



Connecticut's Invasive Aquatic Plants Searching for Solutions



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Funding

- United States Department of Agriculture
- FirstLight Power Hydro Generating Co.
- CT DEP
- Town Of Middletown
- Bashan Lake Association
- Others



Connecticut's Invasive or Potentially Invasive Aquatic Plants

CT State Statutes (Sec. 22a-381d)

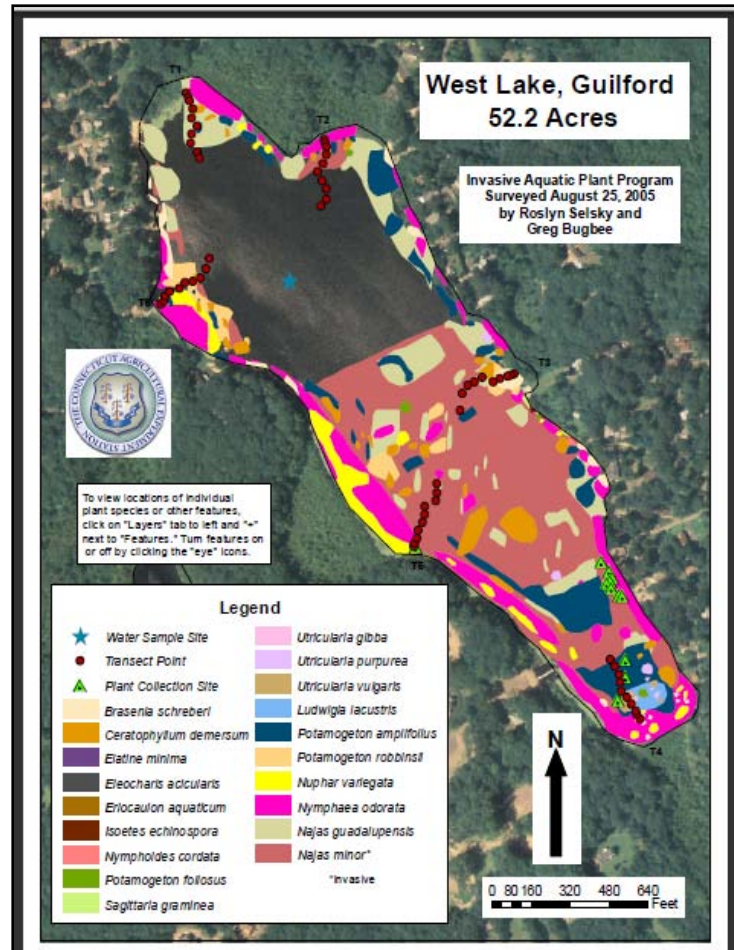
#	COMMON NAME	SCIENTIFIC NAME	DISPERSAL
1	American water lotus	<i>Nelumbo lutea</i>	Water Gardening
2	Brazilian water-weed, Anacharis, Egeria	<i>Egeria densa</i>	Aquariums, Boats/Trailers, Bait
3	Brittle water-nymph, Minor naiad	<i>Najas minor</i>	Boats/Trailers
4	Common water-hyacinth*	<i>Eichhornia crassipes</i>	Water Gardening
5	Curly leaf pondweed, Crispy-leaved pondweed	<i>Potamogeton crispus</i>	Boats/Trailers
6	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Aquariums, Boats/Trailers, Bait
7	European waterclover, Water shamrock	<i>Marsilea quadrifolia</i>	Water Gardening, Boats/Trailers
8	Fanwort	<i>Cabomba caroliniana</i>	Aquariums, Boats/Trailers
9	Flowering rush	<i>Butomus umbellatus</i>	Water Gardening
10	Forget-me-not, Water scorpion-grass	<i>Myosotis scorpioides</i>	Water Gardening
11	Giant salvinia	<i>Salvinia molesta</i>	Water Gardening
12	Hydrilla	<i>Hydrilla verticillata</i>	Aquariums, Boats/Trailers, Bait
13	Onerow yellowcress	<i>Rorippa microphylla</i>	Water Gardening
14	Parrotfeather	<i>Myriophyllum aquaticum</i>	Water Gardening, Boats/Trailers
15	Pond water-starwort	<i>Callitriche stagnalis</i>	Water Gardening
16	Purple loosestrife	<i>Lythrum salicaria</i>	Nursery Stock, Water Gardening
17	Variable-leaf watermilfoil	<i>Myriophyllum heterophyllum</i>	Aquariums, Boats/Trailers
18	Water chestnut	<i>Trapa natans</i>	Water Gardening, Boats/Trailers
19	Water lettuce, American water lotus*	<i>Pistia stratiotes</i>	Water Gardening
20	Watercress	<i>Rorippa nasturtium-aquaticum</i>	Water Gardening
21	Yellow floating heart	<i>Nymphoides peltata</i>	Water Gardening
22	Yellow iris, Yellow flag iris	<i>Iris pseudacorus</i>	Nursery Stock, Water Gardening

*plants that are not banned



CAES IAPP

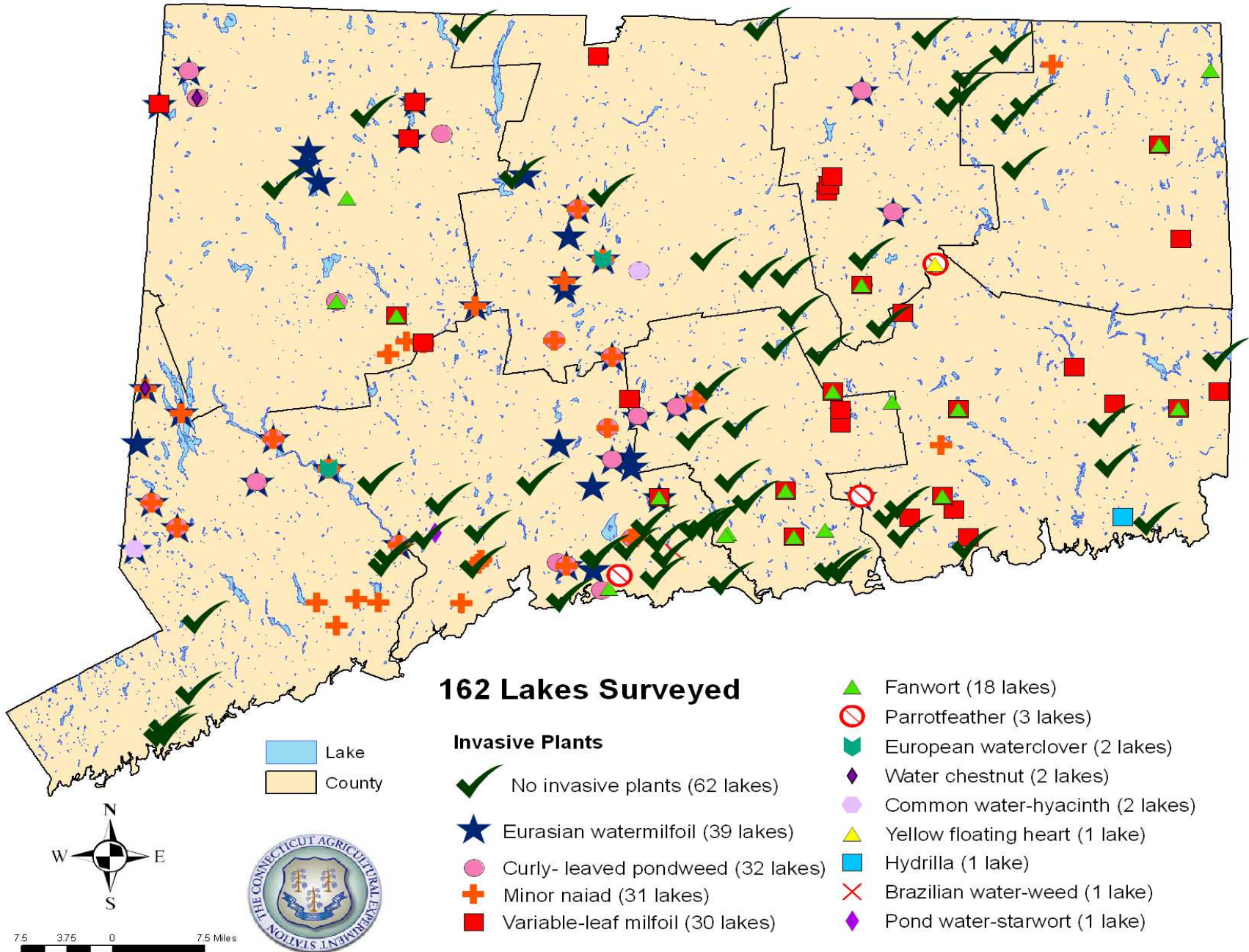
Statewide Aquatic Plant Surveys



www.ct.gov/caes/iapp



Locations of Invasive Plants Found by CAES IAPP 2004-2009





Introduction and Dispersal



Resistance to Invasion

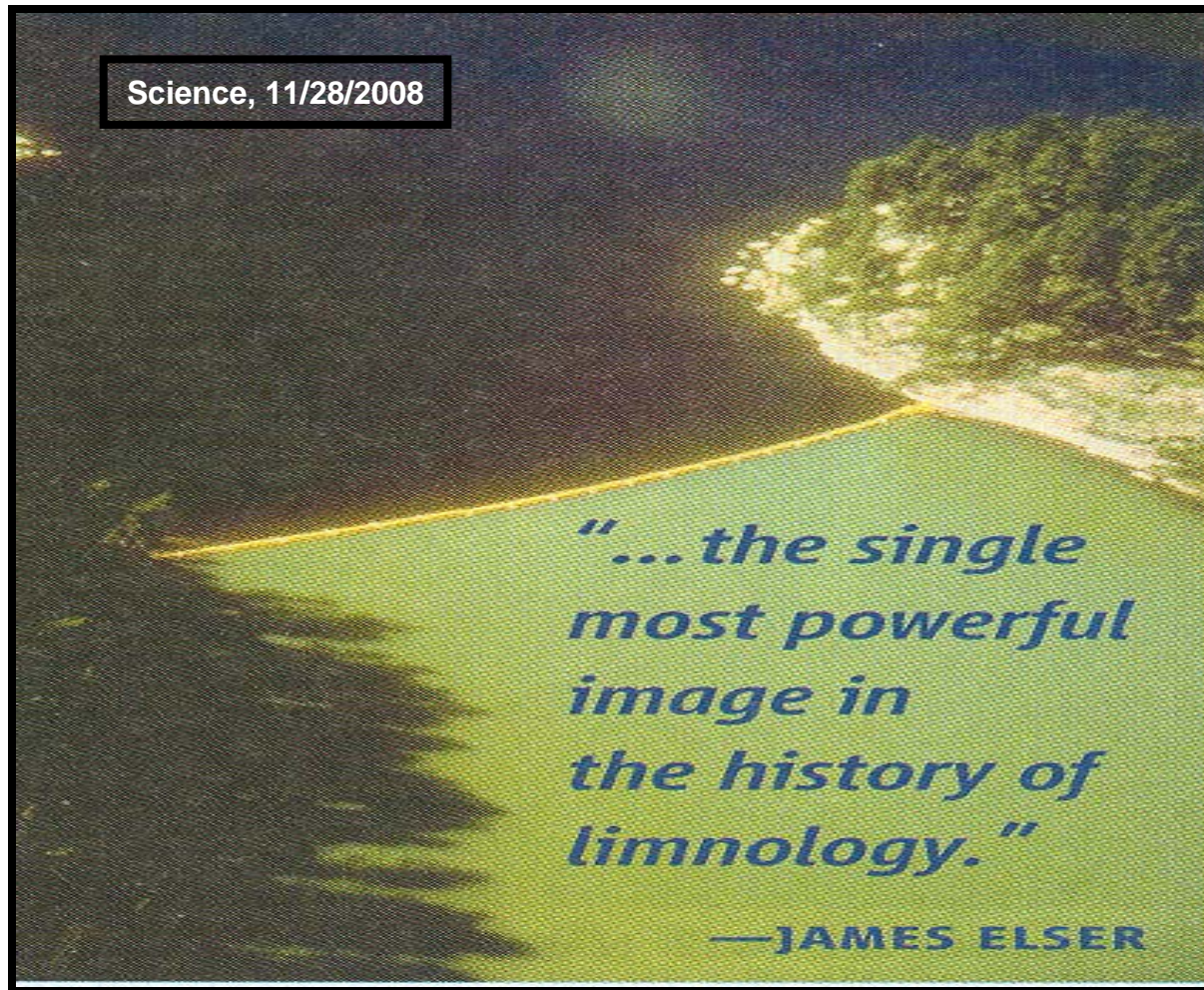
Dense Native Species

Follow this link for the movie...(.wmv file)...

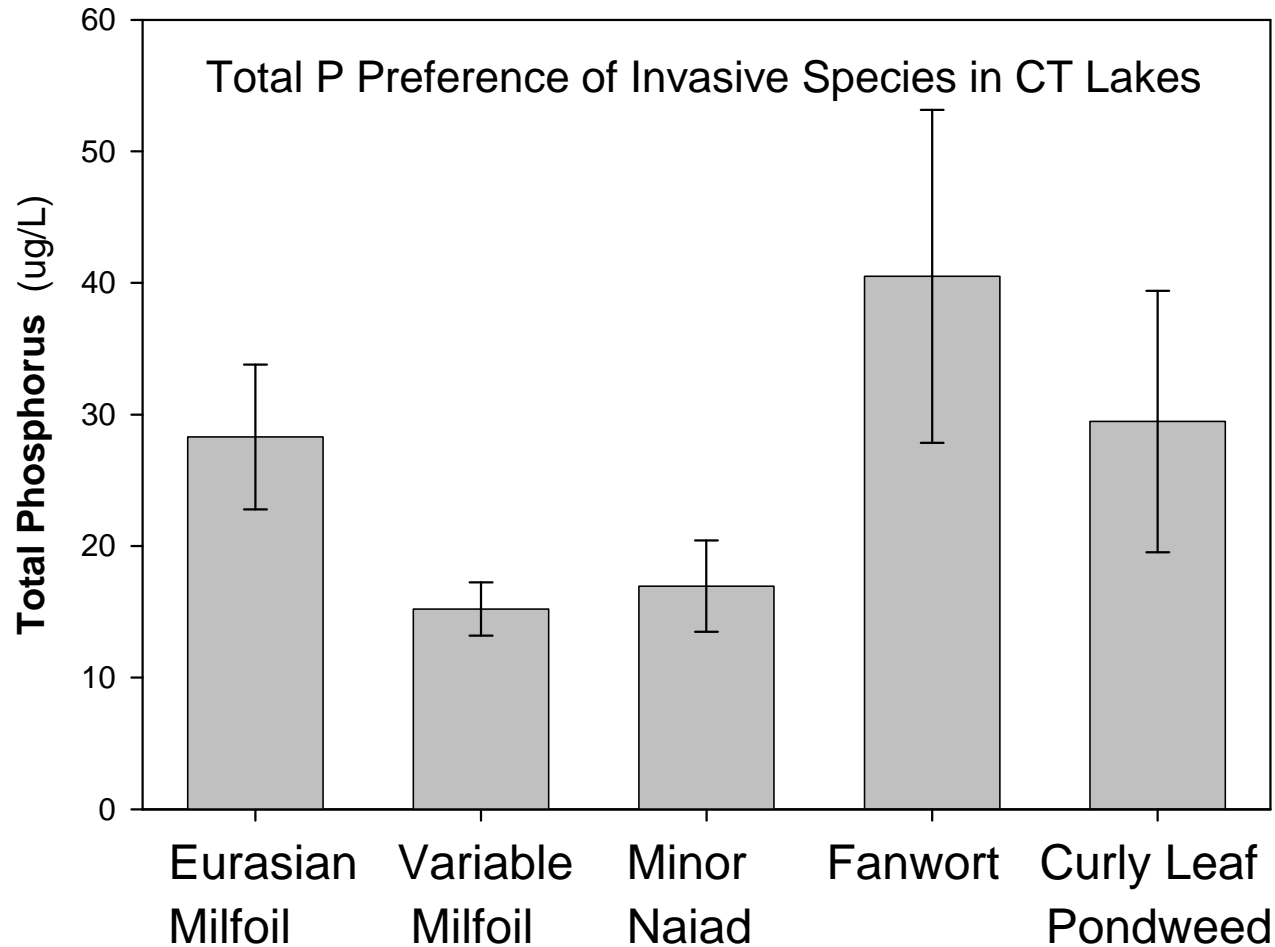
http://www.ct.gov/caes/lib/caes/documents/plant_science_day/plant_science_day_spring/2010/bugbee_aquatic_weeds.wmv



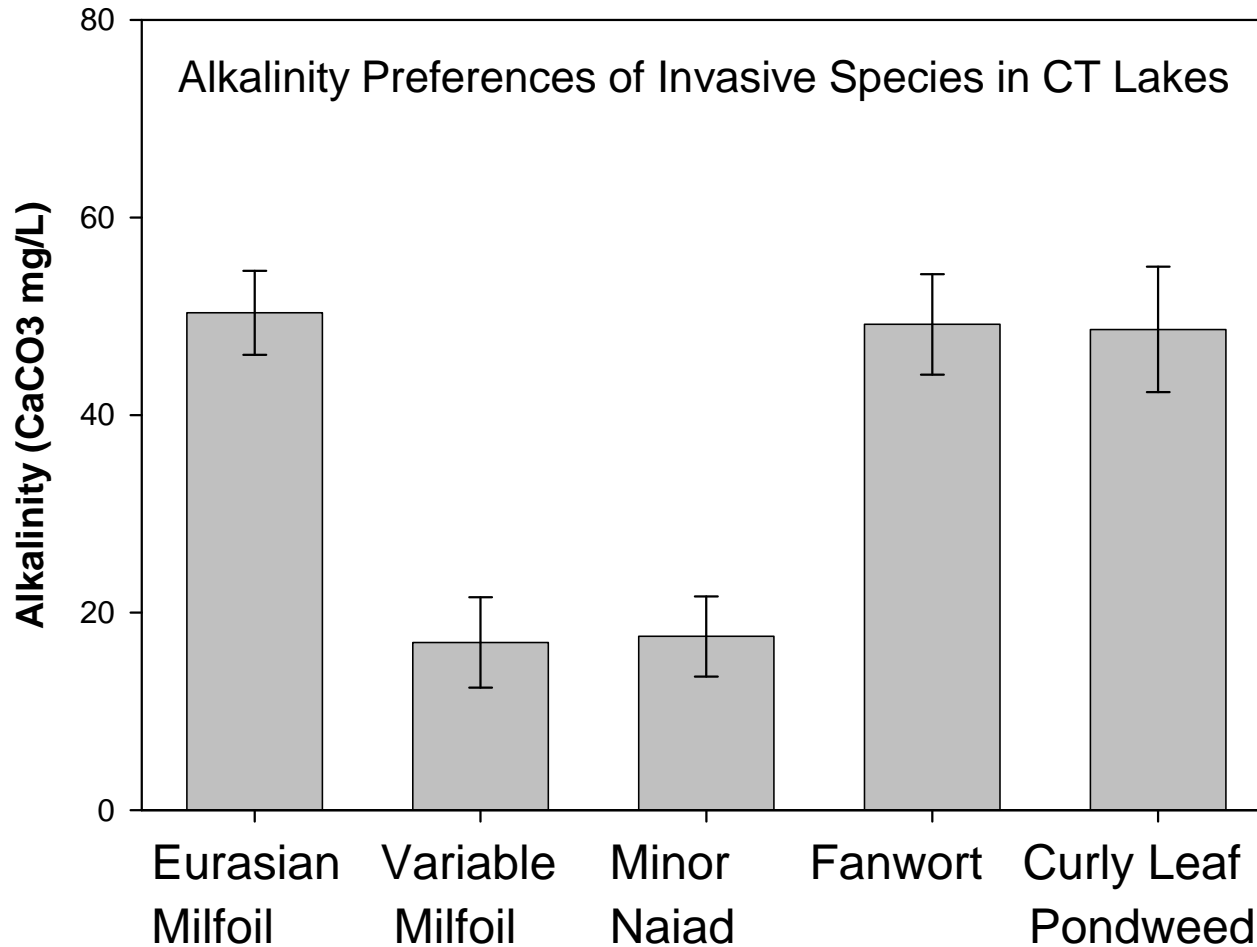
Will Phosphorus Limit Invasive Aquatic Plants?



Water Chemistry



Water Chemistry

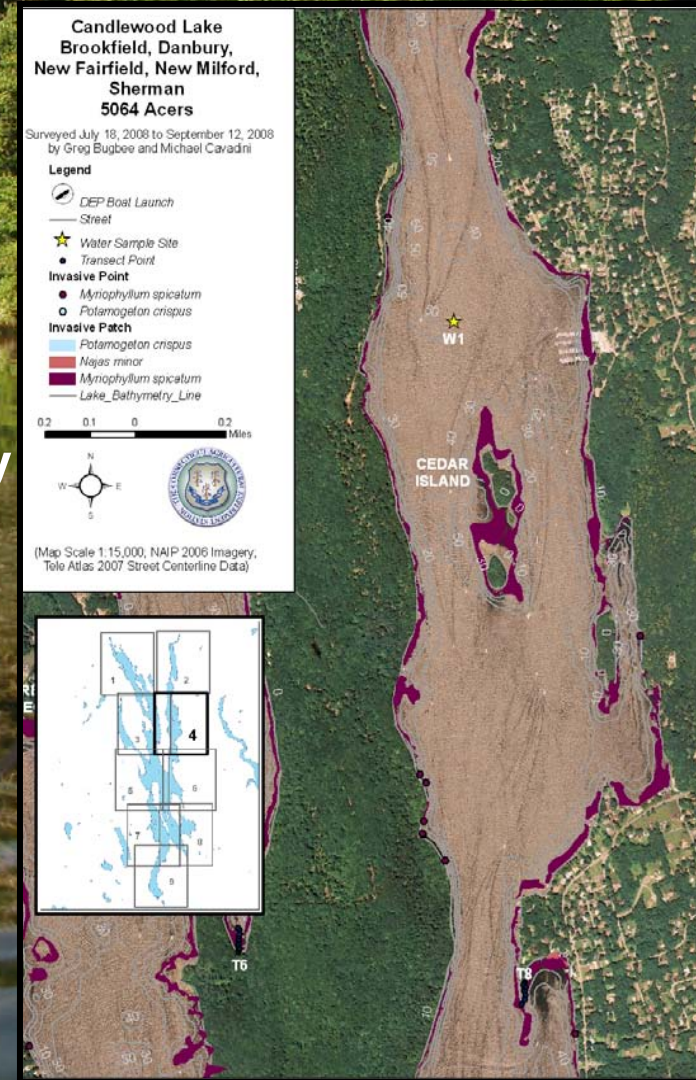


Management Strategies

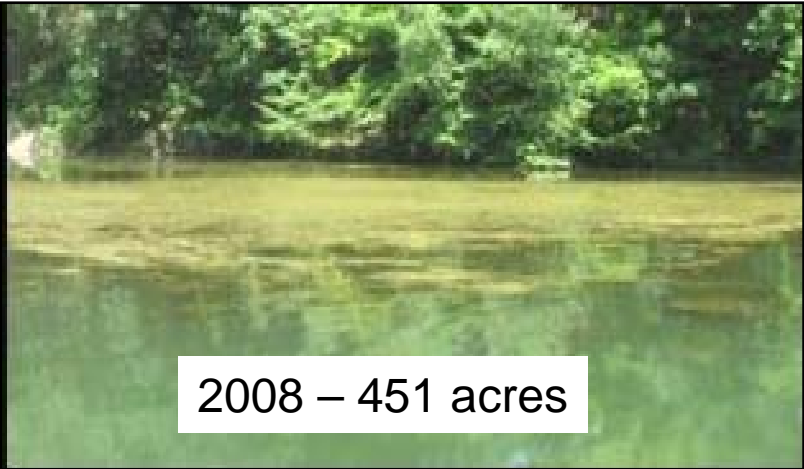
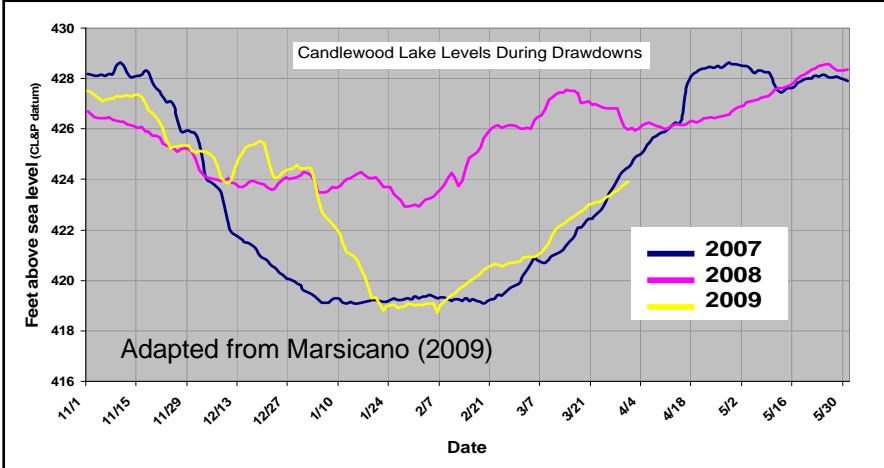


Candlewood Lake

- Connecticut's largest lake
 - 5086 Acres
 - 62 miles of shoreline
 - Used for hydro-generation of electricity
- Three invasive species
 - Eurasian water milfoil
 - Minor naiad
 - Curly leaf pondweed
- Managed by drawdown

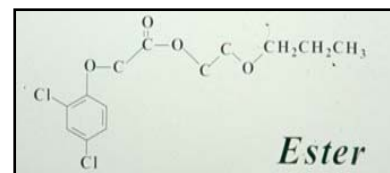


Eurasian Watermilfoil in Candlewood Lake





Herbicides



Variable Milfoil Found in 2007



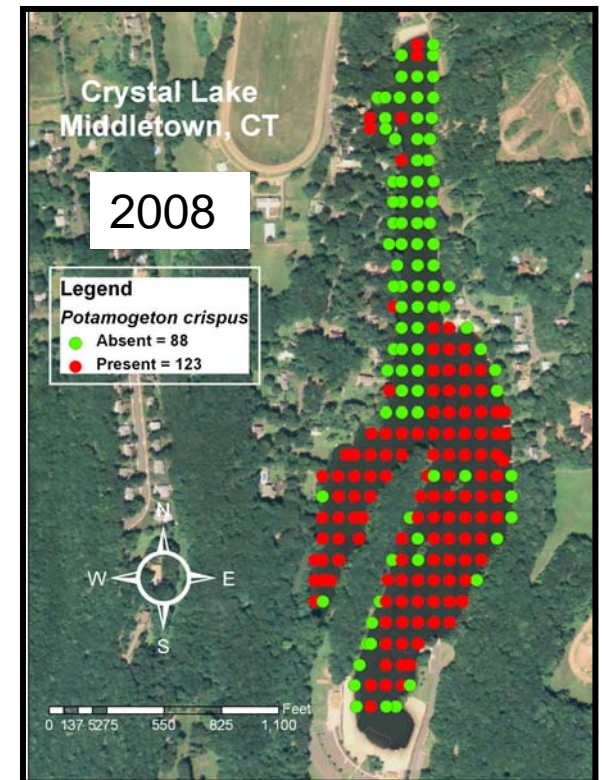
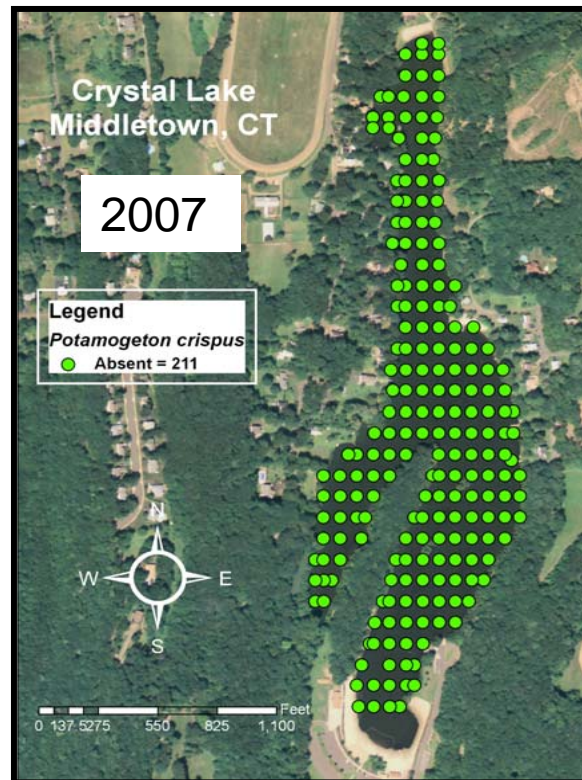
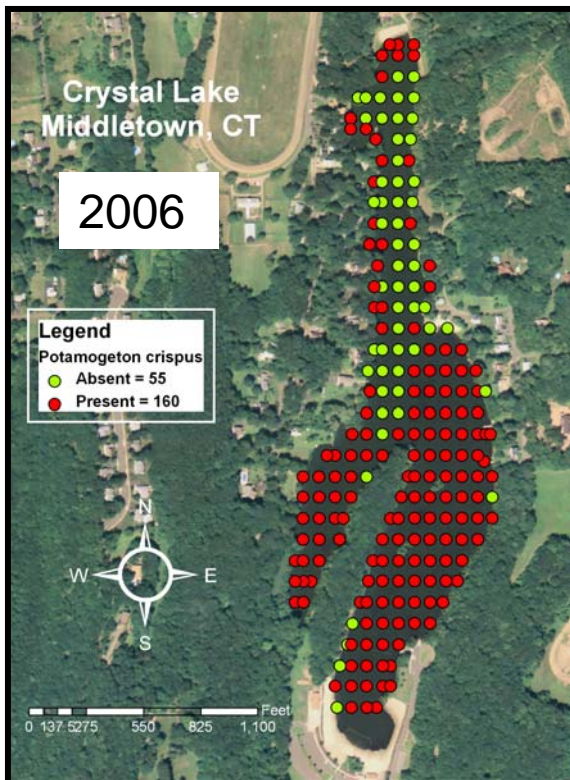
Variable Milfoil Found in 2008



Use of Early Season Herbicide to Control Curly Leaf Pondweed and Eurasian Water Milfoil

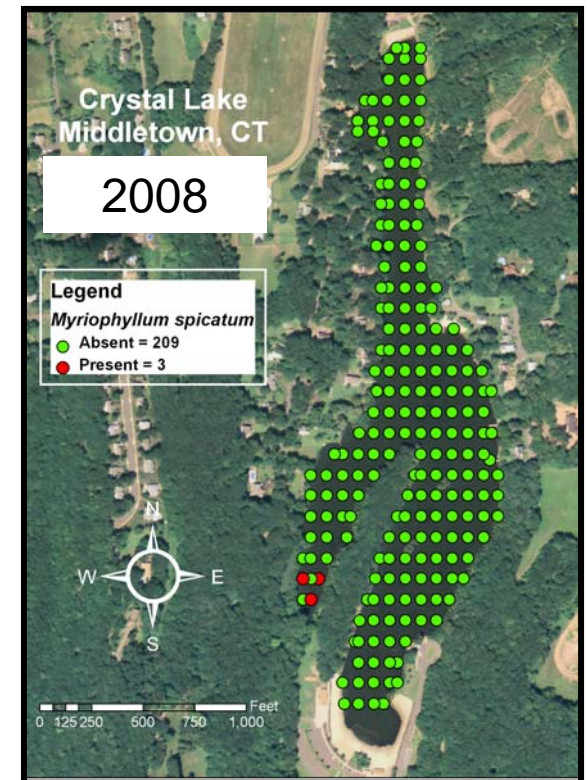
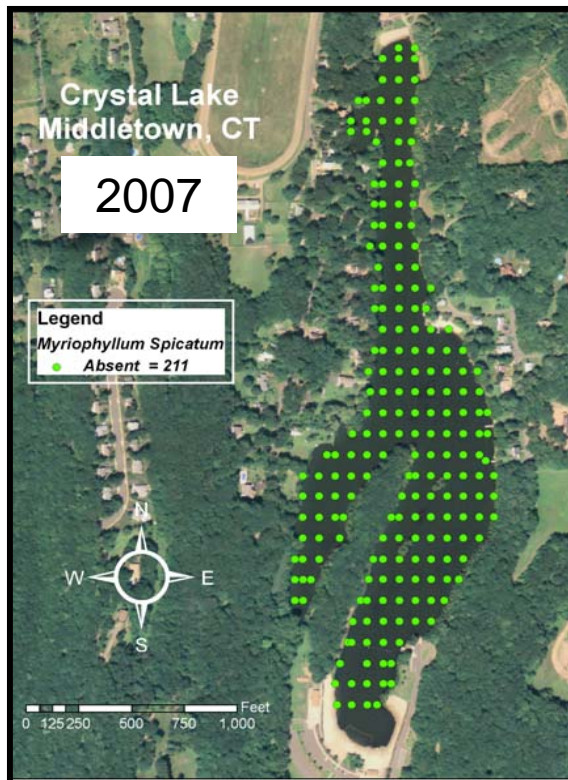
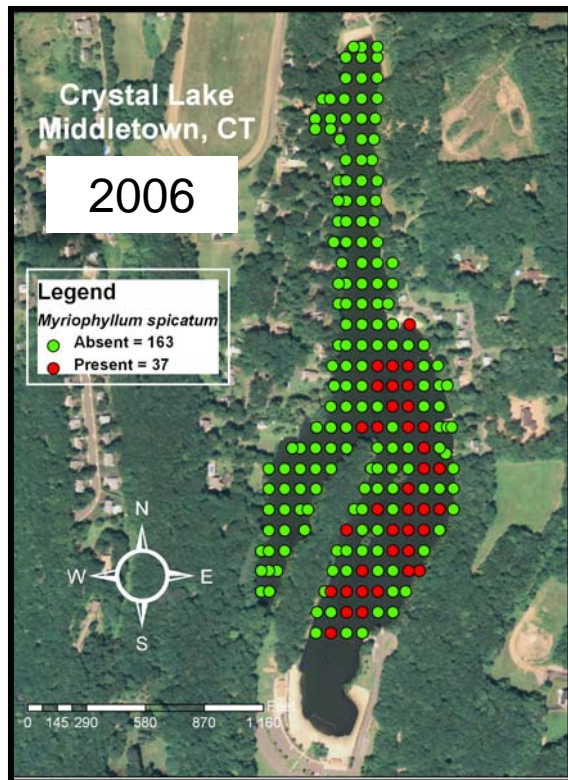


Effectiveness of Early Season Diquat Application on Curly Leaf Pondweed



Effectiveness of Early Season Diquat Application on Eurasian Watermilfoil

Application on Eurasian Watermilfoil

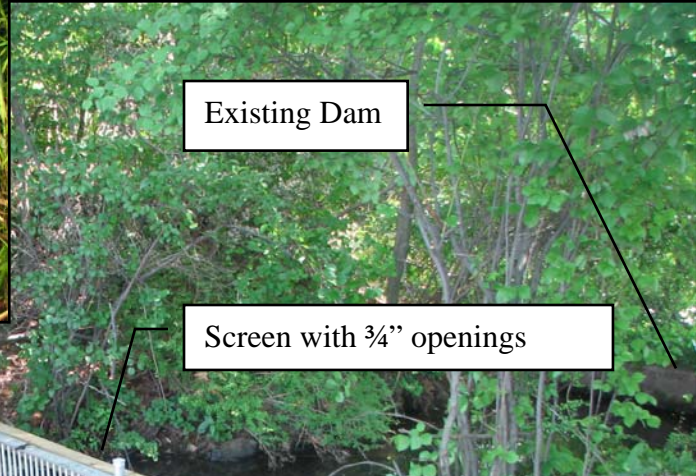


Introduce in September 2007
15 fish per acre



Grass Carp

(*Ctenopharyngodon idella*)
20 acres
Grannis Lake
East Haven CT



Existing Dam

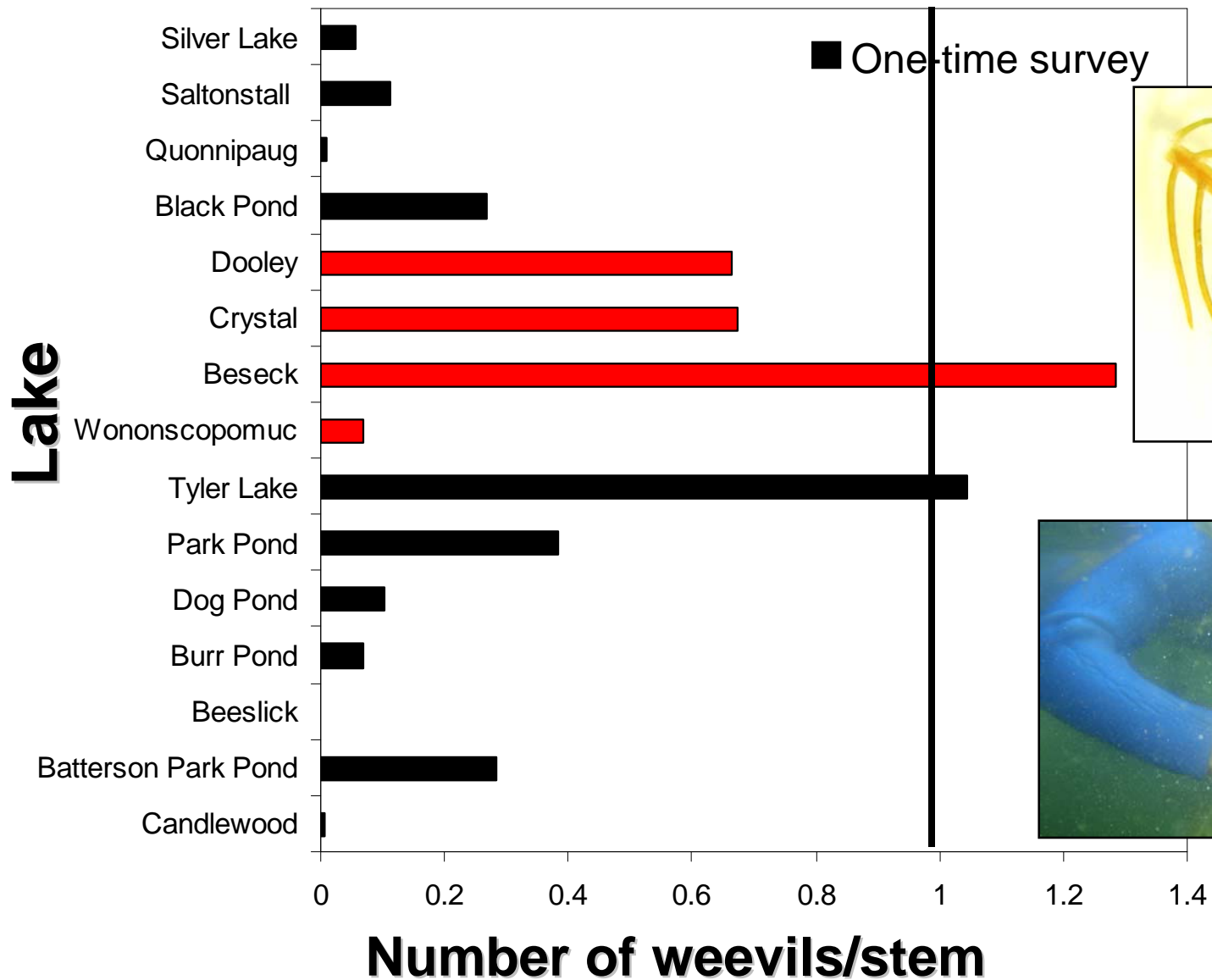
Screen with 3/4" openings



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



Milfoil Weevils in Connecticut



Conclusions

- No silver bullet
- 60% CT lakes and ponds have invasives
 - Virtually all are susceptible to one or more
- Density of native species may offer some resistance
- Greater public education and enforcement
- Current best management strategies offer short term benefits



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