Connecticut's Invasive Aquatic Plant Problem

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Invasive Aquatic Plants

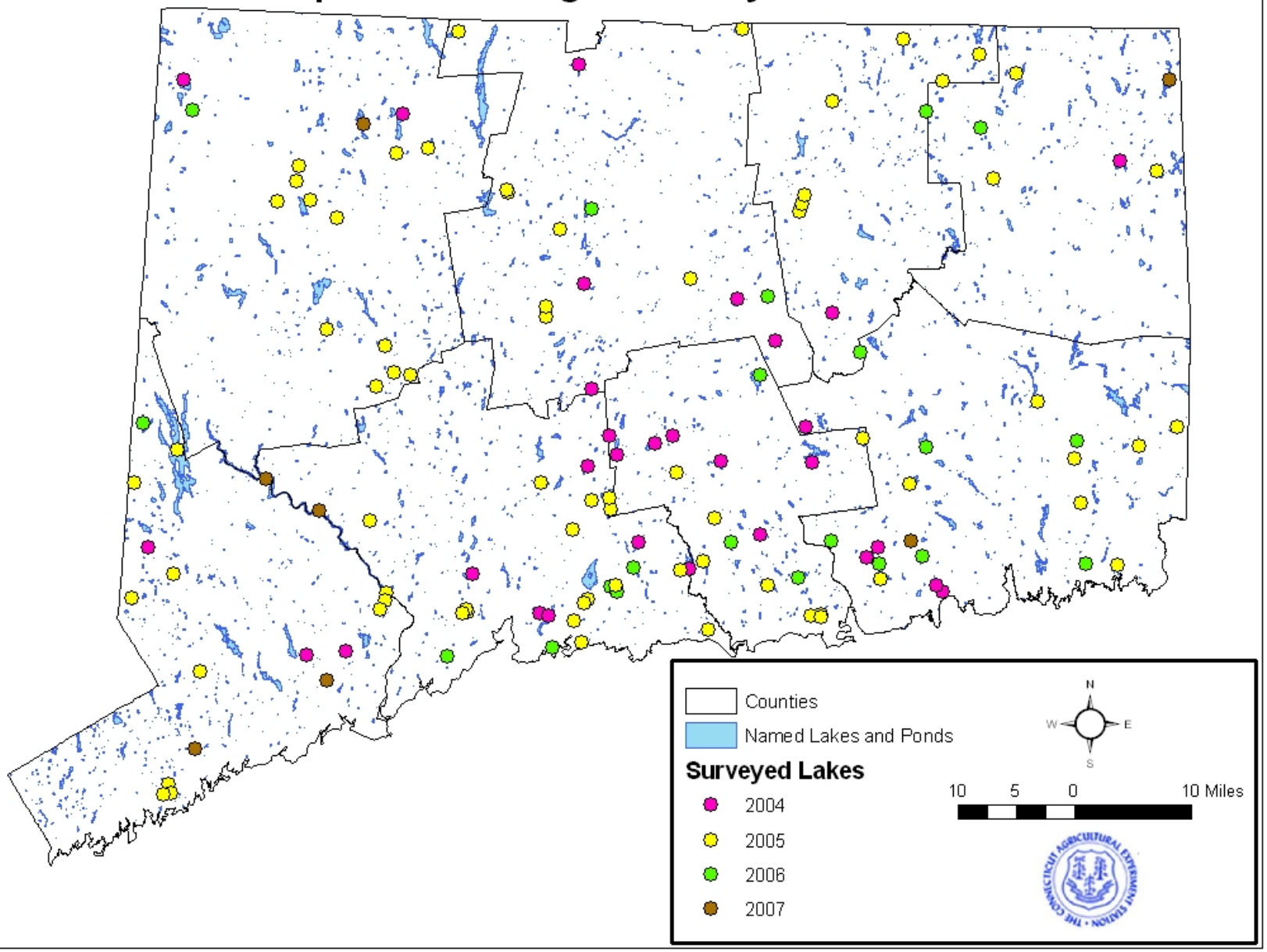
Before

After

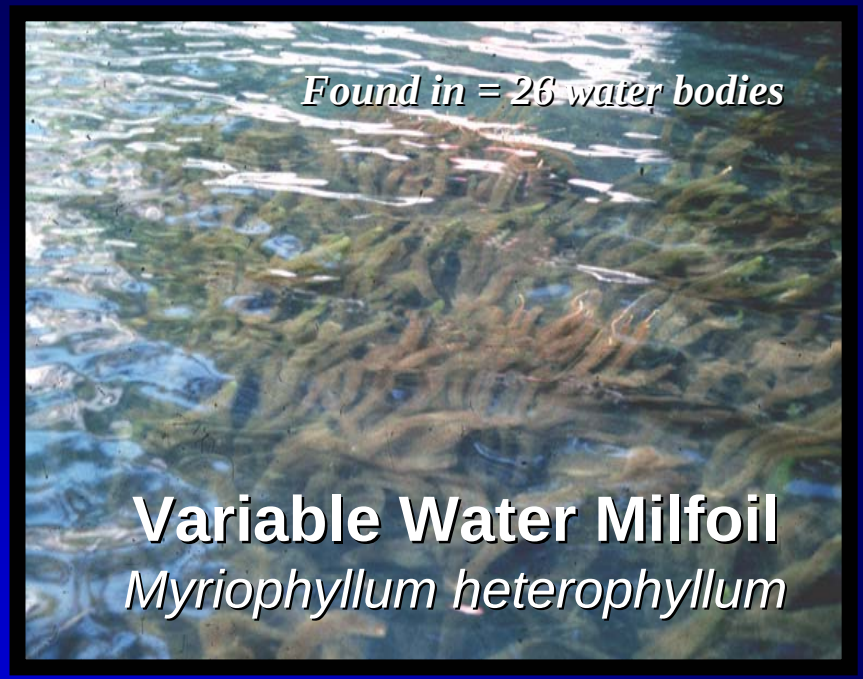
Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP)

- Survey lakes and ponds, map vegetation, correlate with water chemistry, use, sediment watershed etc.
- 133 water bodies surveyed
  - 11 invasive aquatic plant species found
  - 62 percent of the water bodies contained one or more invasive species

Invasive Aquatic Plant Program Surveyed Lakes 2004- 2007




Found in = 31 water bodies
Eurasian Water Milfoil
Myriophyllum spicatum

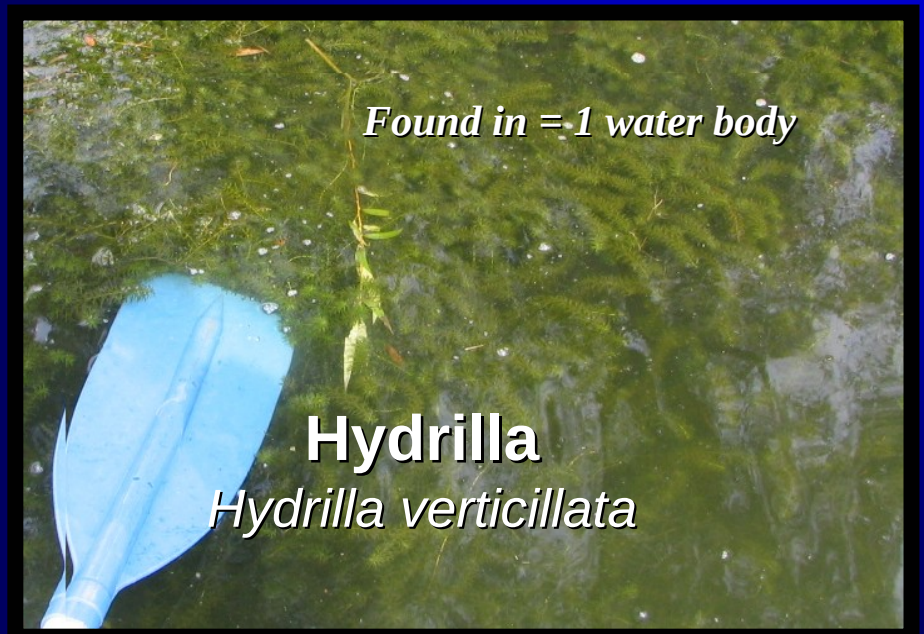

Found in = 26 water bodies
Variable Water Milfoil
Myriophyllum heterophyllum


Found in = 1 water body
Parrot feather
Myriophyllum aquaticum

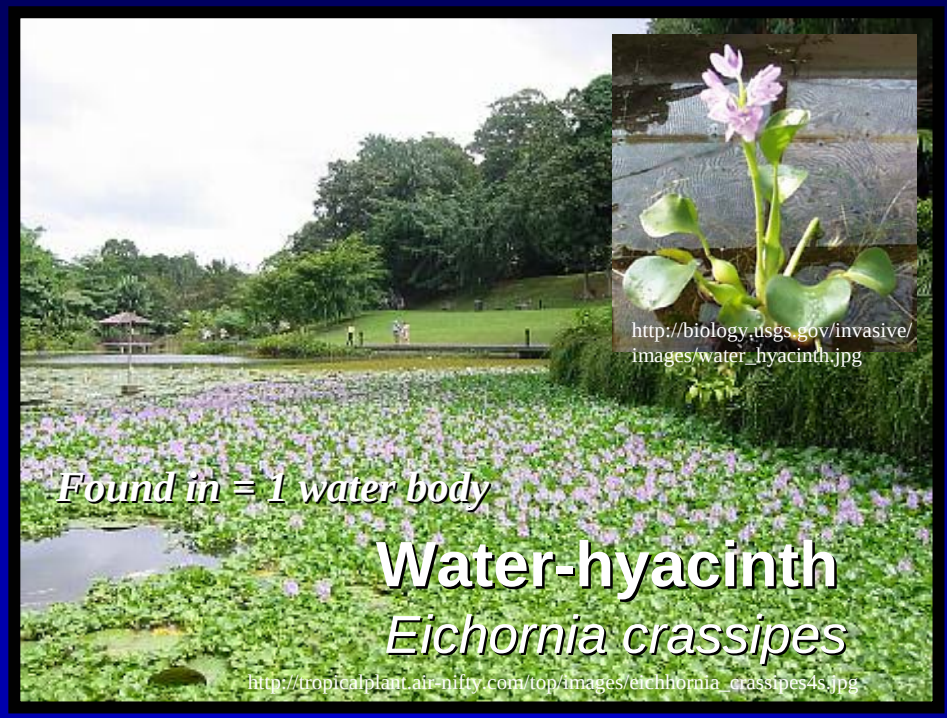

Found in = 13 water bodies
Cabomba (Fanwort)
Cabomba Caroliniana

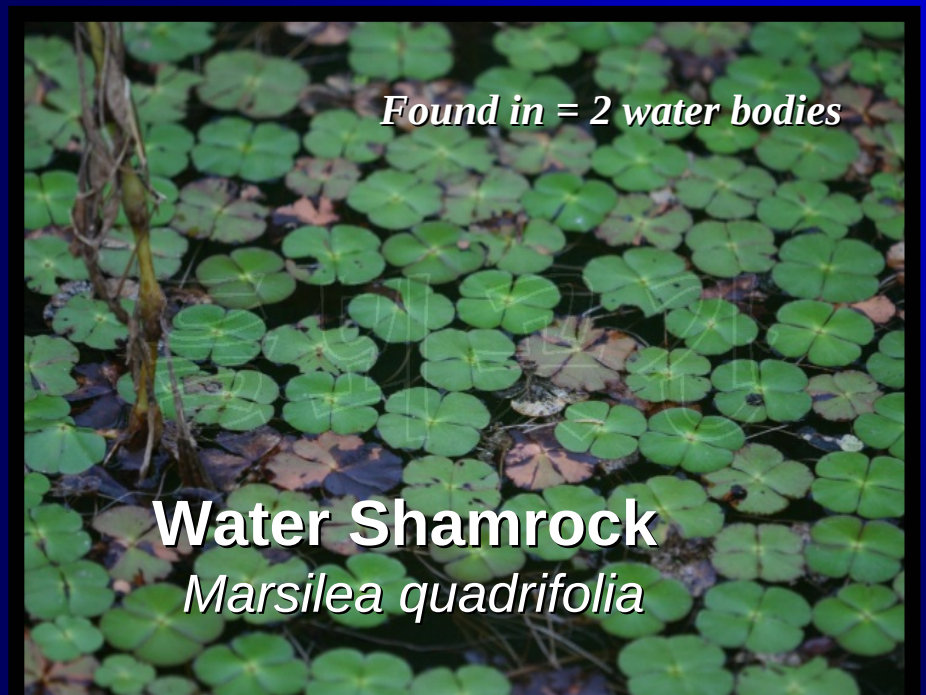

Found in = 23 water bodies
Curly Leaf Pondweed
Potamogeton crispus


Found in = 23 water bodies
Minor Naiad
Najas minor


Found in = 1 water body
Hydrilla
Hydrilla verticillata


Found in = 2 water bodies
Water Chestnut
Trapa natans


http://biology.usgs.gov/invasive/images/water_hyacinth.jpg
Found in = 1 water body
Water-hyacinth
Eichornia crassipes
http://tropicalplant.air-nifty.com/top/images/eichhornia_crassipes4s.jpg

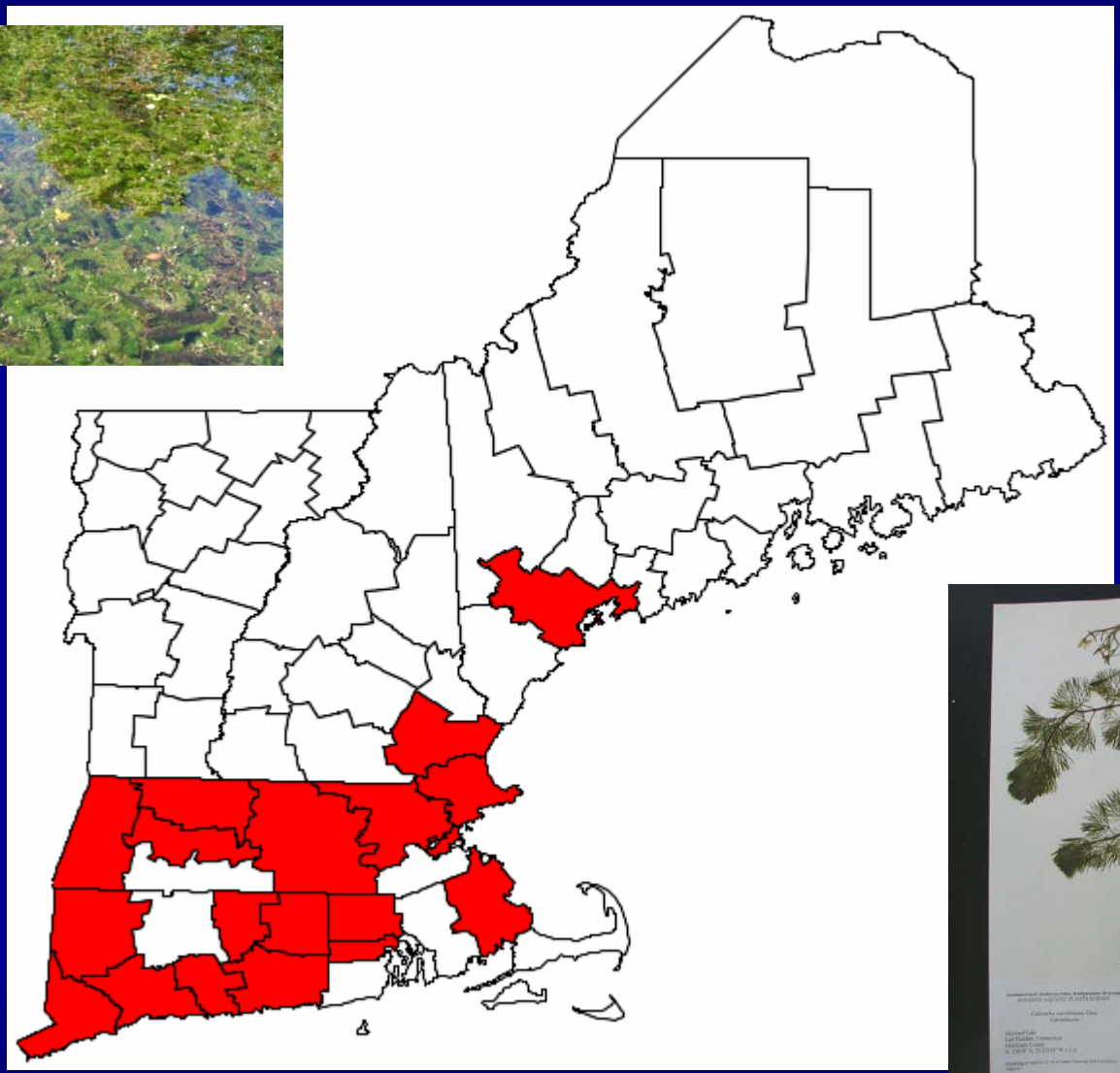

Found in = 2 water bodies
Water Shamrock
Marsilea quadrifolia


Found in = 5 water bodies
Glossistigma (Mud mat)
Glossostigma cleistanthum

Why Connecticut is Important

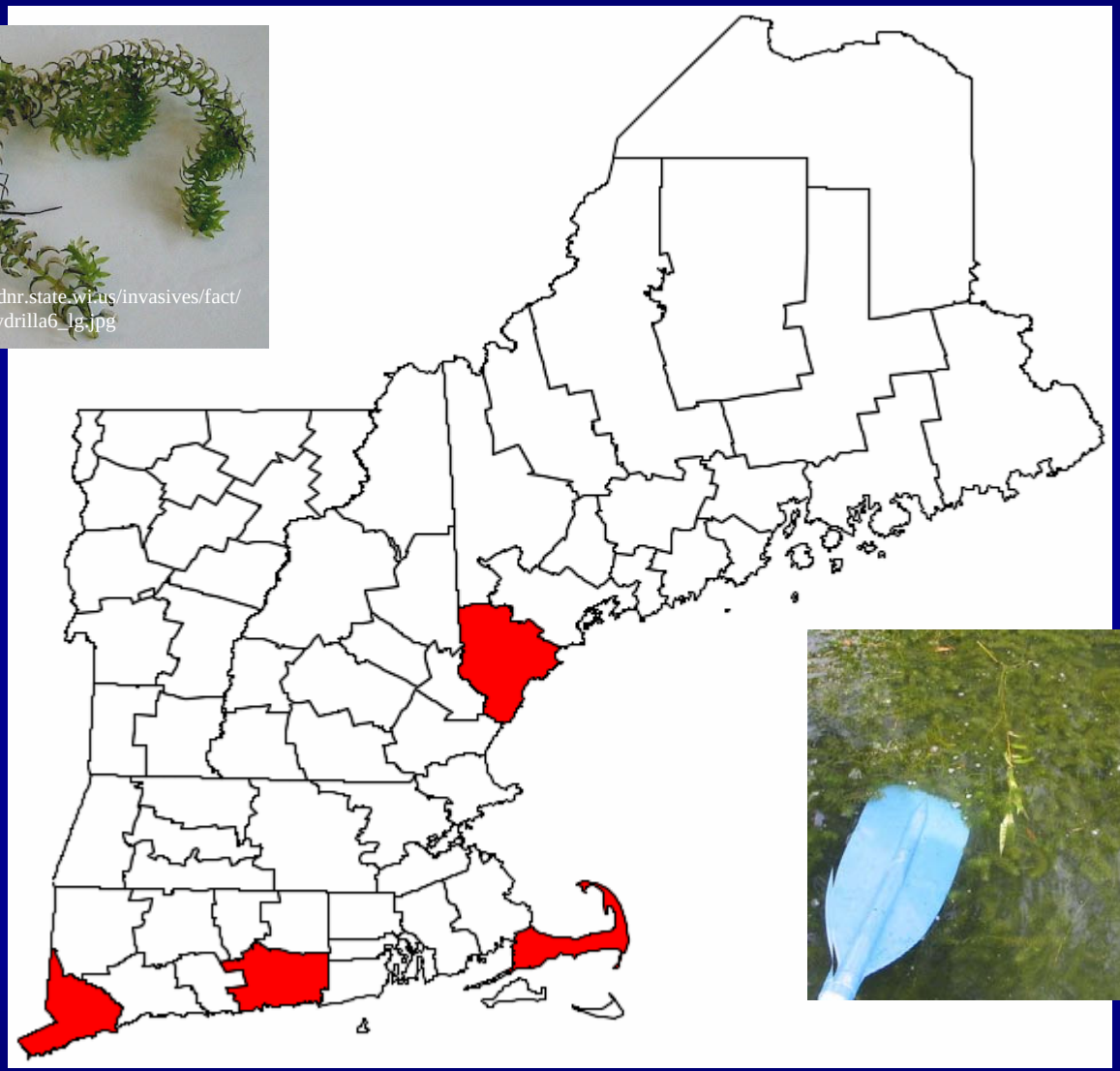
- Southernmost New England state
  - Gateway for species moving northward as a result of climate change
- Highly developed watersheds and shorelines make lakes and ponds prone to human impacts
- State regulatory agencies take a proactive approach to aquatic plant management

Distribution of *Cabomba caroliniana**



* This map was generated using the IPANE data available on 2008-3-24 (E.T.).
Prepared by the IPANE project.

Distribution of *Hydrilla verticillata**



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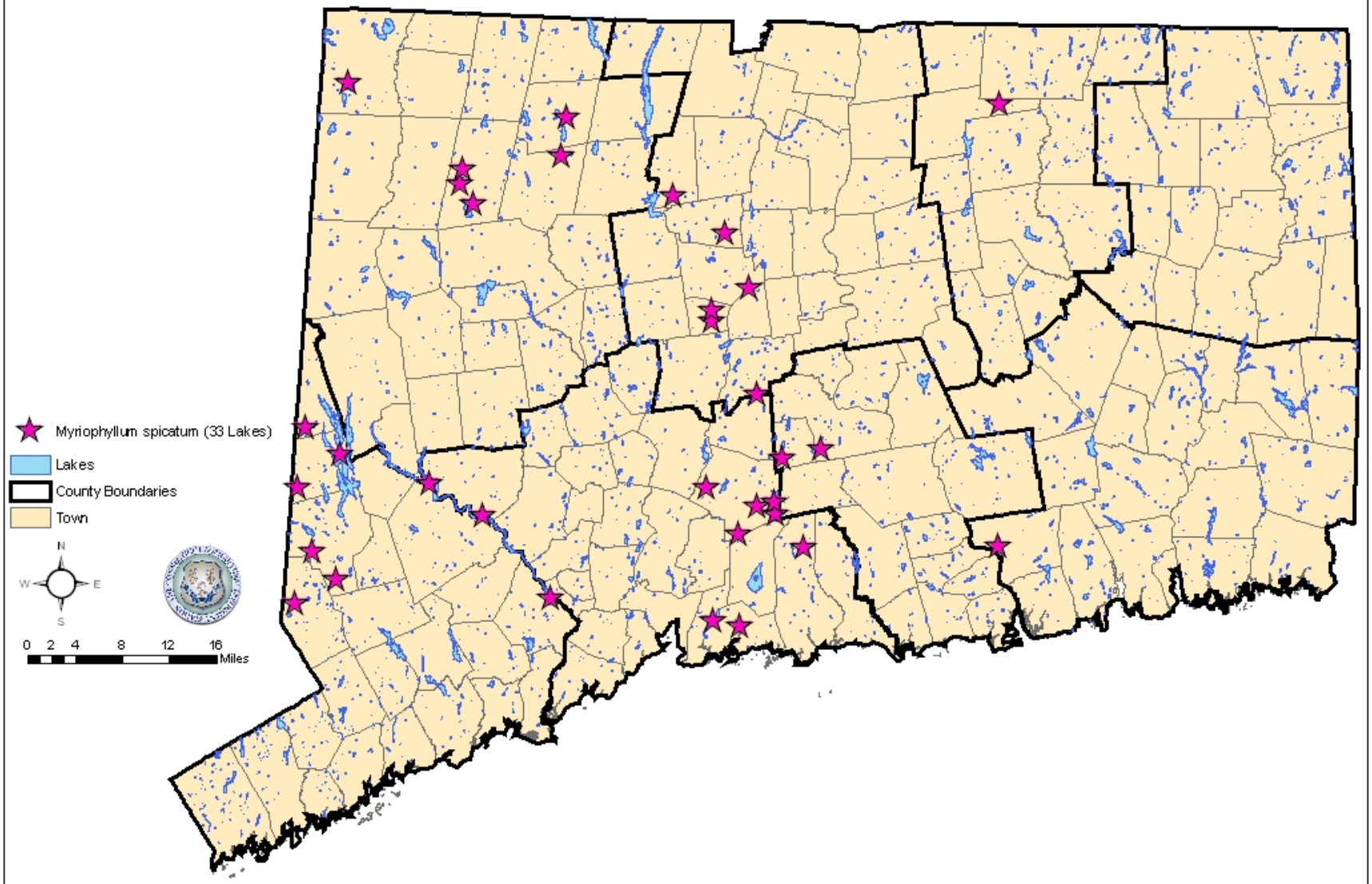
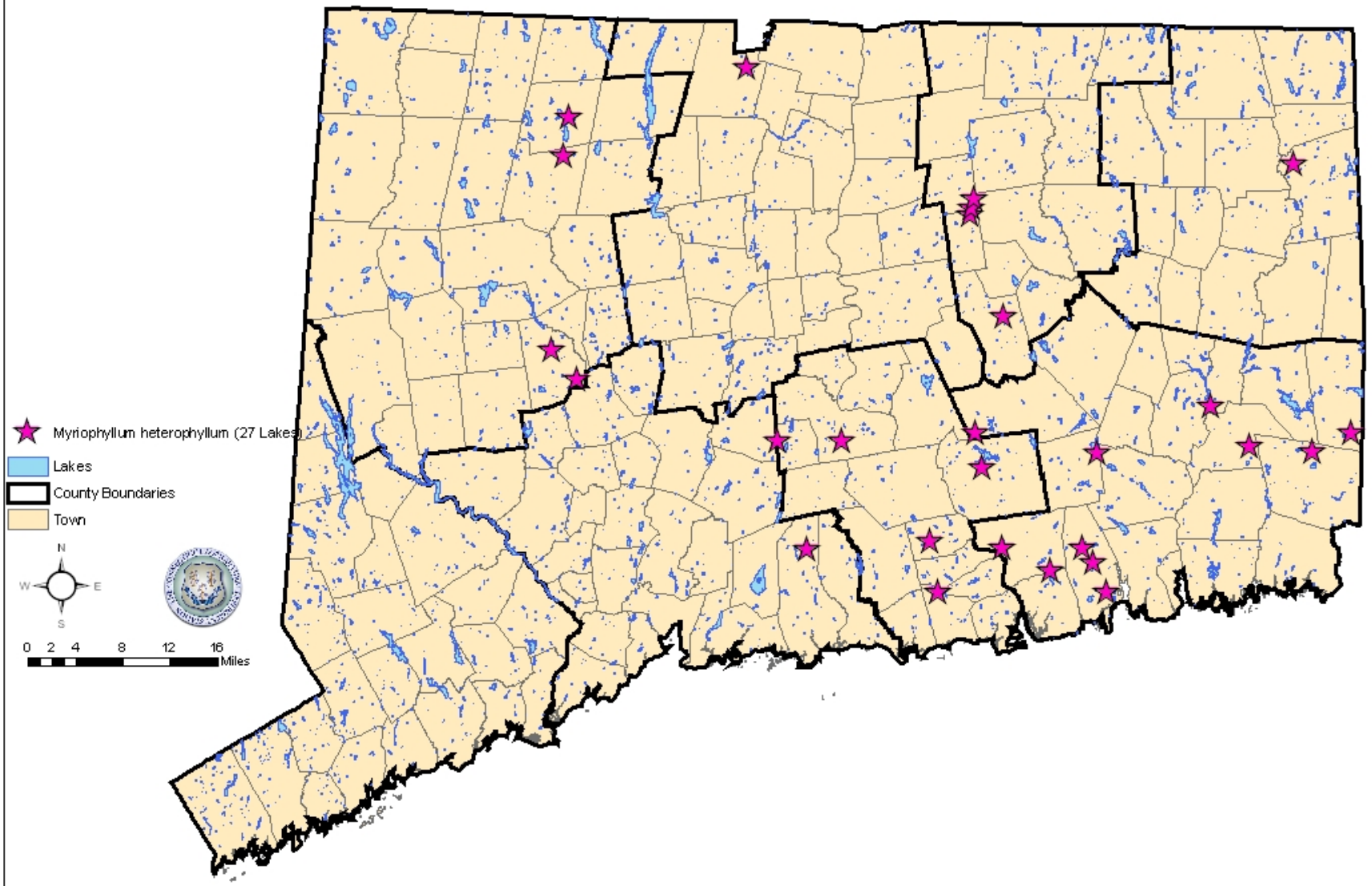
Myriophyllum spicatum Found in the 2004-2007 CAES IAPP Surveyed Lakes



Myriophyllum heterophyllum Found in the 2004-2007 CAES IAPP Surveyed Lakes



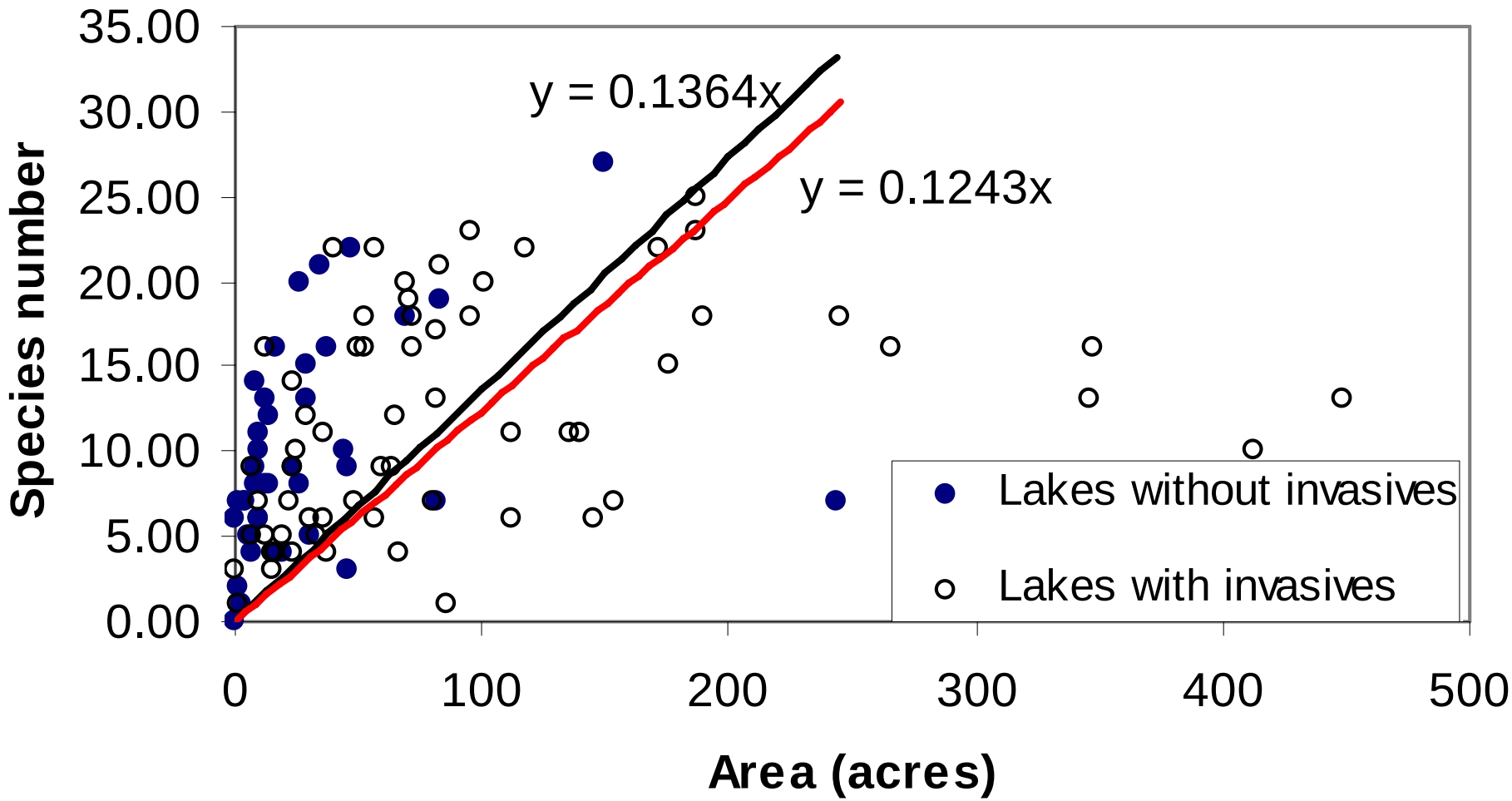
Water Chemistry Preferences of Invasive Aquatic Plants

	With *M. heterophyllum* *(mean)*	Without *M. heterophyllum* *(mean)*
Transparency *(m)*	2.7	2.3
pH	6.3	6.6
Alkalinity *(mg/L)*	16	34
Conductivity *(uS/cm)*	86	138
Total P *(ppb)*	37	41

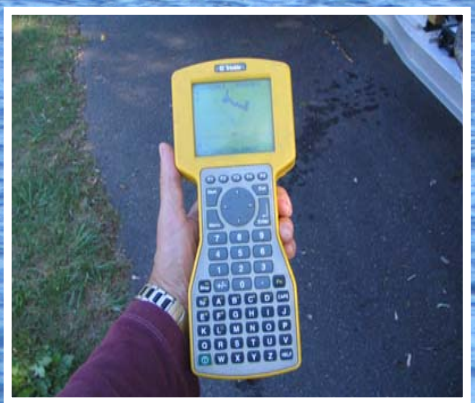
Invasive Aquatic Species in Connecticut Lakes and Ponds

Overall species richness increases with area

Native species richness not yet reduced by invasive species

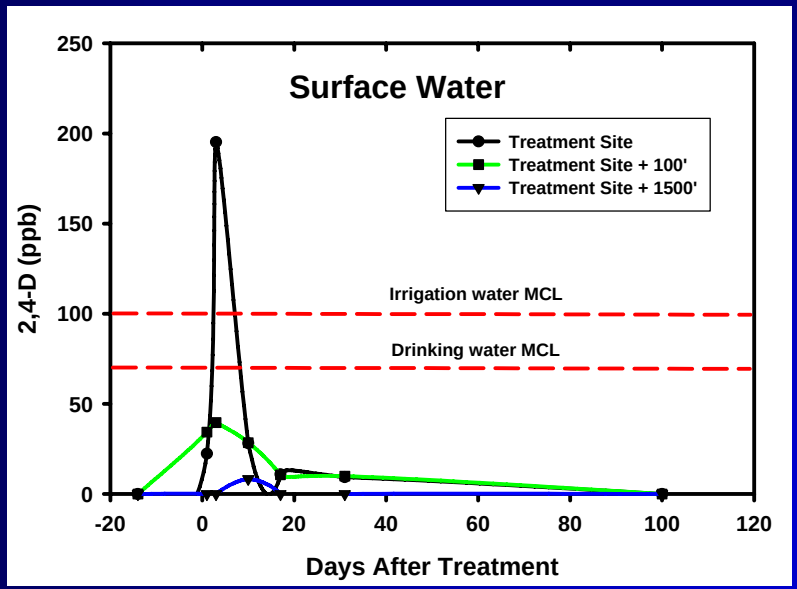


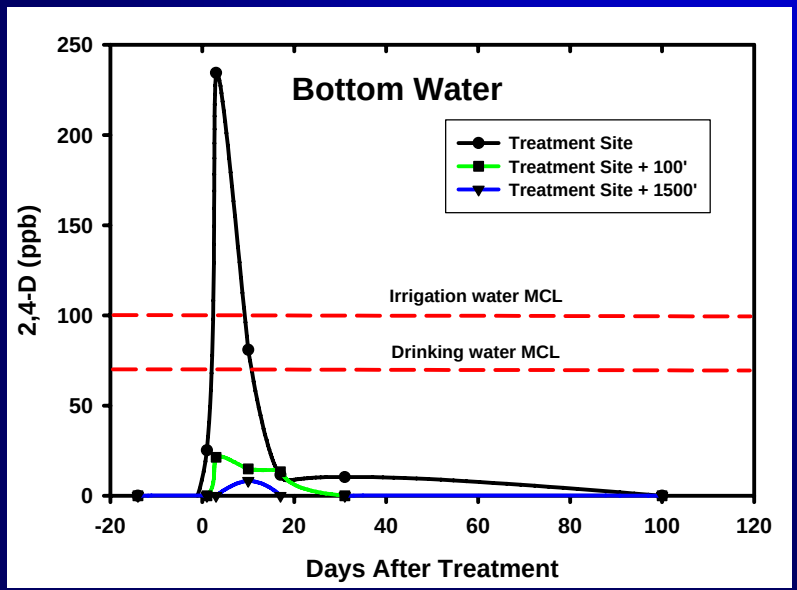
Aquatic Plant Management

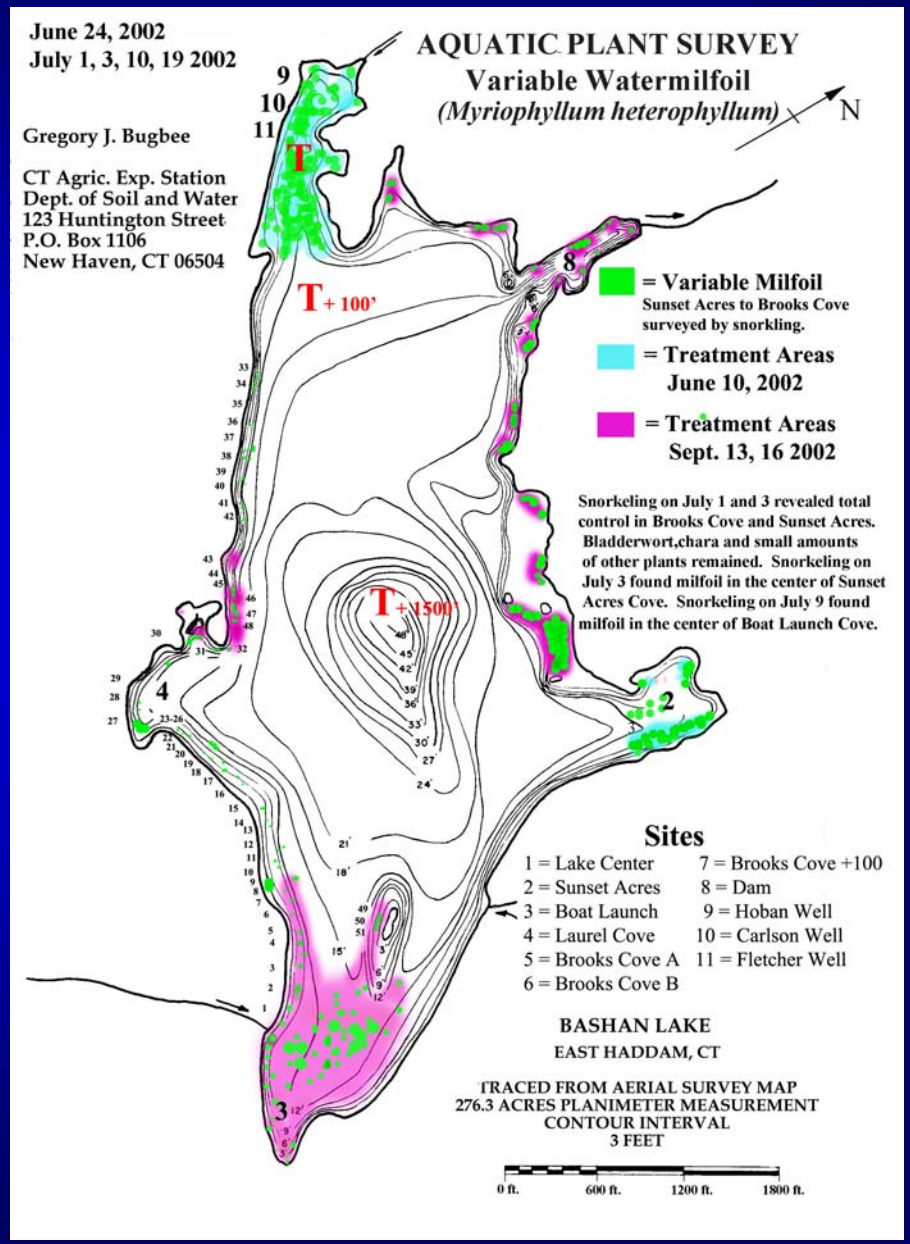


Bashan Lake
East Haddam, CT

Persistence and Movement of 2,4-D





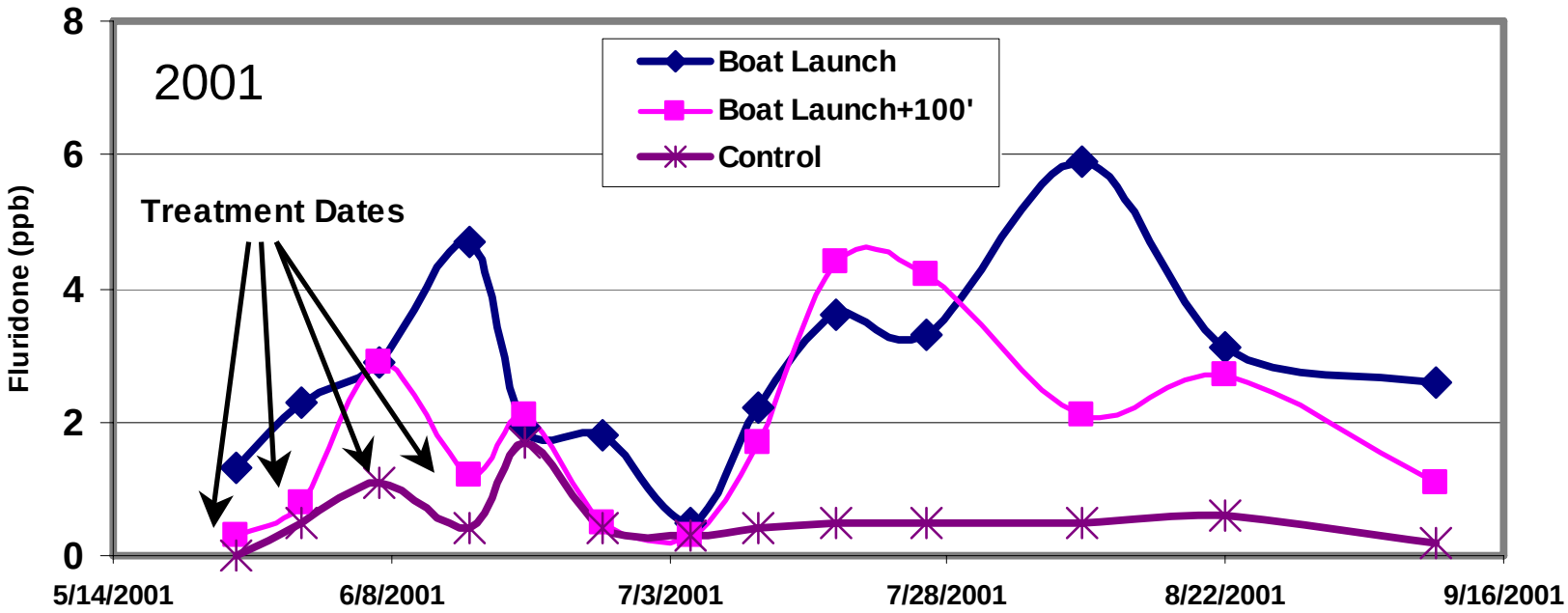


Control of Invasives Near Boat Launches

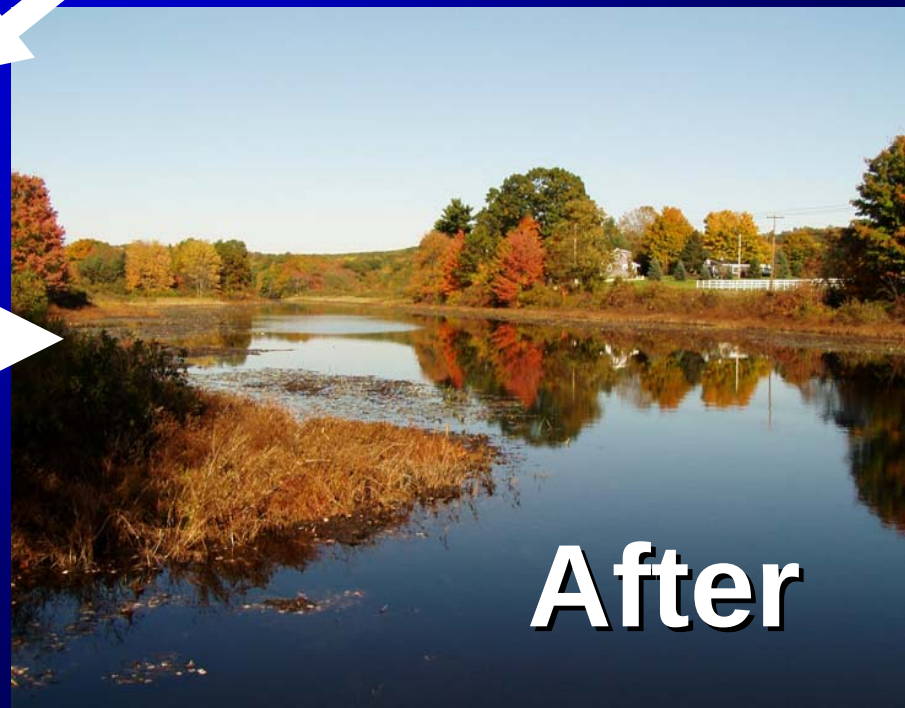
Lake Quonnipaug
Guilford, CT

Tracking Herbicide Concentrations

Figure 1. Sonar Concentrations Lake Quonnipaug.



Lake Quonnipaug
Fall 2002



Lake Quonnipaug
Summer 2003


Floating Island


Cabomba

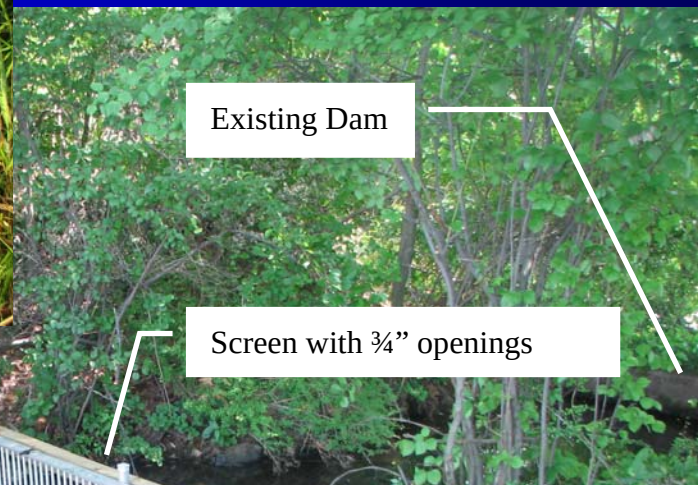

Regrowth

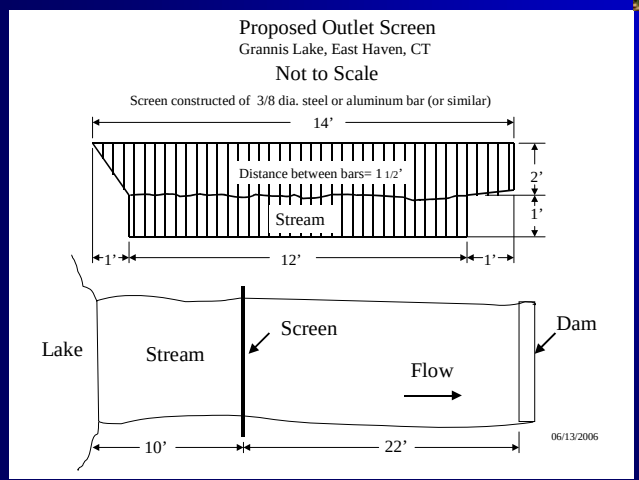
Grass Carp

Ctenopharyngoden idella

Grannis Lake

East Haven CT

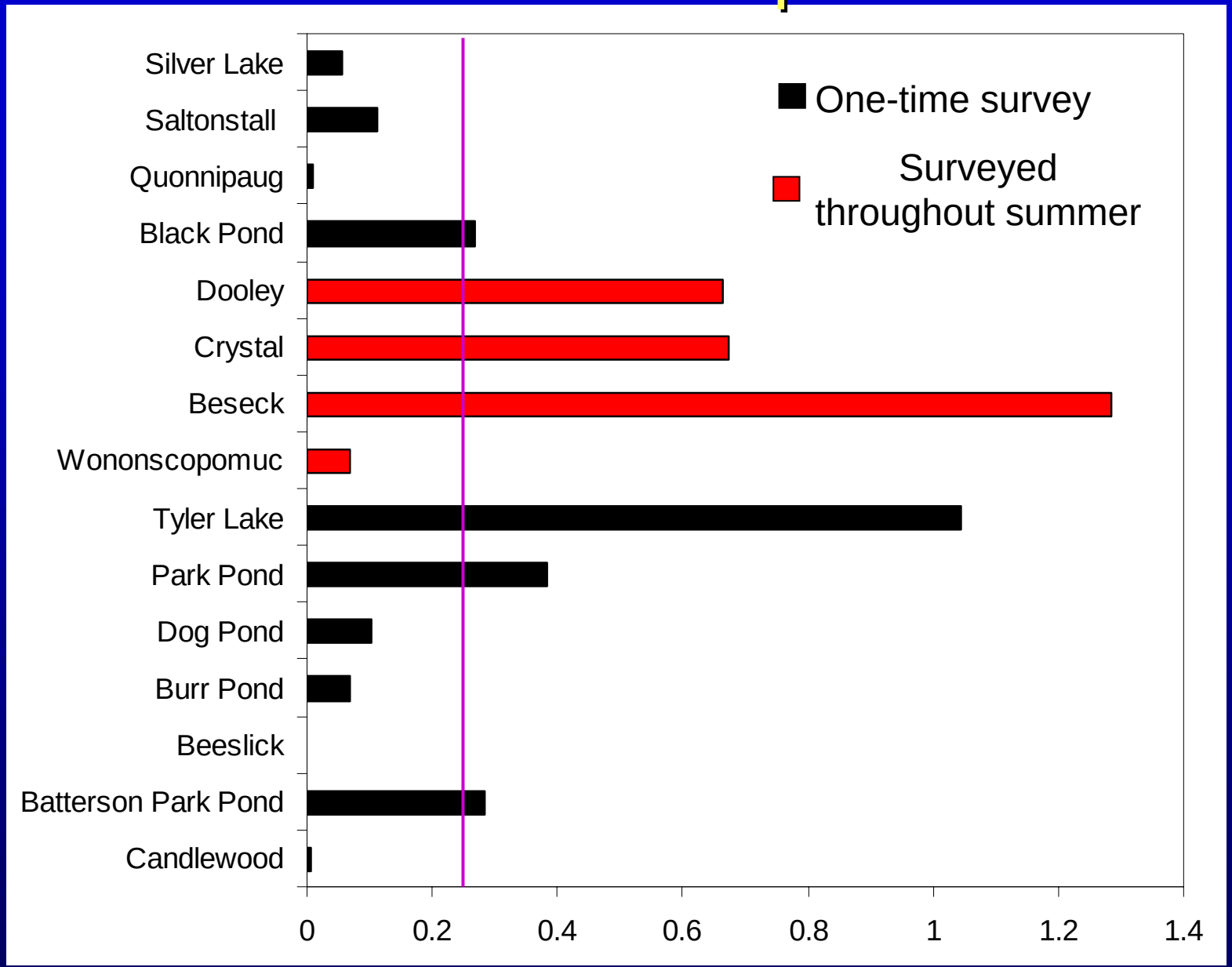




Milfoil weevil, *Euhrychiopsis lecontei*

- Native weevil to North America
- Fully aquatic weevil
- Polyvoltine
  - → 3-5 generations/summer
  - → overwinter in leaf litter along lake shores
- Specialist on watermilfoils
- Lay 2-4 eggs per day

Evidence of Weevils per milfoil stem



CAES IAPP Website

www.ct.gov/caes/iapp

Questions?

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