



In 2012, the following changes were implemented at the North Arm Public Access:

- DNR inspections were increased. DNR inspectors were on site approximately 40 hours per week throughout the summer.
- Hennepin County installed signage, lights and traffic flow/ infrastructure changes that prompt boaters to take action to prevent the spread of aquatic invasive species in July.

This report includes results and conclusions made by both DNR inspectors and Hennepin County observations about the aquatic invasive species prevention steps taken by boaters.



General Results and Conclusions

- During July, DNR inspectors found that 3.6% of boats entering the access had AIS prevention violations (sample size of 309). Hennepin County observations, made when DNR inspectors were not present, identified that 10% of boats had AIS prevention violations (sample size of 78). In 2011, both Hennepin County and the DNR observed approximately 20% of the boaters making AIS prevention mistakes. The most common error was entering the access with the drain plug already installed. Entering the access with vegetation on the trailer or boat was also observed.
- The AIS prompts successfully affected the behavior of boaters taking their boats out of the water. Hennepin County observations found that 91% of boaters stopped at the designated area to prepare their watercraft prior to leaving the public access. Prior to this redesign, outgoing boat traffic stopped at various locations. This change indicates that the prompts and infrastructure effectively provides a location and instruction for boaters to take the appropriate actions.
- The AIS prompts are less successful at affecting the behavior of boaters entering the lake. Hennepin County observations found that 42% of boaters entering the access followed the recommended traffic flow. The set up of the incoming area — it's a sharp turn that is some distance from the boat ramp — probably contributes to boaters not following the traffic flow. However, this is a behavior change compared to before the prompts were installed; previously, basically no boaters would stop at this location.
- Hennepin County observations found a significant decrease in the number of boats entering the access with weeds on their boat or trailers (from 24% in 2011 to 1.3% in 2012).
- Numerous observations were made of the public using the centrally located recycling and bait disposal facility. The bait typically included worms and crappie minnows.
- Tournament anglers performed excellently in taking the necessary AIS prevention steps. All 23 of the anglers observed by Hennepin County took the necessary AIS prevention behavior steps, even trimming the engine down to get the last bit of water out. The recommended traffic patterns were observed by 20 of the boaters (87%), and two stopped early and off to the side to prepare for launch.
- The education provided by DNR inspectors at area boat accesses has resulted in noteworthy improvement in boaters complying with AIS prevention behaviors. In July 2012, DNR inspectors noted that 93% - 98% of boaters were in compliance at the four largest accesses on Lake Minnetonka.



Hennepin County Observations

- Hennepin County conducted passive observations in which boaters did not feel like they were being watched in both 2011 and 2012. Observers looked for violations including coming into the access with the drain plug already in, coming into the access with visible weeds on the trailer or boat, leaving the access without removing the drain plug, or leaving the access with visible weeds on the boat or trailer.
- Hennepin County observations made in 2011 prior to the project implementation found that approximately 1 in 5 (20%) boaters did not comply with AIS prevention behaviors. Of those not being in compliance:
 - 18% entered the access with the drain plug in.
 - 24% did not remove all visible weeds when exiting the access.
 - 18% did not drain their boats when exiting the access.
- In July 2012, Hennepin County observed 78 boaters entering or exiting the lake when DNR inspectors were not present. Hennepin County observed 10% of boaters coming into the access with an AIS violation. In follow up conversations, all but one said that they only use their boat on Lake Minnetonka. One was unwilling to discuss. The boaters had the following violations:
 - 7 boats came into the access with the drain plug in.
 - 1 empty trailer came into the access with some weeds on the back (this was a local commercial company).
- In July 2012, Hennepin County observed a total of 125 boats (DNR inspectors were present during 47 of these observations). The following observations were made about boater behavior regarding the traffic flow pattern:
 - 91% (59 of 65 boats) of boaters leaving the access followed the correct traffic flow pattern. This means they pulled up to the “stop here” symbols/lights and performed the tasks, including removing weeds and pulling the drain plug, before leaving the access.
 - 42% (25 of 60 boats) of boaters entering the site followed the traffic flow pattern correctly. 7 stopped early to prepare to launch and 21 drove up to the access area to prepare (all of these occurred when the access was unoccupied). Others were kayaks on cars or other sort of deviations.

Hennepin County project cost

Estimated design life for this project is 5 - 10 years.

| Item | Cost |
|--|------------------------------|
| Signs | \$3,000 |
| Sign installation/Recycling and bait disposal unit | \$3,500 |
| Pavement markings | \$13,500 |
| Pavement marking installation | Covered by HC Transportation |
| Electricity installation | \$15,000 |
| Lights/hardware | \$8,000 |
| Total | \$43,000 |

DNR Inspector Observations at the North Arm Access in 2012

- In July, 1 boat (0.3%) entered the access with the drain plug already in.
- In July, 10 boats (3%) entered the access with vegetation on the boat or trailer. Nine of these boats were last on Lake Minnetonka.
- From May 3 to July 29, 18 of 1,059 boats inspected (1.7%) entered the access with the bilge plug in. 17 of these violations were observed in May and June; only one was observed in July.

DNR Inspector Observations:

Boaters entering accesses with drain plug, vegetation, water or zebra mussel violation.

| Month | North Arm Access | Grays Bay Access | Maxwell Access | Spring Park Access |
|-------|---------------------|---------------------|-----------------------|----------------------|
| May | 3.2% (15 of 467) | 7.6% (22 of 289) | 5% (5 of 101) | 4.8% (5 of 105) |
| June | 8.5% (24 of 283) | 5.7% (44 of 774) | 4.8% (12 of 250) | 10.4% (28 of 268) |
| July | 3.6% (11 of 309) | 6.5% (20 of 308) | 1.4% (16 of 1,115) | 1.3% (1 of 77) |

Conclusions and next steps

The results and lessons learned from this behavior-modification demonstration project can be expanded to other accesses or used to further invest in this project. The redesign is just one aspect of a social marketing AIS prevention program. Additional aspects would include outreach at local events, redesigning other accesses, investing in area-wide infrastructure for AIS prevention methods and continued visible enforcement. Increased on-site DNR inspections is a successful example of boater education.