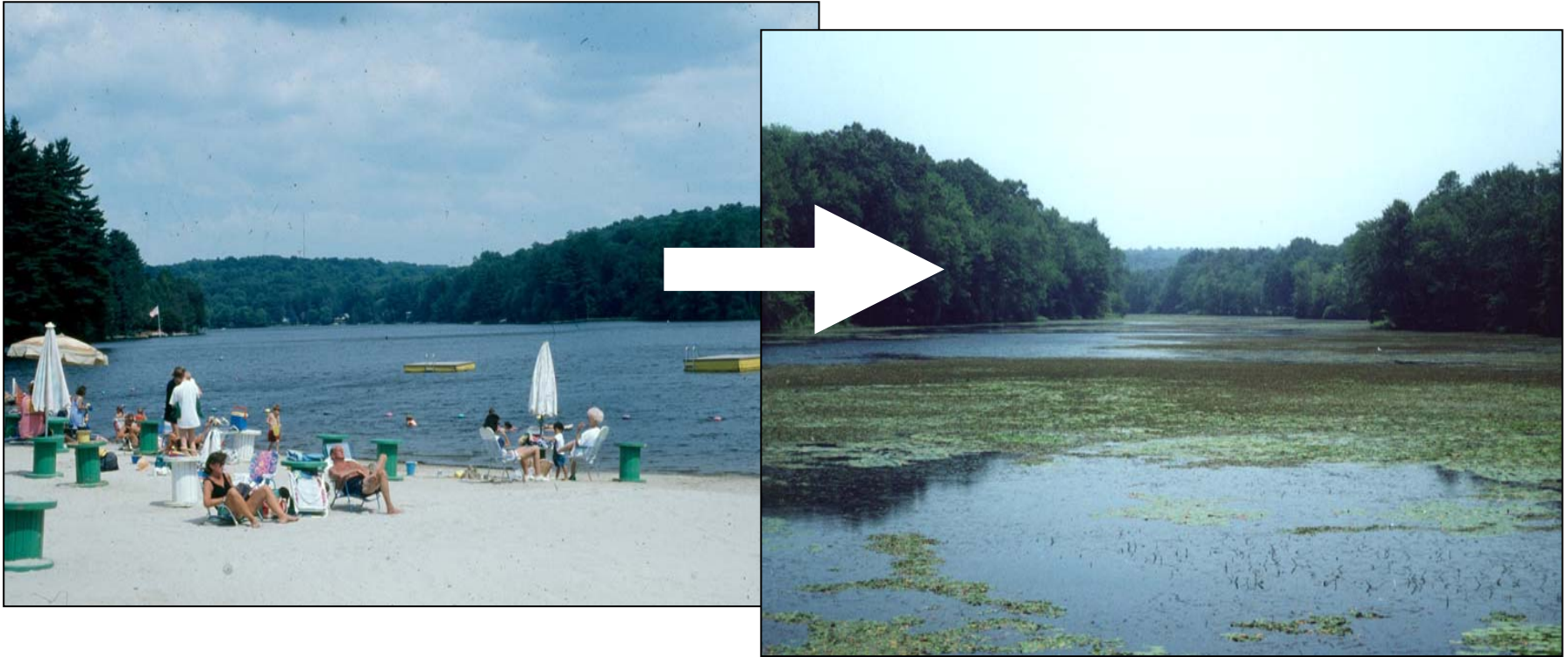


# Invasive Plants: Lakes and Ponds in Peril?



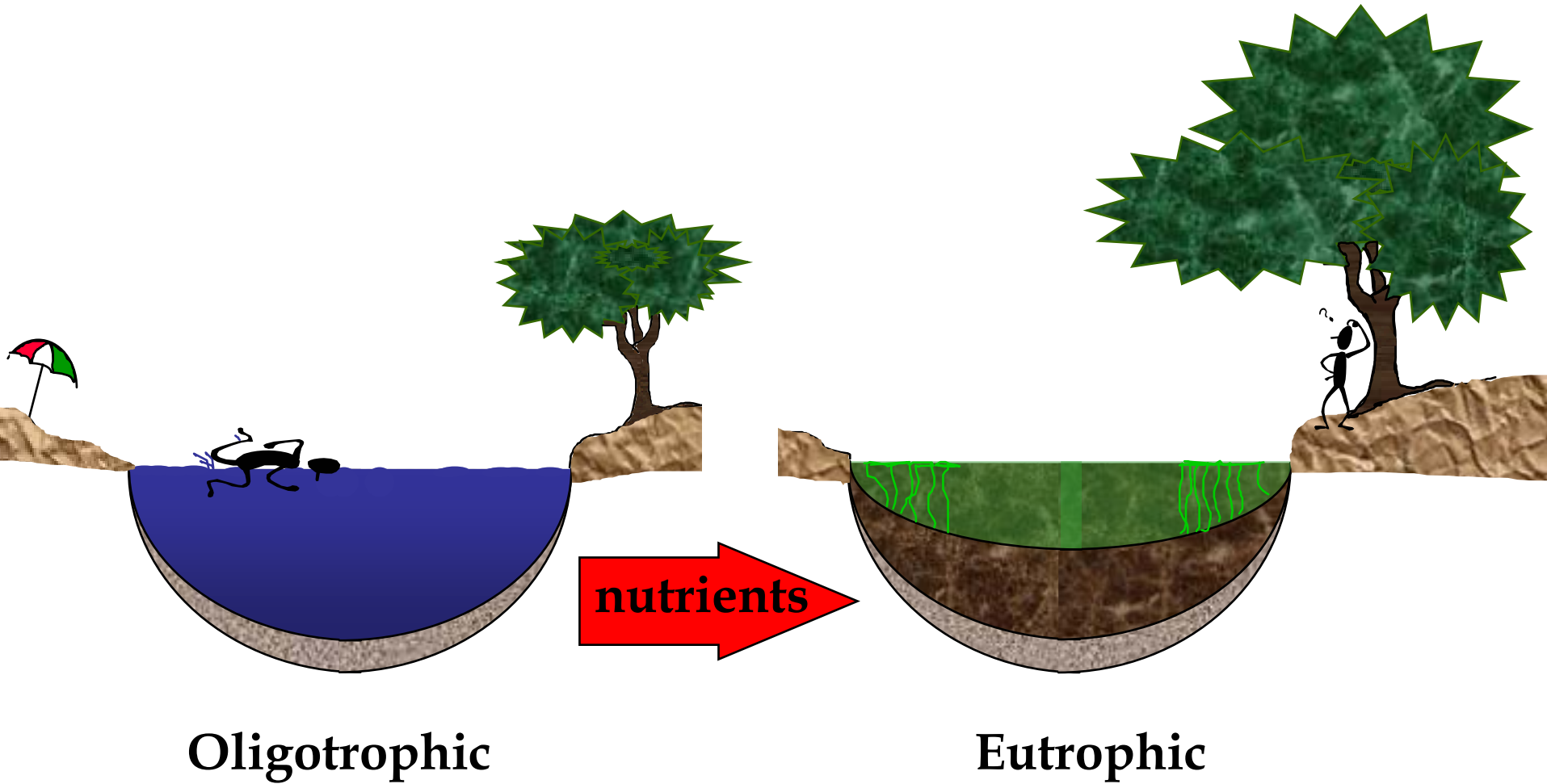
**Greg Bugbee**

Department of Soil and Water

The Connecticut Agricultural Experiment Station

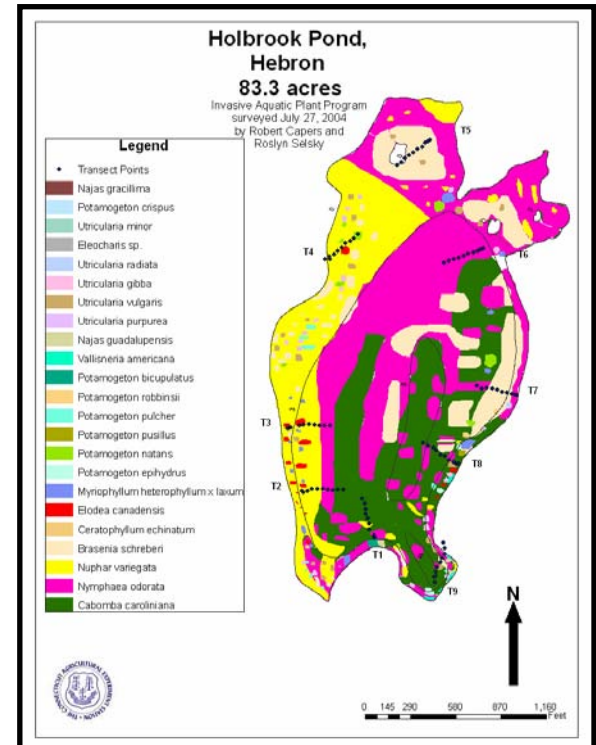


# Eutrophication



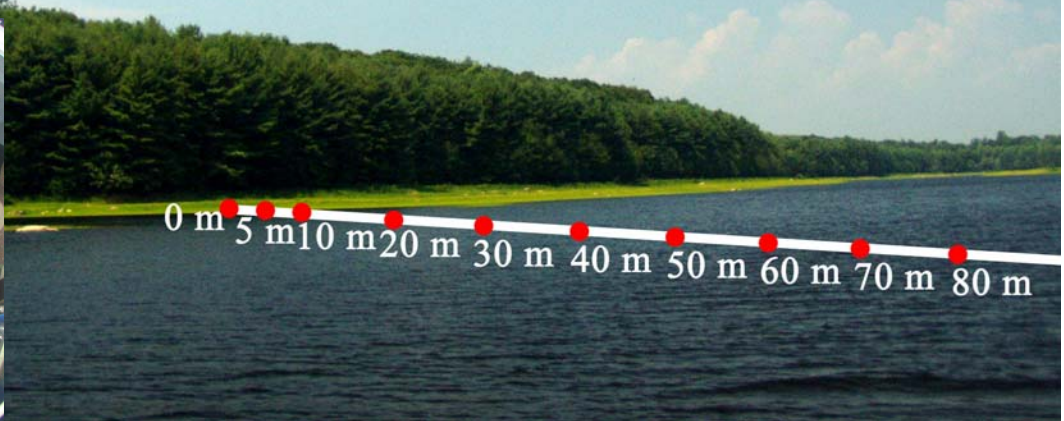
# Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP)

- **Surveys**
  - map vegetation
  - correlate with water chemistry, use, watershed, etc.
- **Test management strategies**
  - herbicides
  - biocontrol
  - mechanical

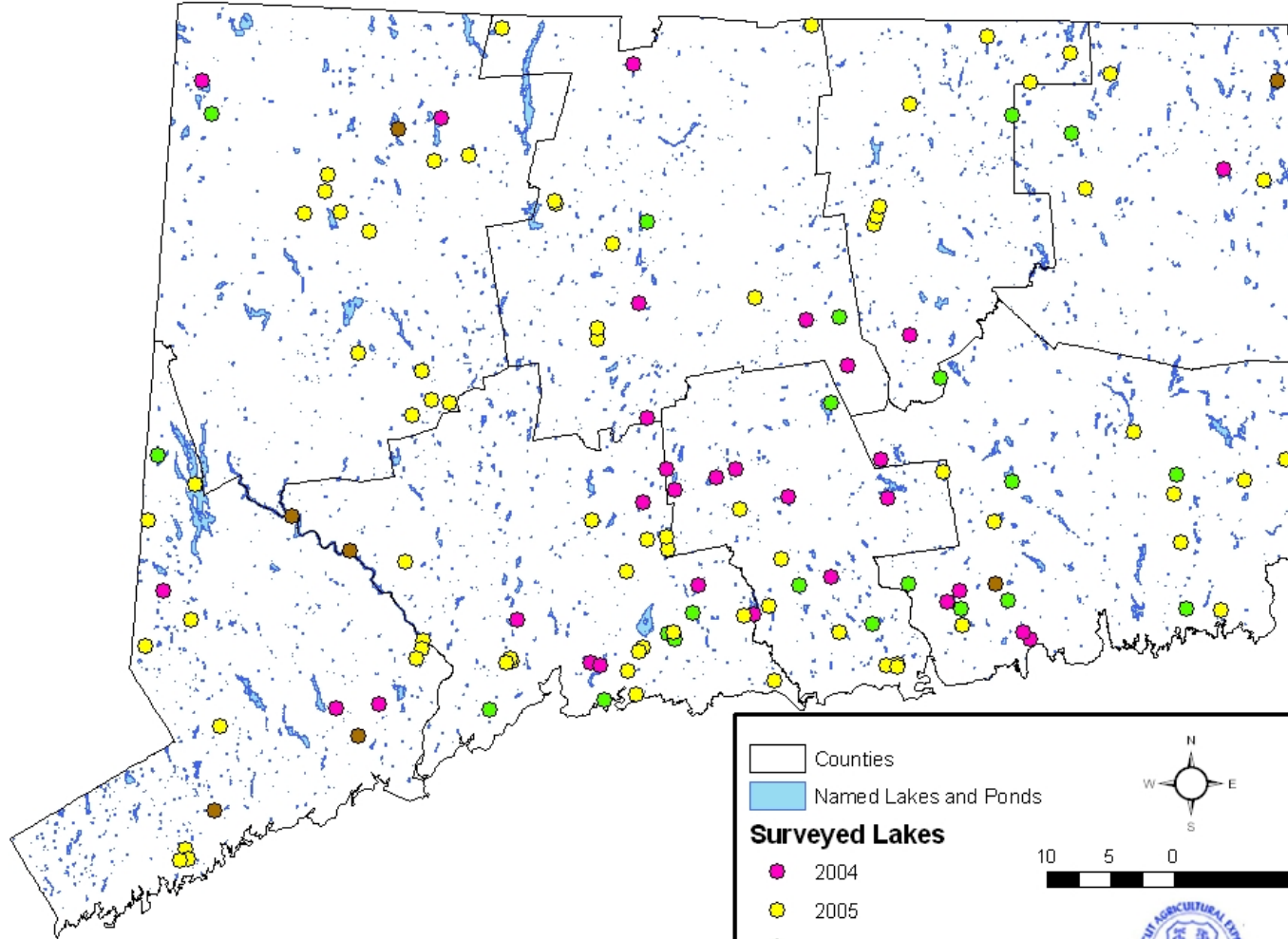




# Surveillance



# Invasive Aquatic Plant Program Surveyed Lakes 2004- 2007



# Survey Results



- **133 water bodies surveyed**
  - **92 native aquatic plant species found**
  - **11 invasive aquatic plant species found**
  - **62 percent of the water bodies contained one or more invasive species**







*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 = 1 water body*

**Water-hyacinth**

*Eichornia crassipes*

[http://tropicalplant.air.mtu.edu/top/images/eichornia\\_crassipes\\_48.jpg](http://tropicalplant.air.mtu.edu/top/images/eichornia_crassipes_48.jpg)



*Found in = 2 water bodies*

**Water Shamrock**

*Marsilea quadrifolia*



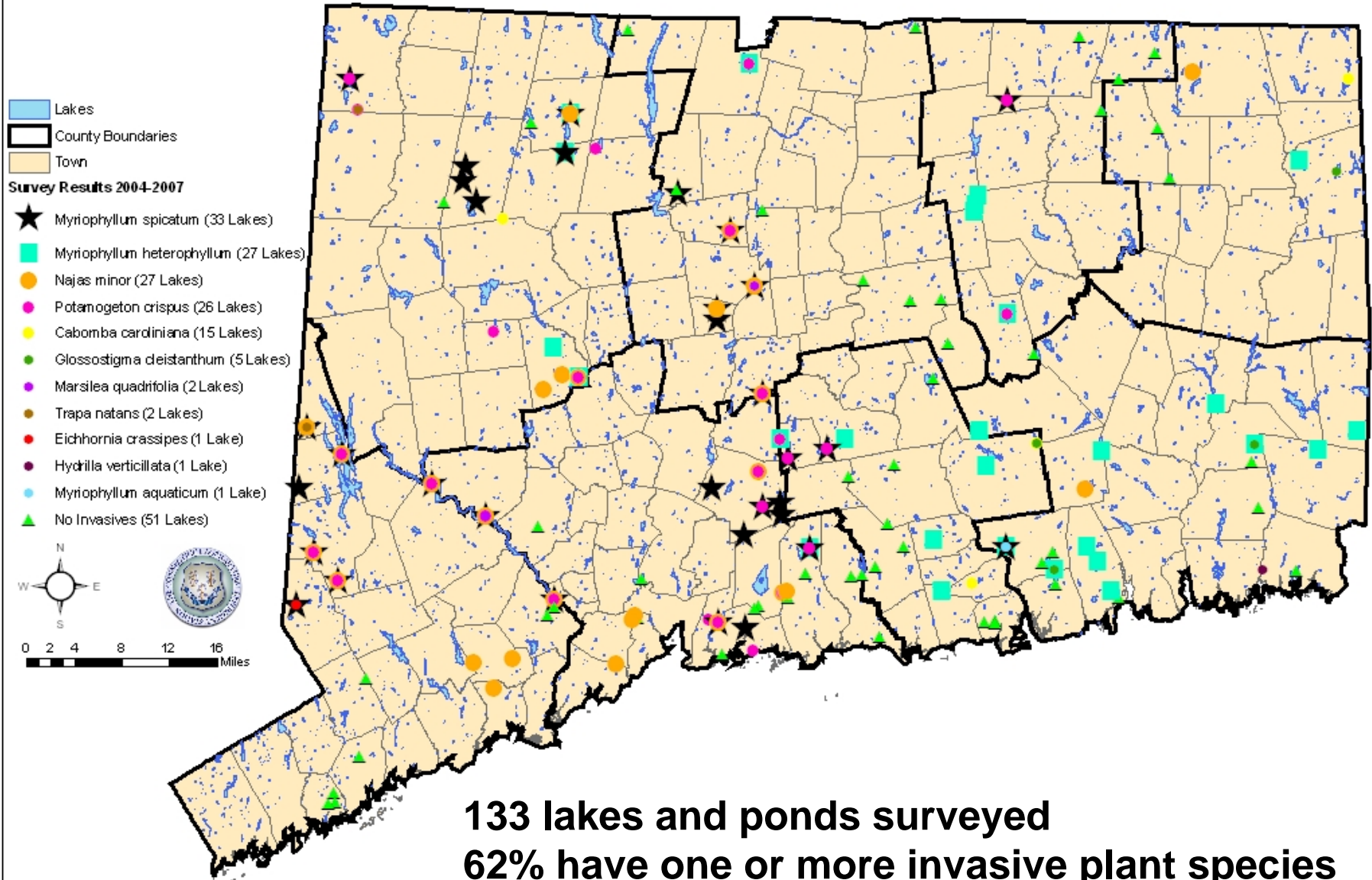
*Found in = 5 water bodies*

**Glossostigma (Mud mat)**

*Glossostigma cleistanthum*



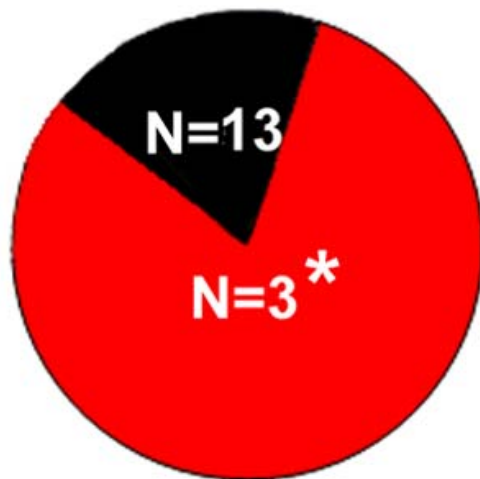
# The Invasive Aquatic Plant Species Found in the 2004-2007 CAES IAPP Surveyed Lakes



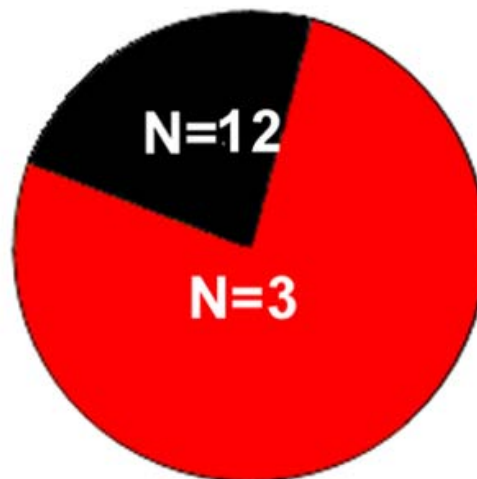


# Frequency of invasive and native plants found in three of Connecticut's largest lakes.

Candlewood



Lillinonah



Zoar



■ Invasive Plants    ■ Native Plants

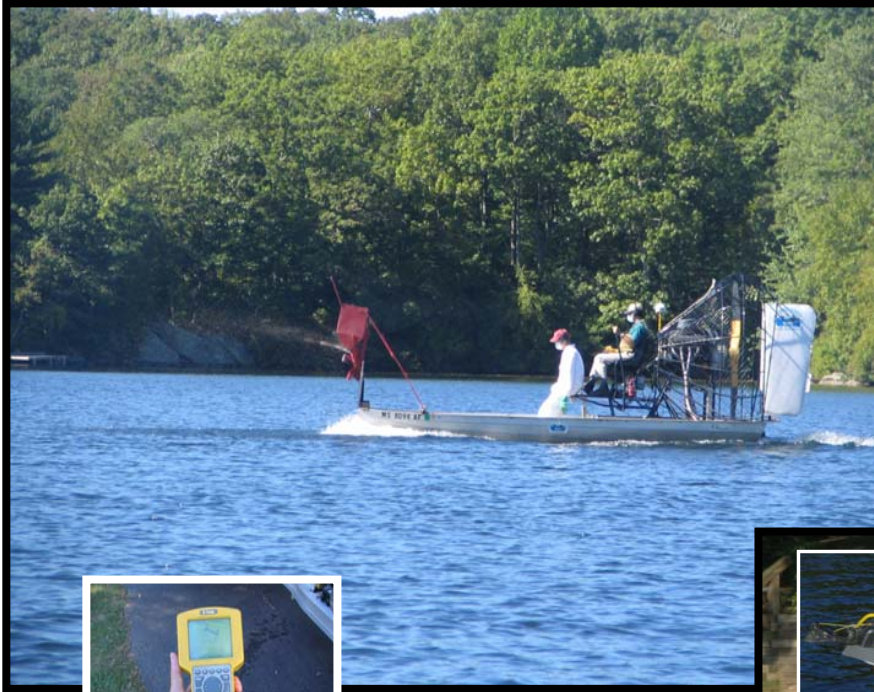
\*N = number of plant species

# Management and Control





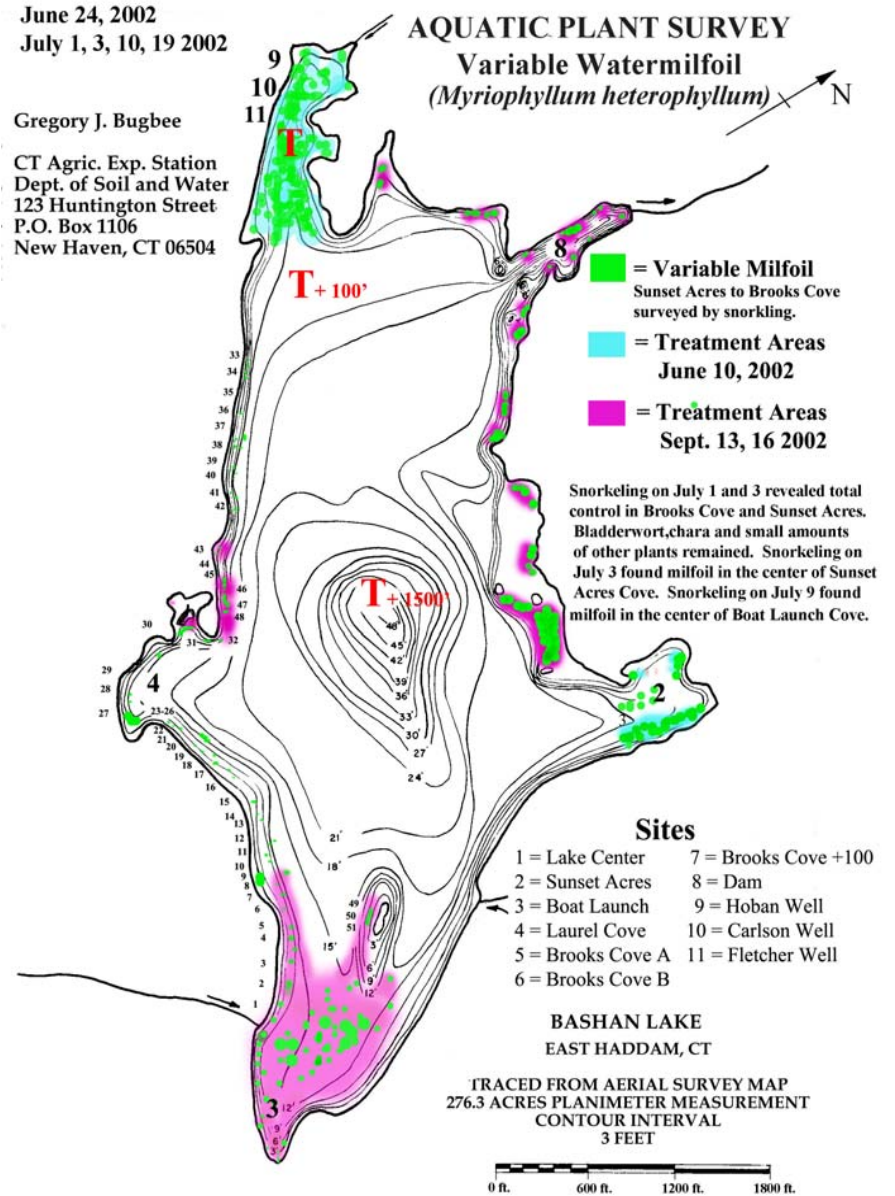
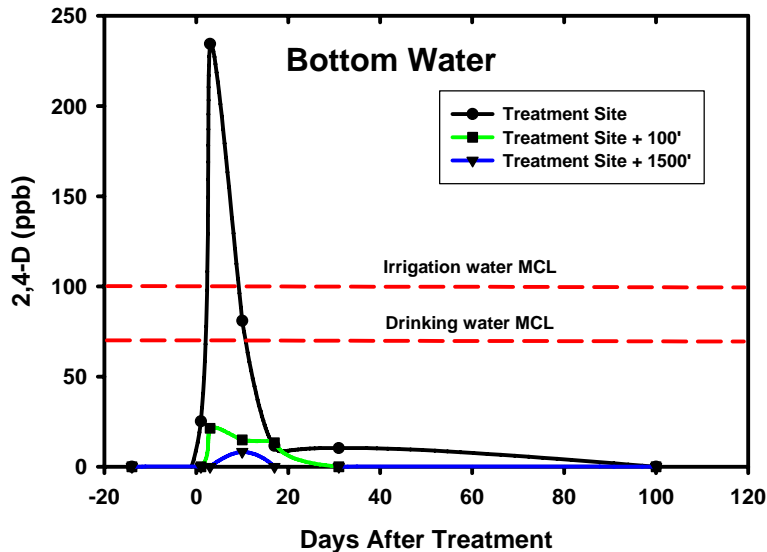
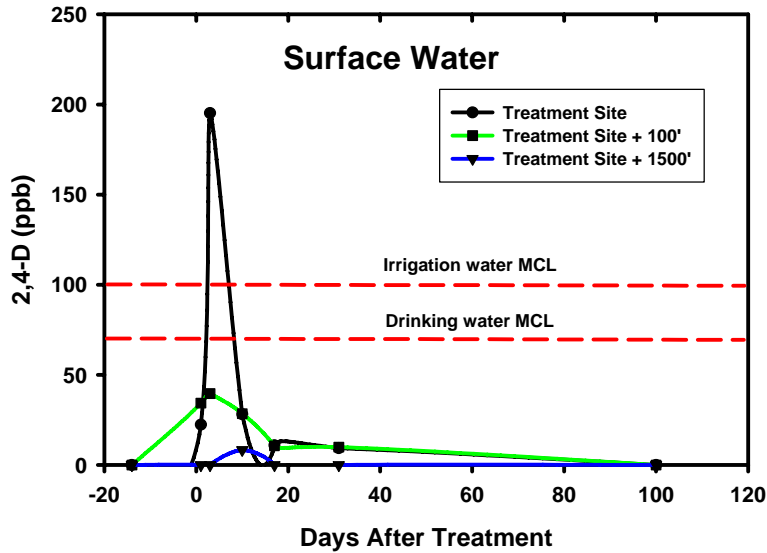
# Bashan Lake East Haddam, CT



**Spot treatment of  
variable milfoil**



# Persistence and Movement of 2,4-D

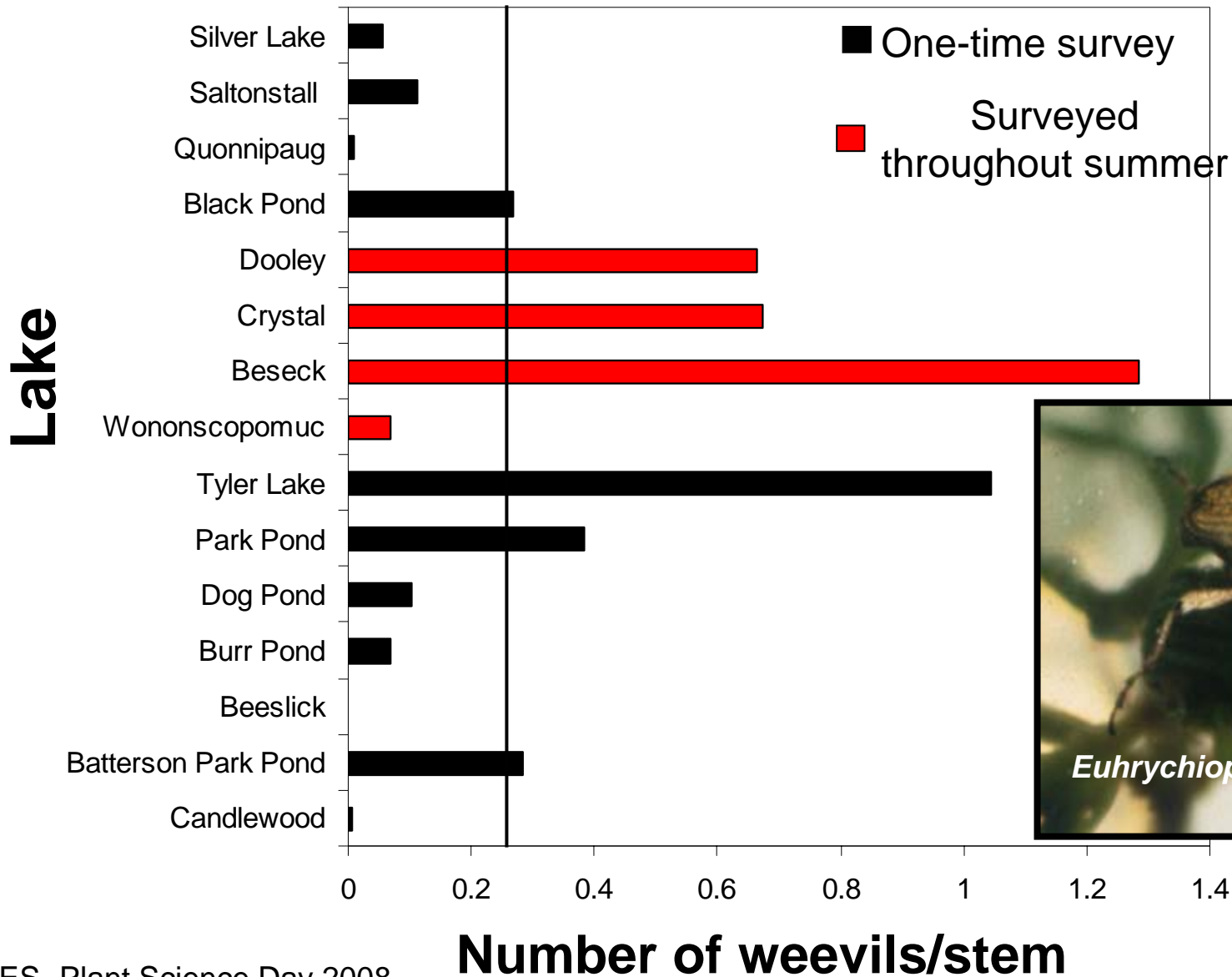




# Control of *P. crispus* in Crystal Lake



# Milfoil Weevil Surveys and Introductions

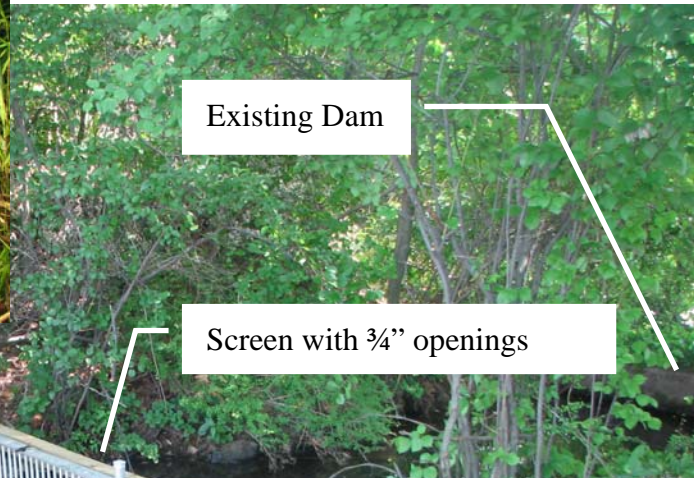




# Grass Carp

*Ctenopharyngodon idella*

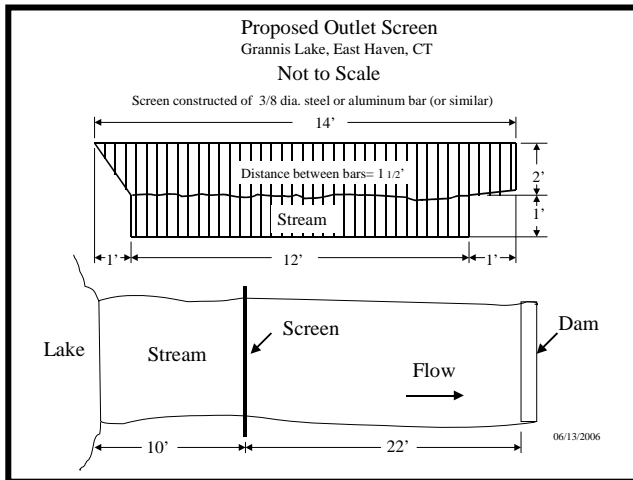
## Grannis Lake East Haven CT



Existing Dam



Screen with 3/4" openings



Loose boards and rocks placed to allow people to cross outlet stream



# CAES IAPP Website

## www.ct.gov/caes/iapp

CAES: Aquatic Plant Survey Program for Connecticut Lakes - Windows Internet Explorer

http://www.ct.gov/caes/cwp/view.asp?a=27998;q=3769728;caesNav\_GID=18058;caesNav=|

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CAES: Aquatic Plant Survey Program for Con...

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THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION INVASIVE AQUATIC PLANT PROGRAM (CAES IAPP)

Since 2002, scientists at the Connecticut Agricultural Experiment Station have been surveying Connecticut lakes and ponds for invasive aquatic plants and investigating various management options. Surveillance and monitoring are focused specifically on invasive aquatic plant species, but we also record the location and abundance of native submerged and floating-leaved plants. This research will allow us to track the spread of invasive plants and to record the arrival of new invasive species. Surveys also will provide baseline information on the changes in native plant communities as a response to invasions, and if the frequency and magnitude of those invasions are related to changing climate conditions. Management studies include tests on the effect of herbicides, mechanical removal, biological control, and integrated pest management on invasive species control and plant community dynamics. This program is supported by the U.S. Department of Agriculture.

[Learn how to identify invasive aquatic plants at one of our workshops!](#)

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