

GLDIATR: Protecting the Great Lakes from Internet Trade of AIS

Erika Jensen
Program Manager
Great Lakes Commission

Great Lakes ANS Panel Meeting
November 3, 2016 | Ann Arbor, Michigan



GLDIATR Great Lakes Detector of Invasive Aquatics in Trade

Internet as an AIS Pathway

- Organisms in trade
 - Intentional and unintentional releases of live organisms that are bought and sold for use in aquariums, nurseries, water gardens, classrooms, aquaculture, as live bait, etc.
- Internet facilitates trade
- WWW is vast and changing
- Species of concern are being sold
- Patchwork of species regulations



Objectives

Phase I (2012 – 2016)

- Develop and demonstrate software to assess the availability of invasive species via Internet sales
- Provide information and management tools
- Present information on the Internet marketplace, including risks and options for management

Funding: FY12 Great Lakes Restoration Initiative EPA grant

Phase II (2016 – 2018)

- Establish a multi-stakeholder advisory board to oversee upgrades and implementation of GLDIATR
- Enhance the user-based functionality and features of GLDIATR
- Integrate GLDIATR into the day-to-day work of target user groups, including enforcement officers and outreach coordinators
- Ensure delivery of accurate, high-quality information through GLDIATR
- Implement regionally coordinated outreach to Internet-based retailers.

Funding: FY15 Great Lakes Restoration Initiative EPA grant



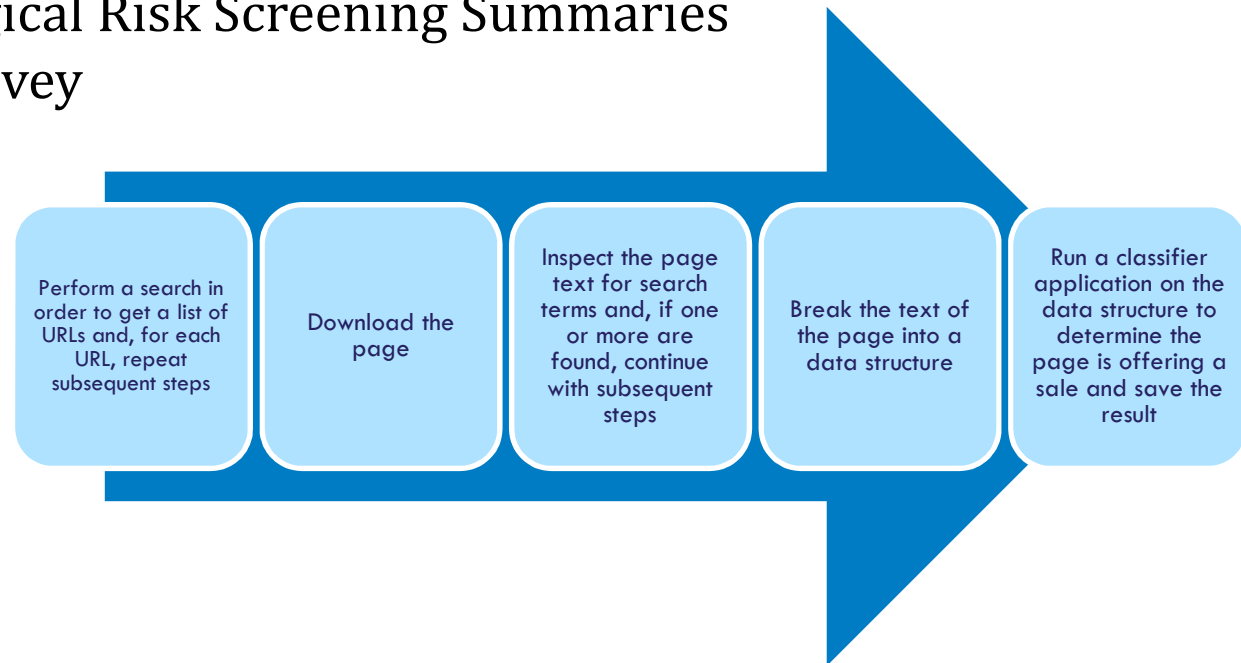
GLDIATR

GLDIATR is able to scan up to 582,000 web-pages per month.

Species Watch List – 166 species:

- Non-native aquatic species prohibited or regulated by Great Lakes states and provinces (IN, IL, MI, MN, NY, ON, OH, PA, QC, WI)
- GLANSIS Watch List
- GLMRIS Watch List
- U.S. FWS Ecological Risk Screening Summaries
- Stakeholder survey

Figure 1. Typical GLDIATR work flow

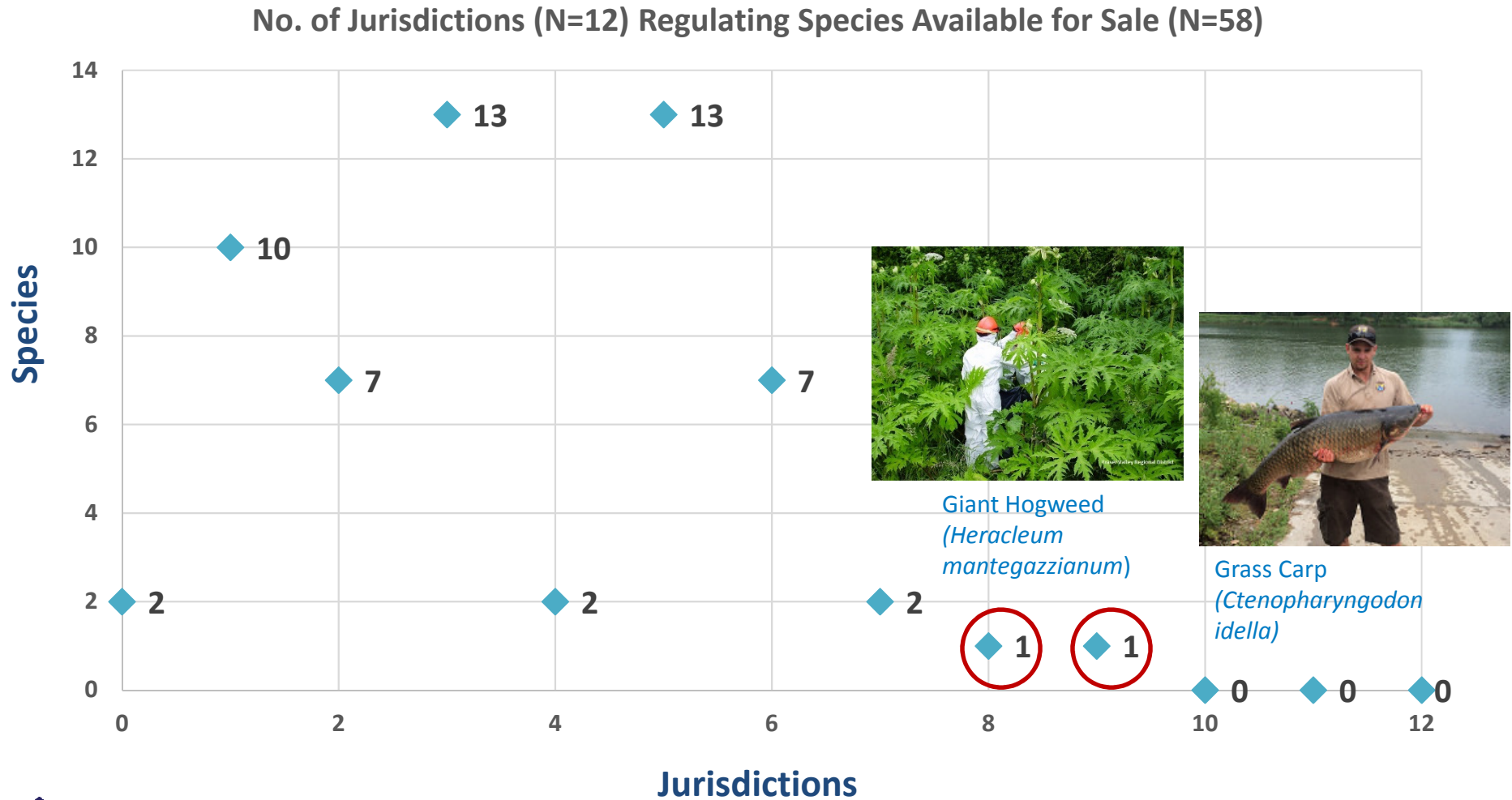


GLDIATR Findings Recap

- 58 species found in first 30 days of operation
 - 92% (40) plant species
 - 7 of 15 species on “least wanted” list
- 200 unique websites
 - 125 will ship to the Great Lakes region
 - 63% located in U.S.
- Contacted 162 sellers
 - 27 sellers made changes



Species Results





Fanwort
Cabomba caroliniana

- Regulated in: IL, MI, MN, NY, WI
- 1 year management cost at 1 site in Netherlands > US\$480,000 (Matthews et al. 2013)



Brazilian Elodea
Egeria densa

- Regulated in: IL, IN, MI, MN, NY, WI
- \$150,000, 2 year eradication effort in 109 acre lake – Monroe Co., Indiana
 - \$1,400 / acre (Fischer 2016)



Parrot feather
Myriophyllum aquaticum

- Regulated in: IL, IN, MI, MN, NY, WI
- >\$50,000, 3 year eradication effort in 18 acre lake in Steuben Co., Indiana
 - \$2,800/acre (Fischer 2016)
- Priority in Michigan for detection & response



Water Soldier
Stratiotes aloides

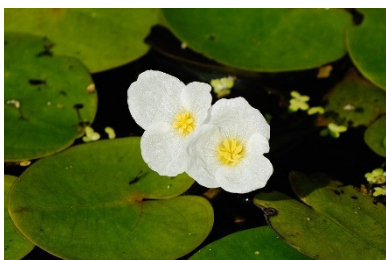
- Regulated in: IL, MN, WI
- Active control and eradication program in Ontario's Trent-Severn Waterway





Water Hyacinth
Eichhornia crassipes

- Regulated in: IL, MN, WI
- Millions spent annually to control in Florida
- Active response effort in Lake Onalaska, Wis.
- Priority in Michigan for detection & response



European Frogbit
Hydrocharis morsus-ranae

- Regulated in: IL, IN, MI, MN, NY, WI
- Active detection and treatment program in MI (identified as a priority species; funding multiple projects to map and treat)



Eurasian water milfoil
Myriophyllum spicatum

- Regulated in: IL, IN, MI, MN, NY, WI
- Active management programs in MN and WI
- Active research programs on potential biocontrol and other treatments



Hydrilla
Hydrilla verticillata

- Regulated in: IL, IN, MI, MN, NY, WI & a federal noxious weed
- Active response, control and eradication efforts in IN (\$2.6M & 9 yrs - 809 acre lake), NY and OH



NEXT STEPS



GLDIATR Great Lakes Detector of Invasive Aquatics in Trade

Summary (Phase I)

- Internet trade is an issue
 - High-risk species are available
 - Appears consistent with what is known about species common to trade pathway (e.g., popular water garden and aquarium plants)
 - Domestic AND International sources
 - Finding species that are actively managed
- Assessment tool: useful as an indicator of what is in trade, inc. emerging species of concern
- Prioritization tool: target management activities, prevalence in trade



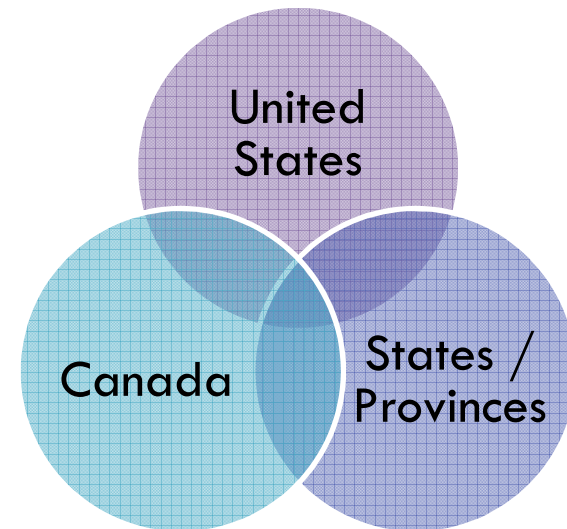
Next Steps (Phase II)

- Implement GLDIATR enhancements
 - Geographic location information
 - Case management system
 - Improved reporting
- System updates
 - Update SWL
 - Direct more search effort to priority species
 - Improve classification
- Work with Advisory Committee & Users
 - Input on system enhancements and updates
 - Target and implement management activities to reduce species availability
 - User training workshops



Beyond GLDIATR

- Harmonization of species rules
 - U.S. and Canada
 - CGLSLGP AIS Task Force
- Coordination of management across jurisdictional boundaries
- Partnerships with industry
 - Marketplace sites (Amazon, eBay)
- Outreach and education
 - Retailers
 - Regulations
 - Native alternatives
 - Best practices
 - Consumers
 - Choosing species – appropriateness and native alternatives
 - Do not release



Acknowledgments

- **GLC Staff**

Tim Eder, Steve Cole, Christine Manninen, Guan Wang, Jeff McAulay, Greg Parrish, Beth Wanamaker, Katherine Hollins, Sarah Cook, Lisa Denys, Ceci Weibert, Melanie Adam, Bryan Comer, Margaux Valenti, Amanda Sweetman

- **RightBrain Networks**

Jamie Begin, Mike Gimbel, Donna Campbell

- Dr. Bing Liu, Technical Advisor, UIC

- U.S. Environmental Protection Agency

