Common Stream Plants to Know for the Linear Vegetation Survey

DEP Standards and Assessment Section

Spring 2013

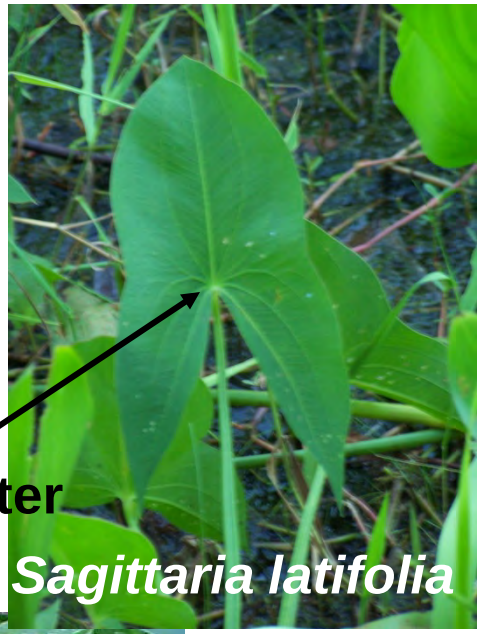
Organized by growth form

- Emergent (arrow-leaved and other)
- Floating
- Submersed
- Grasses

Arrow-leafed Emergents

Parallel

Radiate
From center



Also radiates, but only at base

Pontederia cordata

Native relative to *Eichhornia*, erect habit, lance to heart shaped leaf, longer erect spike of flowers.

Colocasia esculenta

- **Wild taro**
- **FLEPPC CAT 1**
- **Edges of streams, rivers, swamps**
- **Arum family; Peltate leaf**

Sagittaria latifolia
Duck Potato

- Sagittate (arrowhead) leaf
- Flowers completely white
- Stalks of fruiting head ascend

Sagittaria lancifolia

Stalk of fruiting head ascending, not recurved

Hydrocotle spp.

Pennywort

Several species, need flowers to speciate

C of C score at genus level

Orontium aquaticum

- Araceae family
- Golden-club or “neverwet”
- Flowers and fruit on a “club” or spadix
- Bluish-green leaves sometimes floating, waxy surface.

Alternanthera philoxeroides

- **Alligator weed**
- **FLEPPC CAT 2**
- **Opposite leaves**
- **Inconspicuous flwrs, white papery bracts**
- **Swollen and reddish at leaf nodes**
- **No teeth on leaves**

Ruellia simplex (formerly brittoniana)

- Mexican petunia
- **FLEPPC CAT 1**
- Herbaceous perennial 3-4 ft.
- Wide variety of habitats incl. stream and river banks
- Flower color variable (white, pink, blue, purple)

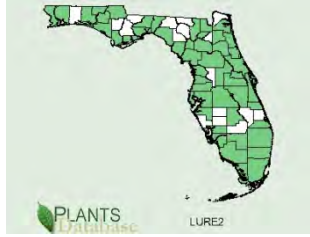
Generic *Ludwigia* features

Box-like capsules – various shapes

Many species have reddish tendencies

Most *Ludwigia* species are readily key-able, even in the field!

- Leaves opposite or alternate
- # petals or sepals
- # stamens
- Capsule shape
- Flowers stalked/not

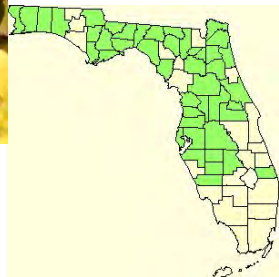


Ludwigia repens

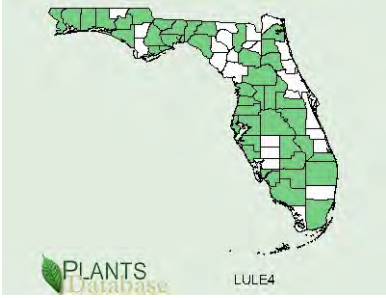
- **Submersed/ floating plant**
- **Roundish lvs, undersides often red/reddish**
- **Leaves opposite**
- **Fruits/flowers sessile (no peduncle)**
- **Almost identical to *L. palustris* – look for fruits!**

Ludwigia palustris

- **Green bands on capsule**
- **Leaves not as round**
- **Glands sometimes on leaf margins**



Ludwigia leptocarpa



- **Capsule long and cylindrical**
- **5-6 petals, sepals**
- **Stem appears minorly angled, not winged**

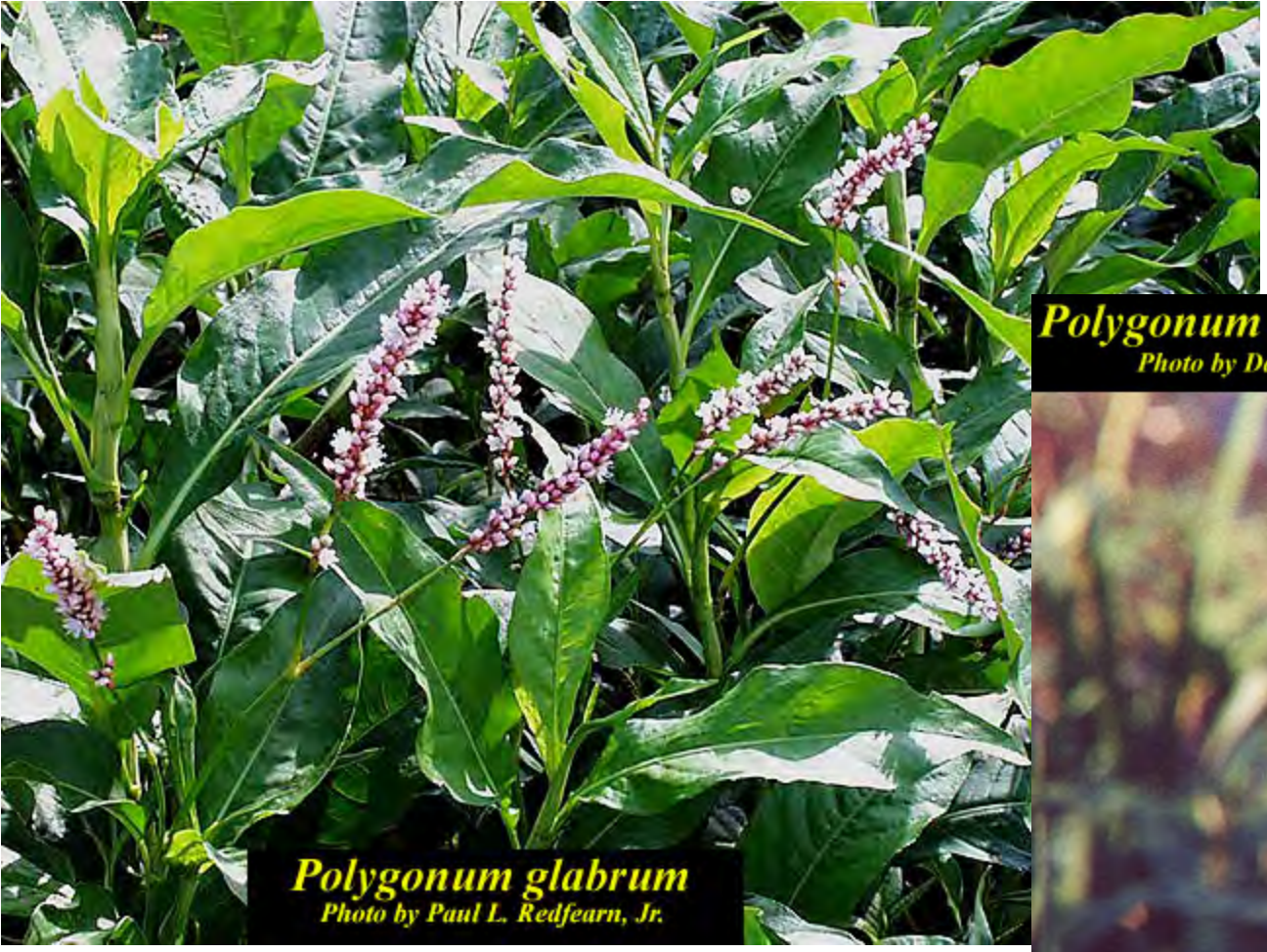
Ludwigia peruviana

- **Largest Ludwigia species, to 3 m tall**
- **FLEPPC CAT 1**
- **Capsules pyramidal**
- **4-5 petals, sepals**
- **Stem pubescent**
- **May form large thickets on lake shores, along roadsides**

Ludwigia peruviana

Polygonum spp. - Smartweeds

- Fairly easy to key out
  - Ocreae with or without bristles
  - Stems with hairs, barbs, or neither
  - Sepals and petals with or without glands



(*P. densiflorum*)

Various sizes, thin ones or large ones many look alike in field. Bring back to key out.

Punctate Glands - *Polygonum* spp.

Glands visible with 10x hand lens. Can appear yellowish on older plants.

Bacopa – field ID

Bacopa caroliniana

- Lemon bacopa
- Leaves clasping
- Stems hairy
- Flowers purple 9-13 mm

Bacopa monnieri

- Does not smell like lemon
- Leaves not clasping
- Stems not hairy
- Flowers pink-white, 8-10 mm

Which one is this?

Bacopa

Bacopa innominata

- Does not smell like lemon
- Leaves clasping
- Leaves oval
- Flowers white, 3-4 mm long
- Occurs statewide

Like *B. caroliniana* except with much smaller white flowers and no lemony smell

Bacopa repens

- **Not native**
- Leaves clasping
- Leaves rounded
- Flowers white, 3-4 mm long
- Currently only known from Collier County

Bidens - field ID

most common species with showy flowers with rays

Bidens mitis

- Leaves opposite
- Leaves not sessile
- Leaves dissected or not

Bidens laevis

- Leaves opposite
- Leaves sessile
- Leaves not dissected

Bidens alba – native but much weedier
White flower, leaves with 3 leaflets

*There are other species of *Bidens*, so if you aren't sure, key it out or send to your expert

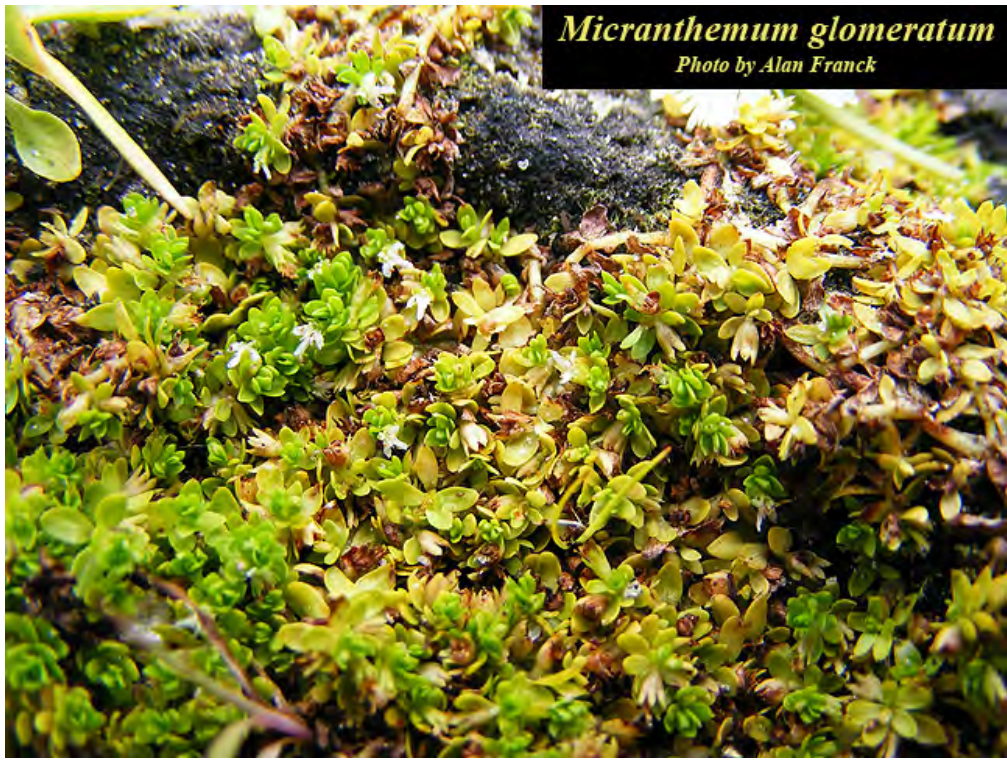
Micranthemum – field ID

Micranthemum umbrosum

- Leaves round
- Leaves usually 4-9 mm

Micranthemum glomeratum

- Leaves oblanceolate
- Leaves usually 2-4 mm



Triadenum virginicum

- Virginia marsh St. John's wort
- Leaves opposite, sessile, egg-shaped, no teeth
- Stem and leaves with purple tint
- Small bushy herb, up to 70 cm tall

Triadenum – field ID

Triadenum virginicum

- Leaves broad at base, sometimes clasping

Triadenum walteri

- Panhandle only
- Leaves not clasping

Nuphar luteum

- **Cow-lily, spatter-dock**
- **Yellow bulbous flower**
- **Leaves pinnately-veined, with rounded edges, overlapping**
- **Leaf undersides green**
- **Leaves can protrude from water at low water levels**

Nymphaea vs. *Nuphar*

Leaves palmately veined, non-overlapping, and pointed

white flower

Leaves pinnately veined, rounded, overlapping

yellow bulbous flower

Eichhornia crassipes

- **Water-hyacinth**
- **FLEPPC CAT 1**
- **Leaves elliptic, parallel-veined**
- **Petioles inflated, spongy**
- **Roots dark, fibrous**
- **Showy purple flower**
- **Floating units of leaves**

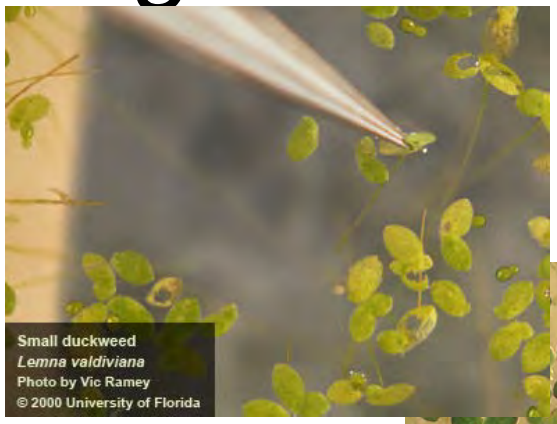
Limnobium vs. *Eichhornia*

Pistia stratiodes

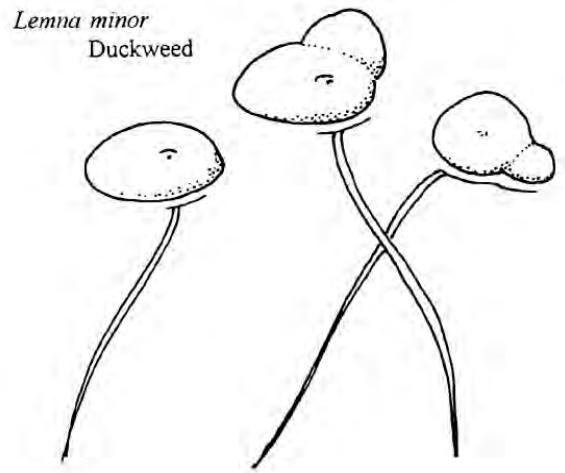
- **Water lettuce**
- **FLEPPC CAT 1**
- **Leaves fleshy, water resistant**
- **Floating units of leaves**

Little floating-leaved plants

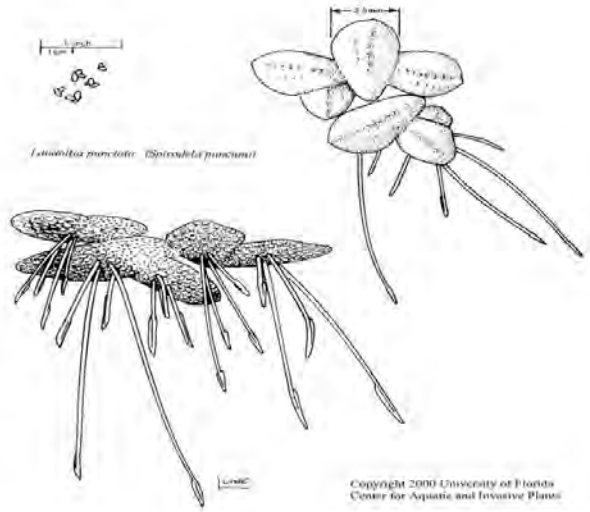
- ***Lemna*** spp.: 5 spp., all native, genus level, all have 1 root
- ***Landoltia punctata*** ***FLEPPC CAT 2*** (formerly *Spirodela punctata*): usu. 2 leaves together, 2-5 roots
- ***Spirodela polyrhiza***: native, bigger, rounder leaf, with red dot, usu 5+ roots, up to 9



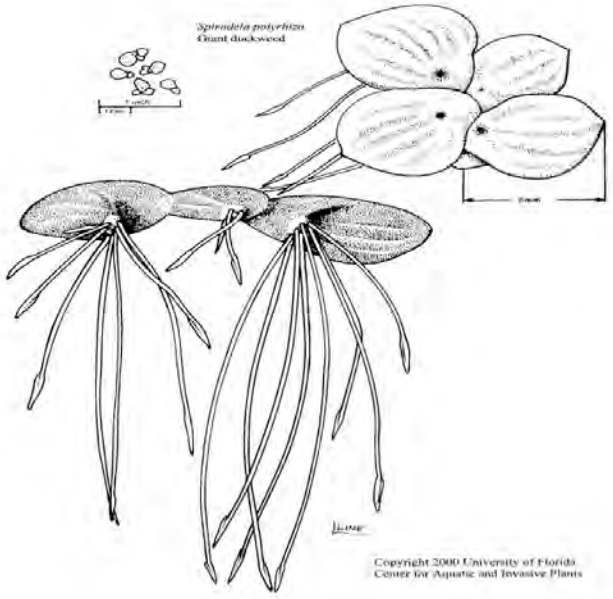
Lemna ~ 1-2 mm



Landoltia punctata ~ 2.5 mm



Spriodela polyrhiza
~ 6 mm



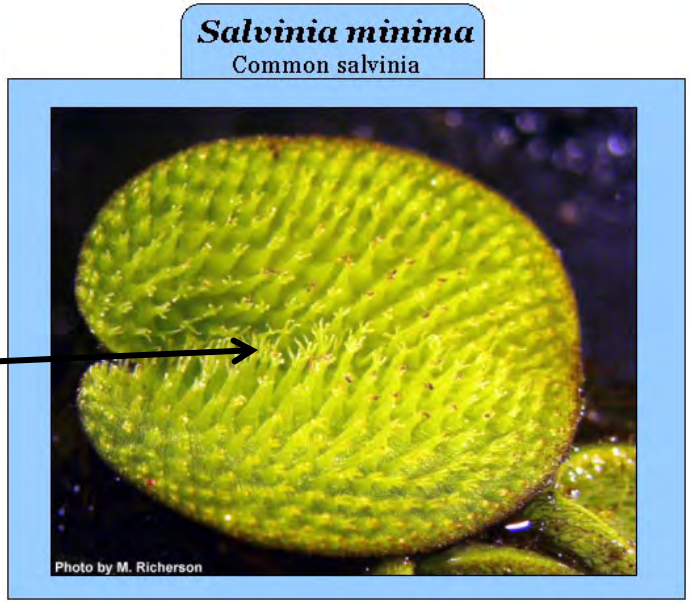
Salvinia minima (water spangles)

FLEPPC CAT 1 (new in 2009)

Salvinia minima

FLEPPC CAT 1

Papillae on leaves are divided in *S. minima* but not on *S. molesta*



Juvenile

Mature

Submersed Plants – Strap-leaf style

- ***Vallisneria americana*: tapegrass, eelgrass**
- ***Sagittaria kurziana*: springtape**

Vallisneria vs. *Sagittaria*

Leaves: thick midsection
Leaf tips: rounded

Flowers: spiral peduncle, single thick unit

5 distinct ridges
pointed
leaf size varies for both!
several white flowers on straight peduncle

Floatby Sightings

Vallisneria americana

Sagittaria kurziana

Vallisneria americana

Sagittaria kurziana

Strap-leaf Sagittaria

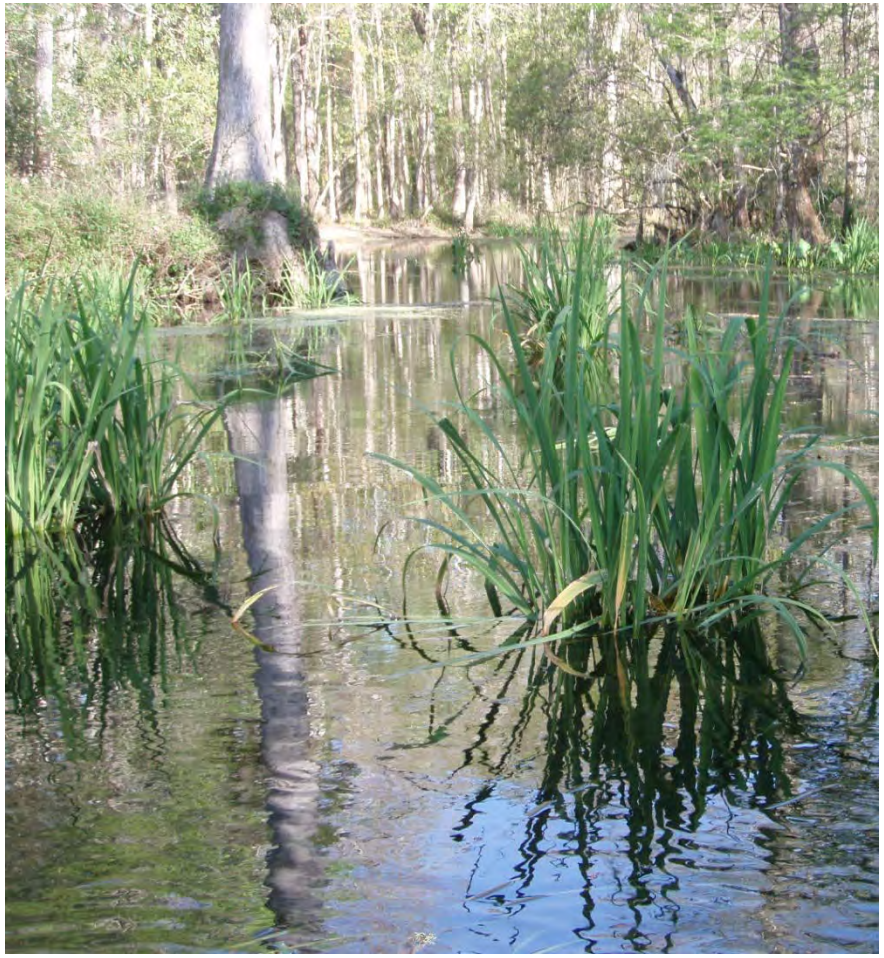
- Occurs only in spring-fed systems (?)
- Leaves: - ¾” wide
  - Sharp, pointed tips (*Vallisneria* = rounded)
  - 3 to 5 prominent ridges that run the entire length of the leaf
- Flowers: - Emersed/floating on branched stalks
  - 3 white petals

stalk of fruiting head recurved

Sparganium americanum
American burreed

- Occurs in standing or flowing water.
- Can be submersed
- Same family as Typha

Zizania aquatica
Wild Rice



- Large grass
- Can grow submersed in deeper areas (spring runs)
- Scabrous leaf margins
- “V” leaf cross section

Eleocharis spp.

Spikerushes

- Hair-like submersed stems
- Typically not fruiting
- Speciate if fruits available
- If spouting from stem tips, viviparous species
- C of C for viviparous *Eleocharis* at genus level

Photos from Ben Paswater and Ford Walton, DEP Ft. Myers

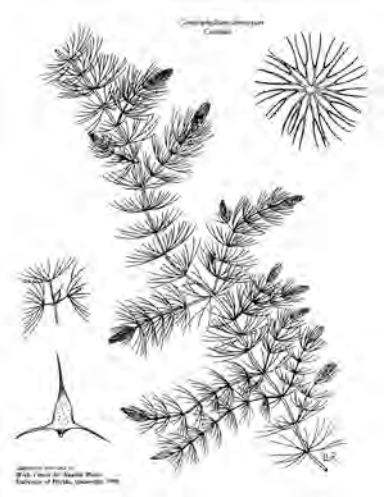
Eleocharis spp.

Spikerushes

Ceratophyllum demersum

Coontail

- Green stems, **plant holds shape out of water**
- Leaves: - dichotomously branched (tuning fork)
  - in whorls on stem
  - several teeth on midribs (rough feeling)
  - bright green to blackish color
- Flowers: - very small, at leaf base



Myriophyllum aquaticum (parrot feather)

Hydrilla verticillata

Hydrilla verticillata

- **Hydrilla**
- **Flexible stems up to 25 feet long, frequently branched**
- **Whorled pointed leaves with teeth on edges and midrib**
- **FLEPPC CAT 1**

Egeria densa

NON-NATIVE

- **Rooted, submersed plants**
- **Stems: - slender, usually a foot or two long**
- **Leaves: - strap-shaped**
  - in whorls of 3 to 6
  - saw-toothed leaf margins
- **Flowers: - short stalks 1” above water**
  - 3 white petals,
  - ¾” across

Hygrophila polysperma

East Indian hygrophila; green hygro

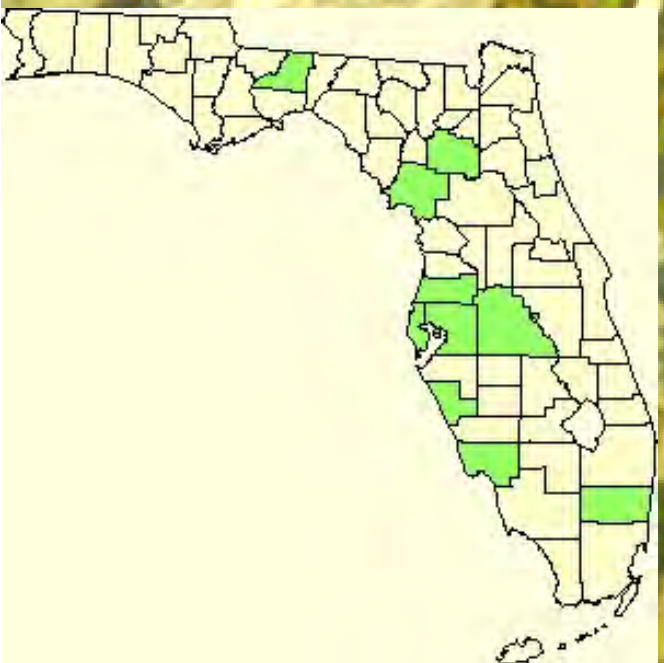
FLEPPC CAT 1

- **Found in streams and slowly moving waters**
- **Submersed with few inches sometimes emerged**
- **Stems: - square**
  - up to 6 feet long
- **Leaves: - opposite, pointed**
  - 1 ½” long, ½” wide
- **Flowers: - at leaf axils**
  - bluish-white to white
  - 2 lips

Hygrophila polysperma

Photo by Patricia Howell

FLEPPC CAT 1

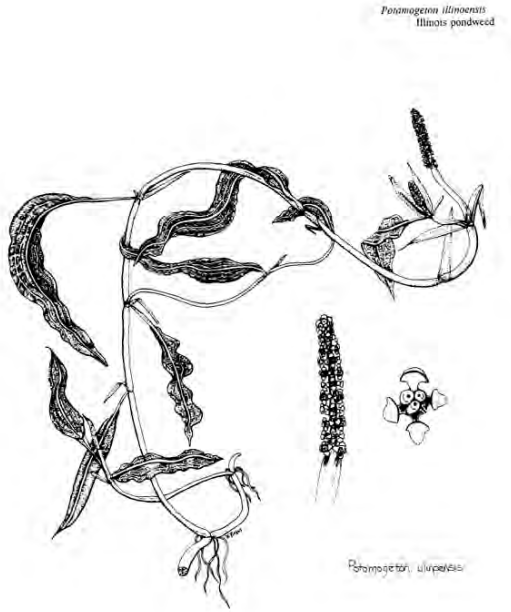


Najas guadelupensis

- **Southern naiad**
- **Small <u>opposite</u> linear leaves**
- **No apparent teeth on leaves**
- **Common native, can be weedy**

Potamogeton illinoensis

Illinois Pondweed



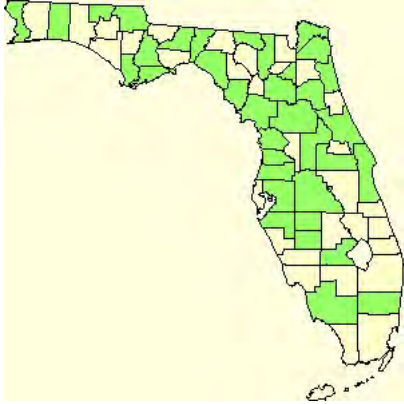
- Common and visible
- Leaves:
  - <u>Alternately</u> arranged
  - Floating and submersed lvs same
    - Elliptic in shape
    - Much longer than wide (8” long)
    - Petioles < 4 cm
    - Pointed tips and bases
- Flower: - greenish on spike
  -1 to 3” long

Potamogeton diversifolius

Waterthread pondweed

- Small plant
- Leaves alternate, 2 styles
  - Small elliptic floating
  - Thin threadlike submersed
- Fruits on tight spike
- Grows in calm waters
- Can grow in large quantities

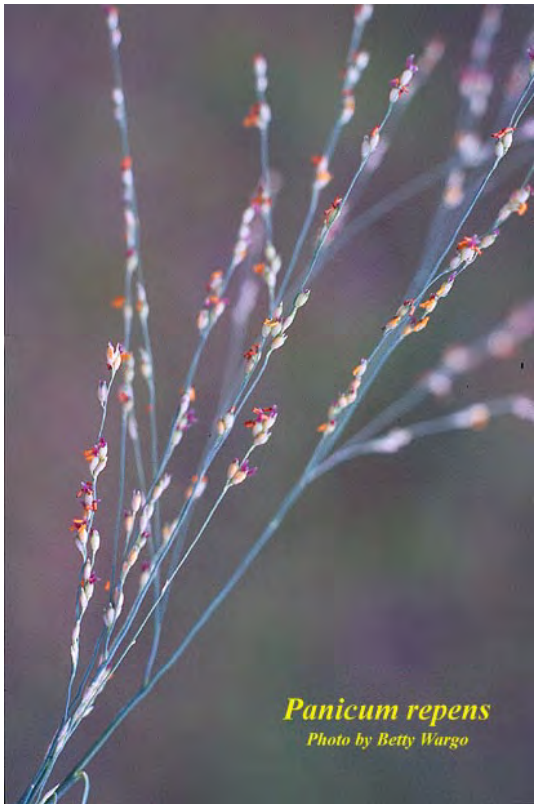
Luziola fluitans – Water Grass



- **Slender grass growing in shallow water**
- **Leaves float**

Panicum repens - Torpedograss

- Floating mats
- Bluish-green color
- Flowers purple and orange
- Rhizome tip pointed and white (torpedo-like)
- FLEPPC CAT 1

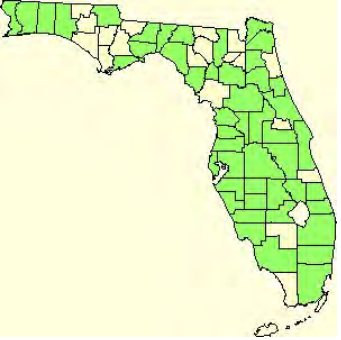


Torpedo grass, *Panicum repens* (center)

Panicum hemitomon
Maidencane

- Flowers/fruits appressed to stem, each seed has stalk
- Stems and nodes sometimes hairy
- Can create large stands of varying thickness
- Plants come higher out of the water than *P. repens*
- Ligule of long hairs, more obvious than in *Sacciolepis striata*
- Nodes may grow roots in water, but not typically in soil

Panicum hemitomon – typical habit



Sacciolepis striata

American cupscale

- Can form dense stands
- Conspicuous nerves on leaves
- Short hairs on sheath
- Short ligule, hairs 2-3 mm
- Spikelets not close against central axis of inflorescence
- Stems decumbent