

BOAT WASHING STATIONS - PALLIATIVE OR CURE?

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Background and Purpose

Background:

- Recreational boats can spread AIS
- 13 million registered boaters in the U.S.
- Boat washing stations are often considered
- Several types of stations and equipment developed in US and Canada, few assessed

Purpose:

- Highlight pros and cons to help you decide if boat washing stations are for you

Boat Wash Stations

- **Definition:** Use of high-pressure water spray to remove aquatic invasive species from the exterior of boats, trailers, and equipment
- **Five scenarios for boat washing:**
 - Permanent at accesses
 - Portable drive through or sprayer systems
 - Commercial car washes
 - Home washing
 - Mandatory vs volunteer washing

How Is Boat Washing Fitting?

- Widely used to clean boats of biofoulants
- Useful tool to prevent spread of AIS
- However, washing only one step in prevention
- BWS not viewed as substitutes for primary strategies
 - Not been widely used or supported

Methods

- Compiled information gathered from agencies and organizations in the Great Lakes region
- Continued to keep abreast of situation
- Conducted Web search for information on boat washing stations

Portable Station

- Removes and captures material and recycles wash water
- Features undercarriage sprayer with fast response hot water heater w/moderate pressure
- Hot water helps efficacy
- Trailer mounted



Portable Station

- Allows watercraft on top, wash, collect and contain all wastewater
- Sets up in minutes making wash possible at any remote location



Sprayer Model

- Coin operated pressure washer
- 3000 psi
- Allows control of who uses it
- Convenient
- \$3,200 (230 volt system)



Permanent Station



- Use for private boats with outboard motors only
- Complete wash boat, motor and trailer or kayaks and canoes
- Cost: \$10.00 (launch fee \$5 more)
- One wash required per trip (weekend) if staying on that lake
- Seal placed on boat and trailer or float tube upon leaving lake, and as long as it is intact further washing is not required

AUTOMATIC WASH DOWN SYSTEM

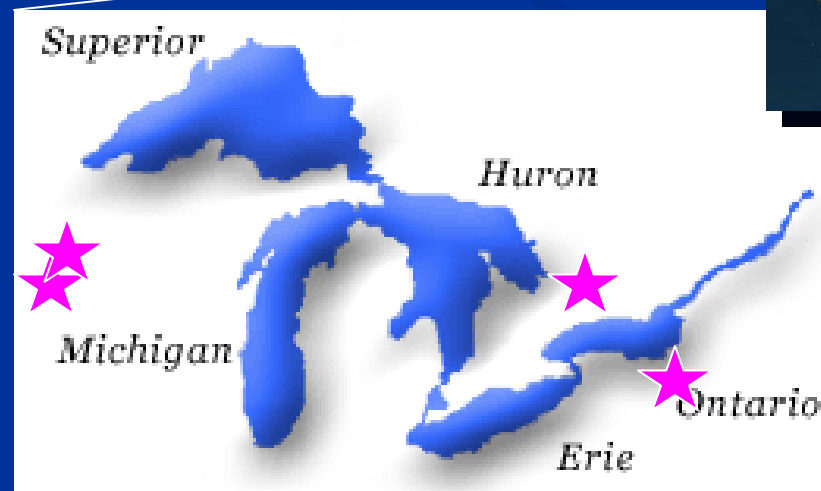
TRAILERSPA

ADDING YEARS OF LIFE TO YOUR TRAILER



Case Studies

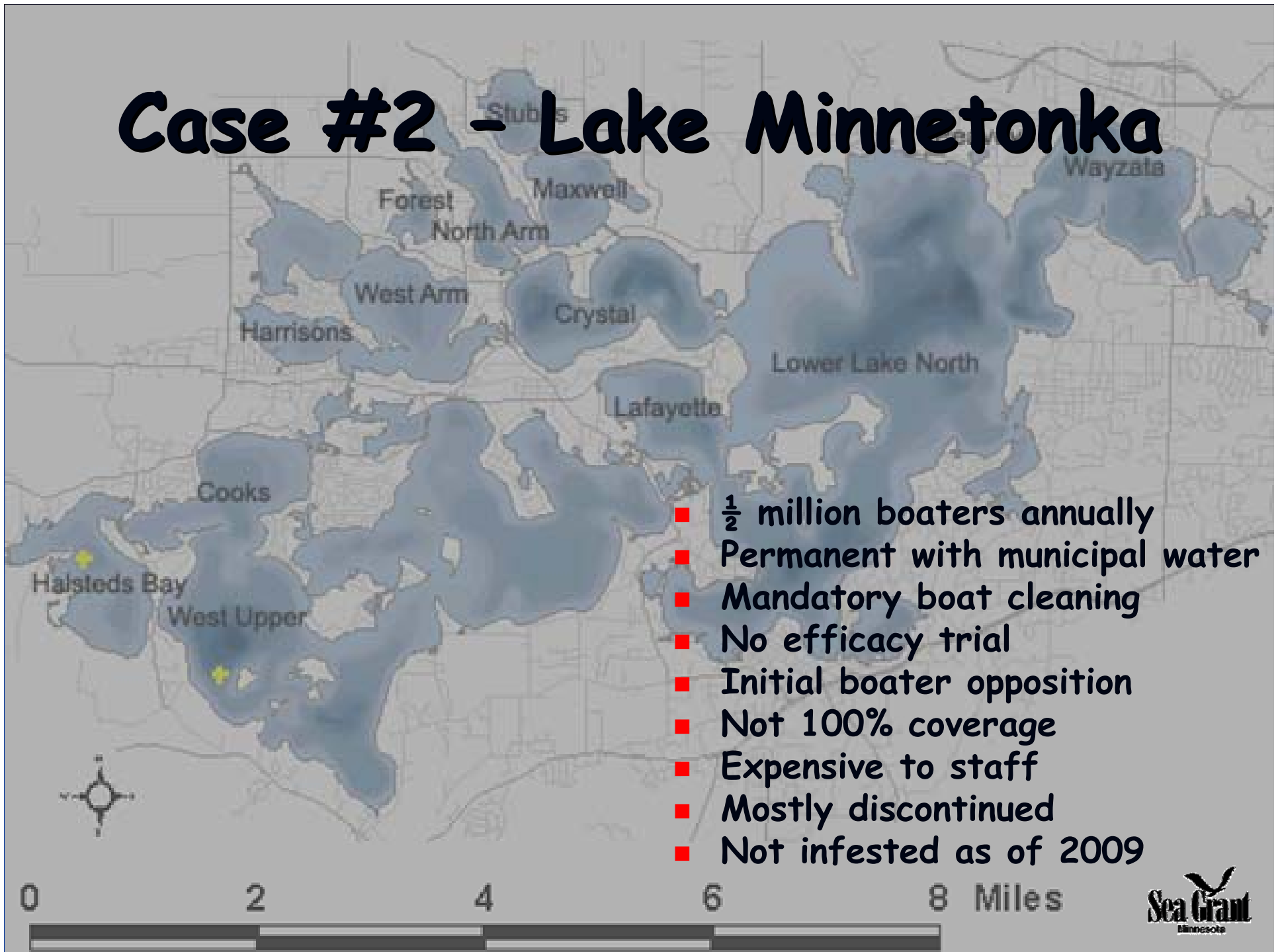
- Permanent
 - Owasco Lake, Auburn, New York
 - Lake Minnetonka, Twin Cities, Minnesota
- Portable
 - Peterborough, Ontario, Canada
 - Twin Cities area, Minnesota



Case #1 - Owasco Lake

- Permanent unit with municipal water
- Mandatory boat cleaning
- Initial boater opposition
- No efficacy trials
- Not 100% coverage
(only one of several accesses)
- ZM found in 1997
- Delayed infestation? Maybe
- Did it hurt? No

Case #2 - Lake Minnetonka



- $\frac{1}{2}$ million boaters annually
- Permanent with municipal water
- Mandatory boat cleaning
- No efficacy trial
- Initial boater opposition
- Not 100% coverage
- Expensive to staff
- Mostly discontinued
- Not infested as of 2009

Case #3 - Peterborough

- Portable unit operated by trained staff for 3 seasons
- Crews operated high volume accesses, fishing tourneys, and other events
- Voluntary boat cleaning
- No efficacy trial
- Used as an education tool w/displays, brochures, etc.
- Expensive to staff
- Discontinued in 1996

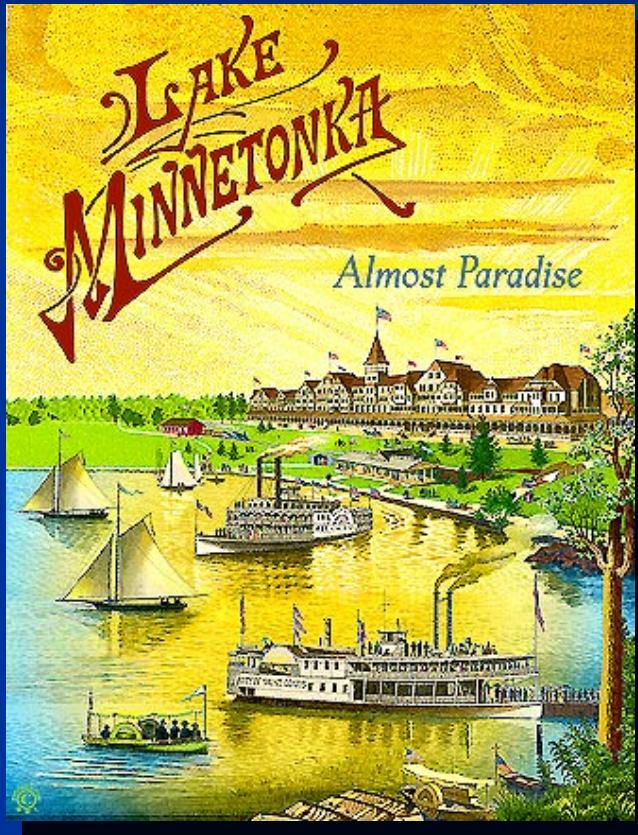


Case #4 - Twin Cities Area

- Portable unit operated by trained DNR staff at 6 sites on four weekends in 1995
- Voluntary boat cleaning following a watercraft inspection and survey
- Unit located in low traffic flow area
- Feasibility objectives:
 - Efficacy
 - Boater acceptance



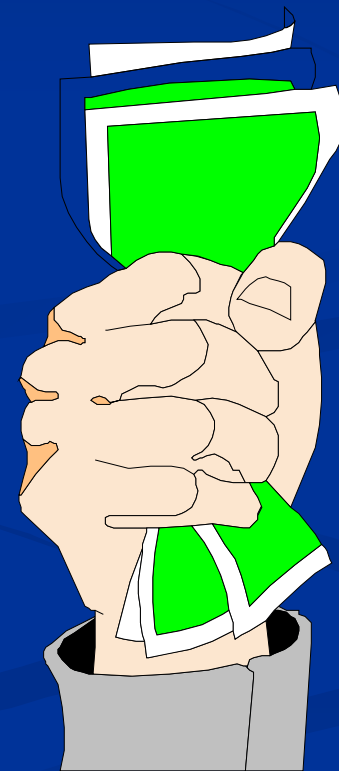
Case #4 - Twin Cities Area



- 215 boats inspected:
 - 60% washed (n=128)
 - 40% refused (n=87)*
- Boater attitude as an effective method:
 - 63% yes
 - 30% not sure
 - 7% no
- Boater attitude toward mandatory vs. voluntary:
 - 63% agree washing should be mandatory on infested waters
 - 37% agree washing should be voluntary

Case #4 - Twin Cities Area

- Assessment of WTP (cont., n=128):
 - 45% would be WTP
 - 30% not WTP
 - 25% on the fence
- Of the WTP or OTF:
 - 64% would pay \$1-2
 - 29% would pay \$3-4
 - 7% would pay \$5-6



Case #4 - Twin Cities Area



- Assessment of willingness to spend time to have boat washed (n=128):
 - 69% @ 5 min
 - 26% @ 10 min
 - 5% @ 15 min

Case #4 - Twin Cities Area Summary

- WTP, cost recovery and time expectations were inconsistent with a mandatory program:
 - Lack of WTP (40%) would hamper effectiveness of a wide scale boat washing program
 - Costs would need to be heavily subsidized
 - Popular sites will cause delays
 - Delays will cause traffic safety problems
 - **Importantly, washing did not remove 100% of aquatic vegetation**

2004 Rainbow Lake Association

- **BWS:** Not used in MN, ME, WI, VT, or NH
- **ME:** "Boat washes may make people overlook plants"
- **WI:** "During peak usage, then they would not comply."
- **NH:** "Washing not as effective as expected because plants stuck on boat, trailer, and interior."
- **NOAA Study?:** To be most effective, a wash station should have a person operating it to help the boater clean their boat.

Colorado River 100th Meridian Team Meeting 1/30/07

- Much opposition from people regarding boat washing
- **Argument against:**
 - No system and staffing level can handle 5,000 boats per day
 - Not all ramps staffed
- **Argument for:**
 - Need 39 units at Lake Mead
 - 15 min/boat to handle 5,000 boats
 - Cost ~\$11 million for set up
- **Info gaps:** Cost of wash stations



Example of Station Costs

■ Installation Cost:

■ Treatment System	\$15,600
■ Training	\$700
■ New Wash pads	\$3,950
■ Settling Tanks	\$8,325
■ Plumbing & Electrical	\$3,800
■ Engineering	<u>\$4,300</u>
Total	\$36,675

Doug's Top Reasons

★ Why boat washing is appropriate ★

- Useful tool to address AIS
- Portables:
 - Educational tool in conjunction with educational program or campaign, especially outdoor events
- Permanents:
 - Marinas and private facilities
 - Waterbodies with one or a few accesses

Change Behavior

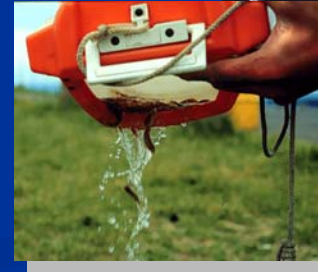
1. Inspect and Remove highest priority

- Gets rid of plants, animals and mud
- Inside boats or PWC impellers, anchor lines, fishing lines and lures and downriggers not cleaned by some types of BWS



2. Drain water from motor, bait bucket, and bilge

- Gets rid of larvae and eggs
- Creates hostile environment for remains



2. Dispose of unwanted bait, fish parts, and worms in the trash



4. Wash and/or Dry boat, trailer, tackle, downriggers, and equipment

- Added action that knocks off or kills what not visible



Doug's Top 10 Reasons

★ Why boat washing is not the solution ★

1. Boaters will avoid 'inspection and removal'
2. Not 100% effective as only step in prevention
3. Need 100% coverage on waterbody
4. Trained staff or volunteers need to operate 24/7
5. Concern about infrequent use by untrained boaters
6. Impractical without state/province or local ordinances making washing mandatory
7. Low public acceptance (time, and WTP)
8. High cost for construction, operation, maintenance and liability
9. Catchment and treatment of wastewater
10. Public and traffic safety

Otherwise, they're...
**Just a Palliative and
Not a Cure**

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Citations:

Exotic Species Programs. 1995. Ecological Harmful
Exotic Aquatic Plant and Wild Animal Species in Minnesota.
Annual Report for 1995. Minnesota Department of Natural
Resources, St. Paul, MN
Rainbow Lake Association. 2004. Summary of Findings Among States
Regarding Efficacy of Boat Wash Stations
Colorado River 100th Meridian Team Meeting Notes
January 31, 2007, Las Vegas, NV