

Invasive Aquatic Plants In Connecticut



Greg Bugbee and Summer Stebbins

Connecticut Agricultural Experiment Station

Department of Environmental Sciences

Invasive Aquatic Plant Program

Invasive Aquatic Plants

& Ecosystem Impacts

- Displace native species
- Alter native ecosystems

& Economic Impacts

- Reduce recreation
- Lower property values and tax revenue
- Interfere with navigation
- Economic damages and management costs of \$3 billion per year

Vegetation Surveys

www.portal.ct.gov/caes-iapp



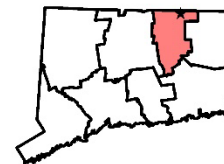
Staffordville Reservoir Stafford Springs, CT 149 acres

Surveyed on September 3-5 & 9, 2019
by Summer Stebbins and Deanna Rackie
Invasive Aquatic Plant Program

Legend

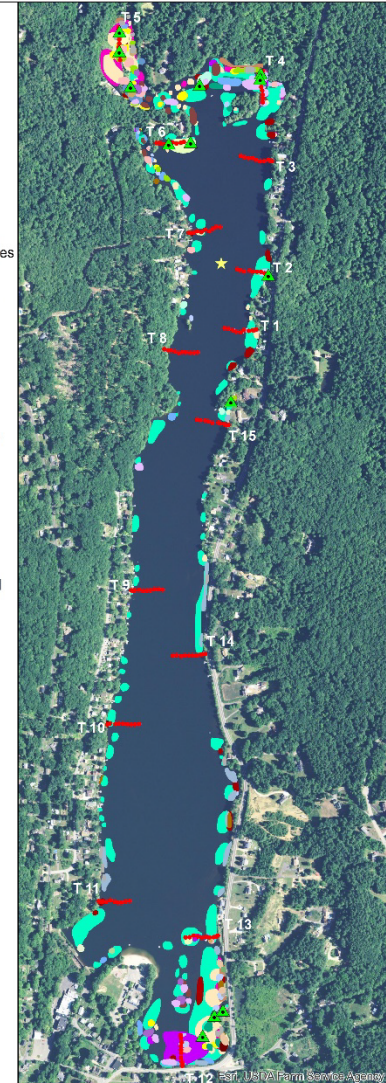
To view locations of individual plant species or other features, open in Adobe Reader DC and click on the "Layers" tab to the left. Turn features on or off by clicking the "Eye" icons.

- | | |
|--------------------------|-----------------------|
| ▲ Collection Point | Marsh mermaid weed |
| ● Transect Point | Pickerselweed |
| ★ Water Data | Primrose-willow |
| ▲ Arrowhead | Purple bladderwort |
| ■ Bur-reed | Quillwort |
| ■ Common bladderwort | Ribbon-leaf pondweed |
| ■ Eel grass | Sevenangle pipewort |
| ■ Flat-leaf bladderwort | Slender waterlily |
| ■ Flat-stemmed pondweed | Snailseed pondweed |
| ■ Floating bladderwort | Spikerush |
| ■ Floating-leaf pondweed | Unidentified pondweed |
| ■ Golden hedge-hyssop | Watershield |
| ■ Grassy arrowhead | Waterwort |
| ■ Humped bladderwort | Western waterweed |
| ■ Lesser bladderwort | White water lily |
| ■ Low watermilfoil | Yellow water lily |

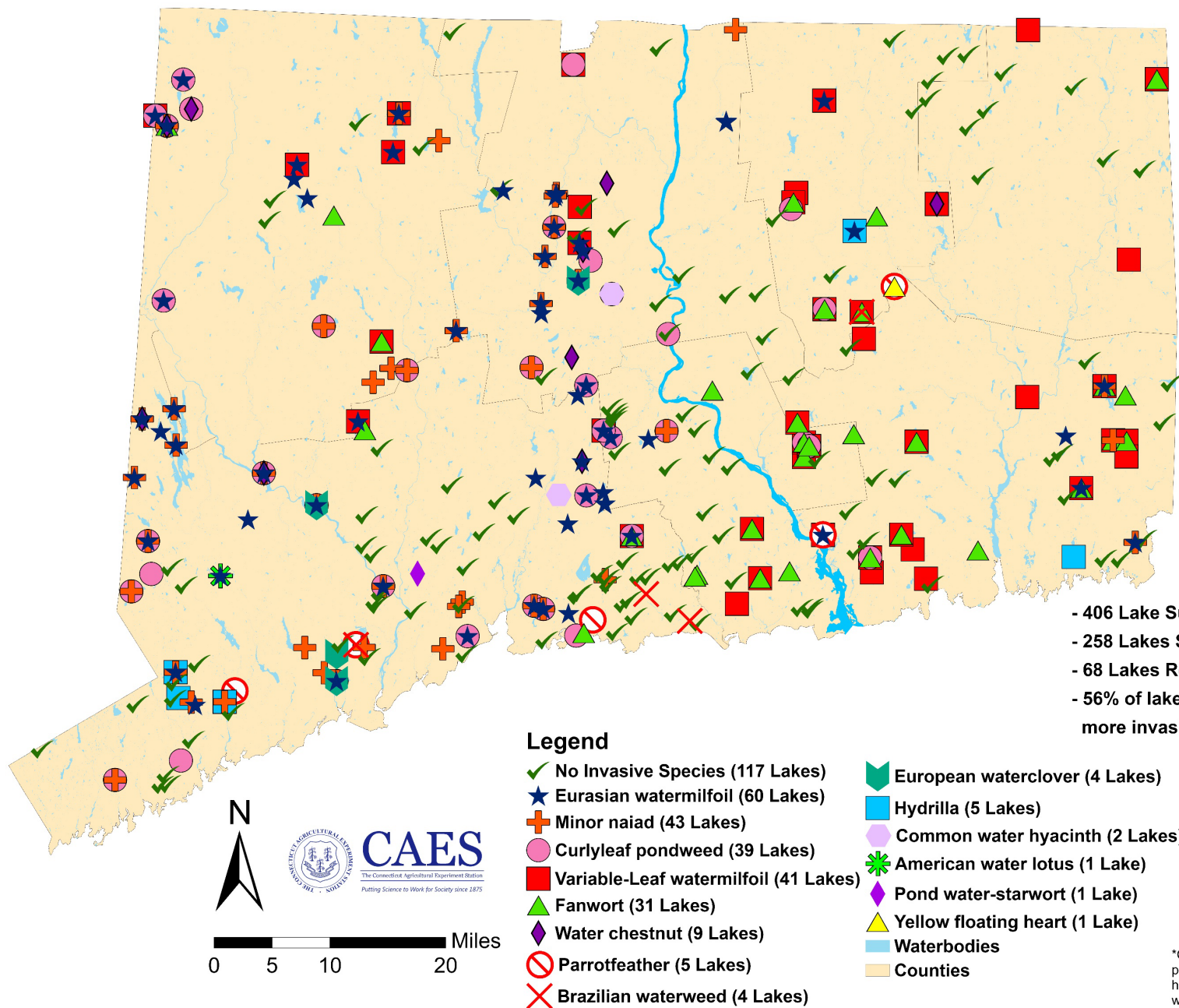


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0 500 1,000 2,000 Feet



Locations of Invasive Plants Found by CAES IAPP 2004-2022



*CAES IAPP has also found curlyleaf pondweed, Eurasian watermilfoil, fanwort, hydrilla, variable-leaf watermilfoil, and water chestnut in the Connecticut River.

Introduction and Dispersal



Nutrient Reduction



Harvesting



Drawdown



Aquatic Herbicides



Bashan Lake
East Haddam, CT



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Biological Control

Grass Carp

Ctenopharyngodon idella



Milfoil Weevil

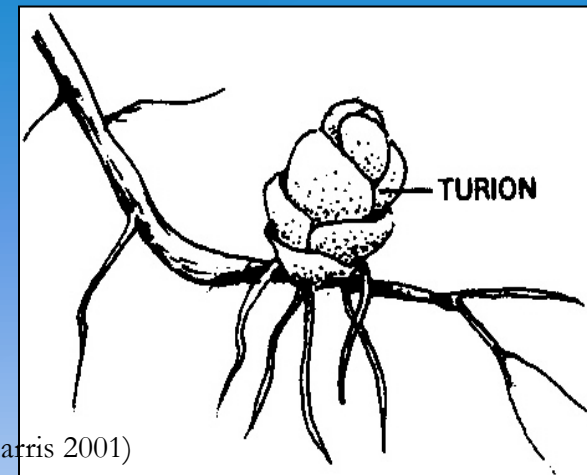
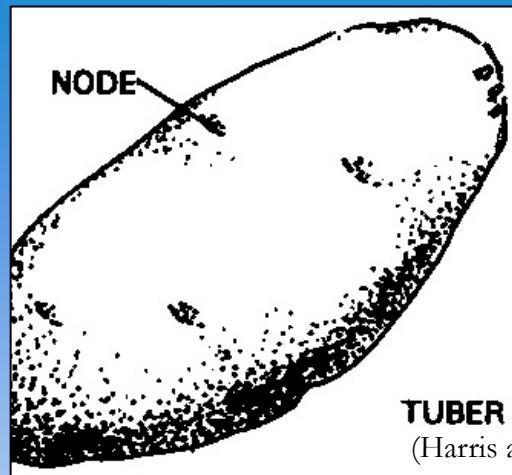
Euhrychiopsis lecontei

Plant Terms (Reproduction)

& **Fragment** - plant part that breaks off and grows to form a genetically identical plant

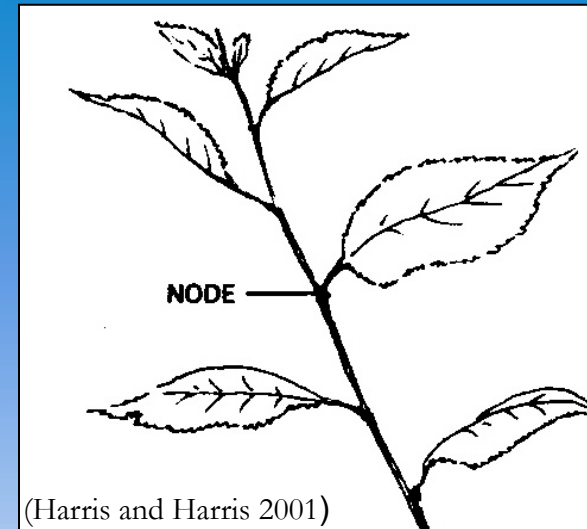
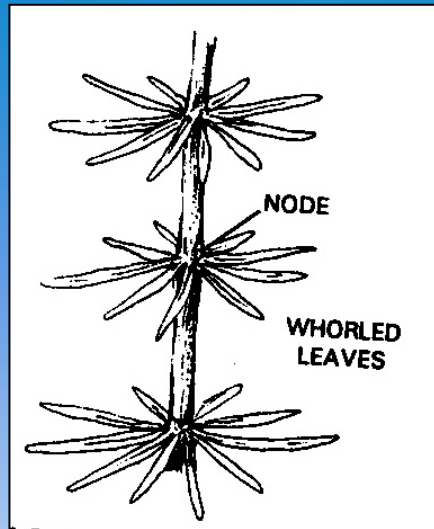
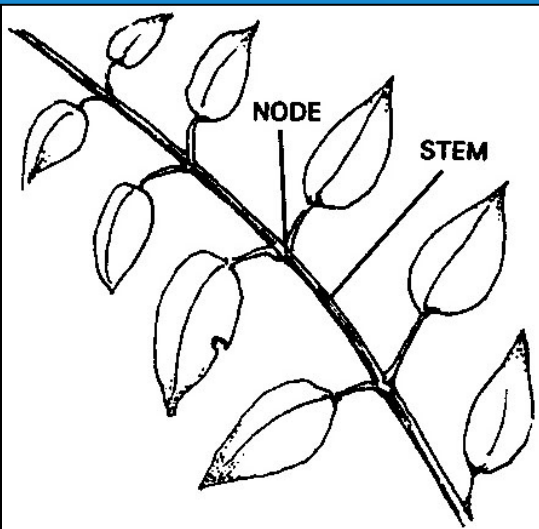
& **Tuber** - modified, underground stem for starch storage and a form of vegetative reproduction

& **Turion** - a modified leaf bud on a stem or shoot, a form of vegetative reproduction



Plant Terms (Leaves)

- & **Node** - the point where leaves or branches attach to the stem
- & **Opposite** - across from each other at the same node
- & **Alternate** - one leaf per node on different sides of the stem
- & **Whorled** - three or more leaves at the same node, forming a ring-like arrangement

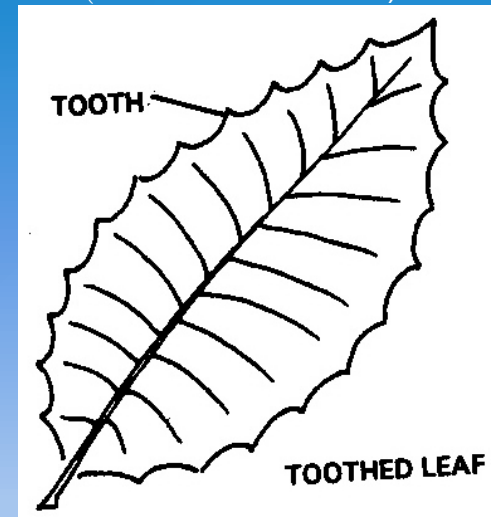
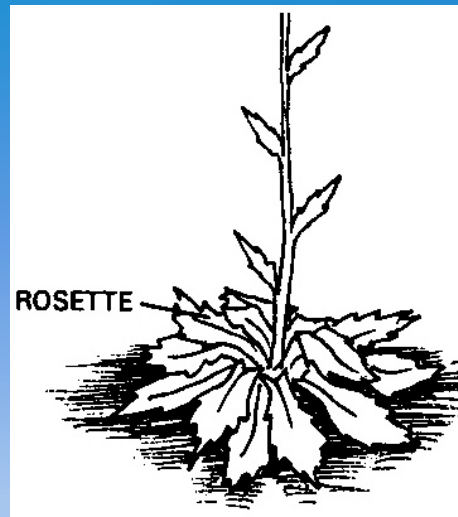
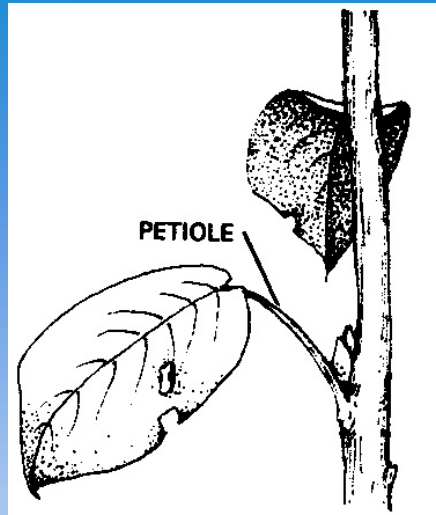
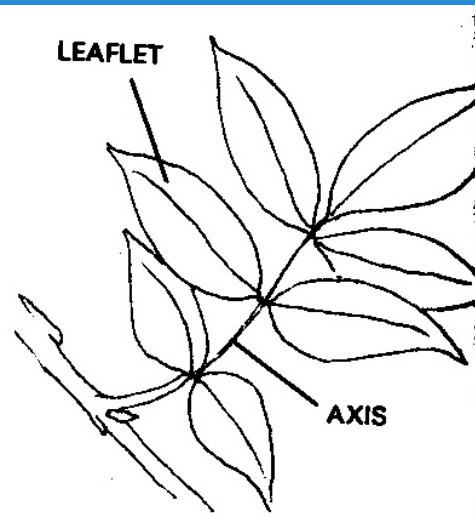


(Harris and Harris 2001)

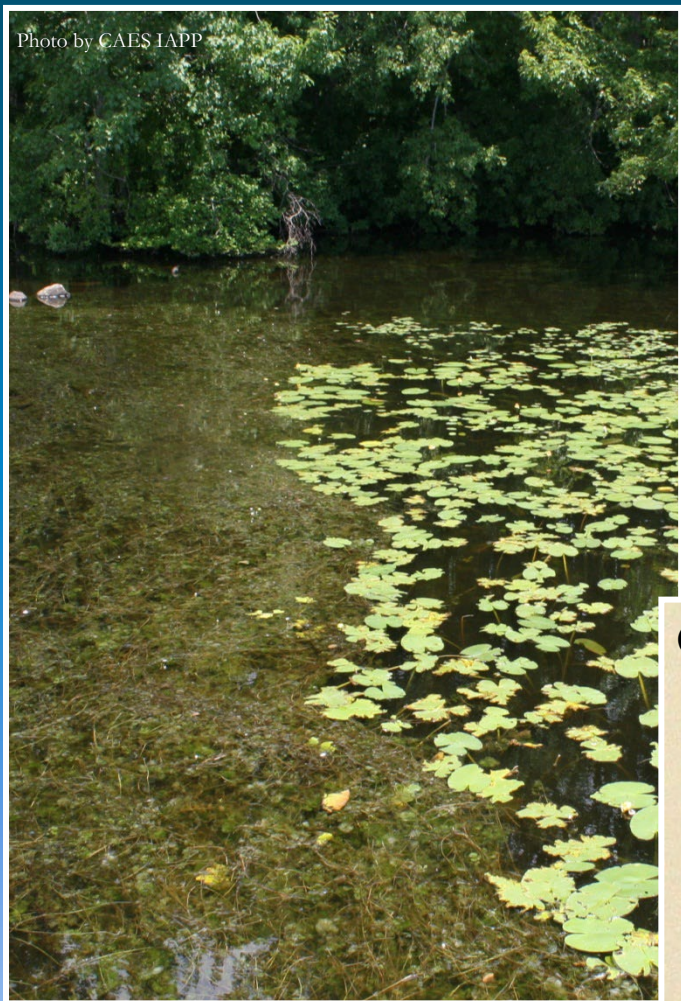
Plant Terms (Leaves)

- & **Leaflet** – one of many leaf-like looking structures that when combined make one leaf
- & **Petiole** - leaf stalk
- & **Rosette** - a cluster of leaves that surround the stem at the same point
- & **Tooth** – a sharp point along a leaf margin

(Harris and Harris 2001)



Fanwort (*Cabomba caroliniana*)



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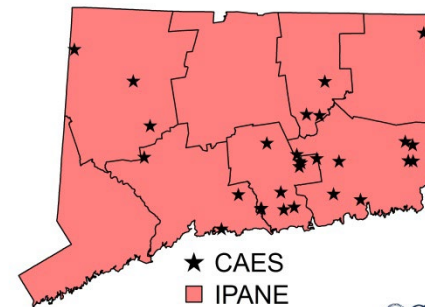


Opposite leaves



Photo by CAES IAPP

Long petioles



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■ IPANE

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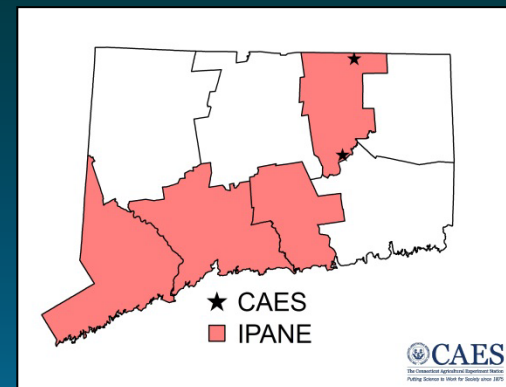
A. Smagula



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Brazilian Waterweed

Egeria densa



Hydrilla

Hydrilla verticillata

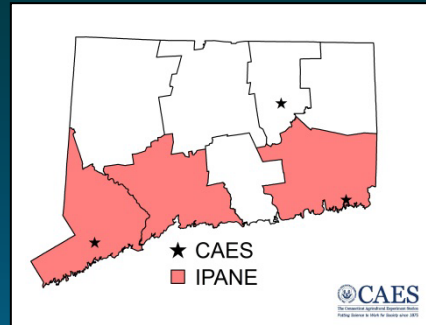
Laurie Callahan



Tubers



Hydrilla tubers
Photo by Alison Fox

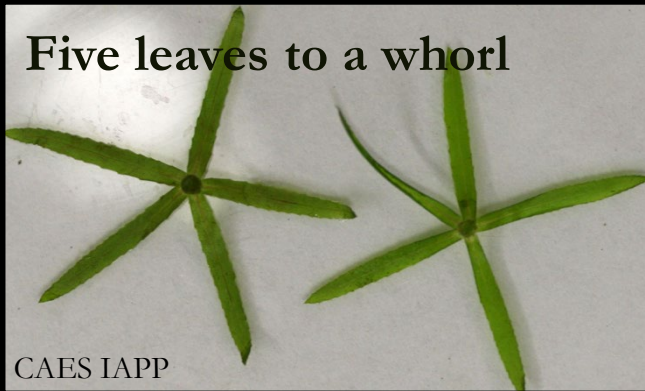


Turions



Photo by W.T. Haller

Five leaves to a whorl



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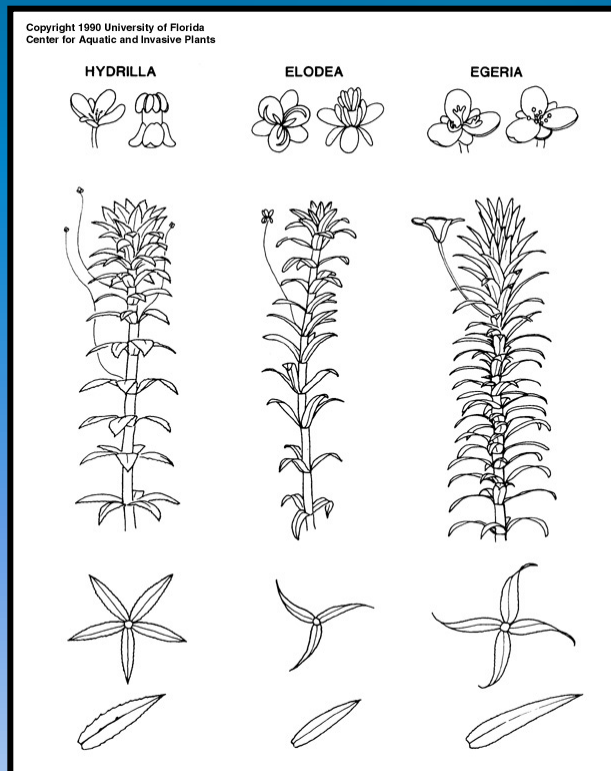
Winter Bud

a turions
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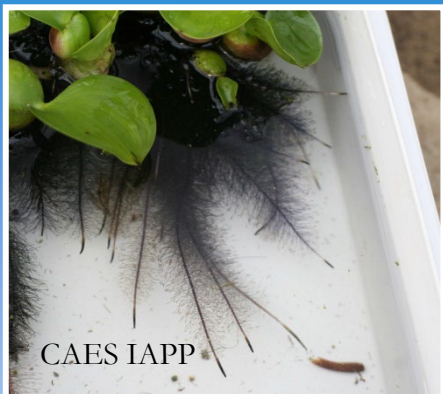
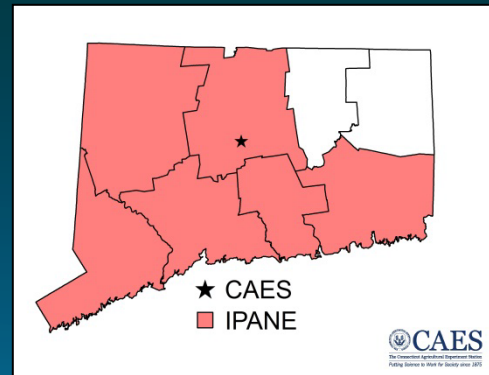
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Commonly Confused Species



Common Water Hyacinth

Eichhornia crassipes

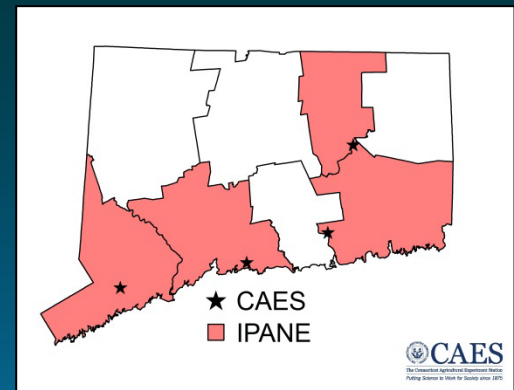


Inflated petioles

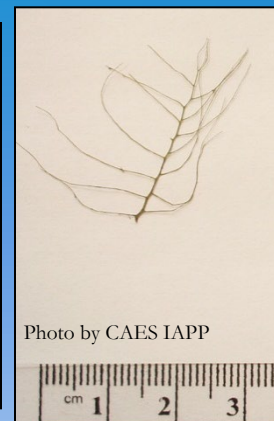
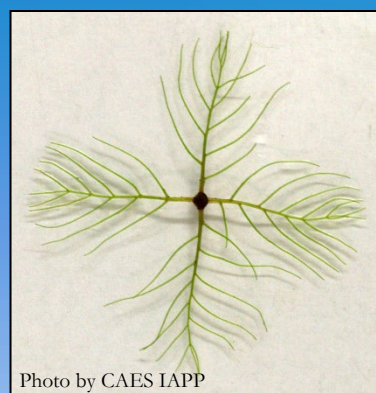
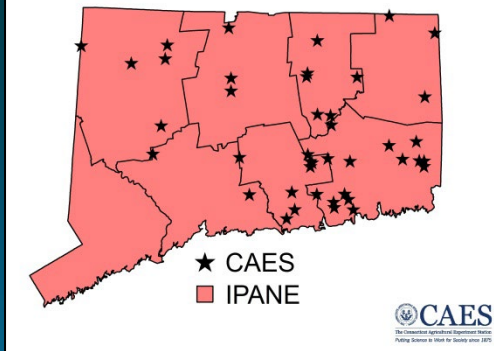


Parrotfeather

Myriophyllum aquaticum



Variable Watermilfoil (*Myriophyllum heterophyllum*)

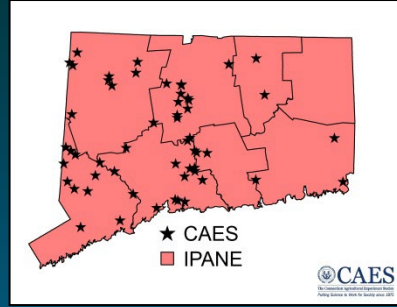


Leaves < 1 inch apart

≤ 11 pairs of leaflets

Triangular leaf

Eurasian Watermilfoil (*Myriophyllum spicatum*)



A. Fox University of Florida

Rectangular leaves

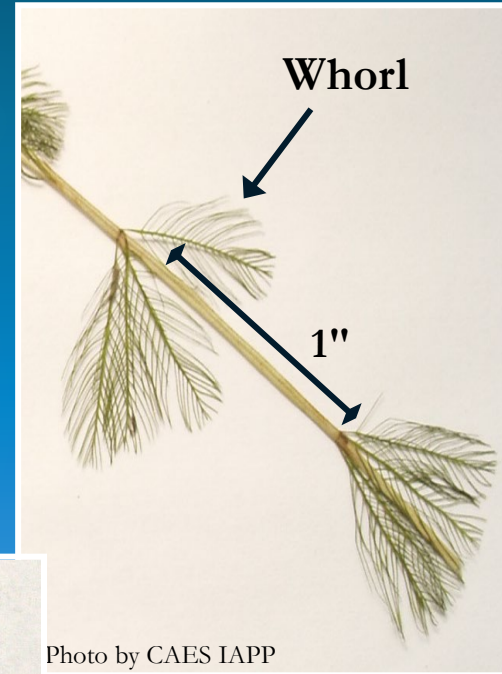


Photo by CAES IAPP

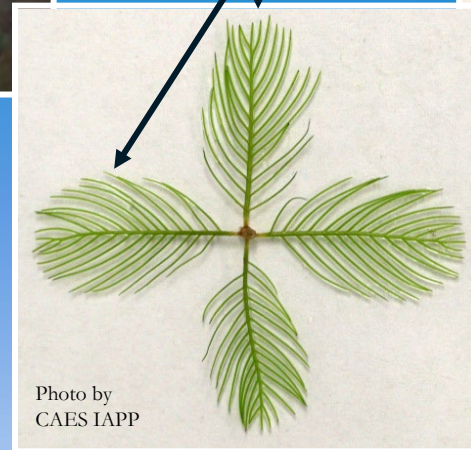


Photo by
CAES IAPP

Leaves 1 inch apart

≥ 12 pairs of leaflets per leaf

Rectangular leaf

M. spicatum

Thin spike

Thick spike

Leaves 1 inch apart

Leaves < 1 inch apart

≥ 12 pairs of leaflets
per leaf

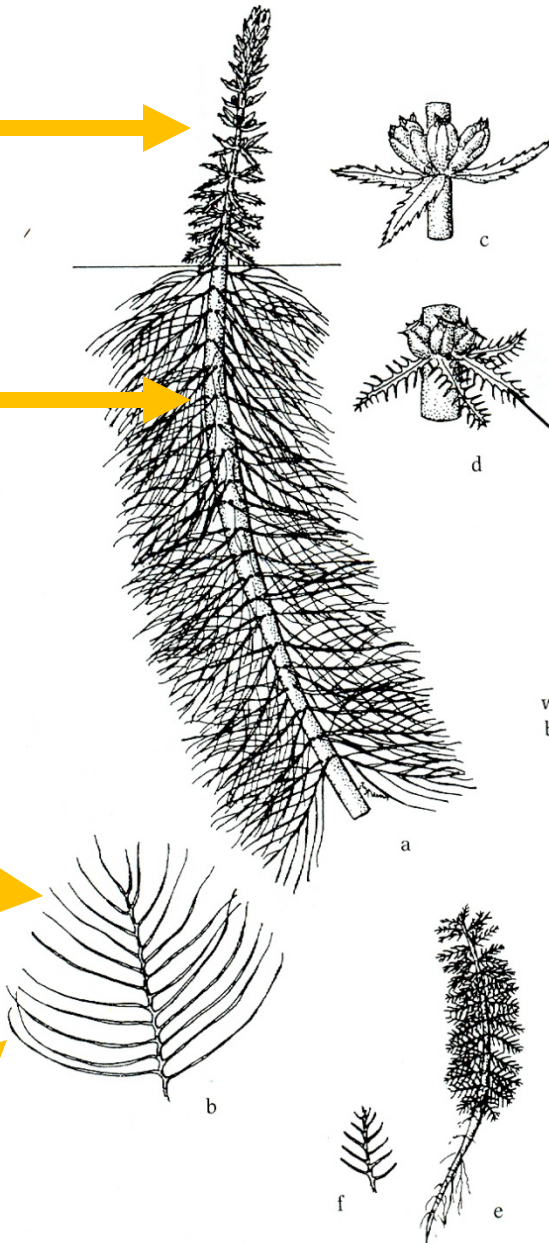
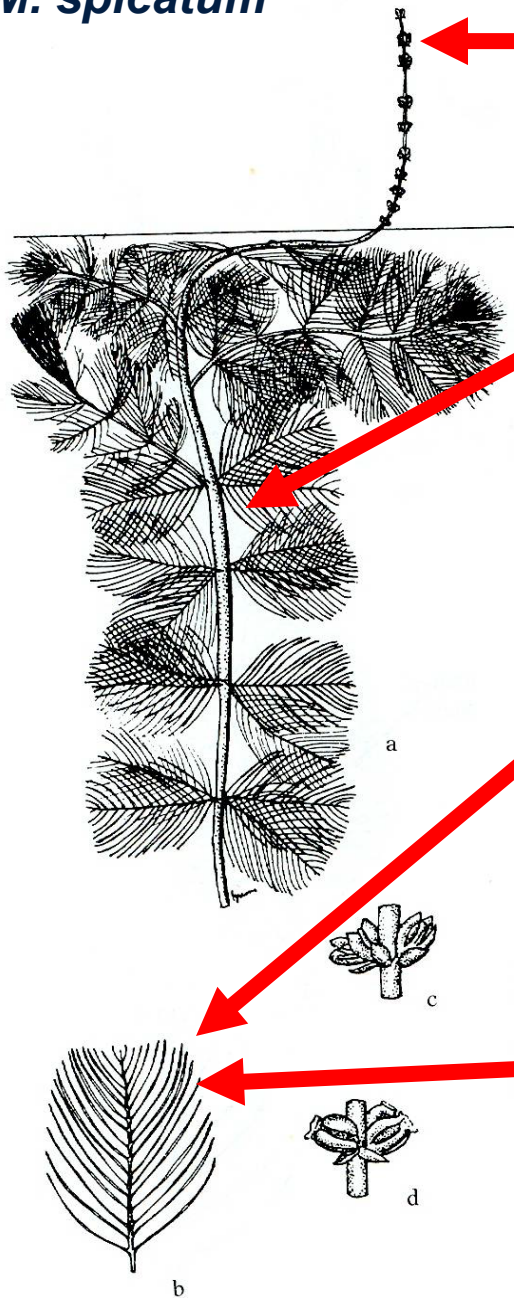
≤ 11 pairs of leaflets

Rectangular leaf

Triangular leaf

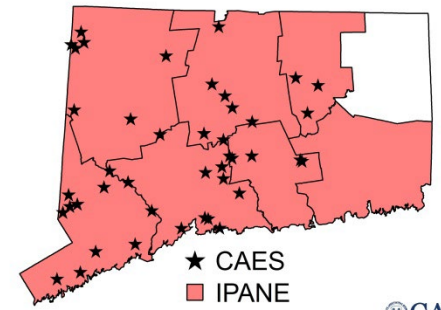
M. heterophyllum

(Crow and Hellquist 2000)



Curlyleaf Pondweed

Potamogeton crispus



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Turion

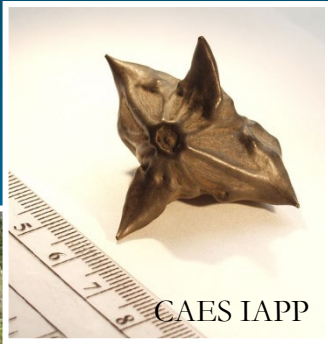
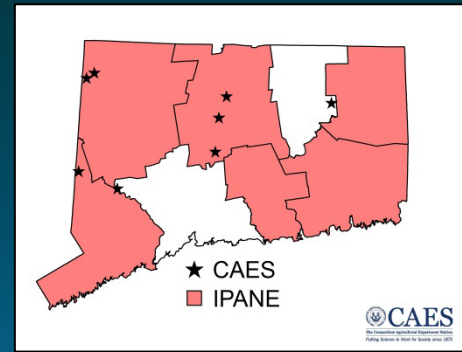
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Water Chestnut

Trapa natans



Let's Identify Some Plants!

Below are the choices:

Brazilian Waterweed – *Egeria densa*

Common Water Hyacinth – *Eichhornia crassipes*

Curlyleaf Pondweed – *Potamogeton crispus*

Eurasian Watermilfoil – *Myriophyllum spicatum*

Fanwort – *Cabomba caroliniana*

Hydrilla – *Hydrilla verticillata*

Parrotfeather – *Myriophyllum aquaticum*

Variable Watermilfoil – *Myriophyllum heterophyllum*

Water Chestnut – *Trapa natans*

Questions?

Greg Bugbee

gregory.bugbee@ct.gov

(203) 974-8512

Summer Stebbins

summer.stebbins@ct.gov

(203) 974-8545

The Connecticut Agricultural Experiment Station

Invasive Aquatic Plant Program

123 Huntington St.

New Haven, CT 06504

www.portal.ct.gov/caes-iapp