

## Water Lettuce *Pistia stratiotes*

Water Lettuce is easy to identify: it resembles the top a floating open head of lettuce. It is found singly or in abundance at both lakes.

The leaves are light green on top and greenish-white on the underside. They are thick, hairy and ridged, enabling them to float and even support the weight of small wading birds that walk on them hunting for prey in the water. The leaves seem to have the consistency of a styrofoam cup. Roots hang below the plants and may extend for 18-20 inches.

Although it flowers, the blooms, *below*, are not seen except by very, very close examination.



Experts disagree as to whether or not water lettuce is native to the United States.

It has been documented as present in Florida since as early as 1765 when explorer William Bartram described and drew the plant at Lake George. This led many to believe water lettuce was native to North America.

It is native to South America where there is an abundance of regionally native insects associated with water lettuce, but the absence of coevolved herbivorous insects in North America is a strong argument for an exotic origin.

Water Lettuce is a member of the *Araceae* (Arum) family, which includes Gold Club and Green Arum which are also seen from the boardwalk. Water Lettuce is the only free swimming member of the family, forming no lasting shoots or tubers.

While it is a perennial in tropical and subtropical climates, in habitats with dry or cold seasons, individual plants die



completely, which contrasts with other member of the Arum family. When the lakes dry down but the peat remains moist, some Water Lettuce may survive until the summer rains return.

Although Water Lettuce is not winter-hardy, it will continue to grow when water temperatures drop to as low as 59 degrees

Water lettuce can propagate by growing stolons (stem-like shoots) which produce new rosettes. The stolons are brittle and break easily, helping the plant expand to new areas.

It also reproduces by seed. The seeds sink into water where they are covered by old roots and the remains of leaves.

Seed production is important because seeds can remain dormant for months and withstand drought and freezing.

Pollinators are unknown, but viable seeds have been produced in greenhouses in Zurich, Switzerland, where *Pistia* is definitely not native.

Pollination could be so generalized that any small animal such as little dipters or beetles could do the job, or it could be by asexual reproduction (*apomixis*, a fancy word for self-pollination). There is no definitive answer as yet.

On the down side, all parts of the plant are poisonous. If ingested in large quantities, it can cause intense burning and swelling of the lips, tongue, and throat; nausea; vomiting; and diarrhea. Nothing in the swamp eats it.

Whether it's native or exotic, Water Lettuce can pose many of the same environmental problems as Water Hyacinth, although to a much lesser degree.

Thick Water Lettuce mats can clog waterways and greatly reduce biological diversity. The mats eliminate native submersed plants by blocking sunlight, they alter immersed plant communities by pushing away and crushing them, and they also alter animal communities by blocking access to the water and/or eliminating plants the animals depend on for shelter and nesting.

By blocking the air-water interface, really dense Water Lettuce mats deplete oxygen in underlying water and sediments, eliminating many underwater animals such as fish.

Water Lettuce is on the Florida Department of Environmental Protection's list of Prohibited Species, and as such it is unlawful to purchase or transport this plant in Florida.



### The Water Soldier

The scientific name for Water Lettuce is *Pistia stratiotes* (pronounced: *pis-tee-a / stra-tee-o-teez*). It comes from the Greek *pistos* (water) and *stratiotes* (a soldier).