A photograph of an aquatic plant, likely a species of water hyacinth, featuring clusters of small purple flowers and large, vibrant green, arrow-shaped leaves. The background is a blurred body of water with reeds. A purple text box is overlaid on the right side of the image.

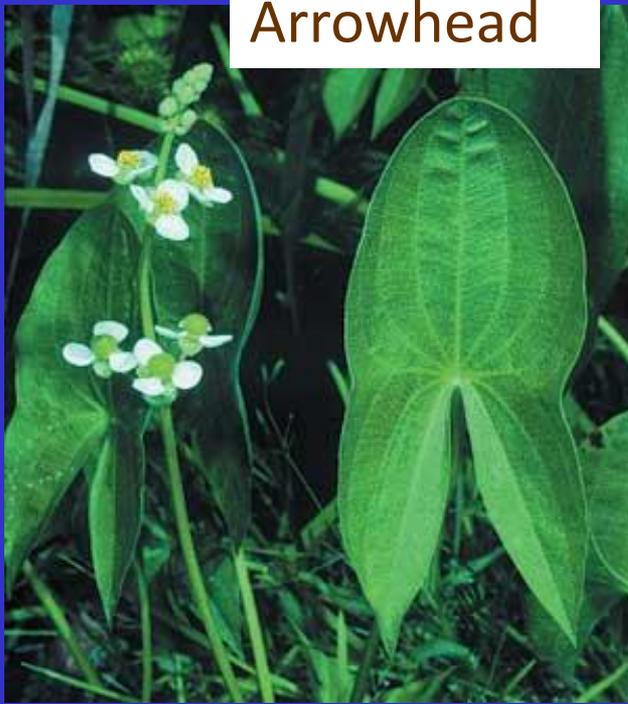
Aquatic Plant Identification

- Emergent, Floating, Submersed
- Submersed:
 - Plants with Finely Dissected or Thread like leaves
 - Plants with Smooth Leaf Edges
- Opposite, whorled and alternate leaves
- Pondweeds
 - Broad and narrow leaves
 - With, without floating leaves
 - Glands
 - Stipules
- Turions
- Flowers
- Fruits
- Rosettes



Bob Korth Photo

Arrowhead



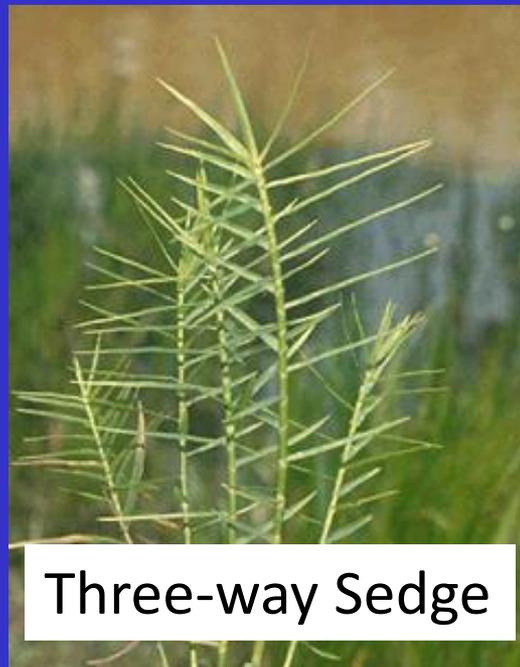
Pickerelweed



Emergent Plants
with Broad or
Narrow Leaves



Cattail



Three-way Sedge



Soft stem bulrush



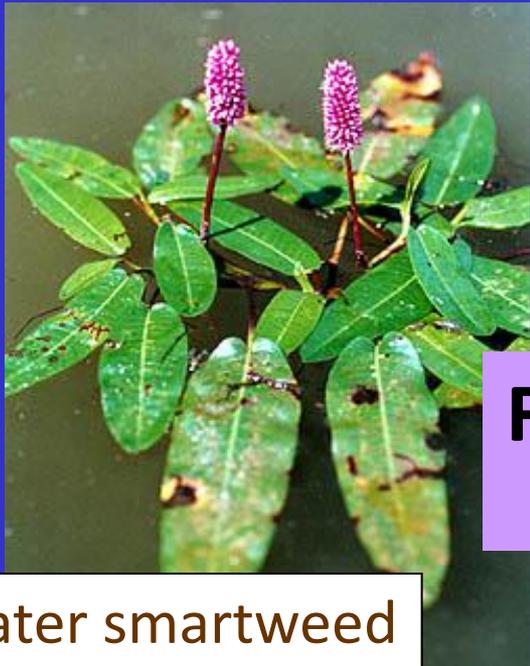
Watershield



Spatterdock



Small duckweed



Water smartweed

**Floating-leaf Plants:
Rooted and not rooted**



Fragrant water lily

© Keir Morse

**Submersed
Plants with
Finely Divided
Leaves**

Coontail



Whorled
water-milfoil



Water
marigold



Common
bladderwort





Bladders on leaf

Common bladderwort
Utricularia vulgaris

Bladder with prey inside





**Submersed
plants with
finely-
divided
leaves:
Water-
milfoils**



Eurasian water-milfoil

Northern water-milfoil

Submersed Plants with Smooth-edged Leaves



Elodea



Wild Celery



Pondweeds



Opposite Leaves
Golden perris



Whorled Leaves
Eurasian water-milfoil



Whorled Leaves
Elodea

Alternate Leaves: Pondweeds



White-stem pondweed
P. praelongis



Fern-leaf pondweed
P. robbinsii

Pondweeds

Leaves broad to narrow

Leafy pondweed

P. foliosus



Large-leaf pondweed

P. amplifolius

Floating leaves only

Submersed
Leaves only

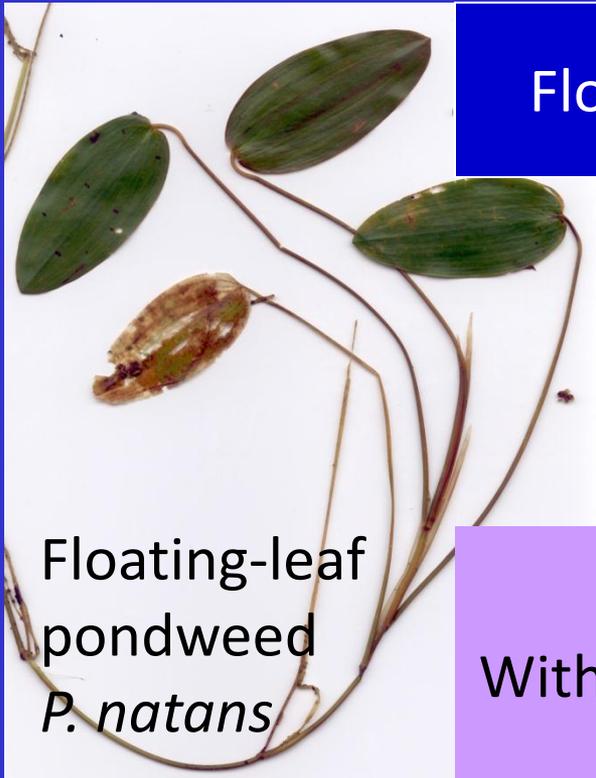
Fries pondweed
P. friesii

Floating-leaf
pondweed
P. natans

Pondweeds
With and without floating leaves

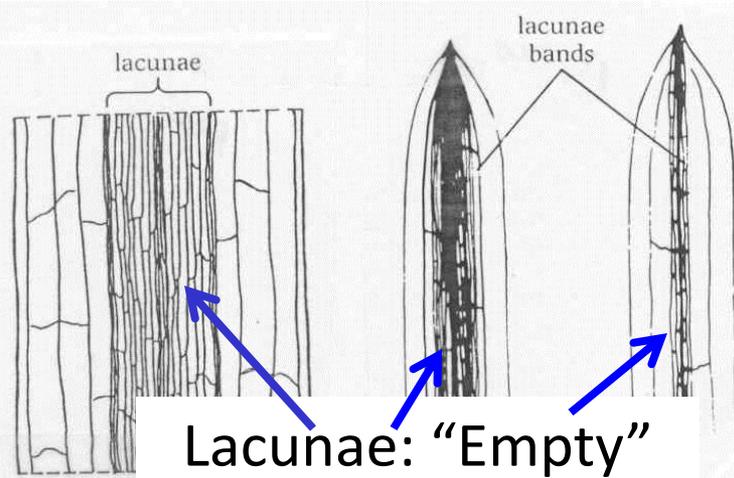
Variable pondweed
P. gramineus

Both floating and
submersed leaves

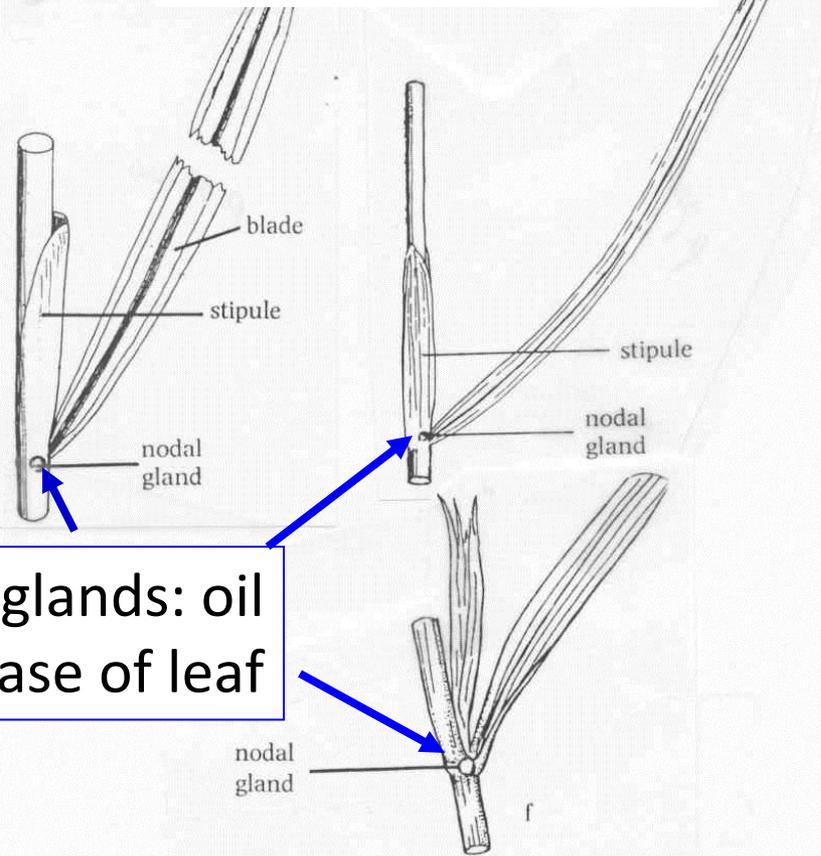


Pondweeds

Lacunae and Nodal glands



Lacunae: "Empty" cells along midrib

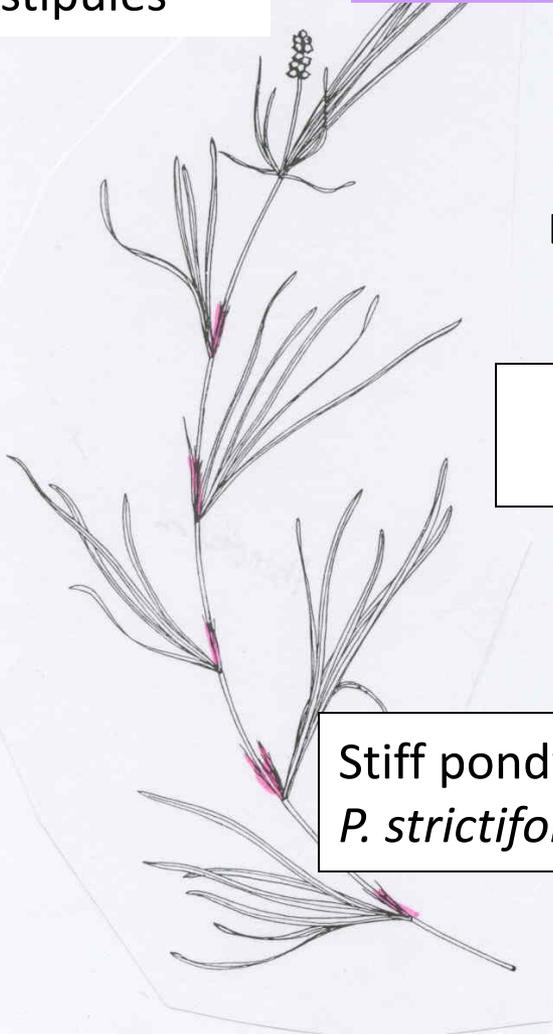
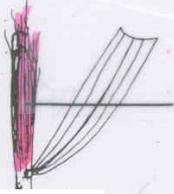


Nodal glands: oil glands at base of leaf

Pondweeds

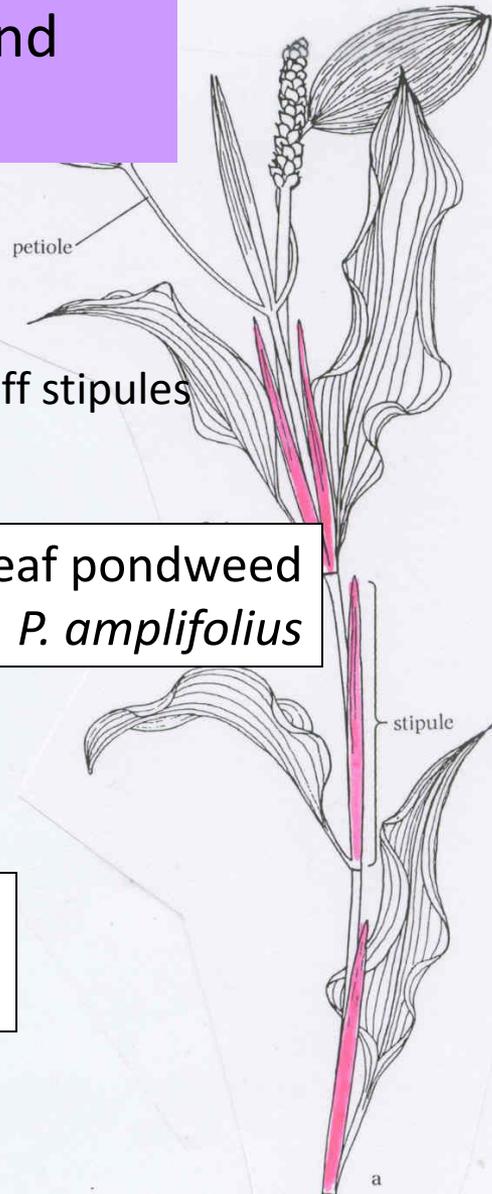
Stipules: Leafy bits near leaves and stems

Fibrous, shreddy stipules



Stiff pondweed
P. strictifolius

Large, stiff stipules



Large-leaf pondweed
P. amplifolius

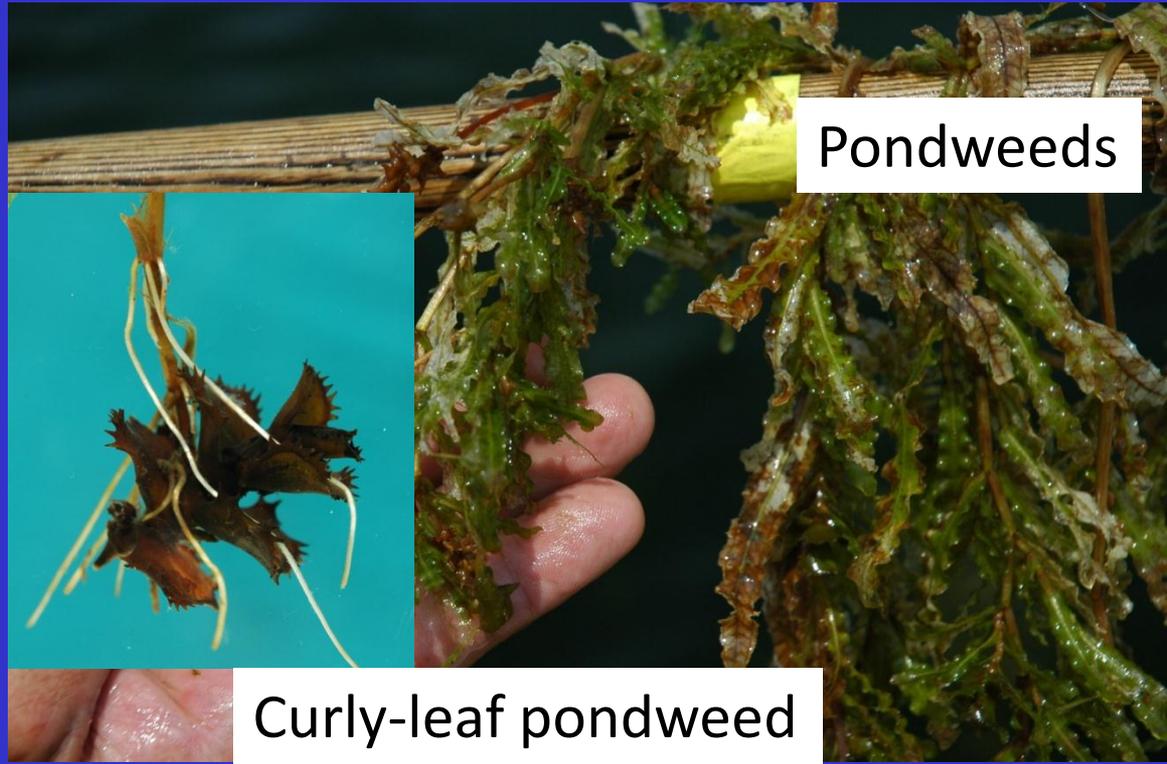
**Turions:
Vegetative
over-
wintering
organs**



Bladderworts



Water-milfoil



Pondweeds

Curly-leaf pondweed



Common bladderwort



Water marigold

Aquatic Plant Flowers



Purple bladderwort





Pondweed:
Flowers
and
Nutlets
(Magnified)



Water-
milfoil:
Flowers
and
Fruits
(Magnified)



Rosettes:

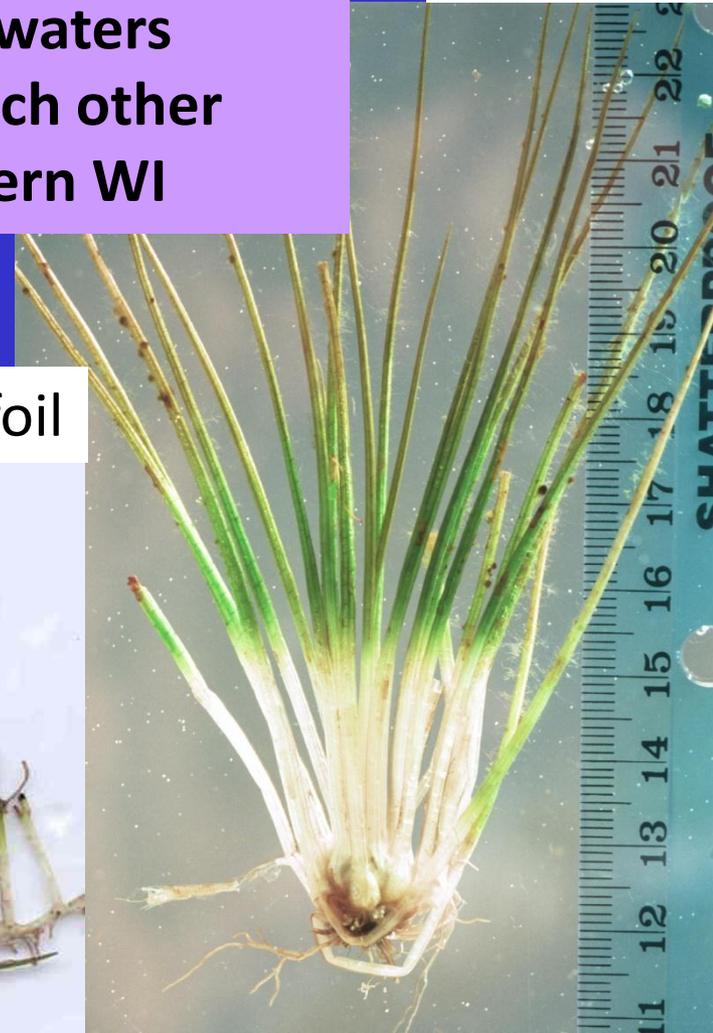
Stiff, tough, often evergreen
Leaves come from base of plant
Sandy or wave-swept shores
Low nutrient waters
Unrelated to each other
Mostly northern WI

Quillwort



Water lobelia

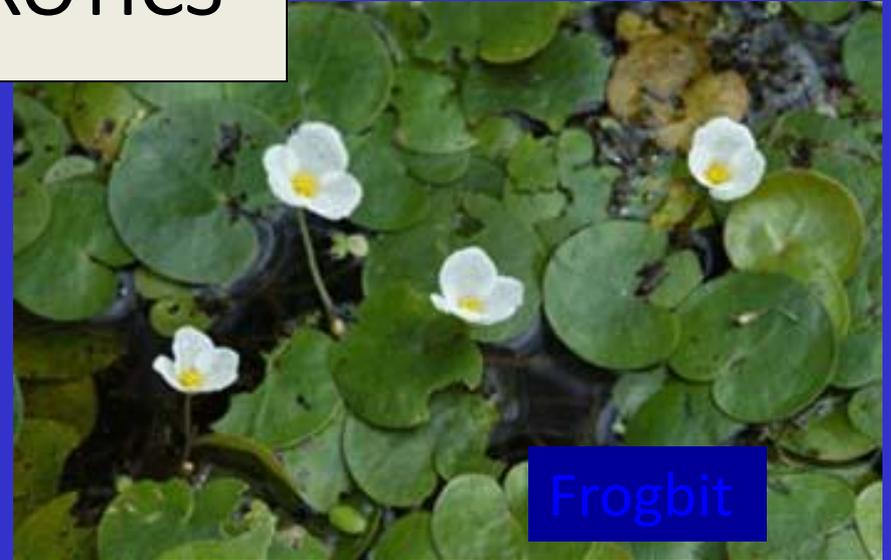
Dwarf water-milfoil



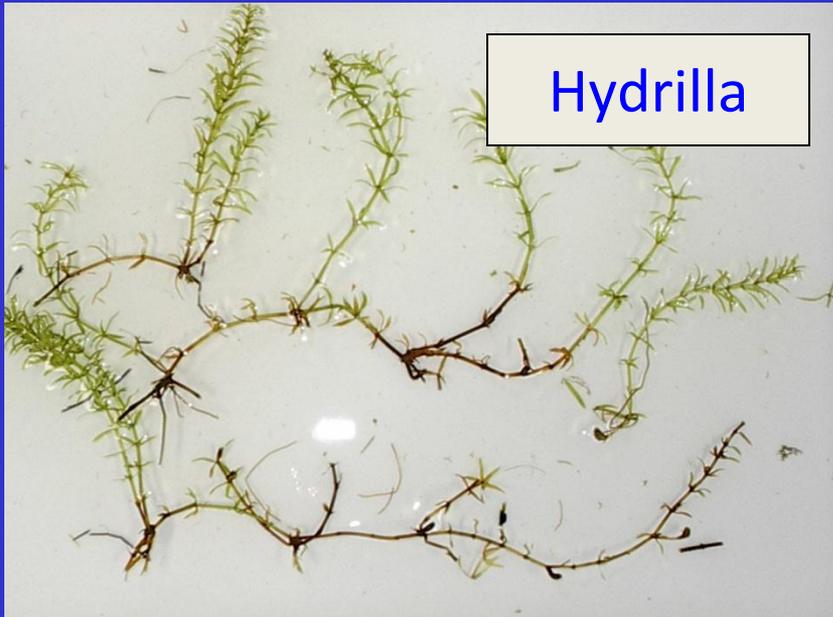
INVASIVE EXOTICS



Water Chestnut



Frogbit

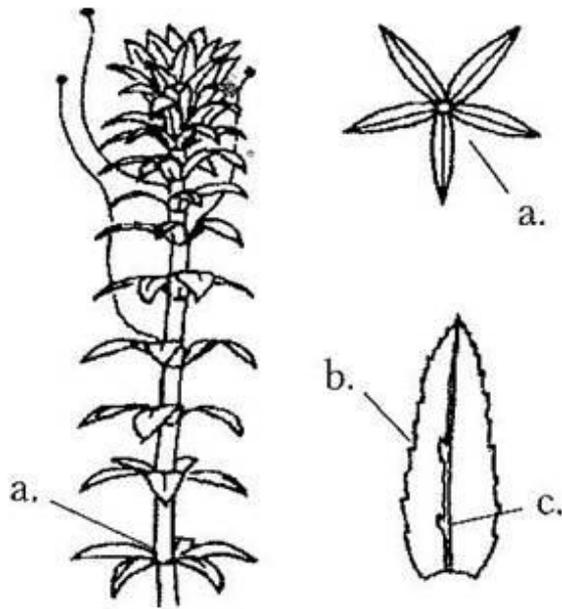


Hydrilla

Sea Grant - Lake Champlain
Photo by Mark Malchoff
Nymphoides peltata
Yellow floating heart

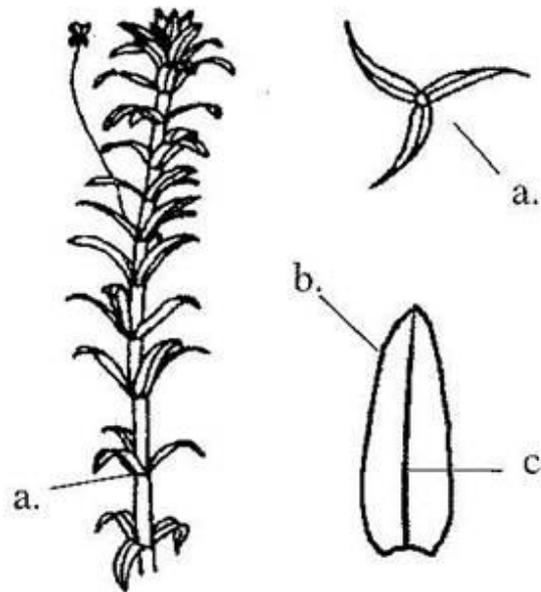
Yellow Floating Heart





Hydrilla verticillata

1. Leaves 0.6-1.7 cm
2. Leaves in whorls of 4-6
3. Leaf margins toothed
4. Midvein of lower leaf surface with spine-like teeth



Elodea canadensis

1. Leaves 0.6-1.7 cm
2. Leaves in whorls of 3
3. Leaf margins smooth

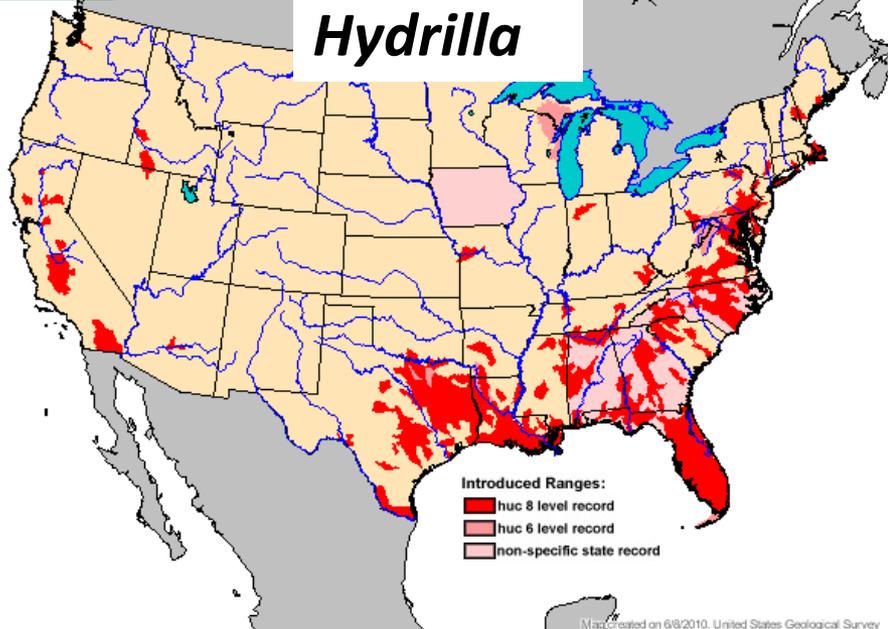


Egeria densa

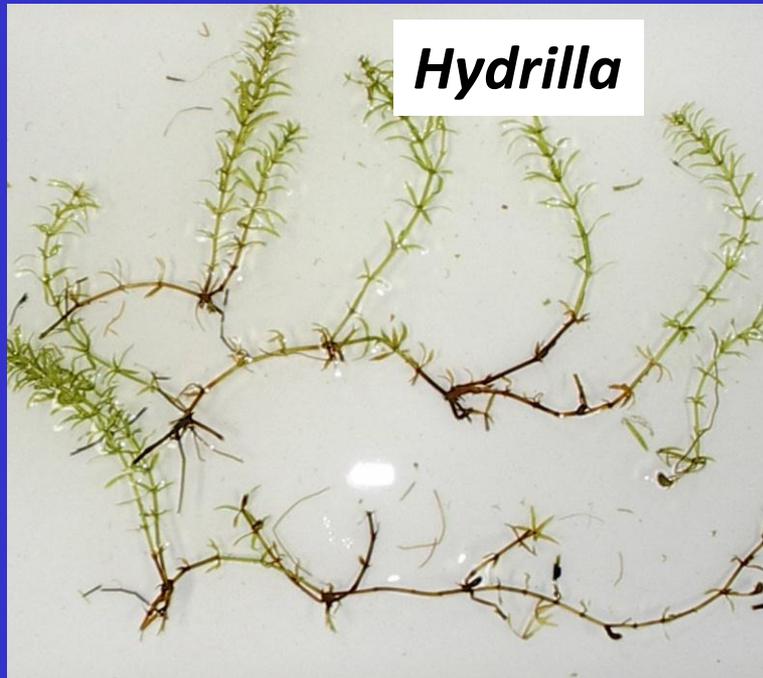
1. Leaves 1.2-4 cm
2. Leaves in whorls of 5 or more
3. Leaf margins smooth



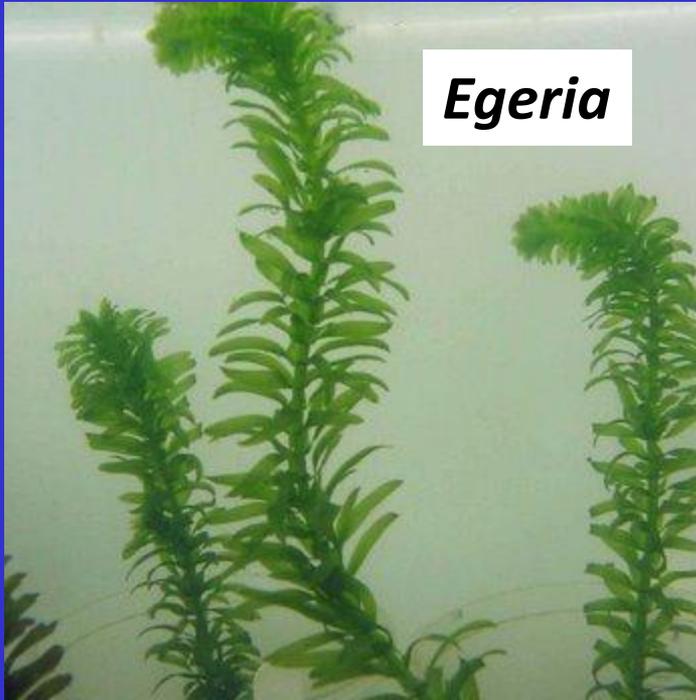
Hydrilla



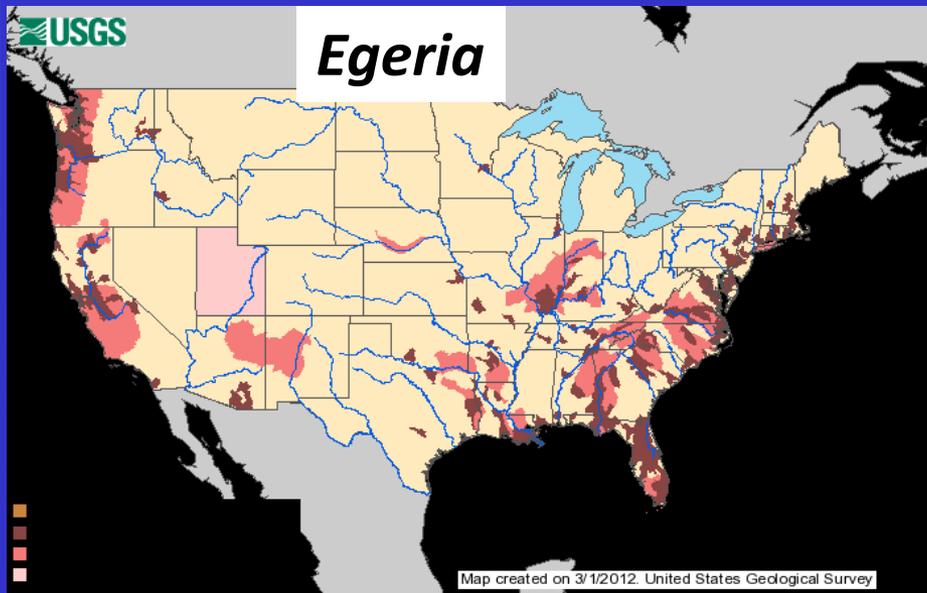
Hydrilla



Egeria



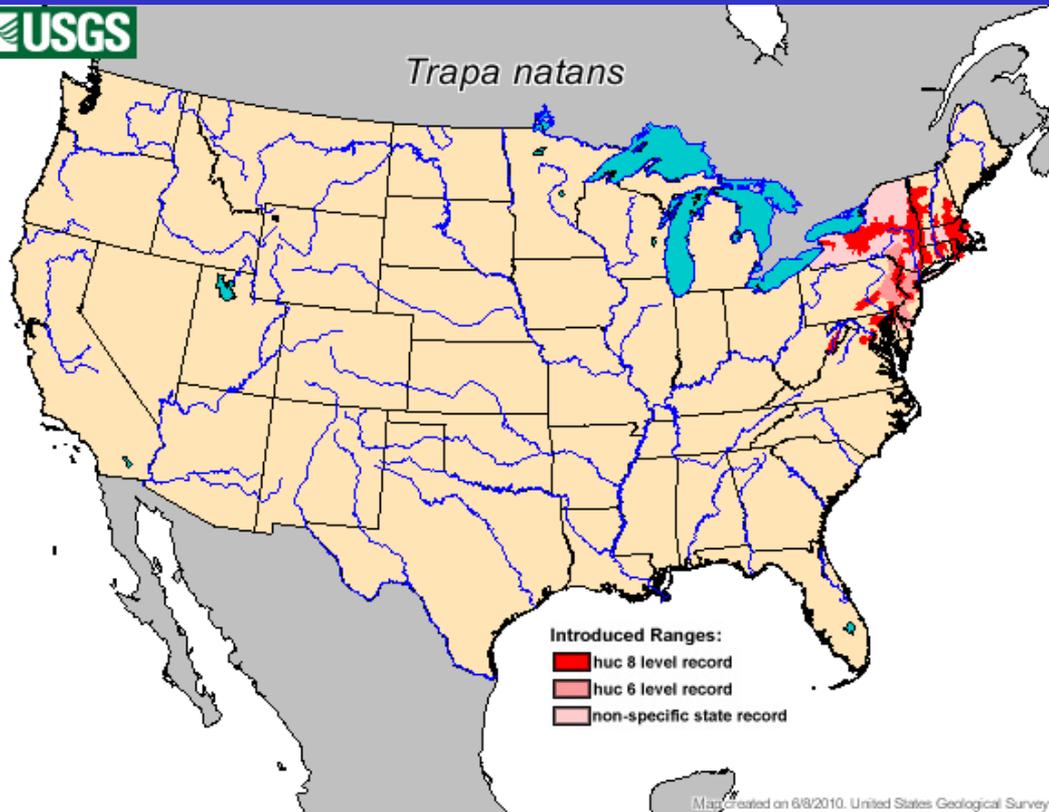
Egeria



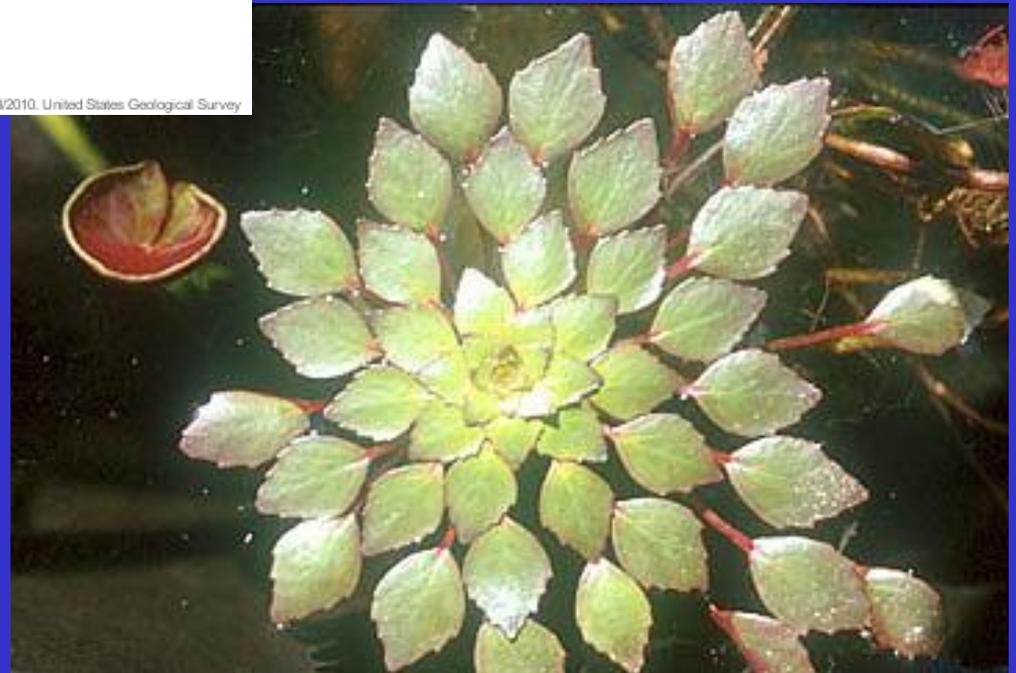
Map created on 3/1/2012, United States Geological Survey



Trapa natans

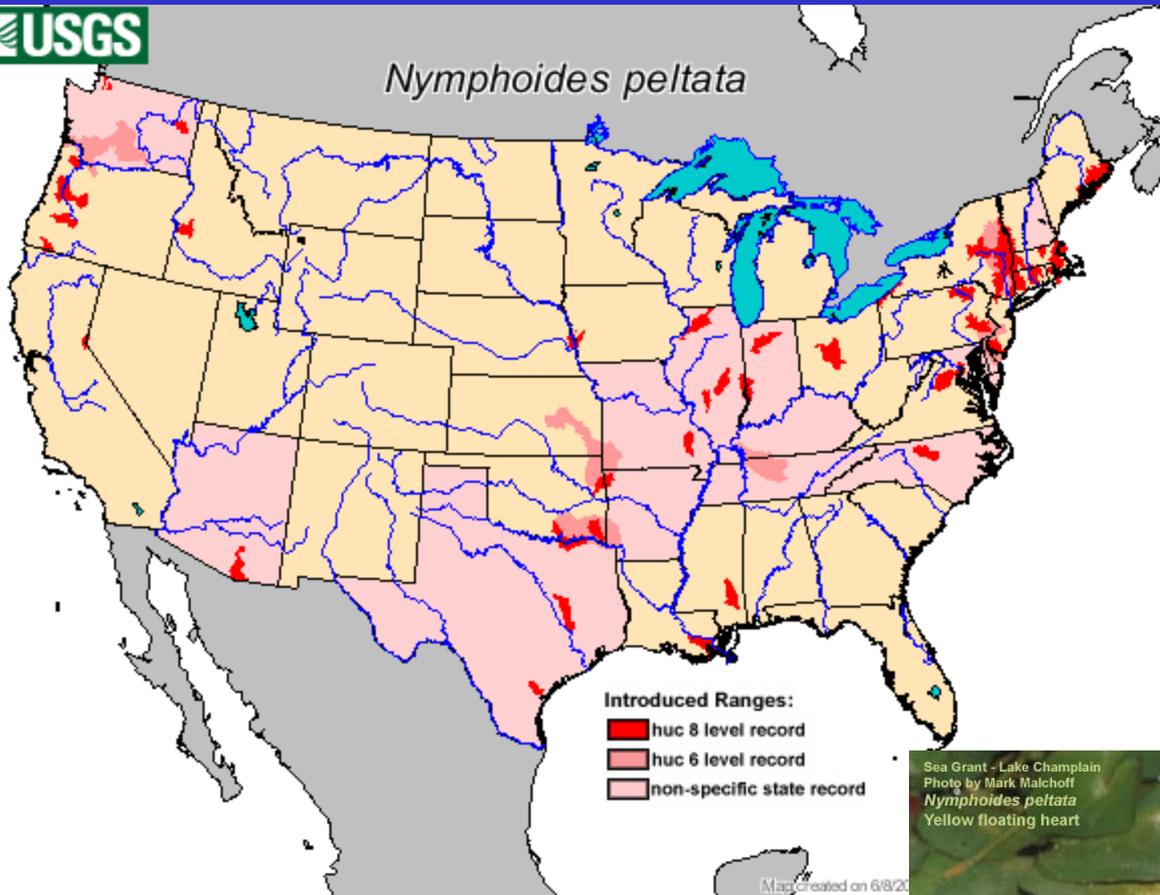


Water chestnut
Trapa natans





Nymphoides peltata



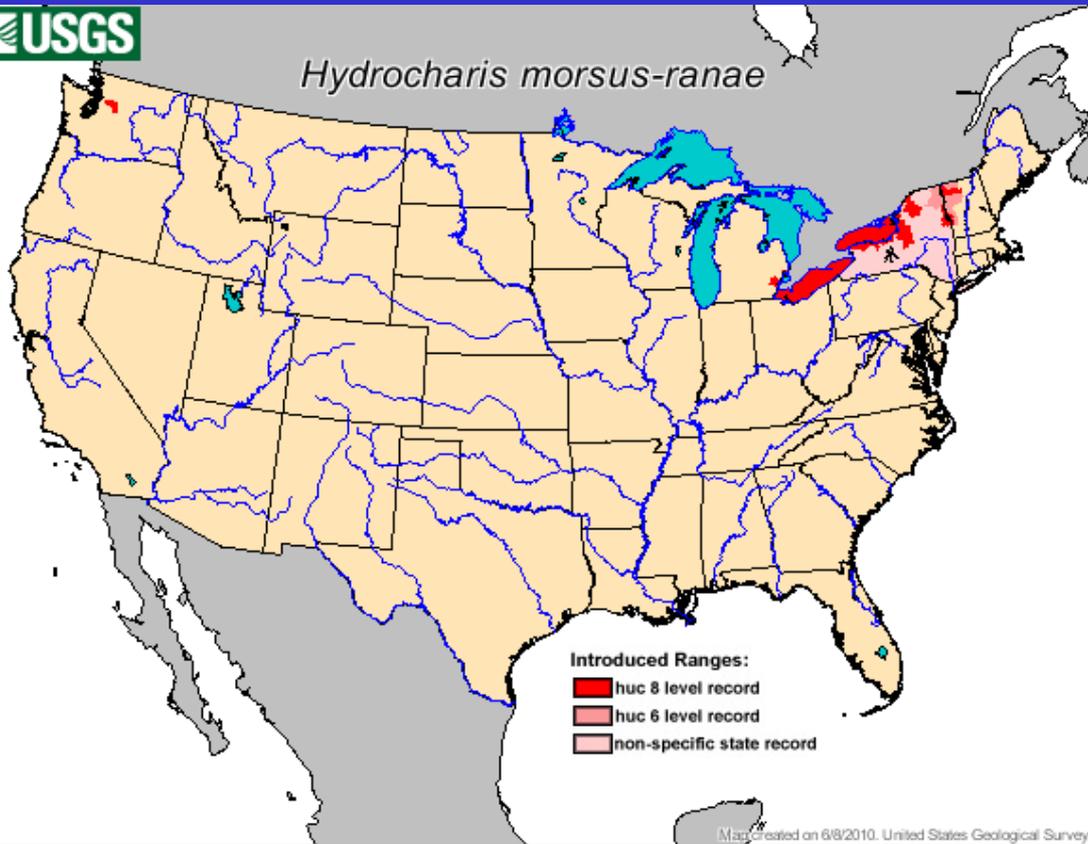
Sea Grant - Lake Champlain
Photo by Mark Malchoff
Nymphoides peltata
Yellow floating heart

Yellow floating heart
Nymphoides peltata





Hydrocharis morsus-ranae



European Frogbit
Hydrocharis morsus-ranae

