

# Eurasian Milfoil: An Evolving Nuisance



**MICHIGAN CHAPTER  
NORTH AMERICAN LAKE MANAGEMENT SOCIETY  
SEPTEMBER 2011**

**PRESENTER: TONY GROVES  
PROGRESSIVE AE**

progressive|ae

# Michigan's Inland Lakes



- Over 11,000 inland lakes 5+ acres; 2000 over 50 acres
- Millions spent annually to control invasive exotics
- Value of riparian property estimated at 200 billion



# Exotic Species



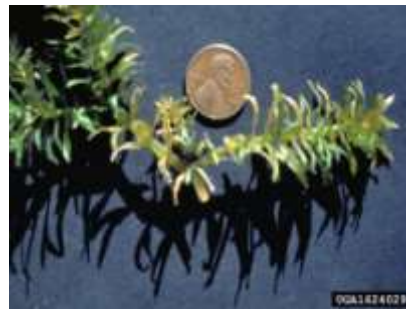
- Outside of natural range
- No natural competitors or predators
- Often exhibit aggressive and invasive growth
- Outcompete native species and gain dominance



# Invasive Exotic Plants



- Eurasian milfoil (*Myriophyllum spicatum*)
- Hydrilla (*Hydrilla verticillata*)
- Starry stonewort (*Nitellopsis obtusa*)
- Phragmites (*Phragmites australis*)

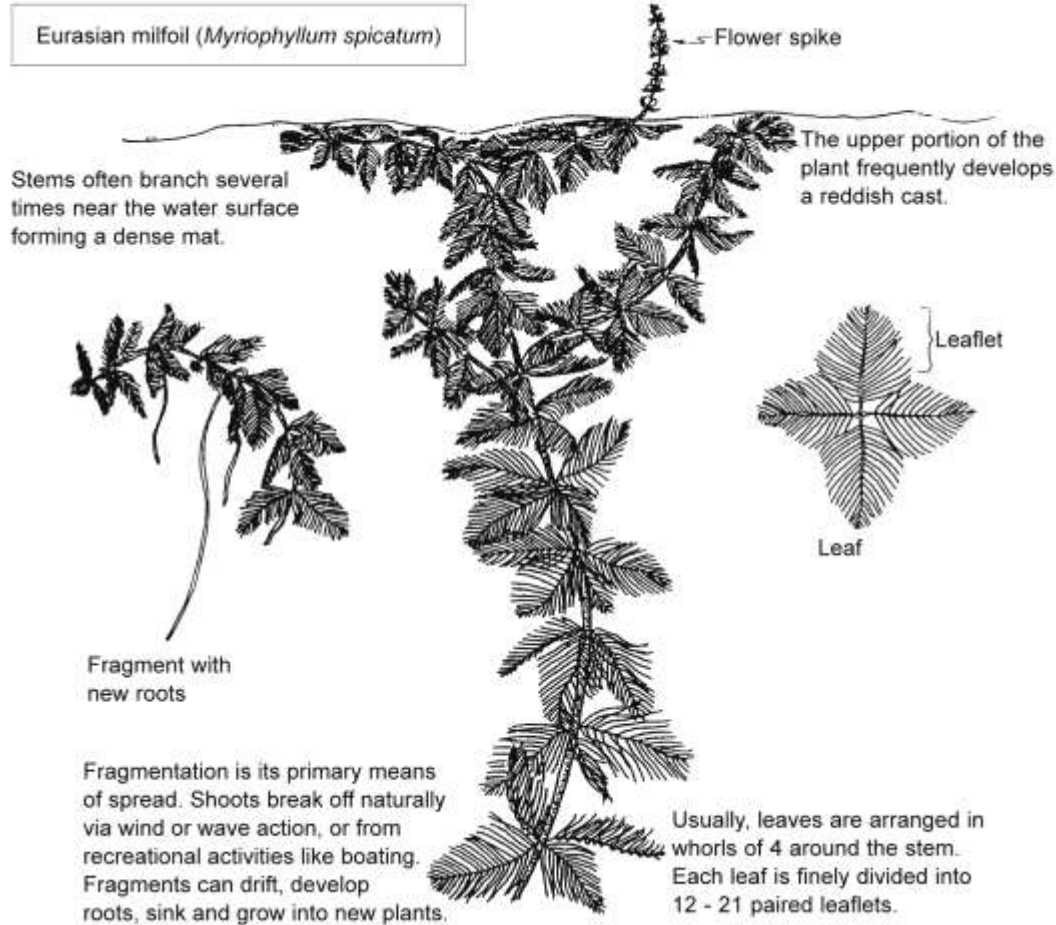


# Eurasian Milfoil



University of Florida Center for Aquatic Plants (Gainesville). Used with permission.

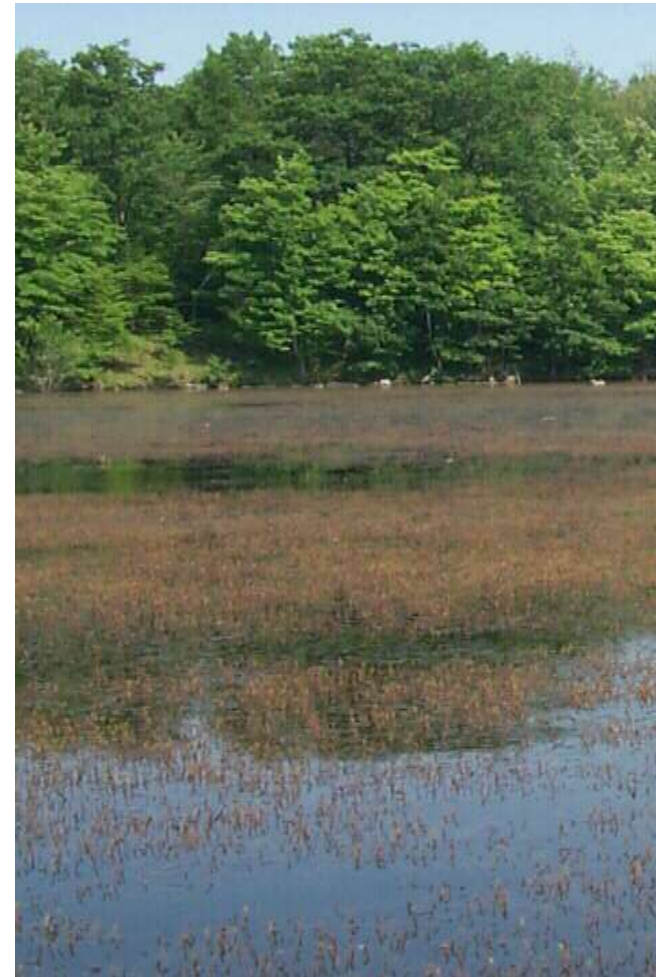
# Eurasian Milfoil Distinguishing Features



# Eurasian Milfoil Impacts



- Reduces native plant diversity
- Disrupts predator-prey relationships
- Reduces abundance of invertebrates (“fish food”)
- Degrades habitat
- Lowers dissolved oxygen levels
- Impedes navigation and recreational uses



# Milfoil Hybrids



- Eurasian milfoil has begun to hybridize with native northern milfoil (*Myriophyllum sibiricum*)
- Hybrid vigor
- Some hybrid strains may be less susceptible to certain herbicides and other control options





# Control Options



- Prevention (signage, boat wash stations)
- Overwinter drawdown
- Benthic (bottom) barriers
- Mechanical removal
- Biological controls
- Herbicides



# Milfoil Weevils (*Euhrychiopsis lecontei*)



Tom Alwin and MSU Dept of Fisheries and Wildlife

# Factors Influencing Weevil Efficacy



- Fish Predation
- Overwinter Habitat
- Patchy Distribution
- Hybrid Milfoils
- Predator-Prey Cycles
- Results Variable



# Herbicides



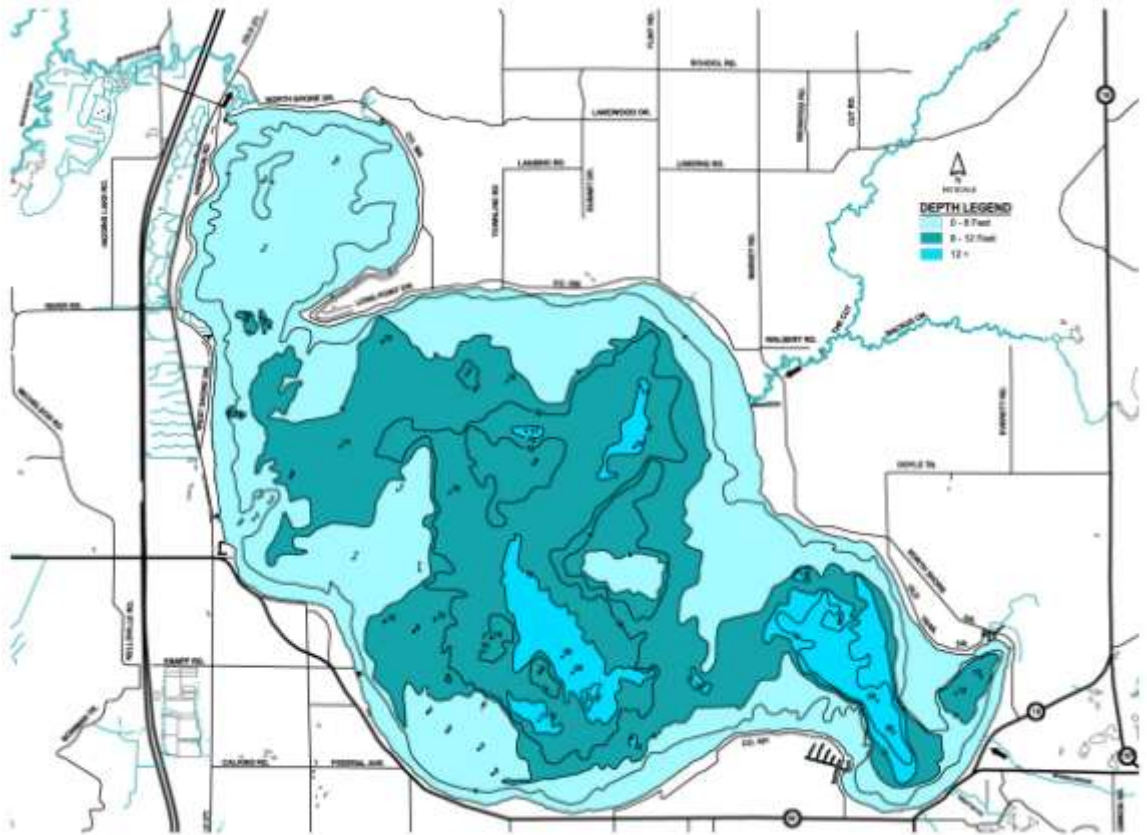
- Contact versus systemic herbicides
- Water use restrictions
- DEQ permit required
- Periodic re-treatments required for sustained control



# Houghton Lake



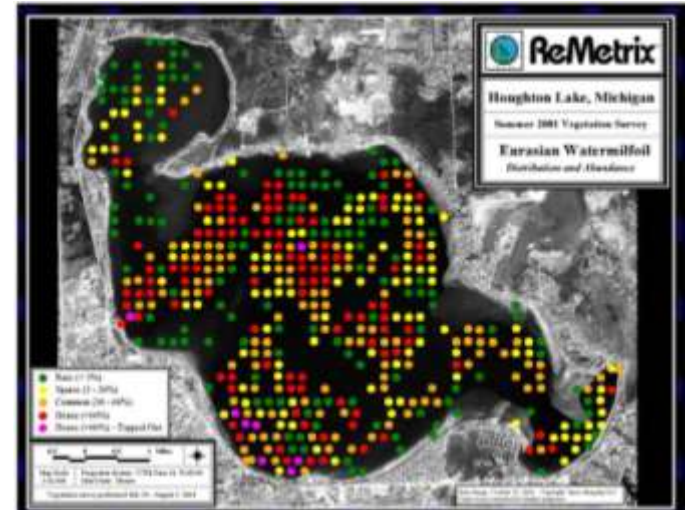
- Surface area: 20,044 acres
- Maximum depth: 21 feet
- Mean depth: 8.6 feet



# Houghton Lake Fluridone Treatment



- 10,800 acres infested with Eurasian milfoil in 2001 (5,300 acres common to dense)
- Whole-lake fluridone treatment
  - 2002
  - 6-bump-6 treatment protocol
- Spot-treatments with other systemic herbicides to control re-infestation



# Houghton Lake (Pre-treatment) October 2000



# Houghton Lake (Post-treatment) September 2002

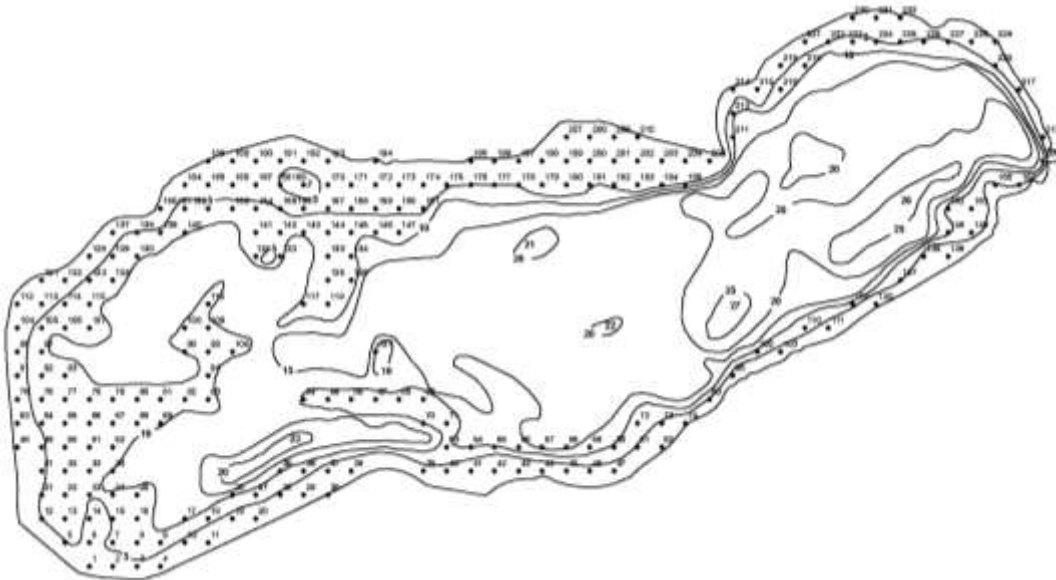




# Monitoring



- Early detection – rapid response
- GPS point-intercept surveys
- Measure efficacy of control
- Detect milfoil re-infestations



# Challenges



- Fragmented authority (local, state and federal), no single point of responsibility
- Often, lake residents must take the initiative



# Financing



- Individual property owners and lake associations
- Lake improvement boards (Part 309 of the Natural Resources and Environmental Protection Act, PA 451 of 1994)
- Township Boards (Township Public Improvement Statute, PA 188 of 1954)



NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (EXCERPT)  
Act 451 of 1994  
PART 309  
INLAND LAKE IMPROVEMENTS

**324.30901 Definitions.**

Sec. 30901. As used in this part:

(a) "Benefit" or "benefits" means advantages resulting from a project to public corporations, the inhabitants of public corporations, the inhabitants of this state, and property within public corporations. Benefit includes benefits that result from elimination of pollution and elimination of flood damage, elimination of water conditions that jeopardize the public health or safety; increase of the value or use of lands and property arising from improving a lake or lakes as a result of the lake project and the improvement or development of a lake for conservation of fish and wildlife and the use, improvement, or development of a lake for fishing, wildlife, boating, swimming, or any other recreational, agricultural, or conservation uses.

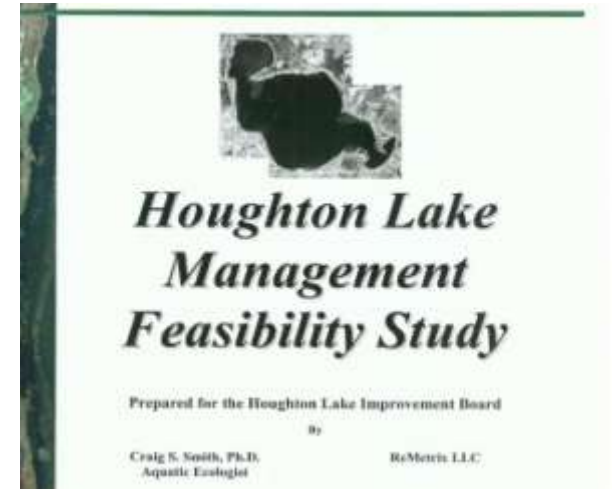
(b) "Inland lake" means a public inland lake or a private inland lake.

(c) "Interested person" means a person who has a record interest in the title to, right of ingress to, or reversionary right to a piece or parcel of land that would be affected by a permanent change in the bottomland of a natural or artificial public or private inland lake, or adjacent wetland. In all cases, whether having such

# Develop a Lake Management Plan



- Plan becomes basis for decision-making
- Get organized
- Identify problem(s)
- Evaluate solutions (short- and long-term)
- Identify funding sources
- Build consensus
- Get going!



# For More Information

