
Using Technology to Prevent Invasive Species Introduction at Boat Accesses

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Environmental Sentry Protection,

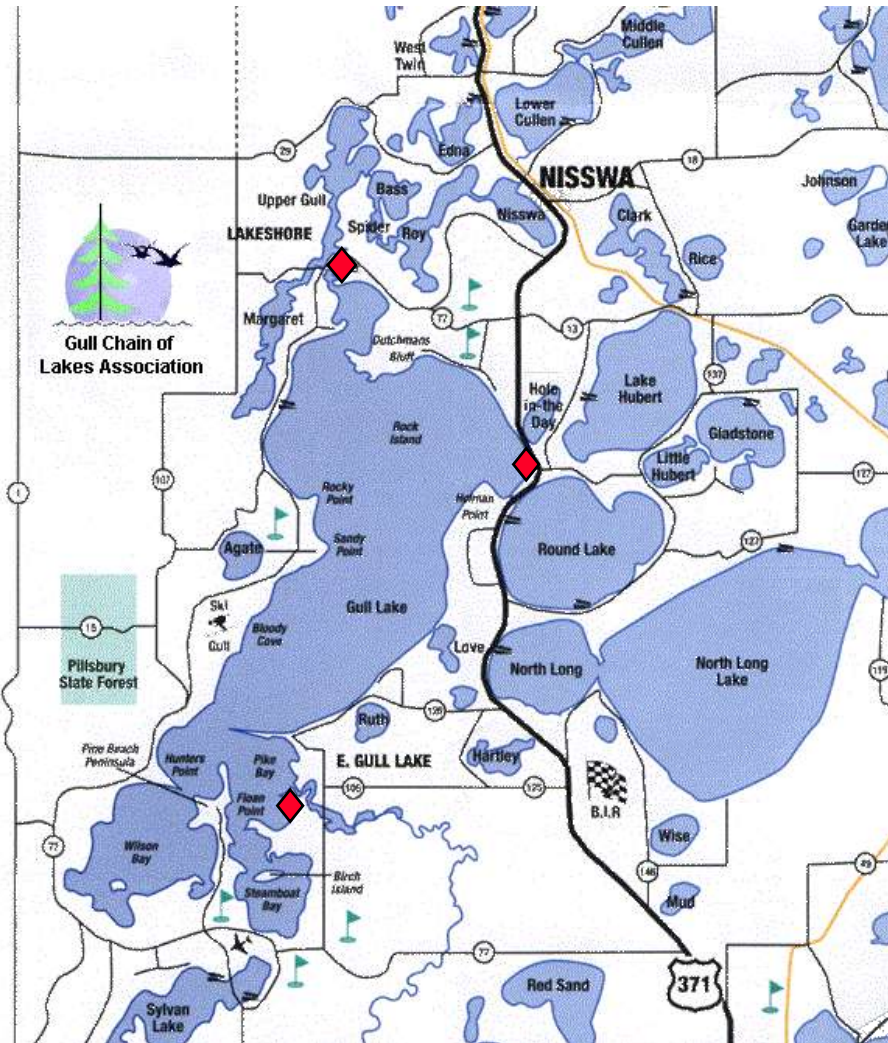
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Gull Chain of Lakes

An aerial photograph showing a complex network of interconnected lakes and waterways. The water bodies vary in size and shape, some appearing as large open lakes while others are small, winding channels. The surrounding land is densely forested, with the trees displaying a mix of green and autumnal yellow and orange hues. The overall scene is a mosaic of blue water and textured, colorful land.

Photo by Vern Whitten
www.vernwhittenphotography.com

Gull Chain of Lakes



- 8 lakes
- 13,000 acres
- 46.32 miles of shoreline
- 2700 homes/cabins
- 80 ft maximum depth
- 3 primary launches but multiple (20+) resort launches and small public and private accesses

Invasives in the Gull Chain of Lakes



- No Eurasian watermilfoil
- Zebra mussels found October, 2010
- Curley leaf pondweed in the upper chain

DNR Intern Boat Inspection Program



- \$10,000 cost shared between DNR and Gull Chain of Lakes Association
- 832 inspection hours plus driving time
- 3267 total inspections at three launch sites in 2009

DNR Intern Boat Inspection Program



- Inspection is primarily educational in purpose:
 - 6 question survey
 - Walk around with the boat owner
- 5% of boaters inspected came from another state

I-LIDS Technology



- **Internet Landing Installed Device Sensor**
- Records a 10 second video clip of every boat being launched and sends it wirelessly to the manufacturer for review
- Audio message is also given to boater
- Data shows that a large percentage of boat launches occur before 8 AM and after 5 PM when DNR interns are less likely to be working

Using Technology

- Warning sign is very important



I-LIDS Maintenance



- Put them out in the spring and take them in in the fall
- One I-LIDS top lid was broken by something, but the device continued to function. Stainless steel casings were said to be “bulletproof” but we didn’t put that in the press releases.
- One lightning strike during first two years
- A few restarts, power supply checks, and spider cleanings

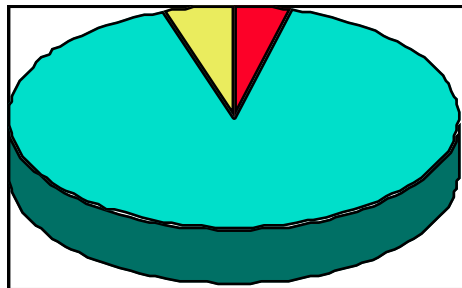
Total Launches on Gull, 2009



- Inspected by DNR interns: 3,267
- Counted electronically via ILIDS: 25,627
- For \$10,000, DNR interns were able to inspect only 13% of boats launching in 2009

Boater Attitudes and Education

Would you be willing to cooperate fully with DNR requirements to contain invasive species?



■ **No**

■ **Cooperate Fully**

■ **Undecided**

- 9% of respondents to a 2010 online poll said they were undecided or **no**!
- Source: Northwoods Press, Crosslake, MN

Boater Attitudes and Education

- DNR interns surveyed 3267 boaters during inspections on Gull in 2009:
 - 4.8% said they were not familiar with ***invasive species***
 - 4.8% said they were not familiar with ***Eurasian watermilfoil***
 - 4.9% said they were not familiar with ***zebra mussels***



Cost Estimates (apples and oranges)

	Number of Launches	Cost	Cost per Launch
DNR Intern Inspections	3,267	\$10,000	\$3.06
I-LIDS Videos	25,627	\$20,000*	\$0.78**

*cost during first year of purchase of 3 I-LIDS

**\$7000 estimated future annual costs for operation/maintenance and video reviews will bring this down to \$0.27

Conclusions



- Boater education is still necessary.
- New technology compliments a boat inspection program and can send a message to all boaters at all times.
- I-LIDS were very popular with the public; not one complaint to Gull Chain of Lakes Association in two years.
- New technology is cost efficient when compared to personal inspections and treatment programs necessary after AIS contaminate a lake.