

AQUATIC PLANTS OF SOUTH FLORIDA

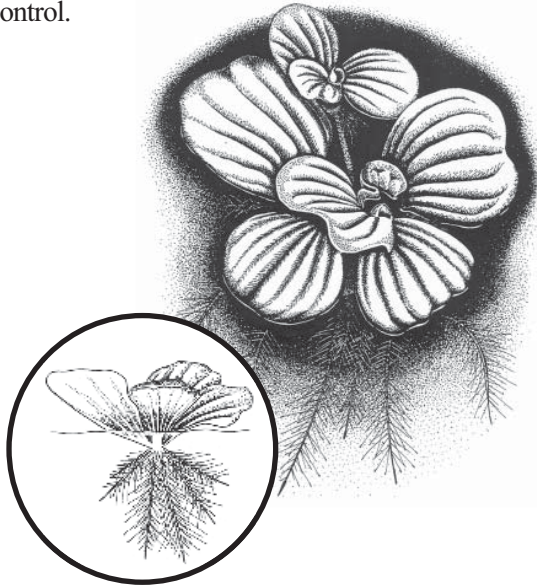
Plants play a critical role in the ecology of our fishes and wildlife, and actually define habitat types by their presence or absence. This guide is intended to assist in identifying most of the common aquatic plants present in south Florida.

—FLOATING PLANTS—

These plants can provide shade and oxygen for fishes. However, too many floating plants may shade submerged oxygen-producing plants below them and can also interfere with angling access, especially when free-floating plants are all pushed to one side of a lake or pond by wind or wave action.

WATER LETTUCE ▼

(*Pistia stratiotes*)—Up to 1' across. Possibly exotic (evidence uncertain). This open plant resembles a head of lettuce, as its name suggests. Leaves hairy. Feathery roots, like those of the water hyacinth, provide some cover for small fishes and invertebrates. This plant is similar to the hyacinth in its ability to reproduce and cover water bodies, and has also proven expensive to control.

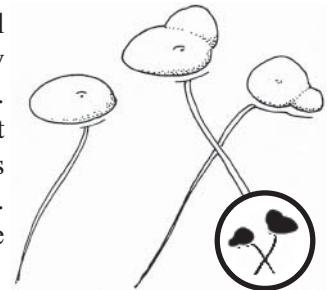


WATER HYACINTH ►

(*Eichhornia crassipes*)—1-3' tall. Exotic; present in Florida over 100 years. This plant's *bright purple flowers* are unmistakable. Swollen leaf stems are filled with spongy tissue that provides flotation. Feathery roots remain underwater, and offer limited cover for smaller invertebrates and minnows. This plant reproduces rapidly, can be dispersed by current or wind, and has been one of the most costly plants to control in Florida. It can double its population in approximately two weeks. Entire water bodies may become covered with hyacinth.

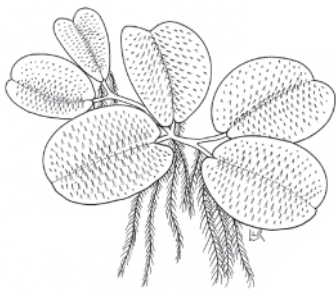


DUCKWEED ► (*Lemna spp.*)—Individual plant less than ¼" across. Leaves are actually fronds which may grow singly or in groups. Each frond possesses a single root. Tiny, but often present in large numbers that appear as a coarse green scum on the water's surface. An excellent waterfowl food as the name aptly suggests.

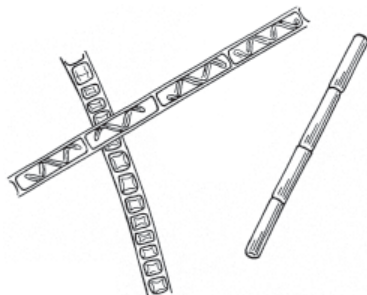


◀ WATER FERN, SALVINIA

(*Salvinia minima*)—Entire plant about ¾" across. Exotic. A tiny floating fern with many distinct, stiff hairs on its leaves. This small plant does not possess roots; instead, highly modified and finely divided leaves hang beneath the plant to absorb nutrients from the water.

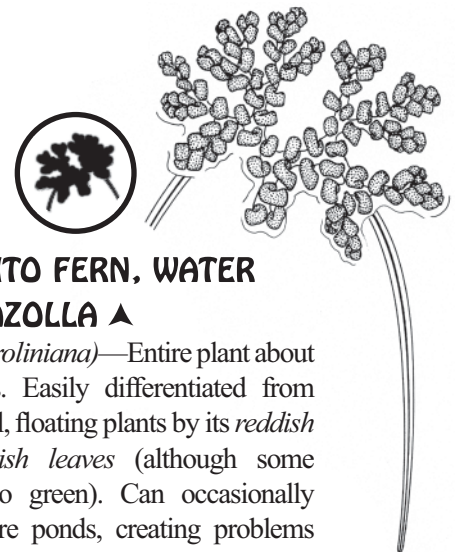


ALGAE ► Individual algae plants are usually microscopic, but can be quite noticeable as a group when floating or submerged as mats (filamentous algae), or when contributing to a greenish or reddish-brownish surface scum or similarly-colored water turbidity (single-celled algae). Difficult to control.



MOSQUITO FERN, WATER FERN, AZOLLA ▲

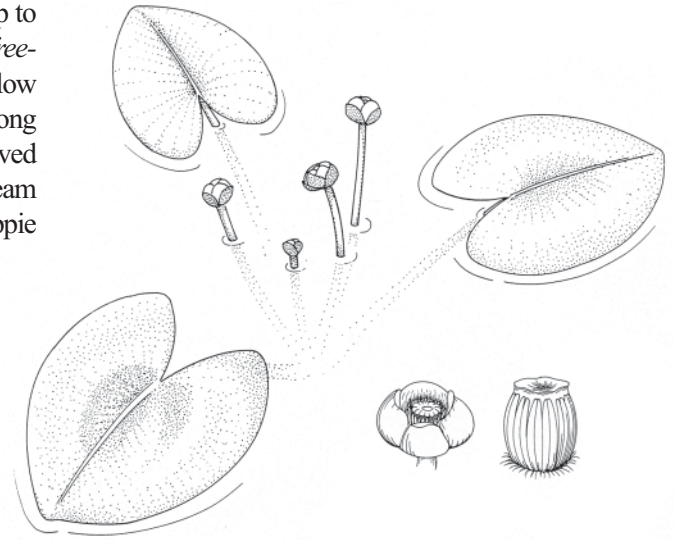
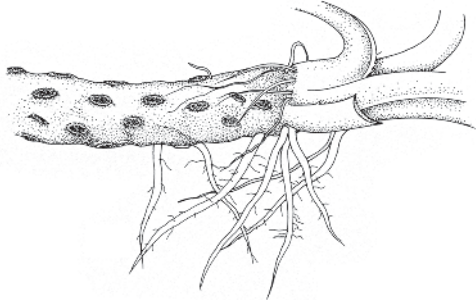
(*Azolla caroliniana*)—Entire plant about ½" across. Easily differentiated from other small, floating plants by its *reddish or brownish leaves* (although some leaves also green). Can occasionally cover entire ponds, creating problems for anglers or watering livestock.



—LILIES AND THEIR KIN—

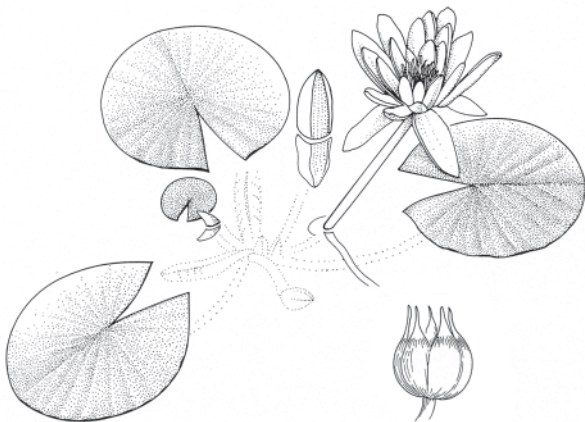
Lilies and related plants can provide shade, oxygen, and cover for fishes. Since they are rooted and do not reproduce as quickly as some of the floating plants on the previous page, they do not present as many problems and are generally beneficial.

SPATTERDOCK, COW LILY ▶ (*Nuphar advena*)—Large leaf up to 16" long. Heart-shaped leaves less round than other lilies, and often *free-standing above the water*. Ball-like round, yellow flower. Oval fruit yellow to green. Plant grows from large rhizomes (shown below) which run along the bottom; these rhizomes often become dislodged and can be observed floating. An important host plant for the bonnetworm, an important bream food (and excellent bait). Roots can provide spawning substrate for crappie and bream.

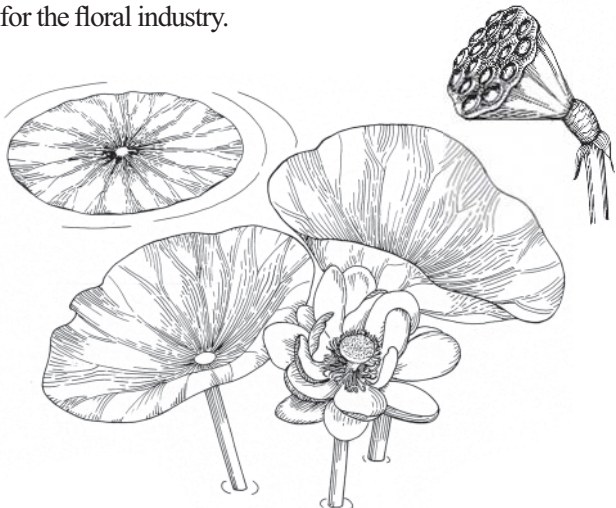


◀ **WHITE WATER LILY, FRAGRANT WATER LILY**

(*Nymphaea odorata*)—Split leaf up to 12" across. Leaf round and lays flat on water, unlike spatterdock. Leaf purplish-red below. Attractive and aromatic white flower (as the two popular names for this plant suggest). Other species of water lily, as well as hybrids, differ in flower color (sometimes yellow or purple). Rhizome similar to that of spatterdock.



AMERICAN LOTUS ▼ (*Nelumbo lutea*)—Very large leaf 2-3' across. Leaf round and *unsplit*, unlike spatterdock or other lilies. Large, colorful yellow flower up to 6 in. across. Unmistakable seed pod resembles shower head and is harvested for the floral industry.



BANANA LILY, FLOATING HEART ▲

(*Nymphoides aquatica*)—Small leaves are 3-6" wide. Easily identified as our smallest lily, particularly if the tiny (1/2") white flowers are present. Gets its name from the banana-bunch shaped rhizomes found below water. Can be difficult to control.

PENNYWORT ▲

(*Hydrocotyle umbellata*)—Small leaf up to 2" wide, but stem may be up to 12" long. Not a lily but resembles one, especially when found growing on the surface of the water. Generally located along shorelines, but also anywhere that the ground is damp enough to support it. A good waterfowl food.

—SUBMERGED PLANTS—

This is the most important group of plants for fishes. Submerged plants provide the most cover, oxygen, and food. Even for fishes that do not eat plants, these species provide the necessary habitat for forage organisms such as minnows, aquatic insects, and crustaceans.



◀ HYDRILLA

(*Hydrilla verticillata*)—Individual leaves to $\frac{3}{4}$ " long; branching stems may reach 25' in length. Exotic from Africa. Note the **whorled** (circular) pattern of 4-5 leaves around the stem. Leaves are **serrated** (toothed) and have spines on underside of midrib. Tiny flowers are white. Probably our best known submerged plant. Requires only about one-third to one-half the sunlight needed by native plants to photosynthesize, allowing it to grow faster and deeper than natives. White tubers at base allow plant to survive cold and drought. Often spread by fragments transported on boat trailers. Excellent aquatic habitat for fishes and other organisms, but high densities can hinder boat navigation and angling, and lead to overabundance of forage fish and stunted bass populations. Labor-intensive to control due to extremely rapid growth.



EELGRASS (TAPEGRASS) ▲

(*Vallisneria americana*)—Narrow leaves up to 1" wide and 10' long give this plant its name. Note the rounded tip and "net" vein pattern of individual leaf. Tiny white flowers rise to water's surface on long thin stems. Small banana-shaped fruit capsule encloses numerous tiny seeds, but plant can also reproduce by fragmentation. In very clear waters eelgrass may overgrow and interfere with boating and angling, but this species is usually not problematic. A prime waterfowl food and excellent habitat for fishes and other aquatic organisms.

PONDWEED (PEPPERGRASS) ▶

(*Potamogeton illinoensis*)

Elongate, wavy leaves lance-shaped, to 1" wide and 3-7" long. Distinctive "corn-cob" fruiting head extends above waterline and is easily identified. Plant may impede boating and angling at higher densities, but usually beneficial as food for wildfowl (the fruiting heads are consumed) and cover for fishes. Leaves may be covered by a film of chalky white calcium, particularly when growing in "hard" (high calcium) waters.



HYGROPHILA (HYGRO) ▶

(*Hygrophila polysperma*)—Exotic from southeast Asia. Leaves are $\frac{1}{2}$ " wide and $1\frac{1}{2}$ " long, and often appear reddish. Stems are **square** in cross-section and grow to 6' in length. Usually found in waters with at least some flow. Very rapid growth and ability to reproduce new plants from broken-off leaves and stems has recently made this one of the bigger aquatic plant problems in southeast Florida. Dense growth obstructs boating and angling access.

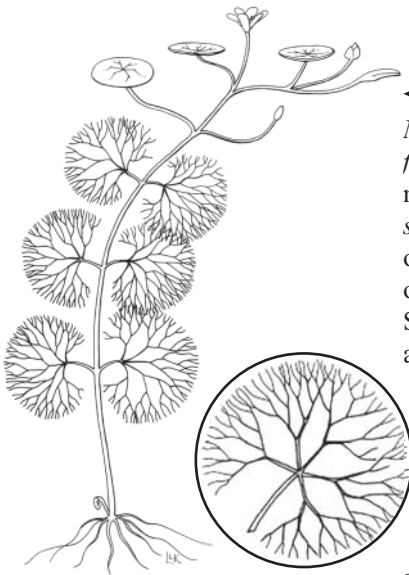
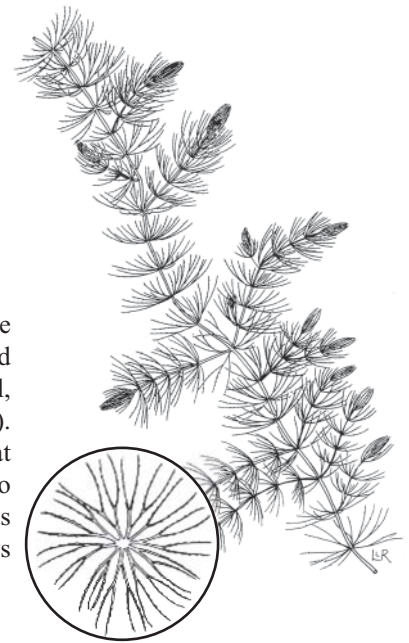




◀ **CHARA (MUSKGRASS)** (*Chara spp.*)—No leaves; thin branches number 6-15 and are arranged in a whorled pattern around stem. Actually a large multicellular algae, very bare and “twiggy” in appearance. Name refers to strong musky odor of this species. Brittle texture when crushed is due to high levels of calcium present within plant. Seldom a problem, refusing to “top out” even when growing in dense stands in shallow water. Excellent waterfowl food plant and good habitat for aquatic forage organisms important to fishes.

▶ **COONTAIL**

(*Ceratophyllum demersum*)—Finely divided leaves are up to 1” long and arranged in a whorled pattern around stem. Similar to chara but with no odor, much softer feel, and “bushier” appearance (giving this plant its name). This species is unusual among submerged aquatics in that it has no roots. May occasionally grow thickly enough to interfere with boat traffic and angling. Moderate value as a waterfowl food, but a fair cover species for minnows and aquatic insects.



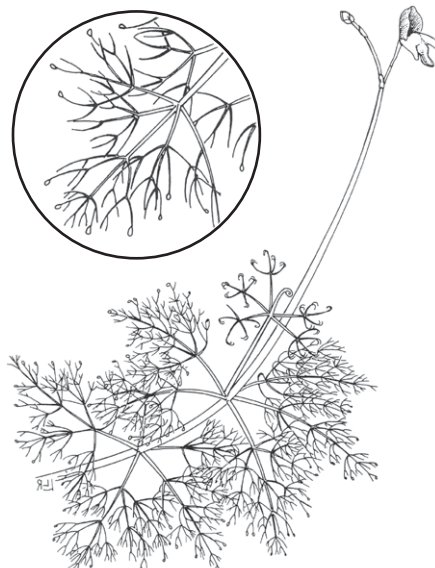
▶ **FANWORT** (*Cabomba spp.*)—

Note the two different types leaves. The floating leaves are fewer in number and may sometimes be absent. Fan-shaped submerged leaves from which the name originates are placed *opposite* each other on stem, are branched, and 1-2” across. Similar to chara and coontail in general appearance. One species grows in pattern somewhat similar to coontail, giving large, bushy “tail” appearance. Stems and leaves may be green or reddish. Small flowers white to purple. Little or no wildlife value, though probably provides some cover for minnows and aquatic invertebrates.



▶ **BLADDERWORT**

(*Utricularia spp.*)—Highly branched, complex stems. Forked leaves have numerous tiny *bladders* which are carnivorous and can trap and digest microscopic aquatic organisms. Emergent stem supports small *yellow or purple flower*, depending on species. Actually a rootless floating plant, although most of plant remains submerged. Grows in mats, often in association with other plant species, that sometimes become dense enough to impede boat traffic. Limited food use by waterfowl but provides some cover for smaller aquatic creatures.

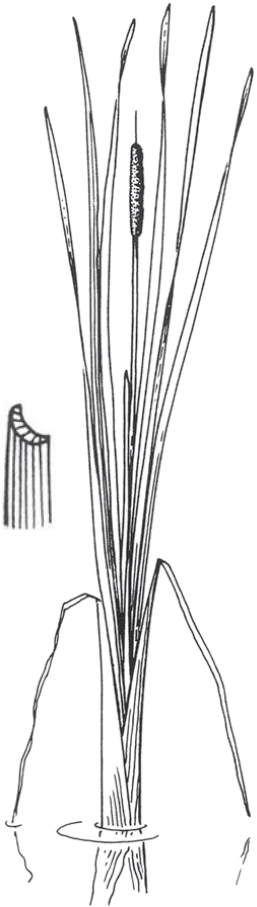


▶ **SOUTHERN NAIAD**

(*Najas guadalupensis*)—Fine leaves less than 1/16” wide and up to 1” long, arranged in pairs or in whorls of 3. Stems slender and many-branched. Grows in dense mats to just below water surface. Flower inconspicuous. A problematic plant because thicker growth can hinder water flow and boat navigation. However, an excellent food plant for waterfowl that also provides good habitat for small aquatic animals.

—EMERGENT AND SHORELINE PLANTS—

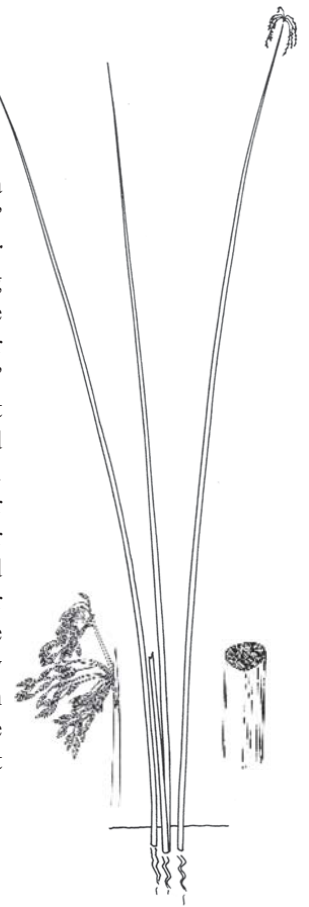
Emergent and shoreline plants are the most easily observed and studied. Many of these plants are important not only to fishes, but also to wildlife for both food and habitat. Their dual role makes some of the native species excellent choices for habitat restoration along south Florida shorelines.



◀ **CATTAIL** (*Typha* spp.)—Individual leaves up to 9' in height. Several similar species occur in Florida and may interbreed (*hybridize*), making identification down to the individual species difficult. The leaves are *flat* in cross-section but may be slightly curved. The tiny seeds are densely packed within the *spike* (the hot-dog shaped fruit) of the plant. Seeds emerge attached to a silky “parachute” and can be dispersed great distances by wind. Although a native, this species grows rapidly and densely in high-nutrient waters and can be problematic to control, making it undesirable. Even after being killed by chemical spraying the stems may remain for over a year, requiring manual removal. Cattails can impede not only navigation but water flow. While food value for wildlife is low, this plant does provide cover for fish as well as for roosting and nesting birds.

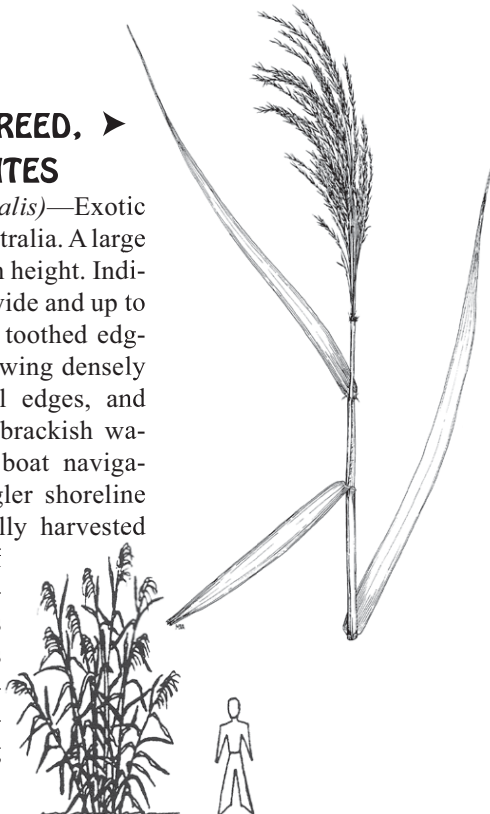
GIANT BULRUSH ▶

(*Scirpus californicus*)—Actually a large sedge. Narrow stems reach 9' in height and are *round or triangular* in cross section. Raggedy-looking clusters of brown flowers may be present. May turn brown in winter and appear dead, only to “recover” in spring. An excellent plant that is seldom a control problem and provides good habitat for fishes. Wildlife will utilize the seeds for food as well as the plant for cover and nesting habitat. Can be planted in deeper water than most other shoreline revegetation species due to its height, and requires very little soil to flourish. Does well in sandy soils which are inhospitable to many other shoreline plant species.



COMMON REED, ▶ PHRAGMITES

(*Phragmites australis*)—Exotic from Africa and Australia. A large grass reaching 12' in height. Individual leaves 1-2" wide and up to 2' long, with finely toothed edges. Often found growing densely packed along canal edges, and may be present in brackish waters. Can obstruct boat navigation as well as angler shoreline access. Commercially harvested in other parts of the world for making fishing rods and mouthpieces for musical instruments. Used as cover and for roosting sites by birds.



SAWGRASS ▶

(*Cladium jamaicense*)—The dominant plant species of the Everglades giving our “River of Grass” its longer moniker. The name was coined by Marjorie Stoneham Douglas in her book of the same title. Up to 9' tall with individual leaves less than ½" wide and up to 4' long. Named for the stiff, sharp serrations on the edge of the leaves which can deliver a long cut if care is not taken. Ragged clusters of brown flowers are found on stalks forming the tallest part of the plant. May obstruct water flow and boat trails but seldom the problem that other plants such as cattail present. Seeds provide good food for waterfowl, while the rest of the plant provides cover and nesting habitat for a variety of bird species.





◀ **PICKERELWEED** (*Pontedaria cordata*)

Grows to 4'. Has lance- or arrowhead-shaped leaves up to 4" wide and 8" long, with a distinct *purple flower*. Although a recommended species for planting and shoreline revegetation, pickerelweed can sometimes be problematic, covering entire water bodies. Seeds can provide food for waterfowl, while the plant can provide cover for both fishes and birds.



ARROWHEAD (*Sagittaria latifolia*) ▶

Lance- or arrowhead-shaped leaves up to 4" wide and 2' long. Easiest way to identify this plant is by the *white, 3-petaled flower* when present. A good shoreline plant providing some food for waterfowl as well as cover for wildlife. Burred seeds can be dispersed over great distances because they will catch on the fur or feathers of passing animals.



◀ **TORPEDOGRASS**

(*Panicum repens*)—Exotic from Australia. Grows to over 2'. Narrow leaves about 1/4" wide. Fast-growing plant found along water's edge and beaches as well as in damp terrestrial sites such as low fields. May grow 20' out into water or form dense floating mats. This plant is difficult to control and will quickly infiltrate stands of native vegetation. Once established among other vegetation it is very difficult to remove without destroying adjacent plants as well. Poor food value for wildlife but provides cover for small aquatic fishes and invertebrates such as grass shrimp.

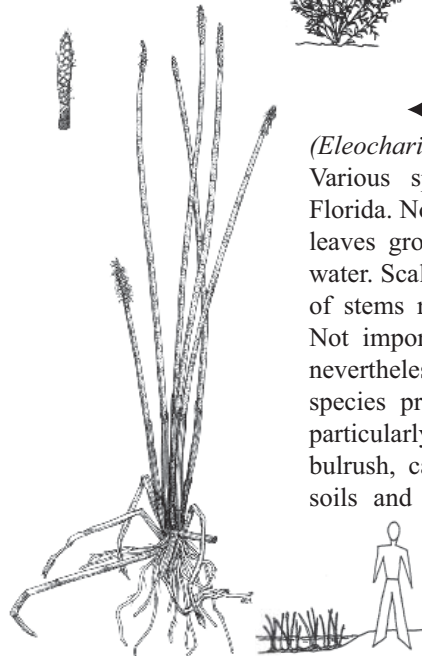
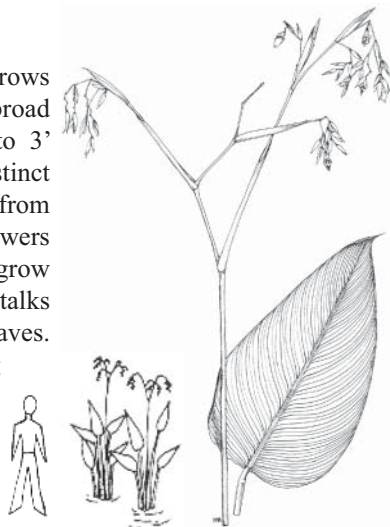
PRIMROSE WILLOW ▶

(*Ludwigia peruviana*)—Height to 6'. A common shoreline shrub easily identified by its bushy appearance and *yellow, 4- or 5-petaled flowers*. Usually found growing above the waterline near ditches or lakes as well as in more terrestrial habitats, particularly disturbed areas. Can grow and spread rapidly but despite this fact is seldom a control problem. Seeds provide food for waterfowl, while plant provides cover for a variety of birds.



FIREFLAG ▶

(*Thalia geniculata*)—Grows to 8'. Recognized by the broad lance-shaped leaves up to 3' long, growing in a distinct pattern pointing outward from center of plant. Purple flowers (and resulting seeds) grow in a zigzag pattern on stalks extending above the leaves. Usually found in standing water. Flowers and seeds provide food for wildlife while leaves provide shade and cover.



◀ **SPIKERUSH**

(*Eleocharis* spp.)—Grows to 3'. Various species present in south Florida. Note the straight, pencil-like leaves growing upright in standing water. Scaled pattern of flower at top of stems reminiscent of pine cone. Not important as a food plant but nevertheless an excellent shoreline species providing cover for fishes, particularly favored by bass. Like bulrush, can be planted in shallow soils and also does well in sand.



This publication is produced by the Florida Fish and Wildlife Conservation Commission; 8535 Northlake Boulevard; West Palm Beach, FL 33412; 561-625-5122. It is paid for in part by Sport Fish Restoration funds. For even more species of aquatic plants and greater depth of information, an online information resource is available at the excellent University of Florida website, <http://aquat1.ifas.ufl.edu/photocom.html>. Aquatic plant line drawings are the copyright property of the University of Florida Center for Aquatic Plants (Gainesville). Used with permission.

