft inspection is to protect against the spread of AIS by (1) educating boaters on how to clean and drain their watercraft and (2) identifying and removing plants, animals, debris, and mud from watercraft and associated equipment (e.g., a trailer) prior to launching or departure. As mentioned previously, inspections can also provide an opportunity for AIS inspectors to collect information related to AIS transport and determine whether a watercraft represents a heightened AIS transport risk (i.e., whether the boat was recently launched at an AIS-positive waterbody).

While inspecting watercraft, inspectors have a unique opportunity to educate boaters on proper cleaning and draining techniques and the potential impacts of AIS to boating. Educating boaters on the impacts of AIS is a great way to increase the likelihood that boaters will clean their watercraft after each use; motivating them to take the recommended AIS prevention steps voluntarily even when no inspector is present. During inspections, boaters should also be informed of state AIS laws to prevent unintentional infractions from occurring.

The presence of a watercraft inspector alone can increase voluntary compliance with state AIS laws. Additionally, if state law gives inspectors authority, they can prohibit launching of boats operated by a boater who refuses inspection or is in violation of a law. These “authorized” inspectors can also require that high-risk watercraft be decontaminated at a professional facility prior to launching.

Requirements of a successful watercraft inspection program

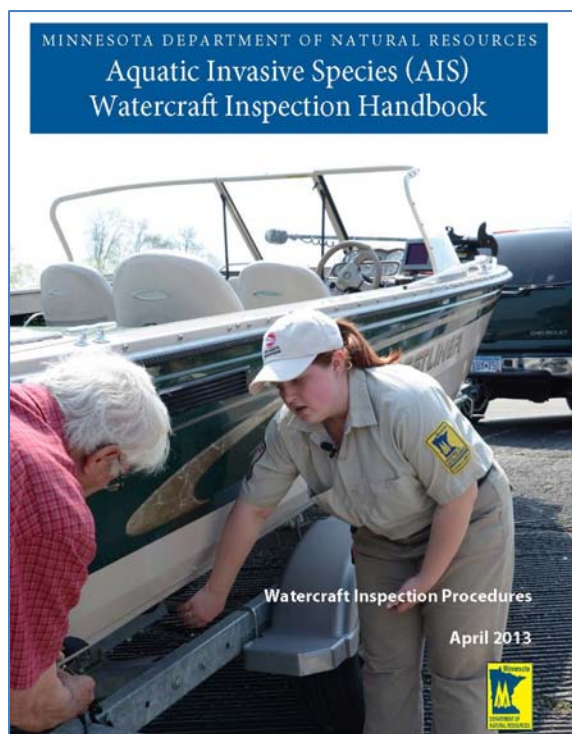
Prior to implementing a successful watercraft inspection program AIS program administrators will need:

- Properly trained staff and a certification program,
- Paid staff or volunteers available to work during the full hours of launch operation,
- Laws and/or authority for staff to deny access and require decontamination prior to launching

Properly training AIS inspection and decontamination staff can be easily achieved. Watercraft inspection training (WIT) is offered annually by the Pacific States Marine Fisheries Commission (PSMFC). A level 1 WIT course provides boating agency personnel with a comprehensive overview of AIS issues and first-

hand instruction on proper boat/trailer inspection. A level 2 course providing training on decontamination procedures is also available and recommended. It should be noted that the PSMFC will also be offering a level 3 WIT course. The level 3 course is being designed to "train the trainer". Graduates of the level 3 WIT are certified as incident responders and level 1-2 WIT trainers. Ideally, administrators looking to establish a well-trained inspection and decontamination staff in their state should attend the level 3 WIT course; allowing them to serve as trainer for subordinate staff. For more information on the PSMFC WIT training program visit <http://www.westernais.org>

Staff members should also be well-versed in applicable state AIS laws. Additionally, AIS inspection and decontamination personnel who do not have law enforcement responsibility should be provided with a standard operating plan that outlines who to contact in the event of an AIS law violation. Development of a state or agency-specific watercraft inspection and decontamination handbook or training manual will provide trained staff members with a reference to follow throughout the boating season.



Staffing requirements will vary by boating access site. Available personnel resources should be allocated among sites based on:

- Assessment of risk (i.e., greater resources should be allocated at waterbodies where the risk of AIS introduction or transport to other waters is greater),
- According to the overall volume of boat traffic at a boating access location,
- Hours of operation for boating access locations, and
- Seasonal or daily launching patterns at boating access sites.

Creation of a strategic staffing plan that prescribes proportional distribution of inspection and decontamination staff will maximize the effectiveness of a watercraft inspection program (i.e., maximizes the number of boater contacts and minimizes AIS transport risk).

Inspection stations

Once staff have been trained and assigned to specific boating access locations, several on-site considerations will need to be addressed.

Things to consider include:

- Providing space at the point of access to hold/store traffic during peak operating times,
- Providing shelter for staff and boaters to ensure their protection from the elements,
- Providing storage for equipment used during inspections and decontamination procedures,
- Providing staff with risk assessment question and answer protocol/survey forms,
- Providing storage for informational materials, and
- Providing staff with a means of communicating with law enforcement to handle enforcement issues or on-water emergencies.



Inspection staff working at a well-signed simple inspection station (OR)

At existing launch sites, inspection stations should be located near the “front” (furthest from the waterbody) of the launch or along the road leading to the facility. Regardless of where an inspection station is established, it should be positioned in a manner that minimizes traffic congestion and effectively controls the flow of traffic approaching the launch (e.g., within the boundary of an adjacent boater parking area). Given that boats may be drained at inspection stations, selected locations should prevent runoff from entering the adjacent waterbody. Additionally, inspection stations should accommodate staff comfortably by providing convenient access to necessary services (e.g., restrooms).

For new boating access sites, overall site designs should include inspection station locations. As with inspection stations at existing sites, inspection stations at new sites should (1) be positioned in a manner that takes into consideration the traffic flow and spatial requirements, (2) prevent runoff from entering the adjacent waterbody, and (3) accommodate staff.

Temporary signs or markers (e.g., cones) clearly identifying the traffic pattern to be followed when accessing an inspection station should always be placed. Temporary signs should also be placed at facility entrances so boaters know well in advance that they will encounter an

inspection station. Signs placed at entrances can briefly outline the steps that must be undertaken by boaters prior to their launch. Where more permanent signs, markings, or markers are desirable, traffic flow can be guided by pavement markings and roadside signs so boaters know where to drive and park for pending inspections.

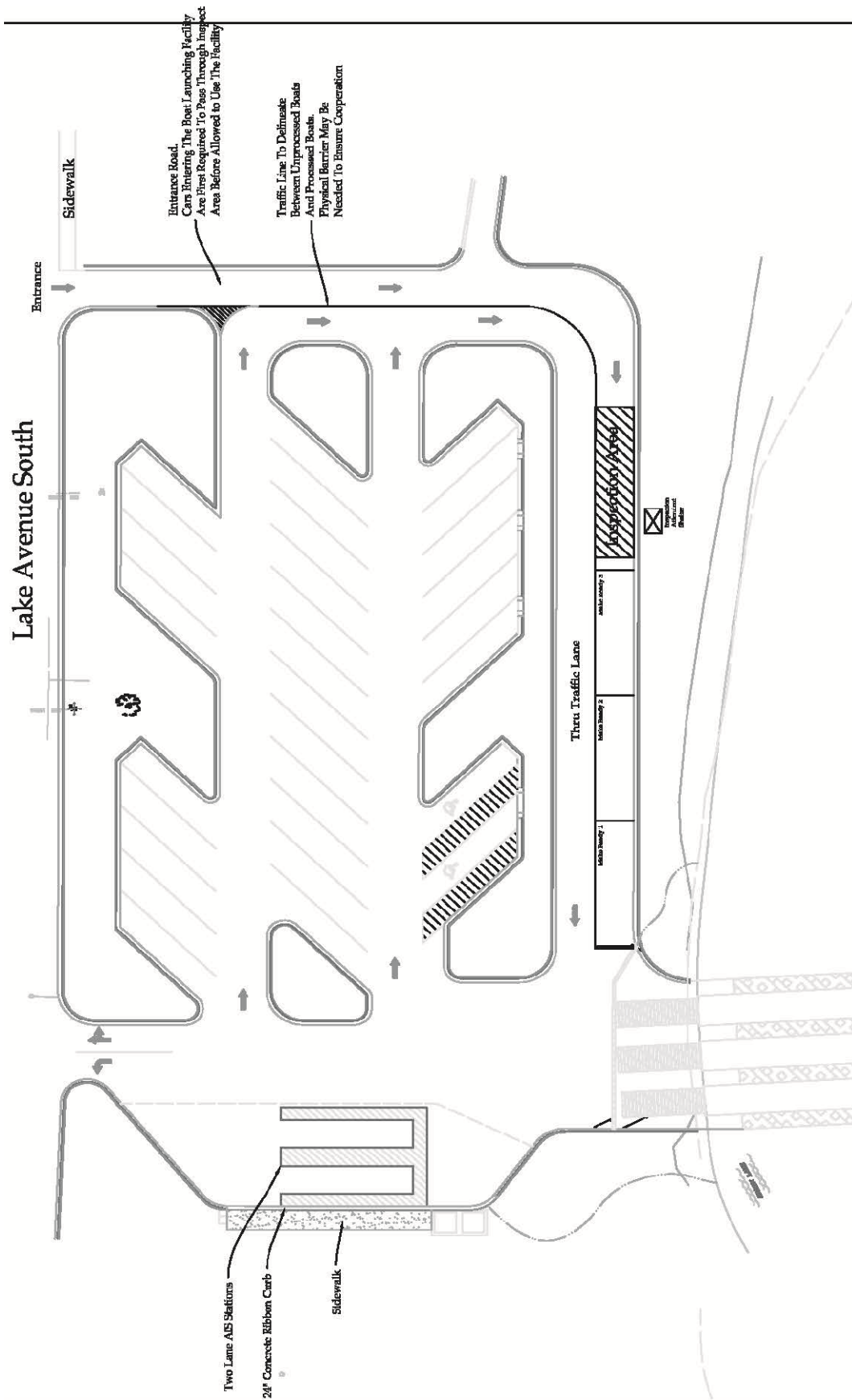
The station configuration can range from simple (e.g., chairs and a tent canopy) to complex (e.g., a permanent shelter or building). Costs, spatial requirements, building restrictions, and seasonal boating patterns and volumes are all factors to consider when deciding on station complexity. As mentioned previously, regardless of station complexity, shelter, storage, and means of communication should be available when inspection stations are operational to ensure inspection staff safety and comfort.



Level 1 inspectors working in a clearly-defined inspection area (MN)

Some shelter and storage options include:

- A sun umbrella and chair,
- A picnic shelter for shade,
- A small watertight shed on site for storage of equipment,
- A temporary office space/shelter such as a recreation vehicle or camping trailer, or
- A permanent shelter like a garage or fee station building



Example of inspection station orientation and traffic flow at newly-designed boater access facility

Inspection staff should be equipped with everything they may need to conduct an inspection on watercraft of varying sizes and types. Equipment available to inspectors should include:

- Buckets and garbage bags,
- Sponges and towels,
- Reaching and picking tools for pulling weeds,
- Pliers/screwdriver for pulling drain plugs, and
- Waterproof bins or containers for storing educational materials

It should be noted that safety vests should be provided to and worn by all inspection personnel to improve visibility and ensure staff safety.

Inspection

Depending on AIS program objectives, inspections can be performed on arriving and/or departing boats. If, for example, a waterbody has been identified as an AIS-infested water (i.e., a waterbody having an established reproducing population of AIS) the program objective might be to prevent inoculation of other waters by inspecting departing watercraft (containment). However, at waterbodies free of AIS, program goals might be to prevent the arrival of AIS from infested waters by inspecting arriving boats (prevention). Regardless of whether containment or prevention is the goal, inspections should involve the physical examination of boats, trailers, and other equipment according to WIT protocols.

During containment efforts, departing watercraft will be directed to stop at inspection stations where inspectors will approach the boater to distribute information related to clean, drain, and dry procedures and begin the inspection process. Depending on state laws, inspectors might (1) have authority to require on-site inspection (mandatory on-site), (2) be required to get boater permission prior to proceeding with inspection (voluntary on-site),

or (3) rely on boaters to inspect their own watercraft using educational materials as a guide (self inspection). Additionally, inspections of departing boats can be required at off-site "check points" during transport. These mandatory off-site inspections are performed where containment of large volume boat traffic on site would result in traffic congestion. The pros and cons of these inspection methods will be discussed in greater detail later in this section.

Prevention efforts will entail the direction of arriving watercraft to inspection stations where inspectors distribute information related to clean, drain, and dry procedures and, prior to physical inspection, assess the AIS risk posed by an arriving boat.

Having a procedure in place to accurately assess risk is one of the keys to a successful watercraft inspection program. Risk is mainly determined through conversations with the boater at the beginning of the inspection process. Prior to physical inspection, inspection staff should identify the risk posed by the watercraft due to (1) earlier exposure to AIS at identified AIS-infested waters and (2) the duration of the interval between that exposure and arrival at the receiving waterbody.

Depending on state law, moderate or high-risk watercraft arriving from an AIS-infested water may be directed to undergo high-pressure hot (> 140 °F) water decontamination prior to launching at an adjacent decontamination location. Watercraft that pose no or low risk (i.e., watercraft that have not been to an AIS-infested water within a certain time frame or have undergone a sufficient drying time since exposure to an AIS-infested water) will then be physically inspected in the same manner described previously as part of the containment procedure.

Whether the physical inspection process is undertaken as part of a containment or prevention effort, any AIS should be removed

and disposed of using one of the following methods:

- Placed in compost bins (NY and MN, for more information see Section 1),
- Thrown in the tree line to allow the weeds to compost, or
- Placed in a bucket or bag for disposal in an upland garbage can

Depending on state laws, watercraft having attached AIS may require high-pressure hot water decontamination prior to launching or departure.

Types of Watercraft Inspections: Pros and Cons

Type of inspection	Pros	Cons
Mandatory (on-site)	-Laws give inspectors authority, -Very effective when boat traffic is manageable	-High cost for paid staff, -Can cause traffic congestion during peak launching/retrieval periods
Mandatory (off-site)	-Laws give inspectors authority, -Minimizes traffic congestion at launch site	-Can be logistically complicated for inspectors and boaters -Requires development of off-site infrastructure
Voluntary (on-site)	-Educational boating public, -Less invasive	-Lack authority to stop uncooperative boaters, -Relies heavily on broad outreach program
Self-inspection	-Low cost, -Minimal oversight required	-Low reliability without broad outreach effort, -Boaters can provide false information, -Enforcement difficult

Mandatory on-site inspections

Mandatory on-site inspections may be a good option for states where (1) waterbodies are dispersed geographically, (2) AIS legislation gives inspectors authority to conduct inspections, and (3) sufficient funding has been

secured to adequately staff, train and supervise inspection personnel. Mandatory on-site inspection can also be a good option at high-use boating access areas at waterbodies with AIS infestations (e.g., departing watercraft are inspected, boaters are reminded to adhere to necessary drying times prior to launching at other waters, and boaters are provided information on the availability of high-pressure hot water decontamination facilities).

Additionally, mandatory on-site inspection is a good option for boating access sites at high-use waters that are not infested with AIS but are a popular destination for boaters who frequent neighboring AIS-infested waterbodies.

When boat traffic is manageable and inspection stations are located at existing make-ready or tie-down areas, boaters and inspectors alike can experience an element of convenience during mandatory on-site inspections. Inspecting watercraft as they are being readied for launch or being tied-down for transport will, generally, cause less delay.

Mandatory on-site inspections can be costly. Funding for site improvements, shelters, storage facilities, equipment, motorpool fees, staff time, staff training, and staff supervision will need to be provided if this inspection method is employed. States employing mandatory on-site inspections include Colorado, Minnesota, and Utah.

Mandatory off-site inspections

Mandatory off-site inspection is a good option in states where (1) containment of AIS emanating from a large waterbody with multiple launch points is desired, (2) central pinch points (e.g., cross roads or ports of entry) receive boater traffic from multiple remote launch/retrieval points on a large waterbody or multiple waters that are clustered geographically, targeted AIS are not currently found within your state boundary but are present in adjacent states, (4) legislation and local ordinances allow for development of law enforcement check points at ports of entry or other locations, and (5) sufficient funding has

been secured to adequately staff, train and supervise inspection personnel.

Although the costs associated with mandatory off-site inspection might seem to be less than those incurred when conducting mandatory on-site inspections at multiple waters, staffing and equipment needs may prove costly at off-site locations. A larger number of inspectors is usually required to handle the large volume of boater traffic at off-site mandatory check points. Given the likelihood that AIS will be encountered at off-site check points, program managers will also need to provide portable high-pressure hot water decontamination units at these locations and address the collection of wastewater using portable collection pads. Additionally, depending on the authority of inspectors and state laws, law enforcement personnel may need to be present to enforce "failure to stop" violations. Program administrators should examine the costs and benefits of off-site mandatory inspection before incorporating this method into their overall AIS inspection effort.



Wastewater collection pad used with portable decontamination unit (Hydroblaster)

Unlike mandatory on-site inspections, that can be conducted during normal wait times (e.g., make-ready and tie-down activities), mandatory off-site inspections require boaters to take additional time to stop for inspection. The duration of such stops can be lengthy during periods when large volumes of boater traffic are encountered, making the process unpopular with some boaters. Another potential drawback of off-site mandatory inspection

stations is their failure to interdict boaters when placed in areas that can be bypassed via alternate routes. For this reason the use of mandatory off-site inspection is often used in coordination with on-site inspection methods.



Roadside signs informing drivers transporting watercraft of upcoming off-site mandatory watercraft inspection checkpoint (ID)

Although much has been mentioned regarding the use of signs to direct people to inspection stations, the use of signs at off-site inspection stations requires special attention. Signs used at off-site mandatory inspection check points need to adhere to department of transportation requirements and if allowed by state law. When used, signs associated with off-site mandatory inspection efforts should be placed along roadways well in advance of checkpoint locations.

States implementing mandatory, off-site inspection stations include: Washington, Oregon, Idaho, Montana, Utah and Wyoming.

Mandatory self-inspection or certification

Mandatory self-inspection can be a good way to increase awareness of AIS issues in your state and reduce the risk of AIS transport when limited funding is available for program implementation. Setting up a mandatory self-inspection program requires the development of a well-designed certification form that informs boaters on how to (1) effectively perform their own inspection, (2) perform

Keys to ensuring boater cooperation include:

- A broad-based outreach program,
- The presence of AIS inspection personnel or uniformed personnel on site,
- Laws making "failure of compliance" a ticketable offense, and
- Laws making false statements on certification forms ticketable offenses

You must complete and sign this form before launching your boat
In the past 30 days, has your boat been used in any of the areas affected by zebra and quagga mussels listed below?

- **Utah:** Electric Lake, Lake Powell, Red Fleet Reservoir and Sand Hollow Reservoir
- **Colorado, California, Nevada, New Mexico or Arizona**
- **Waters in states east of Montana, Wyoming, Colorado and New Mexico**
- **Canada:** Waters in the provinces of Ontario and Quebec
- **Mexico**
- **Other:** Waters established by the Wildlife Board in rule R657-60 and published on the DWR website at wildlife.utah.gov/rules.

If you answered No to the above question, then simply sign this form, put the bottom portion in your launch vehicle and launch your boat!

If you answered Yes to any part of the question, you must decontaminate your boat using one of the methods below:

A Self-decontamination process
See the front of this form for details.

B Professional decontamination Seal # _____
See the front of this form for help locating the nearest professional decontamination unit.

Decontamination agency Agent signature Date

Please take our online survey about your experience with the Aquatic Invasive Species program at Wildlife.Utah.Gov/MusselSurvey

Keep the top portion in your boat.
Keep the bottom portion in launch vehicle, with the signature side facing up on your dashboard.

Certificate of decontamination
I have not used my boat in any waters listed at the top of this form, or I have decontaminated my boat and trailer as outlined at the bottom of this form.

Boater signature _____ Date _____ (not valid unless signed and dated)
Certifying false information on this form is unlawful (per Utah Administrative Rule R657-60).

Stop the mussels!

Invasive mussels will destroy fisheries, ruin your boat and cost millions of dollars to control. Help us keep them out of Utah's lakes and reservoirs.

Before boating
Before you launch your boat, it must be mussel-free. It's the law!
After you complete the decontamination steps below, fill out and sign the back of this form. Or, to save time in the future, take the online Mussel-Aware Boater course at Wildlife.Utah.Gov/SelfCertification to receive a certification form that is valid for the rest of the year.
* Mandatory boat inspections are routine at Lake Powell and some other waters.

Self-decontamination steps
Clean, drain & dry Check the box as you complete each step

- Step 1:** Clean all plants, fish, mussels and mud off your boat.
- Step 2:** Drain all water, even from your ballast tanks, bilge, livewells and motor. (Lower your motor or outdrive to drain it.)
- Step 3:** Dry your boat and equipment for at least 7 days in summer, 18 days in spring/fall and 30 days in winter. Or, you can freeze winterized equipment for 3 days.

Professional decontamination
Professional decontamination is another option. Certified personnel use high-pressure, scalding (140° F) water to wash your trailer and boat inside and out, flushing your ballast tanks, bilge, livewells and motor.
To locate a professional decontamination unit, call 801-648-6315 in northern Utah, 435-790-8938 in northeastern Utah, 435-503-4066 in central Utah, 435-691-2427 in southern Utah or 435-630-3132 in southeastern Utah.

After boating
After you finish boating, remember to always decontaminate!
Visit StopTheMussels.org for more information.
Invasive mussel hotline: **1-800-662-3337**

Front and back views of mandatory self-certification verification form (UT)

clean, drain, and dry actions, and (3) have their watercraft decontaminated using high-pressure hot water units when necessary. Although there is low overhead involved when using a mandatory self-inspection program, the success of the effort is reliant on boater cooperation.

Self certification forms should be made available to boaters at launch site kiosks or dispensers so that they can complete the form prior to launching. Additionally, certification forms should be available online for printing. Once boaters have completed the self certification form, the form is usually placed on the dashboard of the parked tow vehicle to

verify compliance. Depending on state law, failure to display self certification forms in the tow vehicle might be considered a ticketable violation.

In addition to single-launch certification forms, multiple-use decontamination certification forms can also be made available to boaters who have completed an online certification course. Utah offers a one-year certification to "graduates" of an online Mussel-aware Boater Program. Graduates of this program are provided with a certificate that is valid for one calendar year. Like the single-launch certificate, this certificate must be displayed in the tow vehicle during watercraft use.

Voluntary on-site inspections

Voluntary on-site inspections generally take place (1) in states where AIS laws do not mandate inspection, (2) in states where limited AIS funding is available, (3) at waters where the likelihood of AIS transport is low, or (4) when volunteer inspectors do not have authority to require inspection. Although voluntary inspections are viewed by boaters as less intrusive, the success of these inspection programs is completely reliant on boater cooperation (i.e., a willingness to inspect their watercraft or have volunteers conduct inspections).

Keys to ensuring boater cooperation include:

- A broad-based outreach program,
- Encouraging boaters to sign a clean boater pledge,
- Development of a corps of inspection volunteers trained by knowledgeable paid staff, and
- Educating boaters about AIS and the importance of inspection during other mandatory boating-related inspections (e.g., safety inspections) conducted by trained paid staff

Education of boaters and volunteer inspectors should include discussions of clean, drain and dry procedures, proper inspection techniques,

and the importance of keeping waterbodies free of AIS. When possible, volunteer inspectors should be tasked with collecting voluntary information (e.g., recently visited waterbodies) from boaters to assess the risk of infestation.

Examples of voluntary on-site inspection programs include Connecticut's Boating Education Assistant program (BEA), Connecticut's Invasive Investigator Program (IIP), and Wisconsin's Clean Boats, Clean Waters (CBCW) program.

The BEA uses funding previously allotted to fee collection efforts to hire Boating Education Assistants with no enforcement authority. These Assistants are responsible for:

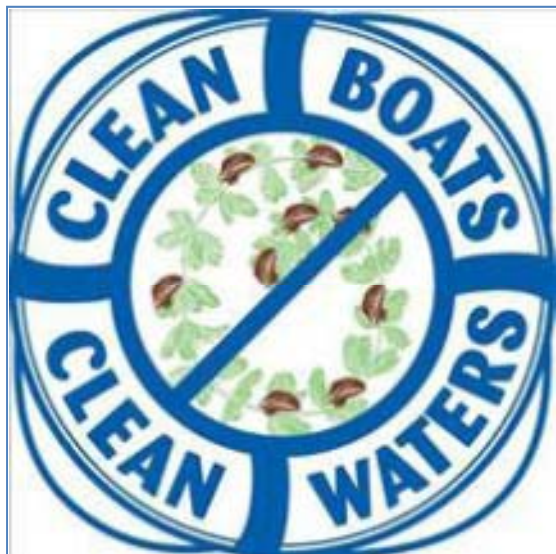
- Educating boaters about clean and safe boating practices at boat launches throughout the state (Pumpout locations, Aquatic Invasive Species, No Discharge Areas, Life Jackets, etc),
- Conducting vessel safety checks as developed by the U.S. Coast Guard Auxiliary,
- Conducting voluntary aquatic invasive species vessel inspections,
- Encouraging people to become clean boaters by having them sign the Clean Boater Pledge and discuss the Clean Boater Action Guide,
- Closing the parking lot if it becomes full,
- Being an extra set of eyes looking at the boat launch to let us know if there is anything that needs immediate attention,
- Picking up any excess trash around the launch, and
- Submitting weekly summaries detailing the use of the launch.

Connecticut's IIP is designed specifically to help educate people on ways to keep waters free of AIS and prevent the spread of aquatic hitchhikers into the lakes and rivers of

Connecticut. Under this program, volunteer launch monitors check for invasive species and collect information about where boats have been, if invasive species were found, and what if any cleaning steps were done prior to launch.

Volunteer launch monitors are required to attend a free 2.5-hour IIP training and visit local boat launches. During the training, Connecticut Department of Energy and Environmental Protection Boating Division staff familiarize volunteers with the local invasive species, teach them how to conduct a voluntary inspection, and provide instructions regarding data collection. Annual 1-hour refresher trainings are offered to returning volunteer launch monitors.

Wisconsin's CBCW program elicits the help of lake association members and other concerned citizens to form the first line of defense against the spread of AIS. This volunteer corps is trained to organize and provide AIS prevention education programs to boaters in their local communities. Additionally, volunteers perform boat and trailer AIS inspections, distribute AIS information, and report on newly observed AIS infestations.



Section 3: Decontamination and Boat Wash Stations

Introduction and Purpose

The purpose of decontamination and boat wash stations is to aid in the removal plants, animals, and mud that may be clinging to a boat after it is removed from the water. This can be accomplished with hot water and/or high pressure (decontamination), or cold water at low pressure (boat wash). Generally decontamination or boat washing is performed for watercraft departing infested waterbodies or for arriving watercraft at AIS-free waters. For the purposes of this section, decontamination means high-pressure hot water applied by

Permanent decontamination stations are well-suited to boating access locations that (1) receive a large volume of traffic from infested waterbodies, (2) are on infested waters and departing boats require decontamination or adherence to clean, drain, and dry requirements prior to launching at other waters, (3) experience extremely high volumes of launch and retrieval traffic, and (4) support launch facilities for large watercraft. Permanent decontamination station designs can be tailored to work well on a variety of watercraft sizes.

Decontamination and boat wash station descriptions, requirements, and examples

Type	Water temperature	Staffing requirements	Water pressure	Best use	Example
Permanent decontamination unit \$200,000	Hot (140-160°F)	Trained staff	High (~3000 psi)	Major access point or centralized check station for multiple water bodies	Lake Mead (NV)
Portable/semi-portable decontamination unit \$15,000-\$150,000	Hot (140-160°F)	Trained staff	High (~3000 psi)	Clusters of lakes or infested waters near un-infested waters, high use access sites, enforcement road check stations	Brainerd Lakes Area, Lake Minnetonka, (MN)
Permanent wash station \$100,000	Cold (50-80°F)	Self-service, no trained staff required	Low	Places with a lot of mud, AIS that are hard to clean by hand (spiny water flea, snails, aquatic vegetation, etc), mostly on day use water bodies	Ten Mile Lake (OR)

trained staff and boat wash stations refer to self-serve boat washes using low-pressure cold water.

Permanent Decontamination Unit Stations

Permanent decontamination stations generally include a building or other fixed structure as well as utility hook ups. Structures should be placed so that incoming and outgoing traffic can pull through the decontamination station without interrupting traffic on the main road. Water collection is usually built into the site, and the operator must be trained to operate this high-pressure hot water system.



Permanent decontamination station at Lake Powell, UT (Hydroblaster)

Portable Decontamination Units

Portable units are contained on a trailer and can be transported from site to site on a daily basis, or left for longer if there is a way to secure them on site. Portable units generally have a mat the boater will pull onto for water collection and recycling. When a water collection mat is not used, operators should be mindful that runoff does not enter nearby waters. As with permanent decontamination stations, operators should be well-trained due to high-pressure hot water safety concerns. Additionally, portable unit operators should have defensive driving training to prevent mishaps during transport. Portable decontamination units are ideal for use (1) in areas where waterbodies are clustered and can be visited on short notice, (2) at off-site inspection stations (e.g., check points), (3) at boating access sites lacking sufficient space for development of a permanent unit, (4) at boating access sites lacking utility hook-ups required for permanent units, (5) at high use lakes, and (6) during high traffic events (e.g., fishing tournaments).

Decontamination Unit Safety

All units with hot water and high pressure should only be operated by trained staff. There should always be at least two staff in case of emergency.

Training for staff should include both classroom and hands-on training in safety, best practices for decontaminating watercraft thoroughly, minimizing harm to equipment, what to do if suspicious species are found, how to handle traffic flows, and defensive driving if the decontamination unit is trailered. Development of a training manual will ensure consistency in staff training.

For staffed decontaminations, there should be at least two staff present per decontamination being performed. One staff member will be responsible for working on the watercraft, while the other talks to the boaters and maintains the safety of the decontamination area and traffic flow. The other staff person could



Portable decontamination station and water collection system (MN)

serve as a watercraft inspector who determines need for decontamination if it is not automatically mandatory. The area where high pressure hot water decontaminations are being performed should be sufficiently coned off to keep boaters and observers a safe distance away.

Decontamination Unit Equipment

The following equipment is recommended for use when operating a decontamination station:

- Tall cones to mark off decontamination areas,
- Heat and water proof gloves for handling the pressure wand and scraping the boat,
- Goggles or a mask when spraying,
- Waterproof boots,
- Rain gear to protect staff performing decontaminations,
- Proper signage directing boaters where to go, and
- Safety vests

Additionally, scrapers, pliers, wrenches, and brooms should be provided to aid staff when removing AIS, removing drain plugs, and cleaning of the decontamination or water collection area.

Boat Wash stations

Unstaffed boat wash stations provide low-pressure cold water; allowing boaters to safely wash their boats without supervision from trained staff. Wash stations can be set up in place of a staffed hot water decontamination station at access sites where (1) lethal exposure of targeted AIS to hot water is not required to control spread, (2) remoteness will likely result in achievement of necessary drying times prior to launching at other waters, and (3) removal of targeted AIS and associated debris is difficult to achieve through hand cleaning. When developing unstaffed boat wash stations, consideration must be given to ease of use and maintenance, installation of wastewater collection systems, and utility connections. Additionally, as with any self-serve facility, frequent maintenance will likely be required.

Boat Wash Safety

Wash stations with cold water should have proper safety precautions in place for boaters, as well as signs with instructions. Drivers should put their vehicle in park, turn it off, and exit the vehicle before any washing is performed. Wash stations should allow sufficient room for boaters to safely clean their boats without posing a hazard to others or being in danger of vehicles.

Boat Wash Equipment

The following equipment is recommended for use when operating a decontamination station:

- Scrapers,
- Sponges, and
- Pick tools to remove vegetation

Placement

If possible, decontamination units and boat wash stations should be placed in such a way that they are near a traffic pinch point, but do not interfere with the flow of traffic. In cases where decontamination and certification is required, traffic can be routed through the decontamination station. There should be sufficient space to perform decontaminations keeping the safety of both staff and boaters in

mind. Pavement markings, cones, and signs can all be utilized to provide direction and a safe area. Permanent decontamination or wash stations should be located with utility hook ups in mind and also proper wastewater collection space, traffic flow, and parking lot configurations. Accessibility and distance from the water body also need to be taken into consideration. All new facilities should meet ADA standards, and the station should be far enough away from the water that wastewater is unable to flow back into the water body. These stations could also be centrally located to serve multiple water bodies if a convenient central location can be found.



Boaters using a self-serve wash station (OR)

Water Collection and Waste Disposal

Decontamination and boat washing often involves rinsing out of bilge areas of boats, removal of AIS from watercraft, and removal of mud and other debris. Water collection, cleaning, and disposal, therefore need to be considered regardless of the permanency of the installed decontamination/boat wash facility.

Permanent stations should include water collection and recycling in the design. Concrete pads with stormwater collection features,

permeable concrete, and non-concrete stormwater systems are all good options for permanent installations. Additionally, swales, retention ponds, sewer system hook-ups, underground filtration fields, holding tanks, oil and water separation systems, and solids removal systems are all options for wastewater disposal. Be sure to adhere to both EPA and state guidelines when addressing wastewater treatment and disposal.

It should be noted that large, permanent stations may need to follow car wash guidelines depending on size. Also note that tanks from portable units should be drained at an approved upland site or wastewater facility. Further, due to the elevated temperature of decontamination wastewater, disposal of this water should be conducted in a manner that does not impact other water features on site.

Removed waste such as mussels, aquatic plants, unwanted bait, debris, and mud should be either put in the trash, a compost bin, or spread on an upland site according to the policies of the agency.



Mussels collected after boat decontamination (MN)



Sock filter used to remove solids prior to water disposal (OR)

Off-site Decontamination

Where allowed, off-site decontamination stations are usually set up and staffed by inspectors and/or law enforcement personnel as part of a developed off-site inspection check point.

Law enforcement personnel should be involved when developing off-site inspection and decontamination areas to ensure public safety and minimize traffic disturbance. Additionally, off-site inspection and decontamination locations should be chosen to allow sufficient room for both inspection of vehicles trailering watercraft and, if necessary, simultaneous decontamination of high-risk or contaminated watercraft.

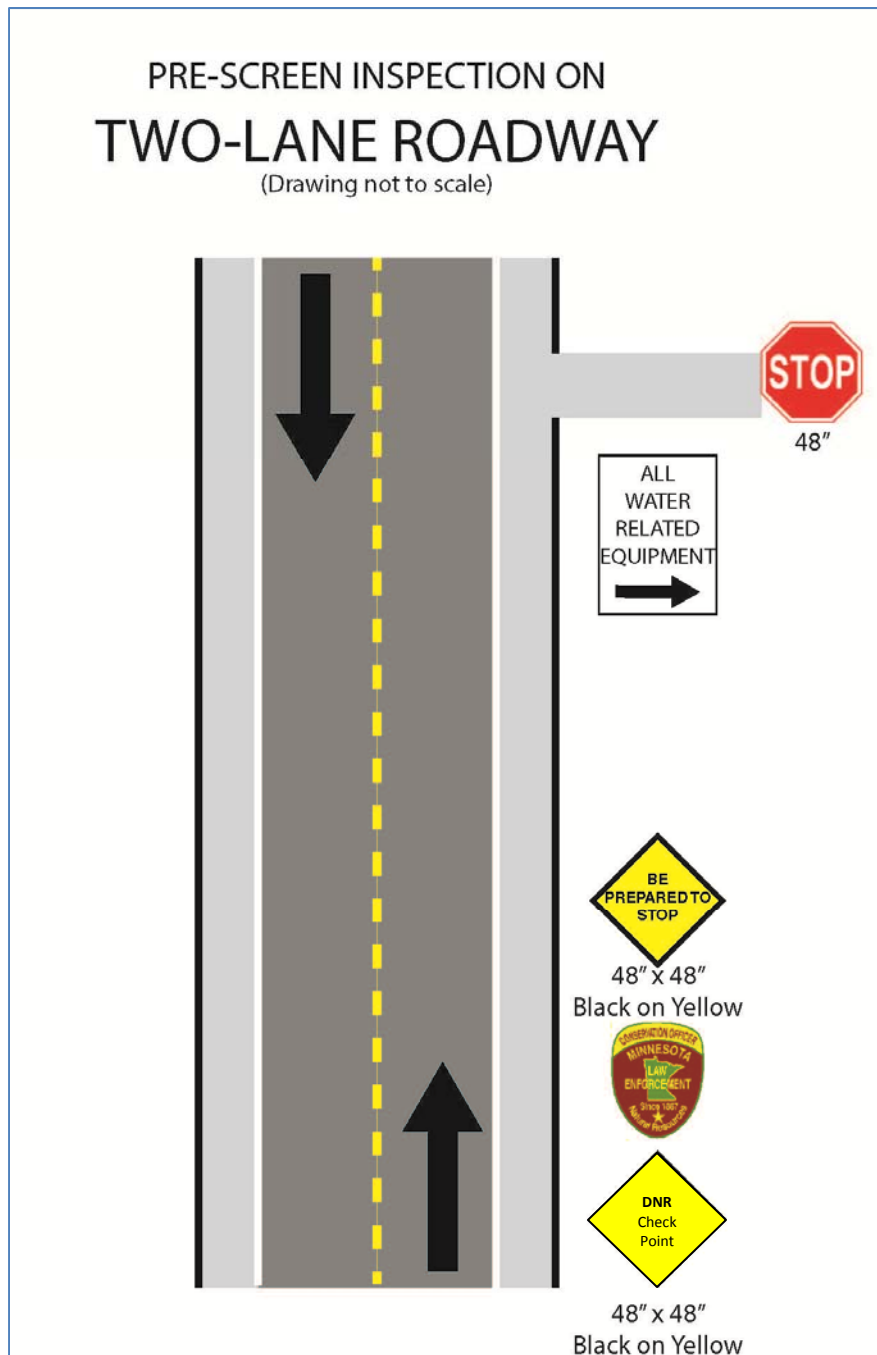
Staffing of off-site inspection/decontamination check points will vary depending on department or state requirements (e.g., some states require that check points of any sort maintain a law enforcement presence or require the presence of supervisory personnel). Additionally, establishing off-site check points may require the involvement of local or county law enforcement and/or approval from state or local legal authorities.

Off-site watercraft decontamination is performed on interdicted watercraft after inspection procedures are completed and

decontamination is deemed necessary. Watercraft requiring decontamination are then decontaminated using a portable unit. When using a portable unit at an off-site location, be sure to check with landowners or state water quality officials regarding the disposal of wastewater.

Non-motorized Decontamination

Although not covered in depth in this guide, decontamination of non-motorized craft is usually required in states having an AIS control program. A video overview of paddle craft decontamination procedures can be found at <http://www.northernforestcanoetrail.org/PlanaTrip-3/Aquatic-Invasives-70>



Example layout of off-site inspection/decontamination check point

Section 4: Messaging and Outreach

Introduction

Effective AIS prevention and control campaigns are well thought out and include messages in a variety of media formats. Campaign information can be disseminated to the public using two methods: messaging and outreach. Often, the presentation and placement of the information has more to do with its effectiveness than the material it is made from. Where possible, examples of AIS messages used by a variety of states around the country will be shown in this section.

Messaging

Messaging is an important part of managing a boater access facility and helps to ensure that users will have a safe experience when launching, parking, and loading their watercraft equipment. Messaging is designed to provide only necessary information to boaters and is presented in a consistent and uncluttered manner. This means that the primary goal of messaging should be to provide messages that are to the point and maximize awareness.

Messaging efforts work best when they target individuals in public environments. Messaging tools include:

- Static - billboards, signs, stencils, posters and displays,
- Take away - leaflets, post cards, rack cards, business cards

Whether using static or take away messages, efforts should be combined with personal (face-to-face) communication when possible to ensure that messages are effective.

Outreach

Outreach is an all inclusive term that describes any act of providing information to people who, otherwise, would have difficulty accessing it. A key component of outreach is that the message is available at the locations frequented by the target audiences. Unlike messaging, outreach efforts focus less on awareness and more on

education, providing greater detail to raise the understanding of a topic.

Outreach efforts work best in a variety of settings and can be tailored to a wide array of audiences. Outreach tools include:

- Static - posters and displays,
- Take away - brochures,
- Electronic - newsletters, websites, social media, smart phone applications, videos, radio, television, low- power radio (micro broadcasting), and
- Event presentations – fishing tournaments, booth at a show, voluntary training events

Planning

Define Your Goals and Objectives

Goals should be unique and consist of general statements that express a broad focus. They may include increasing awareness, gaining community support, or encouraging action among boaters.

Objectives should be more specific and measurable (for example, increasing awareness by 20% in the next six months). Those pursuing outreach efforts are encouraged to develop a broad statewide plan to maximize effectiveness and return on investment. Such a plan should be regularly reviewed, and modified as needed, to ensure that strategies continue to achieve outlined goals and objectives.

Identify your Target(s)

Your target audience is the group of people you want to reach. You should break them down into small groups so that you can create a message that will resonate specifically within each group. Some criteria for defining your target audience may include age, recreation type (e.g., boater or angler), type of watercraft owned, residency, travel patterns, behaviors, etc.

Create your Message

Once you have identified your target group, you can craft messaging or outreach efforts designed to achieve your objective(s). Whether using messaging or outreach, information should be presented in an attention-grabbing format and tied directly to something your target audience values.

Keep in mind that not everyone has access to the same media outlets (e.g., not everyone has access to a smart phone application) and different messaging and outreach tools (media) will, therefore, be relevant to different groups. Additionally, recent research suggests that 5 to 7 message exposures (impressions) are required to achieve minimum impact (e.g., understanding or cooperation). Adjust the media chosen to maximize target audience exposure.

Using one of the national campaign messages establishes or builds on familiarity and ensures uniformity. Although national campaign messages might not be as attention grabbing as something new and original, new messages should be combined with national messages to maintain consistency. A national effort to stop the spread of AIS has allowed for utilization of similar campaign messages. Campaign messages have been put forward by the Aquatic Nuisance Species Task Force and the 100th Meridian Initiative. Campaign messages, in various media formats, created by these groups or their partners can be found at the following web locations:

<http://100thmeridian.org/outreach.asp>

<http://100thmeridian.org/ztz2011.asp>

<http://100thmeridian.org/audiolibrary.asp>

<http://www.protectyourwaters.net/resources/#logo>

<http://www.westernais.org/>

Messaging on Site

Signs

Signs are the most common form of messaging at unstaffed boat launch facilities. Signs can be large or small, posted singularly or in groups, and made of different material. Signs are most effective when they are:

1. Clear and concise – minimal words/simple text and graphics – create with visitors perspective in mind,
2. Presented in a positive tense - when possible tell visitors what they can or must do instead of telling them what they can't do,
3. Placed properly - easy for users to see and react, placed in areas that minimize vandalism , and
4. Well maintained - replacement of missing, damaged or deteriorated signs, out-of-date information should be updated

In many states, aquatic invasive species programs are developed when funding and legislation are approved to address impacts of AIS on an important state or local resource or waterbody. Rapid onset of such AIS programs necessitate that a strategy for educating boaters on the threat of AIS is implemented quickly. Signs are typically one of the first items requested to be added at boat access facilities and are often installed with little in the way of planning. Even with planning, it is not unusual for AIS program signage to undergo revision as states work toward finalized sign guidelines that maximize effectiveness. It is also very common for federal, state and local agencies to share and reuse campaign messaging, logos, pictures and graphic elements in an effort to provide greater awareness through repeated message exposure.

Regardless of the specific message, most AIS signs will be either regulatory or informative. Regulatory signs exist in states that have formal AIS laws and programs and will advise boaters on the state or local laws and rules that pertain to AIS prevention. These signs will usually be

very standardized and have firm messages such as “It’s the law, you must...” or “This permit is required” or “You could be fined if you...” Educational signs will typically be more colorful and friendly and have messages such as “Did you remember to...” or “Please keep our waters clean”. Often, messaging on signs can be used to direct boaters to sources of more detailed information found at a website or low power radio station.



AIS sign examples (FL and WI)

When installing signs at existing or new boating access facilities, it is important to consider the flow of vehicular traffic and pedestrians at the site. AIS signs should be placed for maximum exposure at the exact spot that users need to see the sign. This will most likely be at the make ready area, the boat ramp(s), or the tie down area. For pedestrians it could be at the dock, along a path or near the restrooms. Because no two access sites are ever the same, it is recommended that a site-specific sign plan be developed. The plan would identify pedestrian and vehicular traffic flow patterns, existing sign or kiosk locations and pinch points where exposure and visibility of AIS information can be maximized. Although your plan will be site-specific, signs should be installed in a uniform manner between sites (e.g., sign height and distance from ramp edge should be similar between sites) to ensure that they are seen. The suggested distance between a drivable surface and the base of a sign is 12 feet. The suggested height for installed signs is 5 feet at the base. Additionally, the distance between a sign and the service provided should be consistent between sites (i.e., the distance between the decontamination station and the sign directing boaters to the station should be the same among facilities) to foster consistent cooperation.

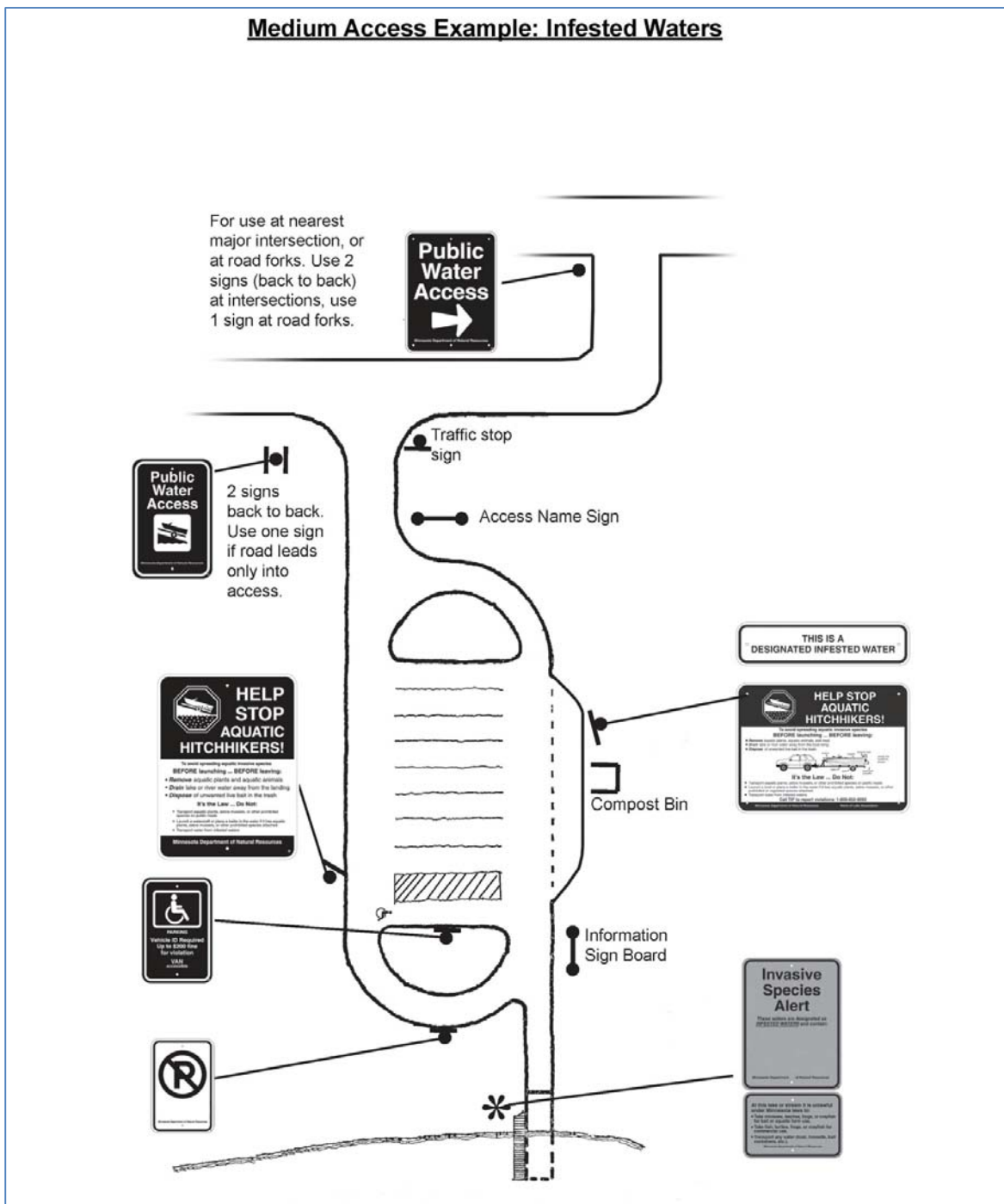
A construction design plan or aerial view of the site can be used to show the roads, parking areas, make ready and tie down lanes, structures, and paths. Standardized signs such as the traffic, parking, and directional signs are marked first since they are important for safety. Necessary regulatory and informational signs are marked next, including kiosk locations and purpose. Then add in the AIS signs.

In order to be the most effective, AIS signs should stand alone and not be part of a mixed message area. Putting the AIS signs on their own posts or in attractive kiosks near areas where boaters are moving around their boats, prepping for launch or getting ready to leave, will help the message get to the intended audience. A central location for all AIS

communication could work well if it is easily accessed by the boater and attractive, so that it draws people to it.

Signs should be placed in an area where they are not obstructed by vegetation or other objects; there should be good site lines from the vehicle or path. Make sure the distance between the sign and vehicular and pedestrian

areas is appropriate and meets ADA requirements. If there is more than one message on the same post, the primary message should be on the top with the secondary message below. All signs should be hung on posts or other manmade structures, not trees. The sign and lettering need to be sized appropriately to compensate for vehicle speed and view shed of the site.



Example of how AIS sign installation scheme is developed based on aerial view of boater access site (MN)

When using logos on signs, be sure to make logos the same size. The suggested sign size for signs incorporating logos is 30 inches x 18 inches, with the letter and numeral size in the main message being 4 inches in height. Secondary message letter and numeral size is suggested to be 2.5 inches in height. Although sign sizes will vary, it is suggested that the proportion of letter/numeral height to sign size described be maintained.

When installing signs at boating facilities, be sure to communicate with land managers (e.g., Bureau of Reclamation, Forest Service, Bureau of Land Management) to ensure that installed signs meet jurisdictional requirements.

Stencils

Minnesota recently developed a “Clean in, Clean out” stencil for use at the boat clean and drain areas (see Section 1). Stencils on paved surfaces can be used in place of signs when messaging. Stencils could be a great way to make an area stand out from the rest of the site. Besides the traditional painted on stencil, there are heat applied materials in 2D and 3D artwork that could be used. When using stencils be mindful, as with signs, that stencils should be:

1. Clear and concise – minimal words/simple text and graphics – create with visitors perspective in mind,
2. Presented in a positive tense - when possible tell visitors what they can or must do instead of telling them what they can't do,
3. Placed properly - easy for users to see and react, and

4. Well maintained - repainting of missing, damaged or deteriorated stencils

Again, it is important to consider the flow of vehicular traffic and pedestrians at the site. Stencil use should be limited and be placed for maximum exposure at the exact spot that users need to see it. This will most likely be at the make-ready area or the tie-down area. For pedestrians it could be along a path or near the restrooms. The stencil placement should complement sign locations and be included as part of the overall site specific sign plan.

Take aways

Smaller take-aways (e.g., leaflets and cards) are better suited for messaging. When using these items on-site it is important to have them disseminated by on-site staff or, where staffing is limited, available at static displays such as kiosks. Note that when using materials on-site visitors should be encouraged to dispose of unwanted materials in proper trash receptacles to prevent accumulation of litter.

Messaging off Site

Billboards

Travel corridors to and from boating destinations are great places to message. Billboards have been identified as one of the primary sources for awareness of AIS-related messages. Given the short exposure time billboard use should be limited to messaging the directs boaters to sources of more detailed information via website addresses or low power radio broadcasts. It should be noted that billboard messaging is costly and should be used strategically to maximize benefits to an AIS prevention program.



Billboard directing boaters to a website and low-power radio (IA Great Lake Water Safety Council)

Take aways

Decals or bumper stickers are great ways to increase issue visibility and awareness. Providing these among other take aways will ensure that your AIS message is carried far and wide.

Outreach on Site

Posters and displays

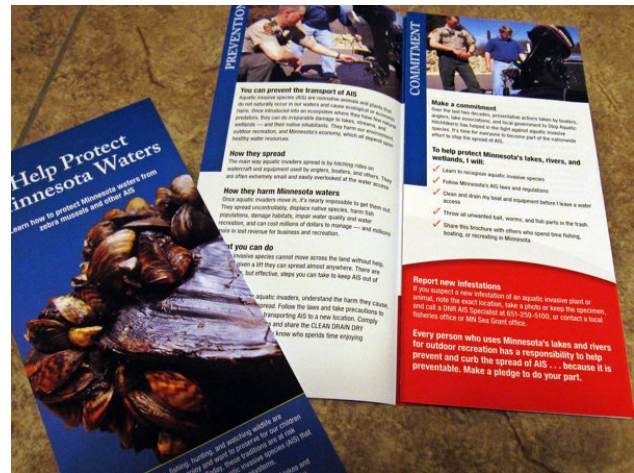
Posters and displays in high traffic pedestrian areas have the best chance of being read. People will take the time to stop and look at posters and displays and they are, therefore, an excellent way to convey more detailed outreach messages. When using posters and displays during on-site outreach efforts be sure that they are:

1. Placed properly - easy for users to see and react, placed in areas that minimize vandalism
2. Well maintained - replace damaged or deteriorated
3. Changed regularly - to provide visitors with the most current information
4. Easily understood - convey information in a format that visitors will understand, and
5. Well protected from the elements - enclosed in a weather-proof display housing (e.g., kiosk) or constructed of weather resistant materials

Note that putting a poster inside a regularly maintained restroom is also a great way to catch the interest of a “captive” audience.

Take aways

Larger take aways (e.g., brochures) can supply visitors with greater detail and should be used for outreach efforts. When using these items on-site it is important to either have them disseminated by on-site staff or, where staffing is limited, available at static displays such as kiosks. Note that when using materials on-site visitors should be encouraged to dispose of unwanted materials in proper trash receptacles to prevent accumulation of litter.



AIS take away example (Leslie Anderson, MN)

Electronic media use

Electronic media are primarily used as an outreach tool. However, many of the short messaging images and slogans (e.g., “Clean, Drain, and Dry” or “Stop Aquatic Hitchhikers”) can be used during these efforts to reinforce the public’s association between detailed outreach information and a more concise memorable messaging. Two electronic media are appropriate for on-site use, smart phone applications and low-power radio. These media types can be easily adapted to provide visitors with up-to-date information on AIS-related issues as they arrive or depart.

Smart phone application: A potential new frontier for on-site AIS outreach is the downloadable smart phone application. These applications can provide many detailed pieces of information to boaters visiting a launch site. For example, visiting boaters could, based on their current location, be provided with the legal requirements for AIS decontamination procedures in a state or at a specific water body.

Quick response (QR) codes: When placed on site-specific signs, displays, or take aways, can convey detailed site-specific information at the touch of a button. Note that this technology will not work in areas with poor cellular phone coverage and its use, other than QR coding on take-away materials, should be approached with caution at remote locations. When developing smart phone applications, plan on

having end users (e.g., boaters) test early versions to ensure that the greatest usability is achieved.

Low-power radio: At remote locations where visiting boaters are required to use an entrance gate or other entrance pinch point, use of unregulated low-power radio (microbroadcasting) might be an effective way to convey detailed AIS related information.

Although the range of low-power radio broadcasts is limited, visiting or exiting boaters in close proximity to the low-power radio transmitter can be directed by signage to tune in to the latest information on AIS-related issues (e.g., decontamination requirements, locations of boat washes, etc.). Like smart phone applications and QR codes, low-power radio technology allows administrators to update information regularly; making this a

AQUATIC NUISANCE SPECIES (ANS)

IT'S THE LAW!

ANS are invasive, non-native species that threaten the ecological integrity of aquatic ecosystems in Oklahoma. People must remove all aquatic plants and zebra mussels from boats, trailers and other gear prior to launching boats in state waters. If you find something you believe to be an ANS, call biologist Curtis Tackett at (405) 365-5060. For more information on ANS, go online to ProtectYourWaters.net.

As soon as you pull your boat out of the water, remember to:

Clean.
Pressure wash your boat, trailer and equipment with hot water (140° F) and remove all zebra mussels, plant fragments and mud that are visible.

Drain.
Drain all water from your boat, motor, bilge, live wells, coolers and ballast.

Dry.
If pressure wash is not available, allow the boat, trailer, and equipment to dry thoroughly for at least five days before visiting a new water body.

**STOP
INVASIVE
SPECIES
CLEAN, DRAIN,
AND DRY
YOUR BOAT**

The reminder shown above is being painted on boat ramps throughout the state!

SHAD RESTRICTION

No person shall transport shad from the following waters. If shad are collected from these listed waters for use as bait, they may only be used in the water body from which they were collected.

- The Red River below Lake Texoma to the Arkansas state line
- Grand Lake O' the Cherokees
- The Neosho River from Grand Lake to the Kansas state line
- The Kiamichi River below Hugo Lake to the Red River

WATCH ONLINE

View a video on zebra mussels online at tinyurl.com/cr74qwh or scan the QR code.

U.S. Fish & Wildlife Service

PROHIBITED FISH SPECIES

This arowana is among several species of fish that are illegal to possess in Oklahoma! For a complete list of fish species that are prohibited in Oklahoma, consult Oklahoma Statutes Title 800, go online to wildlifedepartment.com, or scan the QR code with a smartphone.

ATTENTION ANGLERS

Bighead and silver carp (see photo at left) are invading Oklahoma waters. If you catch either of these species, do not release the fish back into the water. Report it to Wildlife Department personnel immediately by calling (405) 365-5060. Anglers are allowed to possess only dead bighead and silver carp when reporting them to the Wildlife Department. The Wildlife Department is collecting biological data on these species to better understand their population status and the threats they pose to state lakes and rivers. Your cooperation is appreciated.

2014-2015 OKLAHOMA FISHING GUIDE

37

Oklahoma Department of Wildlife Conservation regulations depicting take away material use of QR codes

good solution to provide real-time information at remote locations. Units are relatively low cost and, when housed in weatherproof containers, require little maintenance.

Event presentations

On-site events, like angling tournaments provide a target audience for AIS outreach efforts. During angling tournaments, watercraft inspectors can disseminate information via displays or take-aways to participants. This type of targeted outreach will not only provide anglers with a greater understanding of AIS issues; but, will convey that AIS control is recognized as important by non-agency partners.

Outreach off Site

Posters and displays

Posters and displays in high traffic areas at trade shows are an excellent way to convey a detailed AIS outreach message. People will take the time to stop and look at well-positioned posters and displays. Additionally, when paired with face-to-face communication, questions related to presented material can be answered in a timely manner; ensuring public understanding.

Take aways

Larger take aways (e.g., brochures) can supply visitors with greater detail and should be used for off-site outreach efforts. When using these items off-site it is important to either have them disseminated by on-site staff or, where staffing is limited, available at static displays such as kiosks.

Electronic media use

Again, electronic media are primarily used as an outreach tool. However, many of the short messaging images and slogans (e.g., “Clean, Drain, and Dry” or “Stop Aquatic Hitchhikers”) can be used during these efforts to reinforce the public’s association between detailed outreach information and a more concise memorable messaging. The available electronic media outlets for off-site outreach efforts are

varied and their combined use will depend on drawing a balance between assessed effectiveness and cost. For example, although television spots might be an effective way to reach targeted off-site audiences, their use will likely be cost prohibitive for many state agencies. A better strategy might be to pay less for drive-time spots on the radio that direct people to websites where visitors are exposed to informative videos. However you choose to proceed, by using the following tools in concert you will gain maximum AIS-information/message exposure.

Newsletters: When sent to a known membership with common interests (e.g., registered boaters) via email or list server, newsletters are a great way to keep people up to date on AIS issues, events, goals and objectives in your state. Including an “ask the editor” section allows for AIS administrators to field questions from boaters. Newsletters are also an excellent way to direct boaters in your state to other media outlets and event presentations; potentially reinforcing AIS-related messages.

Websites: Websites are a great place to provide boaters with organized information on all topics related to AIS in your state. When developing a website, be sure to look at the site from a user’s perspective. Easy searching, simple information on the top pages with more detailed information within. Although websites are effective at communicating information, many state guidelines require that web administrators update web content. Note that these sites often require a large investment of personnel time among state web administrators; possibly prolonging the updating process. Check with web administrators on their availability prior to website development and tailor your site to ensure that information provided will be updated regularly (i.e., reduce the amount of time sensitive information in situations where adequate web administration time is unavailable).

Social media: Conversations on Facebook or Twitter can be a great way reach your audience when discussing AIS issues. The viral nature of many social media sites allows your message to be passed to a larger audience within your state; promoting greater awareness of AIS issues, upcoming events, and decontamination or inspection requirements. Linking your social media sites to other electronic media (e.g., web sites, or smart phone applications) allows users to access a wide array of information in a format that they are most comfortable using.

Smart phone application: These applications can provide many detailed pieces of information to boaters while off site. For example, boaters preparing for an outing could be provided with the legal requirements for AIS decontamination procedures in a state or at a specific waterbody; allowing for proper planning. Additionally, when teamed with QR codes, off-site displays or take aways, detailed site-specific information can be conveyed at the touch of a button. When developing smart phone applications, plan on having end users (e.g., boaters) test early versions to ensure that the greatest usability is achieved.

Radio: Local radio programs on AM or FM radio are often tailored to outdoor recreationists. Promoting AIS awareness and program compliance in your state might be achieved directly by broadcasting radio spots during these local radio programs. However, given the limited duration of radio spots, their use as a “driver” to other AIS outreach outlets (e.g., websites, smart phone applications, or social media sites) will likely prove more effective. When creating radio spots, choose a recognizable voice or personality to narrate if possible. Additionally, when promoting use of alternate AIS outreach outlets, be sure to develop shortened custom uniform resource locator (URL), that is easier to remember (i.e., use AISArizona.gov vs. http://www.azgfd.gov/h_f/aquatic_invasive_species.shtml).

Television: Televised outreach efforts can be extremely costly; making them a method of last

resort for many agencies when addressing AIS issues. However, using press releases to expose the public to AIS-related information can be an effective way to get your AIS information televised free of cost. If possible, work with agency outreach staff to craft AIS press releases that might be interesting as news items and programmed into local news shows. A second way to get free televised coverage of AIS issues is to showcase these issues during local televised programs tailored to outdoor interests. Developing a strong relationship with program hosts will often allow AIS topics to be included among program segments.

Event presentations

Displays, take aways, and electronic media (e.g., smart phone applications, social media sites, websites, and videos) can be valuable tools when dealing with the boating public at off-site trade show booths. Coupled with face-to-face communication, information can be transferred effectively in a relaxed setting to a large number of individuals in a short period of time. Training events (e.g., public boat decontamination trainings like those used in Wyoming) are also an excellent off-site venue for providing detailed AIS information to boaters. As with trade shows; displays, take aways, and electronic media, are some of the most effective outreach tools. Note that, during trainings, the information provided should supplement information already covered in the course. For example, when providing the boating public with decontamination training, supplemental information might include a smart phone application that identifies locations of professional decontamination stations within your state.

Section 5: Funding

Introduction

Any effective AIS prevention and control program is an expensive undertaking. Therefore, successful state-run AIS programs usually rely on an infusion of funding from a variety of sources. The purpose of this section is to provide state boating access and AIS program administrators with resources to identify various federal, state, and private funding streams and grant programs that might be used to fund AIS prevention and control actions directly tied to boater access areas. The information presented here is by no means comprehensive. It is hoped that suggested funding sources will guide administrators as they begin to develop funding partnerships among stakeholders within their respective states. It should be noted that state agencies are ineligible to receive some grants. In those instances, we encourage state agency personnel to partner with local action groups, municipalities, or other interested parties to secure additional funding for AIS control projects at boater access facilities.

Federal

U.S. Fish and Wildlife Service Wildlife Sportfish Restoration (WSFR) Recreational Boating Access Subprogram (517 FW7)

Aquatic invasive species control activities are not expressly listed among eligible activities within the WSFR eligibility standards for boating access. However, certain types of eligible projects undertaken at boater access facilities are considered to include AIS control and prevention projects. Eligible activities under 517 FW 7 include (1) construction or installation of wash down stations, (2) the control of nuisance aquatic vegetation, and (3) the development of media to inform boaters regarding boating access facilities. The following AIS control and prevention projects are eligible under the wash down station installation and construction category:

- On site semi-permanent decontamination stations, and
- On site clean, drain, and dry pullouts

In the event that these projects also require the capture of waste water, such activities would be considered eligible under the dump station category listed under 517 FW 7.

The following AIS control and prevention projects are considered to be eligible for funding under the control of nuisance aquatic vegetation category:

- On-site vegetation collection and disposal areas at clean, drain, and dry areas

The following AIS control and prevention projects are considered to be eligible for funding under the development of media to inform boaters regarding boating access facilities category:

- On-site signage,
- Web site and social media development,
- Display and poster development,
- On-site signage,
- On-site stencils,
- Take aways,
- Newsletters,
- Video development,
- On-site low-power radio,
- Smart phone applications, and
- Radio and television spots

U.S. Forest Service

Many forests within the USDA Forest Service have oversight of discretionary funds. These funds can be granted to state governmental agencies to allow for AIS program development on Forest Service lands. The availability of these funds will vary from forest to forest. Contact your local Forest Supervisor or District Ranger to make in-roads regarding the use of these funds for AIS control and prevention projects at Forest Service waters.

Bureau of Reclamation

The Bureau owns and/operates many reservoirs throughout the United States and has oversight of some funding designed to protect reservoir function (e.g., irrigation or power delivery). These funds can be granted to state agencies for the purpose of AIS prevention and control activities at Bureau-owned waters. Contact your local Bureau Recreational Planner to inquire into the availability of Bureau funding for use on AIS control and prevention projects on Bureau waters.

State

Legislative appropriation

State general funds are often pursued for AIS control and prevention activities. However, most appropriations are usually earmarked for a specific purpose. If your state agency pursues general fund monies for the purpose of AIS control and prevention actions, be sure to include AIS projects related to boater access areas (e.g., decontamination stations, clean drain and dry areas, and messaging/outreach) as eligible activities. Given that general fund appropriations are usually renewed on an annual basis, the opportunity to modify existing appropriation language should allow states already receiving general funds for AIS to include aforementioned AIS projects as eligible activities. Another option is to leave the language broad enough to cover all AIS control and prevention actions. These state funds can then be used as match; enabling states to leverage WSFR federal aid.

Agency funding

In addition to state general funds, state restricted (revenue) dollars are available to state agencies charging fees. Specifically, state parks and state wildlife agencies usually accrue restricted dollars through the sale of licenses or passes. It is likely that these funds can be used on AIS control and prevention projects related to boater access. Again, use of these non-federal funds will enable states to leverage WSFR federal aid. If your state's boater access program is not administered by a wildlife or state park agency, contact wildlife or state park

agency personnel in an effort to develop a funding partnership (e.g., memorandum of understanding) that allows for use of restricted dollars on boating-related AIS projects.

Non-governmental organizations

The availability of funding for AIS-related activities from non-governmental organizations (NGO) is more limited than from state or federal agencies. However, leave no stone unturned. Contact local NGO in your state to investigate whether AIS control and prevention projects at boater access sites are eligible for funding. In addition to providing funding for AIS activities, non-profit NGO might also be eligible to receive state and federal grant monies unavailable to state agencies. Therefore, partnering with non-profit NGO is yet another way to infuse funding into a joint effort to address AIS issues at boater access facilities in your state.