

# Connecticut Aquatic Invasive Plant Update



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# Invasive Aquatic Plants

## • Ecosystem Impacts

- Displace native species
- Alter native ecosystems
- A leading cause of species extinction

## • Economic Impacts

- Reduce recreation
- Lower property values and tax revenue
- Interfere with navigation
- Economic damages and management costs of more than \$15 billion per year





# THE CASE FOR AQUATIC PLANTS

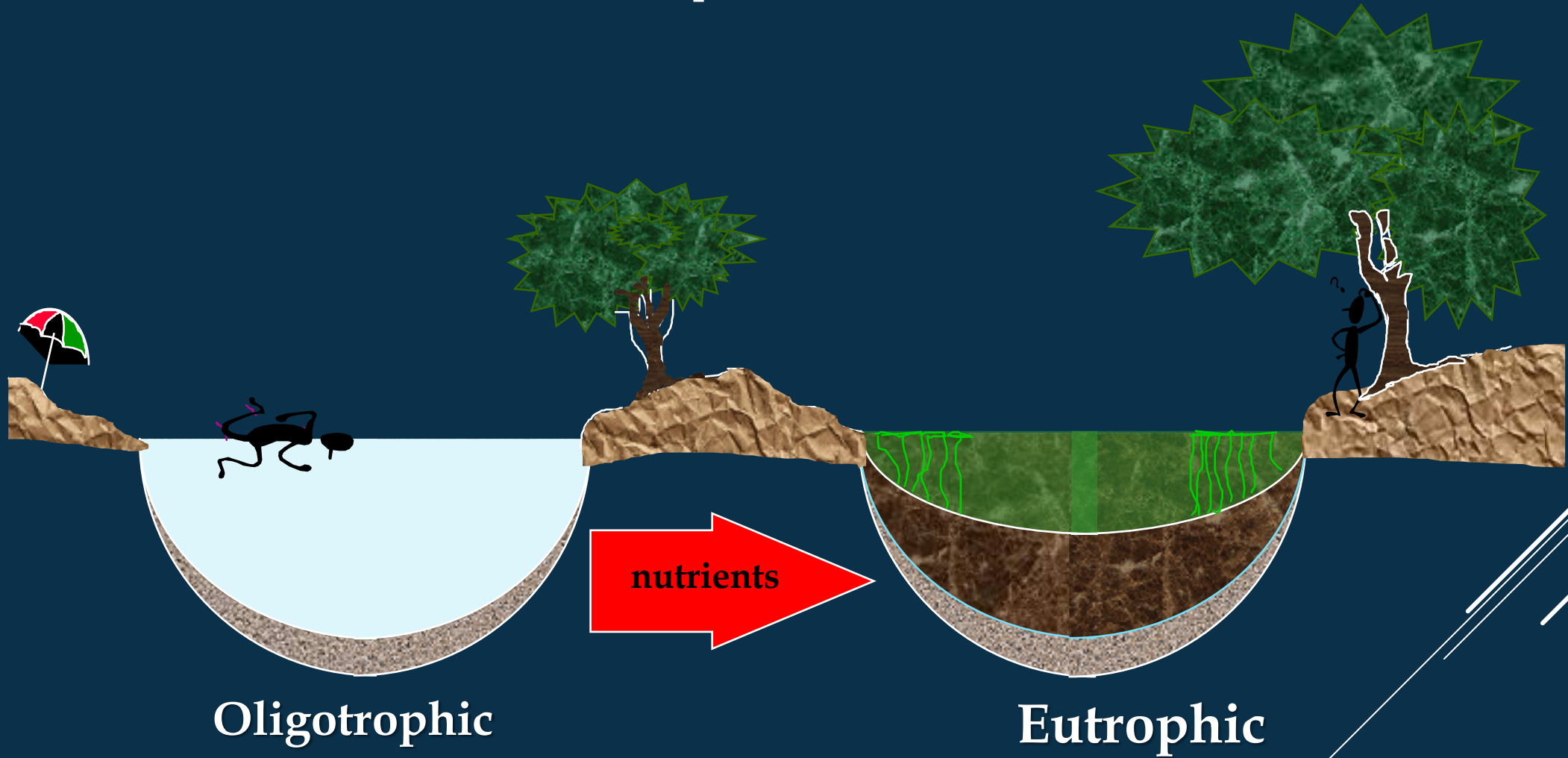
- Food and habitat for wildlife
- Stabilize sediments - Improve water clarity
- Remove nutrients - reduce algal blooms
- Help resist invasion



- 20-40% coverage of the littoral zone is optimal

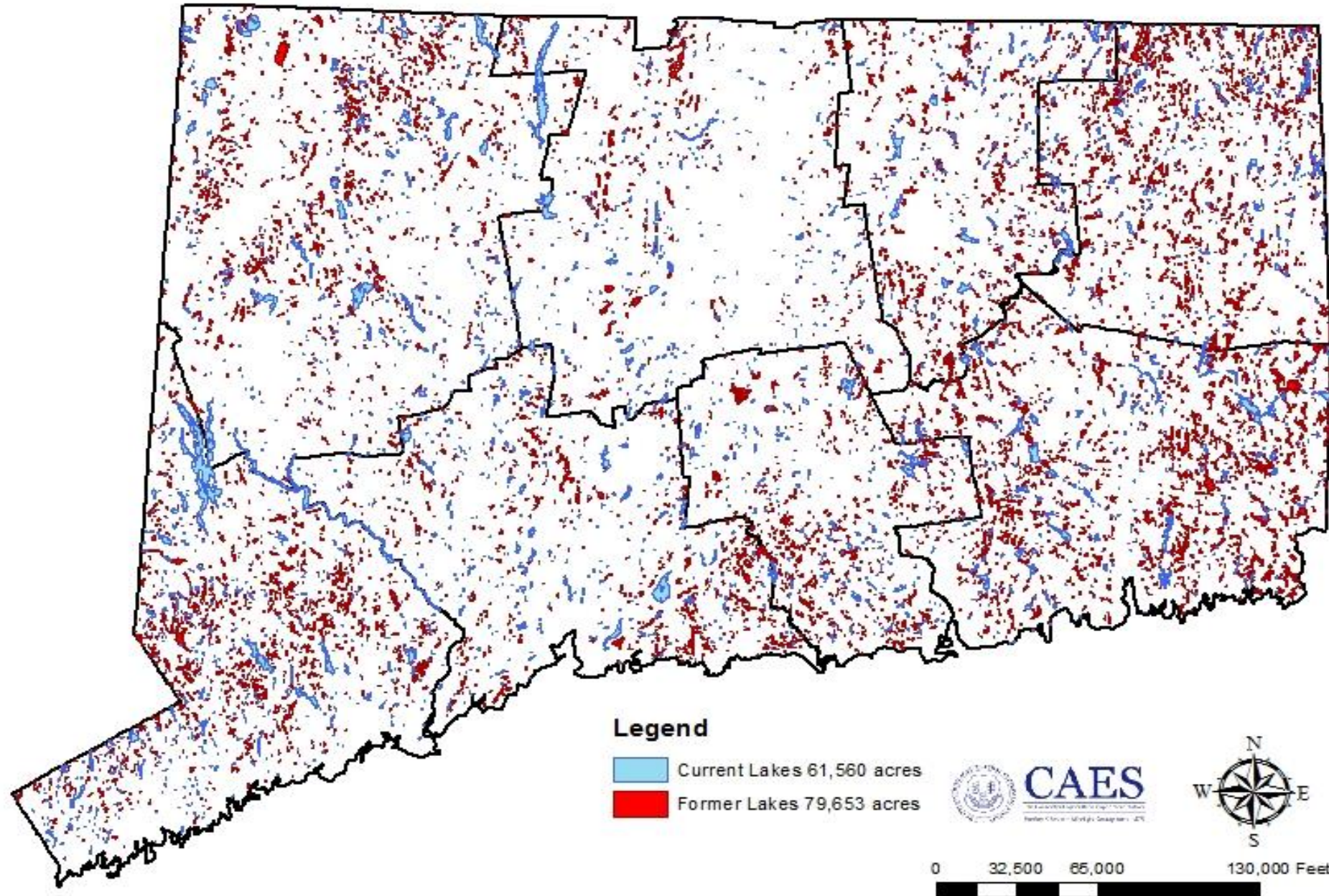
[michiganlakeinfo.com](http://michiganlakeinfo.com)

# Eutrophication



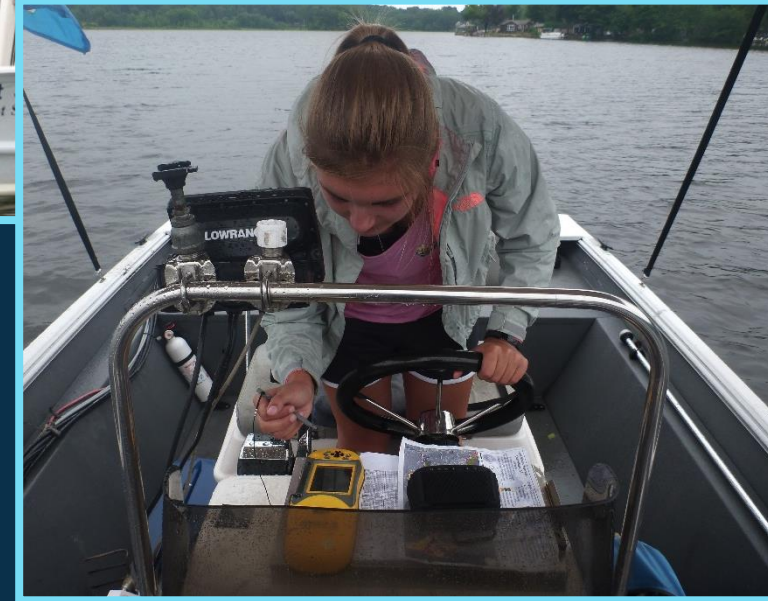
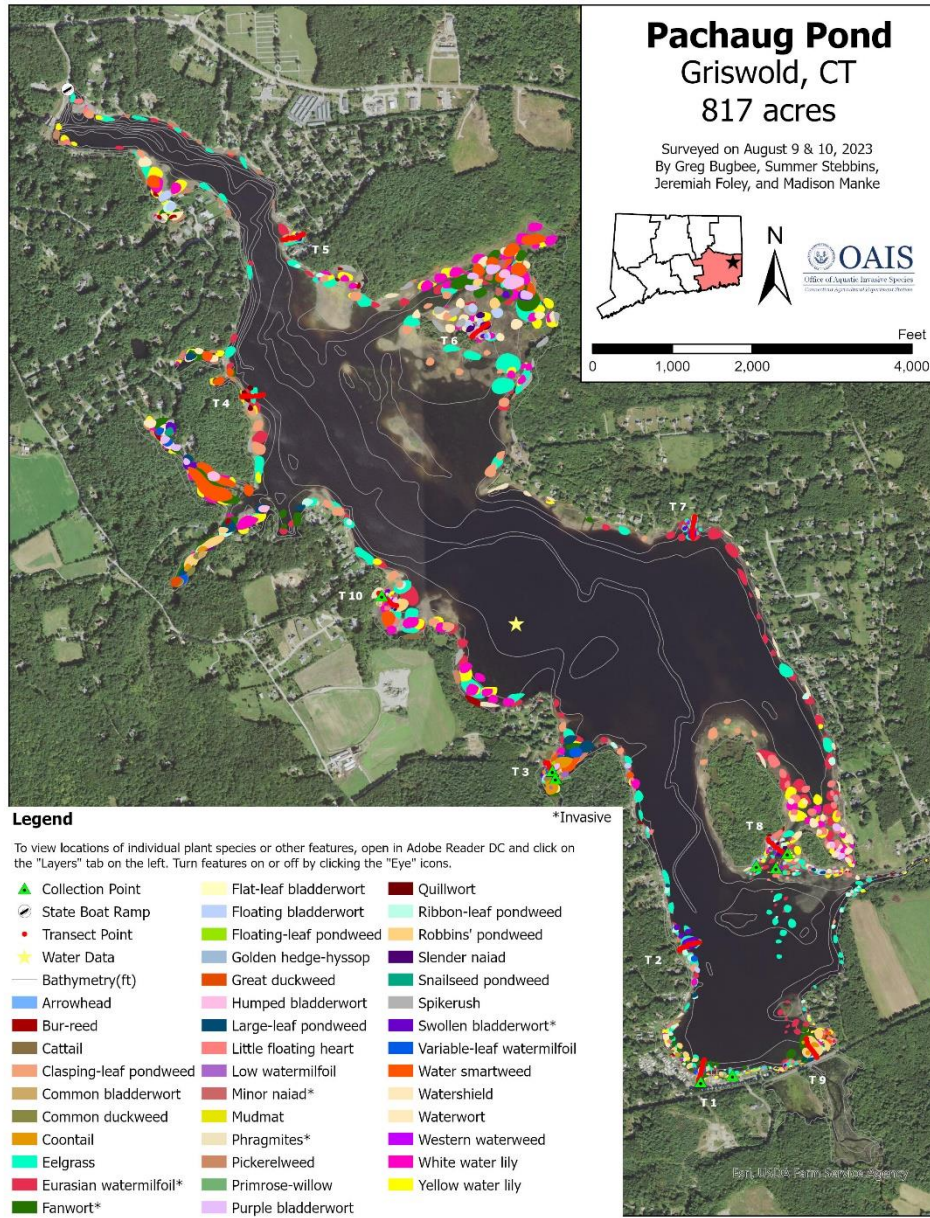


# Former and Current Lakes and Ponds





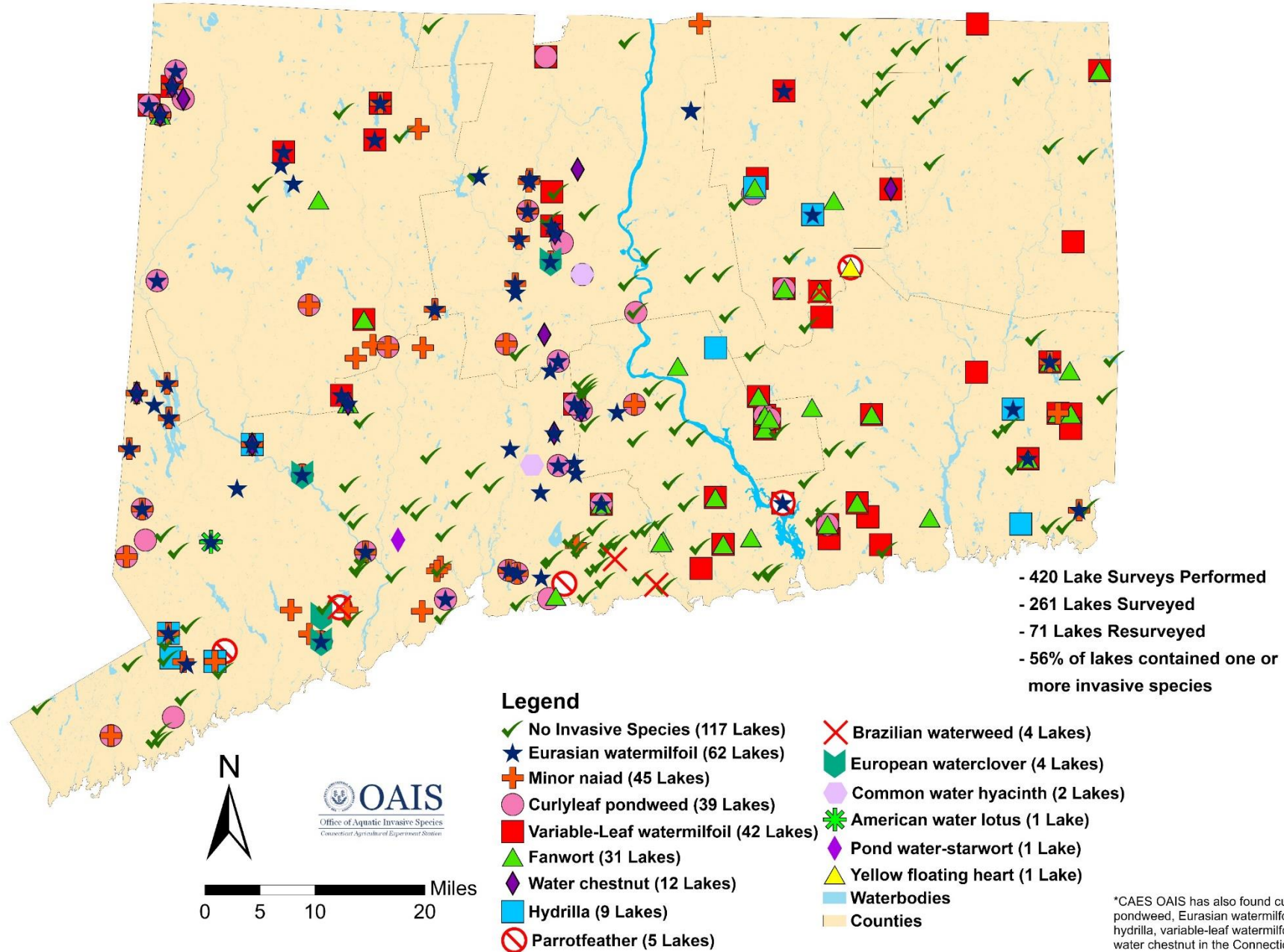
# Vegetation Surveys



[portal.ct.gov/caes-oais](https://portal.ct.gov/caes-oais)



# Locations of Invasive Plants Found by CAES OAIS 2004-2023



# Eurasian watermilfoil

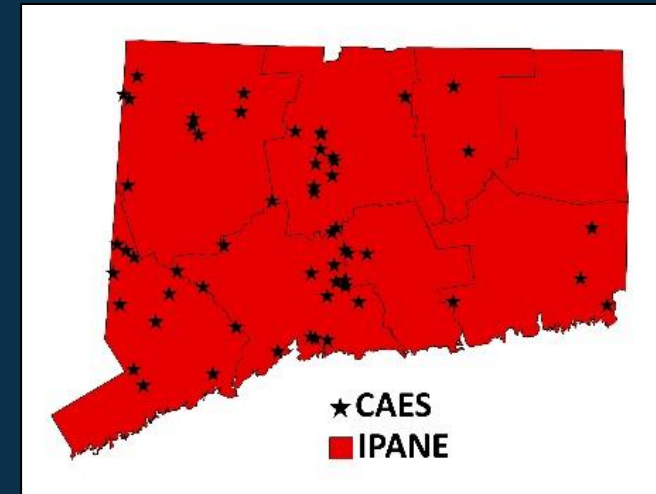
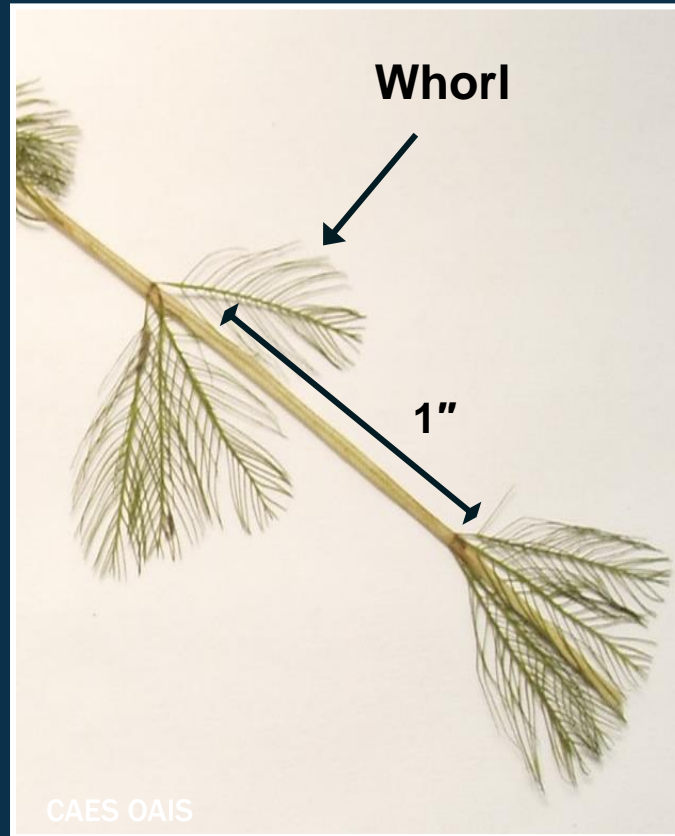
*Myriophyllum spicatum*



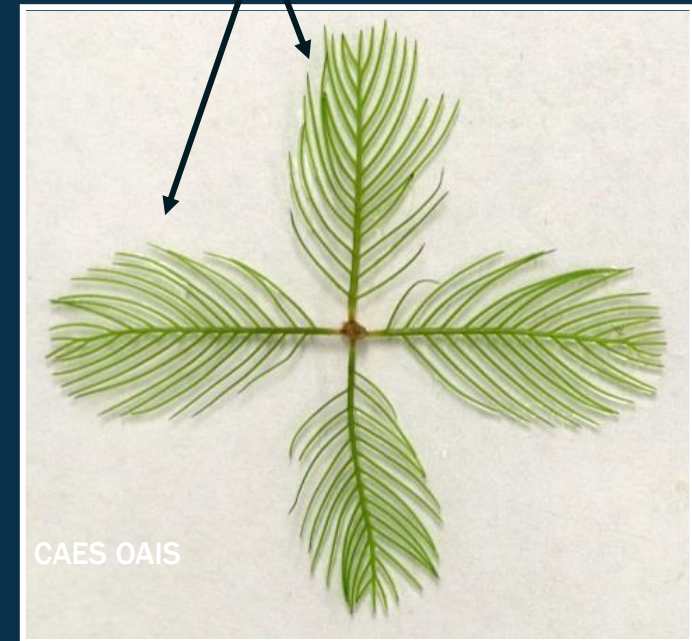
Leaves 1 inch apart

≥ 12 pairs of leaflets per leaf

Rectangular leaf



Rectangular leaves







# Eurasian watermilfoil

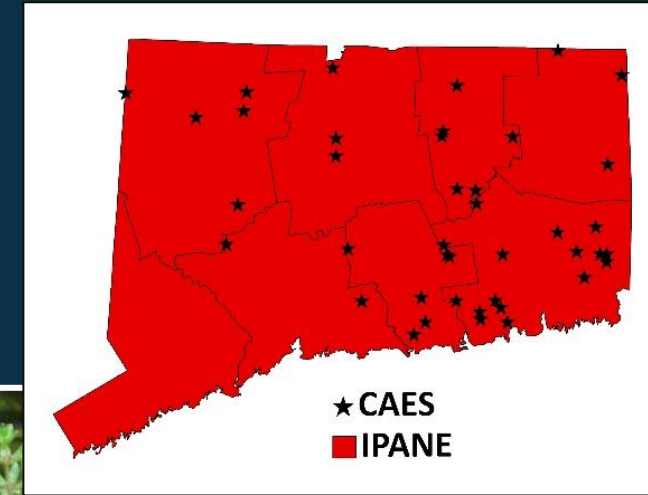
*Myriophyllum spicatum*



# Variable-leaf watermilfoil

*Myriophyllum heterophyllum*

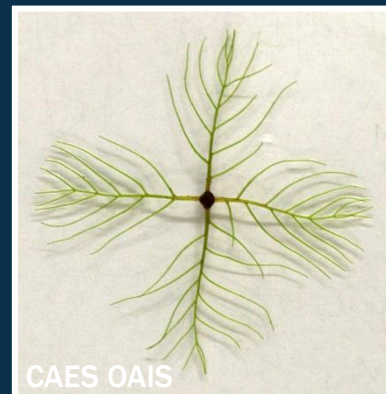
Leaves collapse out of water



Leaves < 1 inch apart

≤ 11 pairs of leaflets

Triangular leaf



D. Tenaglia  
[www.missouriplants.com](http://www.missouriplants.com)

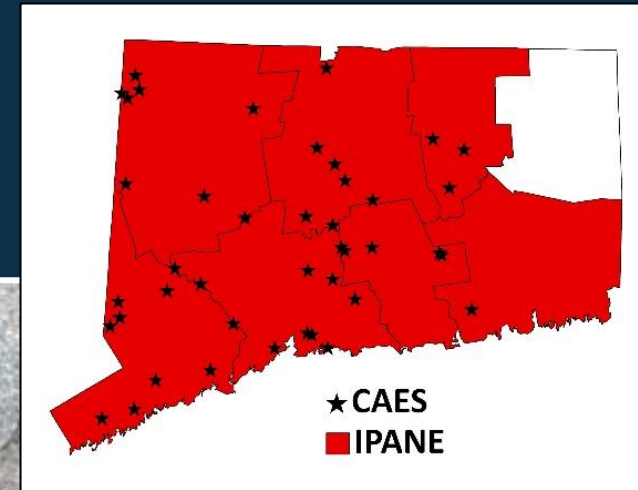


# Curlyleaf pondweed

*Potamogeton crispus*



Turion







# Curlyleaf pondweed

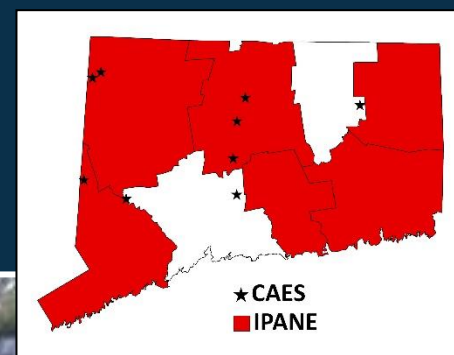
*Potamogeton crispus*

- Problematic in late spring
- Dies back by early summer



# Water chestnut

*Trapa natans*



CAES OAIS



CAES OAIS

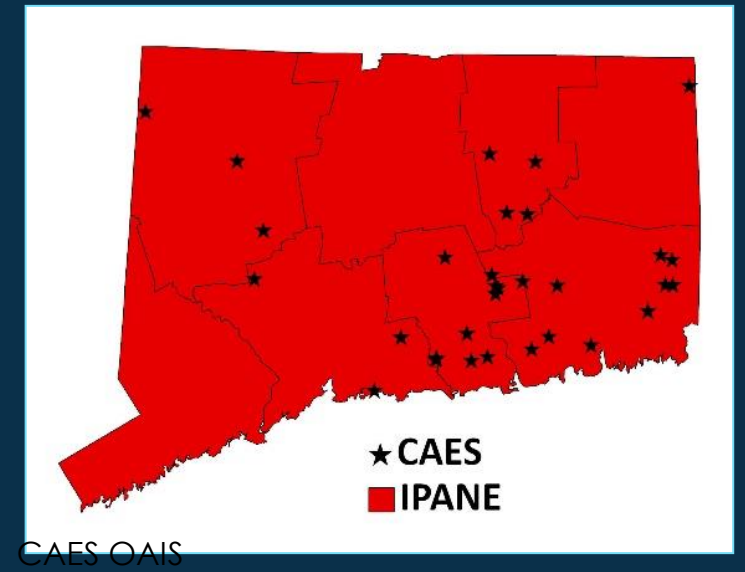


IPANE



# Fanwort

*Cabomba caroliniana*





# Hydrilla

## *Hydrilla verticillata*

Laurie Callahan



### Turions

CAES OAIS



CAES OAIS

### Winter Bud



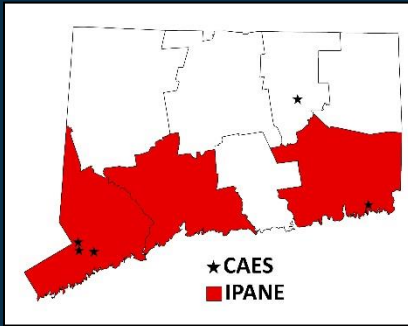
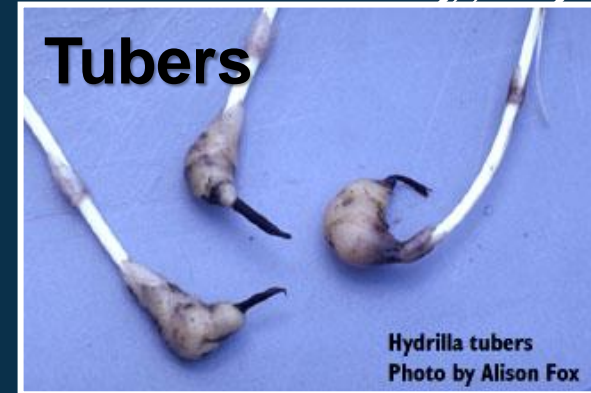
### Five leaves to a whorl

CAES OAIS



### Tubers

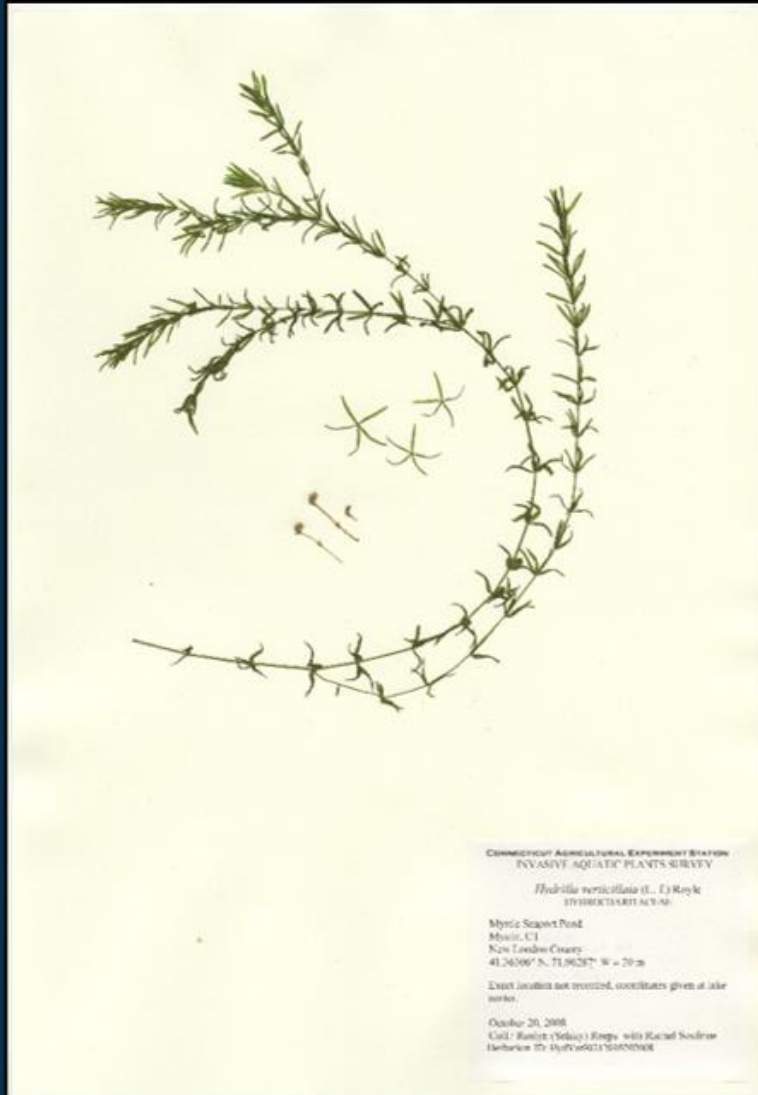
Hydrilla tubers  
Photo by Alison Fox





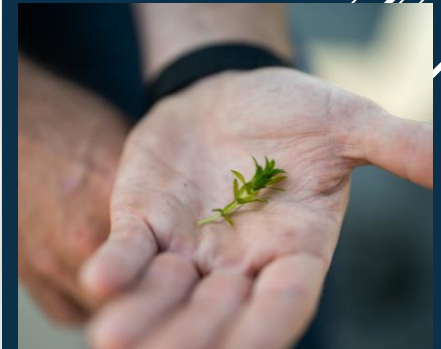
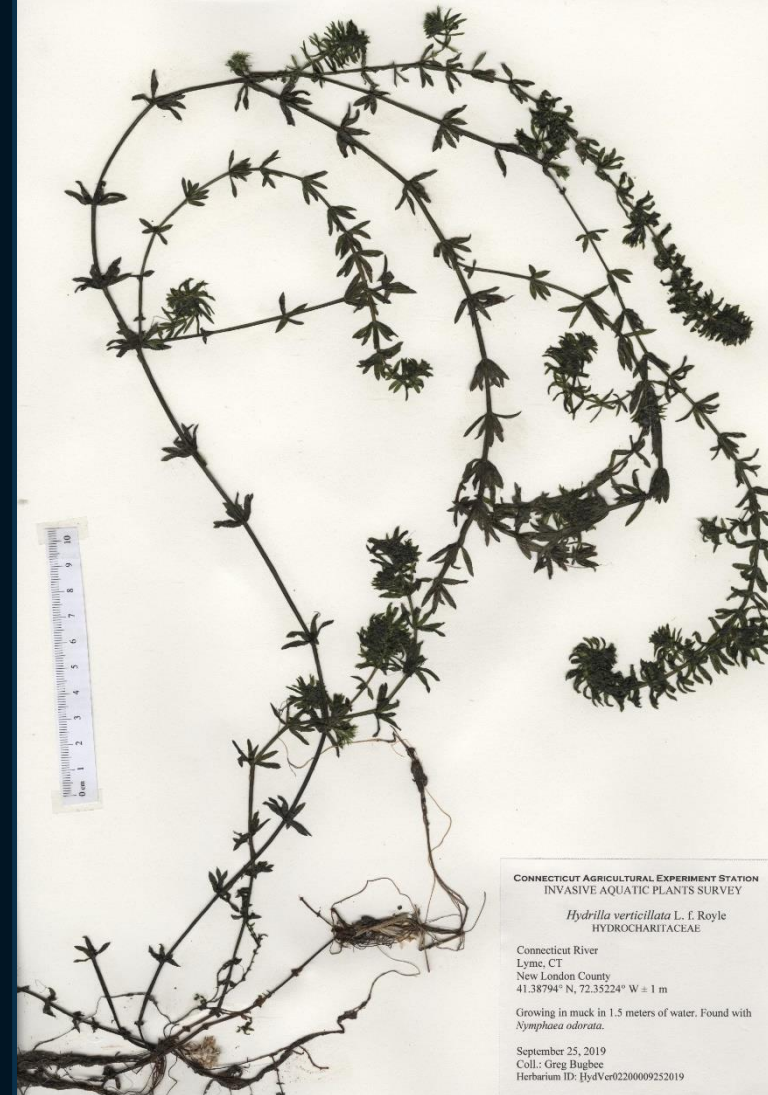
# Monoecious Hydrilla

- Whorls of 5
- Less robust
- Tubers
- Less turions



# CT River Hydrilla

- Whorls  $\geq 5$
- Very robust
- No tubers
- Abundant turions





# Mattabesset River





# Ecosystem Impacts

Hydrilla creates dense monostands and is replacing native eelgrass (*Vallisneria americana*)



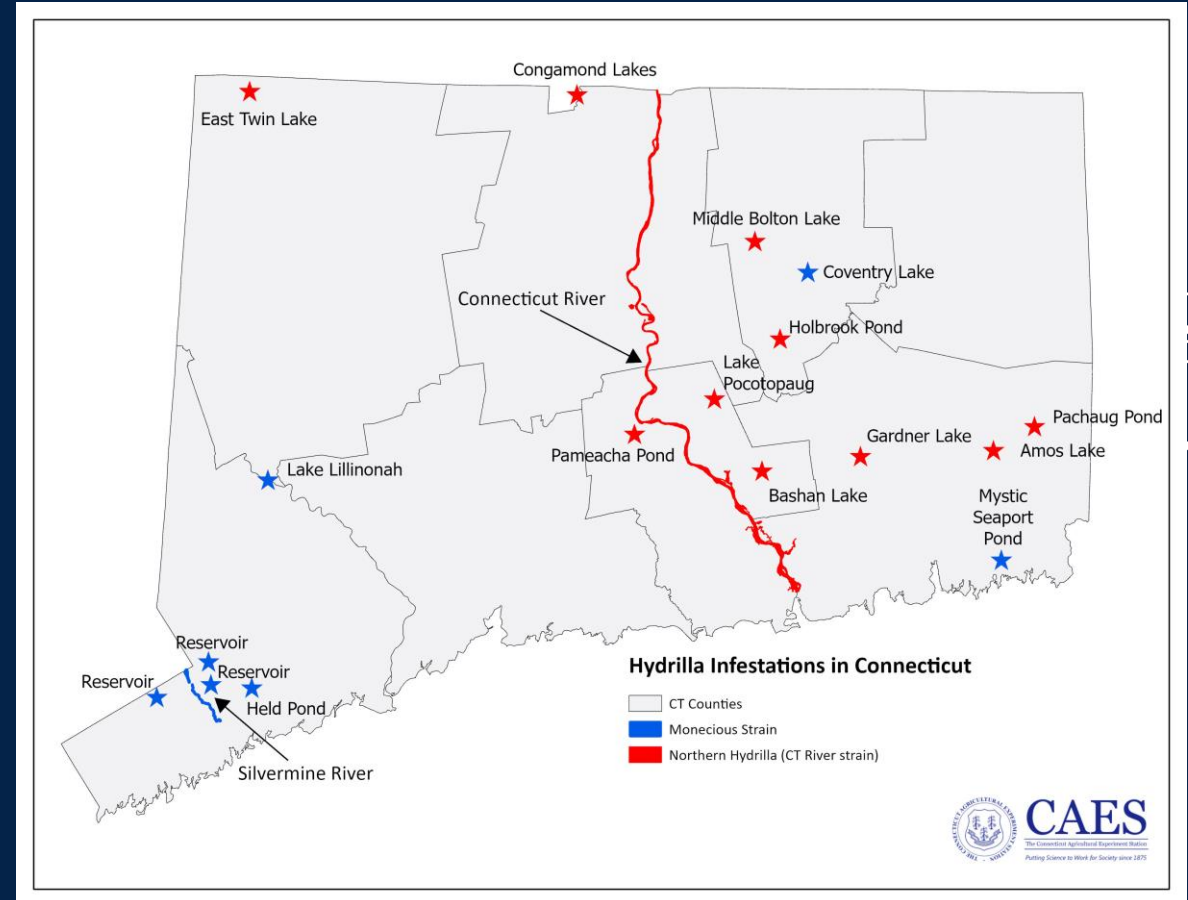


# Economic Impacts

Marinas, Real Estate Values, Recreation, Navigation

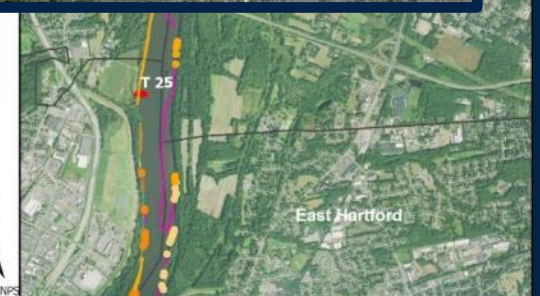
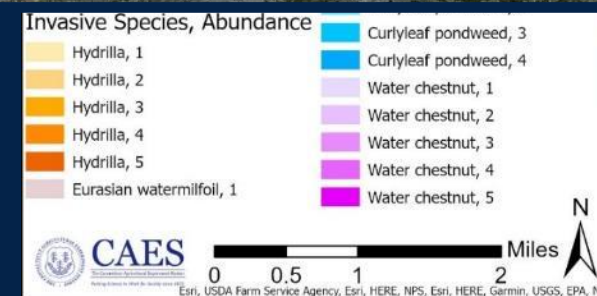
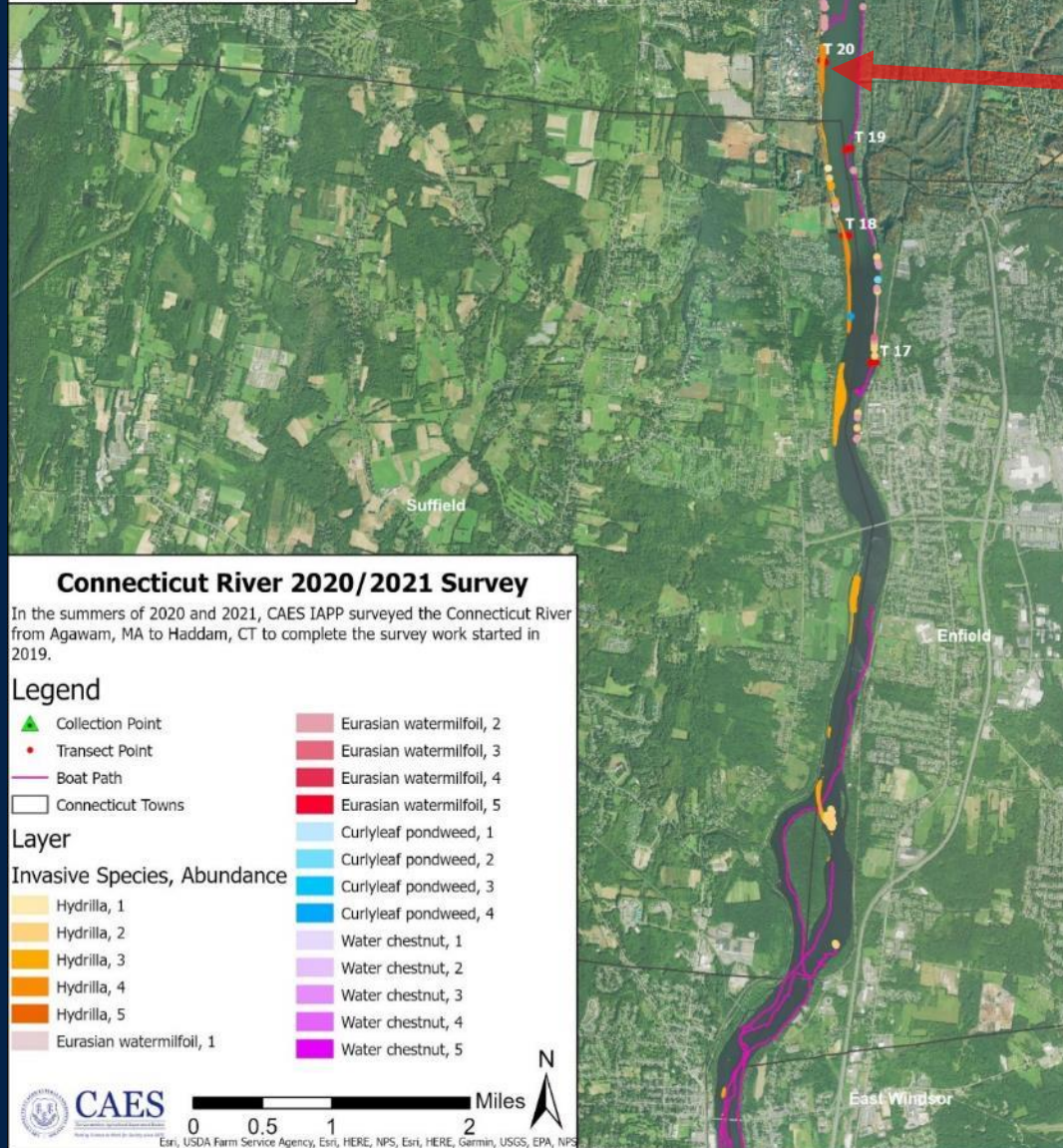
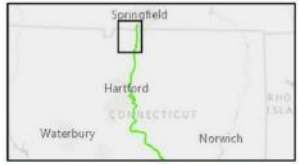


Spread to Lakes, Rivers, Other States





# Upper Section Map 1/4





## Lower Middle Section Map 3/4

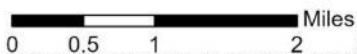


## Connecticut River 2020/2021 Survey

In the summers of 2020 and 2021, CAES IAPP surveyed the Connecticut River from Agawam, MA to Haddam, CT to complete the survey work started in 2019.

### Legend

- |                                    |                          |
|------------------------------------|--------------------------|
| Collection Point                   | Eurasian watermilfoil, 2 |
| Transect Point                     | Eurasian watermilfoil, 3 |
| Boat Path                          | Eurasian watermilfoil, 4 |
| Connecticut Towns                  | Eurasian watermilfoil, 5 |
| <b>Layer</b>                       | Curlyleaf pondweed, 1    |
| <b>Invasive Species, Abundance</b> | Curlyleaf pondweed, 2    |
| Hydrilla, 1                        | Curlyleaf pondweed, 3    |
| Hydrilla, 2                        | Curlyleaf pondweed, 4    |
| Hydrilla, 3                        | Water chestnut, 1        |
| Hydrilla, 4                        | Water chestnut, 2        |
| Hydrilla, 5                        | Water chestnut, 3        |
| Eurasian watermilfoil, 1           | Water chestnut, 4        |
|                                    | Water chestnut, 5        |



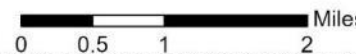
## Lower Section Map 4/4



2019.

### Legend

- |                                    |                          |
|------------------------------------|--------------------------|
| Collection Point                   | Eurasian watermilfoil, 2 |
| Transect Point                     | Eurasian watermilfoil, 3 |
| Boat Path                          | Eurasian watermilfoil, 4 |
| Connecticut Towns                  | Eurasian watermilfoil, 5 |
| <b>Layer</b>                       | Curlyleaf pondweed, 1    |
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| Hydrilla, 1                        | Curlyleaf pondweed, 3    |
| Hydrilla, 2                        | Curlyleaf pondweed, 4    |
| Hydrilla, 3                        | Water chestnut, 1        |
| Hydrilla, 4                        | Water chestnut, 2        |
| Hydrilla, 5                        | Water chestnut, 3        |
| Eurasian watermilfoil, 1           | Water chestnut, 4        |
|                                    | Water chestnut, 5        |





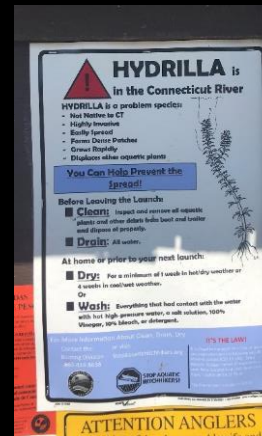
# Aquatic Plant Management



Harvesting



Herbicides



Benthic Barriers



Inspections



# Prevention



SEAPLANES AS A PATHWAY FOR AIS SPREAD

The diagram shows a seaplane with labels for "Rudders", "Landing gear", "Cables", and "Landing gear". A "12-15 mooring line" is also indicated. The seaplane is shown in a side profile, with its wings and tail visible.

- Construction factors: floats
- Operation factors: taxi, moorage, landing, takeoff
- Survivability of AIS under various conditions

Next slide





# STOP AQUATIC HITCHHIKERS!™

Be A Good Steward. Clean. Drain. Dry.

[StopAquaticHitchhikers.org](http://StopAquaticHitchhikers.org)



## CLEAN. DRAIN. DRY.



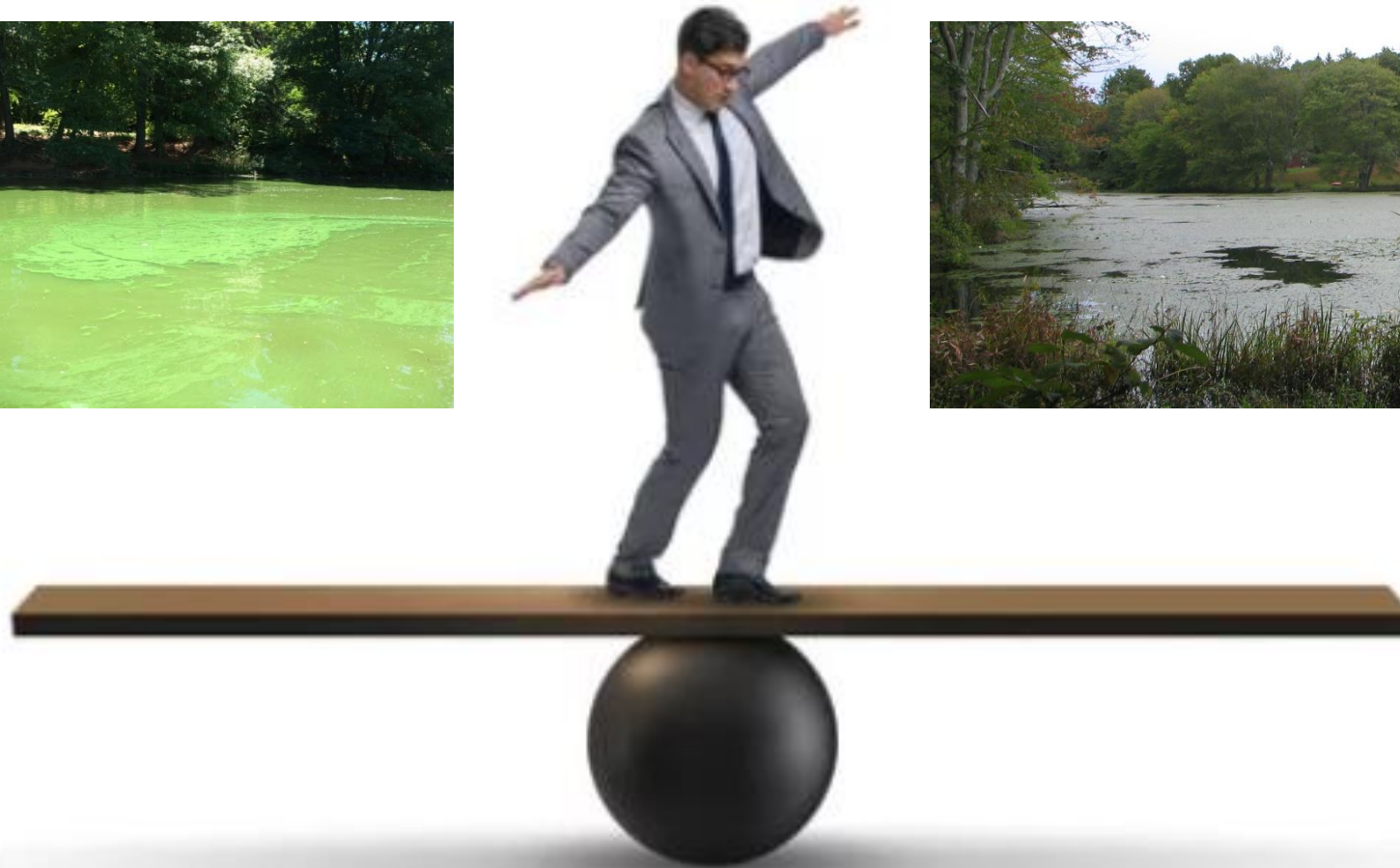


# “First, Do No Harm”





# Aquatic Plant Management



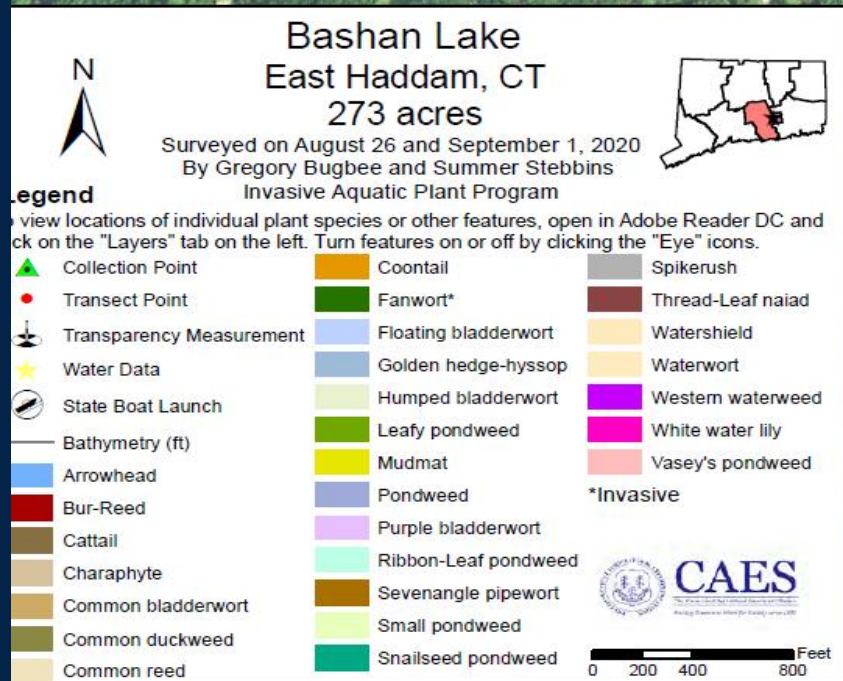


# Harvesting





# Hydrilla 2024





# Bashan Lake, East Haddam

06/25/2024



Bashan Lake



# Bashan Lake, East Haddam





# Bashan Lake, East Haddam

08/29/2024

Bashan Lake





# Lake Pocotopaug

## East Hampton

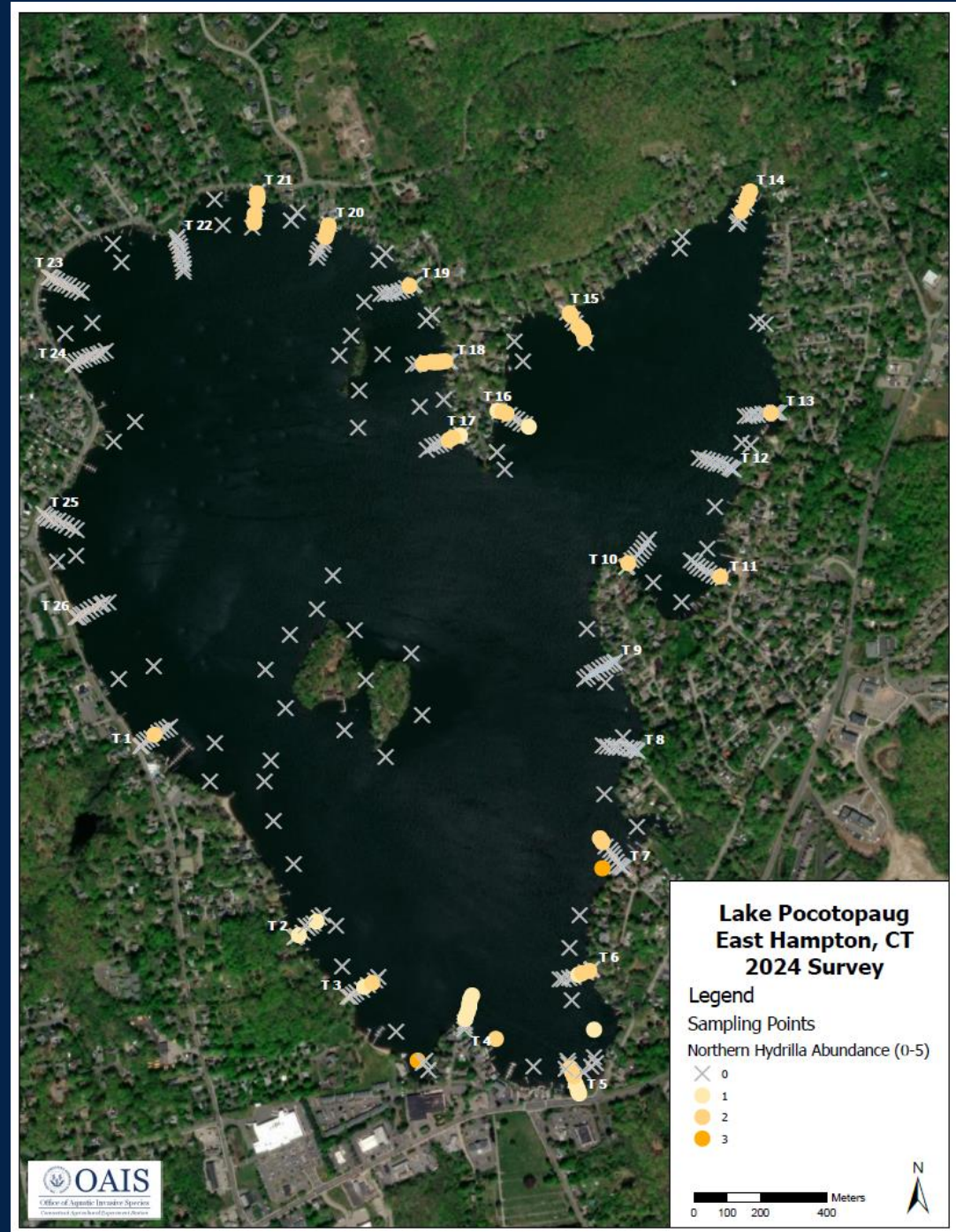
### **"TAKE A RAKE TO THE LAKE"**

Hydrilla Raking Contest!

Sunday, September 22<sup>nd</sup>

#### **RULES:**

- 1) Harvesting of Hydrilla can begin at sunrise on Sept. 22nd and must come from Lake Pocotopaug.
  - 2) Collected Hydrilla must be in trash bags no larger than 45 gallon size or a container approx. 19Lx14Wx14H for weighing purposes on a scale. Harvested Hydrilla not in proper bags or containers will not be accepted.
  - 3) Weigh-in will occur between the hours of 12pm-4pm on Sunday Sept.22, 2024 at Sears Park. Only one delivery to the weigh station of collected Hydrilla is allowed.
  - 4) Judges will collect names, addresses and record weights. All decisions by Judges are final.
  - 5) Three prizes will be awarded of 1st place \$500, 2nd place \$300 and third place \$200. Prize winners will be announced at 4:15pm on the 22nd, unless other arrangements are made. In the event of a tie weight, prizes will be awarded to the first recorded person/group. Prize checks will be mailed to the winners within (5) days.
  - 6) The Conservation Lake Commission and Friends of the Lake reserve the right to publish names and pictures of the prize winners
- For more information email [ryenkner3@comcast.net](mailto:ryenkner3@comcast.net) or call Rob Yenknor 860-638-9874













# Benthic Barriers



Eight  
Barriers:  
Installed on  
7/13/2021  
Removed  
on  
8/18/2021

Four  
Barriers:  
Installed on  
5/12/21  
Removed  
on  
6/9/2021



**OAIS**

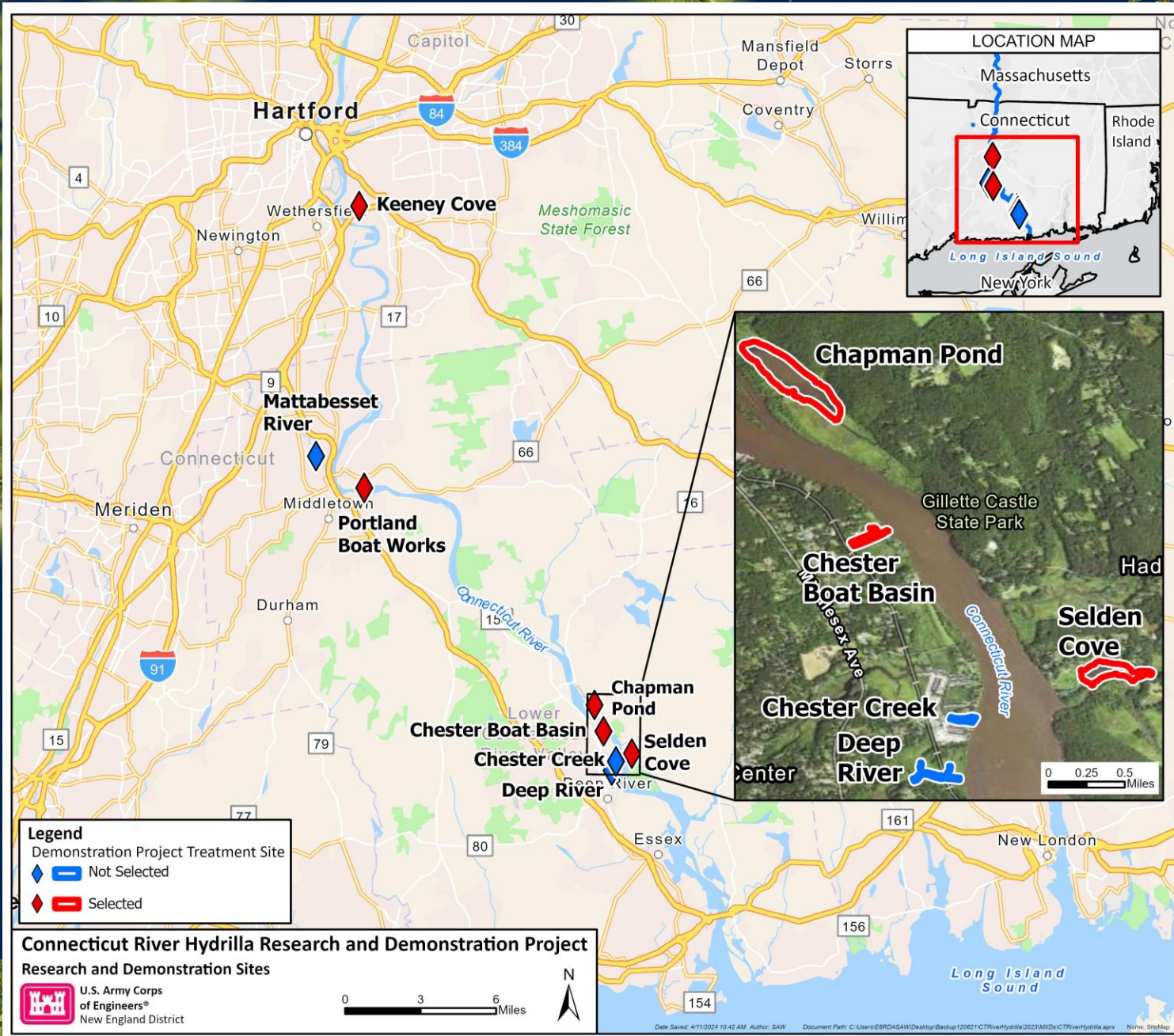
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Connecticut Agricultural Experiment Station



# Aquatic Herbicides







# OAIS

Office of Aquatic Invasive Species  
Connecticut Agricultural Experiment Station



# Keeney Cove Before ProcellaCOR Treatment



Office of Aquatic Invasive Species  
Connecticut Agricultural Experiment Station



# Keeney Cove After ProcellaCOR Treatment



**OAIS**

Office of Aquatic Invasive Species  
Connecticut Agricultural Experiment Station



# TREATMENT OF MARINA FOR HYDRILLA





# Winter Drawdown



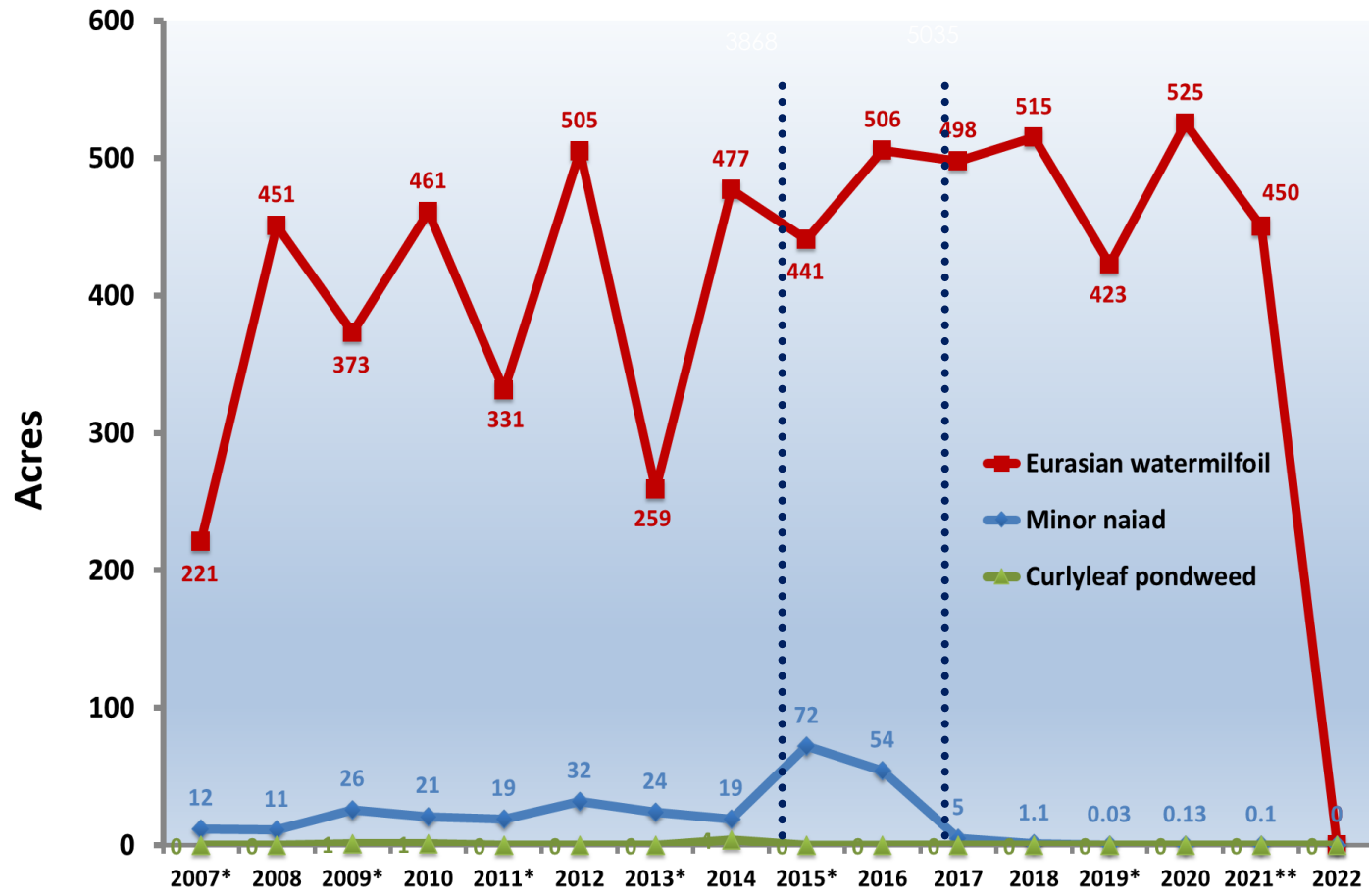


# Biocontrol – Grass Carp





# Candlewood Lake



\*Indicates deep drawdown year

\*\* Estimated



# CT DEEP AIS FUNDS

## Aquatic Invasive Species Grant Release

### CT DEEP Aquatic Invasive Species (AIS) Grant Request for Proposals (RFP) Release

The Connecticut Department of Energy and Environmental Protection (DEEP) has released the Aquatic Invasive Species (AIS) Grant for the year.

The grant aims to provide funds to eligible organizations and individuals to prevent the spread of AIS in Connecticut's inland and marine waters.

**Deadline to submit questions to CT DEEP is November 4, 2024**

**Deadline to apply is December 6, 2024**

**CT DEEP AIS Grant Webpage**



## AQUATIC INVASIVE SPECIES (AIS) STAMP



Changes that will affect the 2025 boating season.

<https://portal.ct.gov/DEEP/Boating/Boating-and-Paddling>



### 2024 AIS STAMP OVERVIEW

- AIS Stamp was included in the 2024 Connecticut vessel registration, if paid prior to September 30, 2024.
- Vessel operators registering their vessel after October 1, 2024, must purchase through the Online Sportsmen Licensing System.
- Out-of-state registered vessel operators must purchase through the Online Sportsmen Licensing System.
- The AIS Stamp expires at the end of the calendar year (December 31).

### 2025 AIS STAMP CHANGES (Effective October 1, 2024)

- These options are available for CT residents and non-residents
  - Option 1- \$7 individual operator
    - The AIS Stamp is assigned to the individual purchasing the stamp.
    - It will print on the Sportsmen Conservation License as a privilege (like a fishing or hunting license)
  - Option 2- \$20 decal to cover the individual plus all operators of a vessel
    - The decal must be affixed to the vessel and will cover any operator of that vessel
    - The total cost will be \$25 which includes a processing fee
    - The decal will be mailed to the customer and must be adhered to the vessel.
    - The AIS Stamp will also print on the Sportsmen Conservation License as a privilege (like a fishing or hunting license) to cover the purchaser on additional vessels.

### INSTRUCTIONS FOR APPLYING AIS THE STAMP DECAL

To properly use the AIS Stamp decal, it must be placed amidship on the port side of your vessel. You have the option of attaching it to the hull of the vessel or at the operator's station.

### WHERE DO THE AIS STAMP FEES GO?

All fees collected are deposited into the "Connecticut Lakes, Rivers and Ponds Preservation Account". This account provides funding through a competitive grant process to state and municipal agencies, as well as non-profit organizations. These funds are utilized to conduct research on CT's lakes, rivers, and ponds, provide public education, and enhance public awareness. This ultimately helps improve the management of natural resources throughout the state.

If you have additional questions, contact DEEP Boating at [deep.boating@ct.gov](mailto:deep.boating@ct.gov) or 860-434-8638.

### WHO NEEDS AN AIS STAMP?

- Any person who operates a vessel on Connecticut inland waters and is required to display a registration decal, issued by this state or another state must have a CT AIS Stamp.
- For CT residents, until September 30, 2024, the AIS Stamp will be included with your Connecticut vessel registration.
- After October 1, 2024, CT residents needing an AIS Stamp or vessel decal must purchase through the Online Sportsmen Licensing System.
- For vessels registered out-of-state, the AIS Stamp must be purchased through the Online Sportsmen Licensing System.
- The AIS Stamp will be valid for the calendar year it was issued.
- The demarcation line for inland waters is the same as that used for inland fishing licenses.

### How to purchase your AIS Stamp



Beginning October 1, 2024, you must obtain your AIS Stamp on the Sportsmen Online Licensing System- <https://ct.aspirafocus.com/internetsales>



# QUESTIONS?

Greg Bugbee

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(203) 974-8512

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