

Case Study: Lake Minnetonka Conservation District (LMCD)

History Lake Minnetonka was originally infested with Eurasian Watermilfoil in 1987. Since then this Aquatic Invasive Species has spread across the entire lake and restricted navigation, spoiled recreation, devalued properties, and even taking victims by drowning. It has also spread to 207 other lakes in Minnesota by hitchhiking on boats and trailers. The LMCD has spent hundreds of thousands dollars in a battle against this aquatic invasive plant.

Current Issue The threat of Zebra Mussels spreading to Lake Minnetonka is of significant concern to local residents and the LMCD. While investing \$35,000 annually in a DNR managed intern inspection program, only 5% of the available launch hours are monitored. To explore the effectiveness of an automated monitoring system, the LMCD enlisted the support of **Environmental Sentry Protection, LLC** to conduct a demonstration program at Grays Bay and Spring Park, two of the most heavily used boat launches on Lake Minnetonka with over 800 launches per weekend.



Scope of Study The 2006 study leveraged an automated video monitoring device (I-LIDS) to determine whether boaters were cleaning their boats prior to launch, identify if they are bringing in weeds, learn what impact the presence of interns has on behavior, and to evaluate levels of compliance with posted instructions to inspect boats and trailers for weeds carrying Zebra Mussels. Based on results, this study was expanded to encompass four launches in 2007.

Systems Used The monitoring system uses sensors to trigger video captures at the launch. Video showing the condition of bottoms of boats and trailers, pre-launch clean-off activities, and post-launch clean-offs are captured. The system automatically transmits these videos to a secure server where they are made available on a website to authorized users to review. Over 2500 videos were captured and analyzed. Extensive local media coverage highlighted the issue and the I-LIDS on Lake Minnetonka which increased public awareness.

Findings

- In 2006, **7.4% of boats launching at Grays Bay had attached vegetation**
- By 2007, this had dropped to 0.3% of boats launching and **in 2008, 0.13%!**
- Alerting boaters to automated inspections has influenced observed behaviors.
- A majority of boaters asked supported I-LIDS to ensure boaters inspect and clean.

Support This project was conducted with approval of the LMCD, Lake Minnetonka Association, the Minnesota DNR, Hennepin County, and the City of Minnetonka.

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