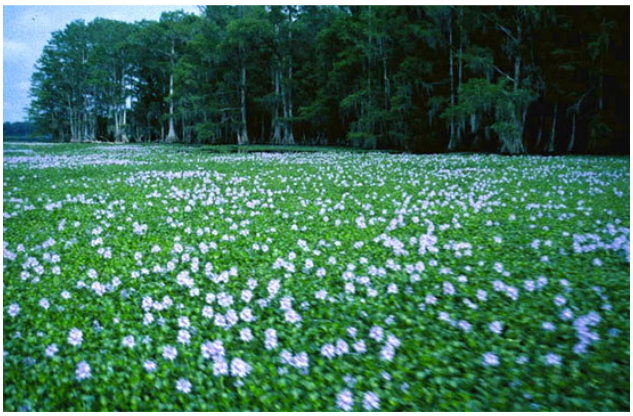
Potential Invader

Water Hyacinth: An Exotic Aquatic Plant

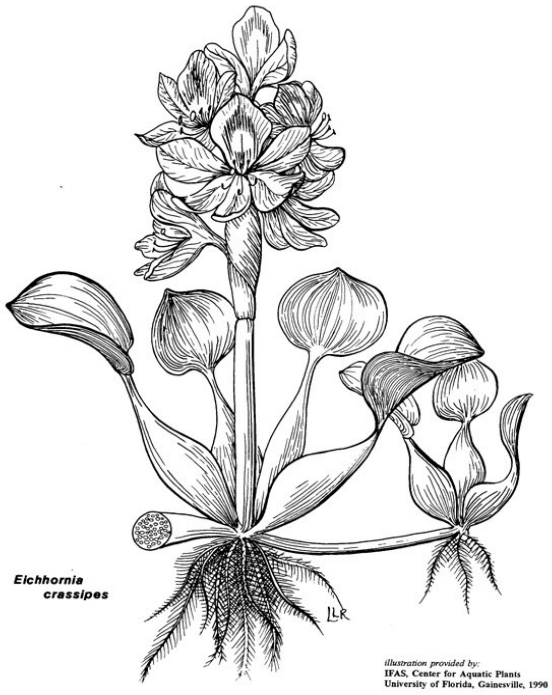
Eichhornia crassipes



Description

- Water Hyacinth, an aggressive exotic aquatic plant, is native to Brazil but now occurs globally.
- The shiny green leaves are circular or broadly elliptical and approximately 6" wide. Leaf lobes may be heart-shaped and leaf margins usually curve and undulate slightly.
- Waxy waterproof floating leaves form rosettes that often rise 3 feet above the water surface.
- The leaf stalks (petioles) are inflated and spongy. Roots are dark, profuse and feathery.
- Showy lavender flowers develop in clusters of 8-15 on 12" spikes. Each flower consists of 6 petals and a yellow blue-lined center.

Water Hyacinth



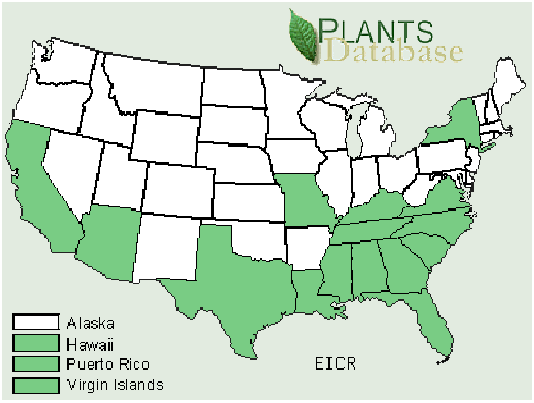
Habitat

E. crassipes is a very hardy and persistent species that is established in a wide range of aquatic habitats; however, this species does not over-winter well in cold climates.

- This species has been documented in Massachusetts in the summer and is established in New York. It is not known for certain if *E. crassipes* will over-winter in the New England climate.

Distribution Map

Eichhornia crassipes



Reproduction

E. crassipes reproduces by both vegetative and sexual methods.

- New rosettes (daughter plants) form on floating stolons that extend out from the original plant.
- Each year in mild climates seeds are produced.

Impacts and Threats Posed by Water Hyacinth

E. crassipes is a highly competitive plant that is capable of rapid growth and spread. *E. crassipes* can displace native species, reduce biodiversity, limit recreation, diminish aesthetic value, and decrease water quality and flow.

- Dense floating rafts of Water Hyacinth can form on the water's surface, restricting light to the complete exclusion of other native plants, and decreasing the air exchange between the water's surface and the atmosphere.
- Thick floating mats can prevent fishing, boating, swimming and other activities and the loss of recreational and aesthetic value can cause a decline in surrounding lake property value.
- Algae, a major component of the base of the food chain, can be shaded out by dense mats of Water Hyacinth. The resulting decline in algae can disrupt the entire food web in a water body.
- *E. crassipes* may form dense single species stands that often do not provide ideal habitat or food for native wildlife and may limit access to the water for some species. These native wildlife populations may be forced to relocate or perish, ultimately resulting in a loss of biodiversity and a disruption in the balance of the ecosystem.
- Decomposition of *E. crassipes* can create anoxic (low oxygen) conditions in the water which may result in fish kills.
- Dense stands trap sediments, slow water flow in irrigation channels and waterways and may provide a breeding ground for mosquitoes.
- Sediment levels increase with increasing *E. crassipes* abundance.

Management Methods

Management methods currently include mechanical methods, biological controls and herbicide application.

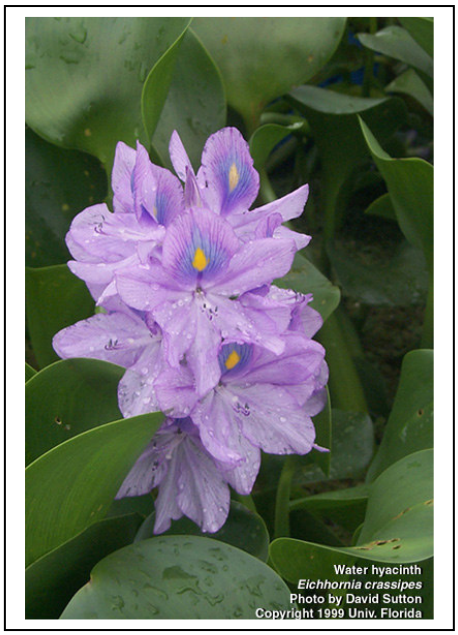
- Harvesting can greatly reduce the biomass in a water body but this process is continuous and labor intensive.
- Several weevil (*Neochetina ssp.*) species have demonstrated success at keeping *E. crassipes* populations under control.
- Success with herbicides has also been documented however; herbicides require permits, must be applied by a licensed applicator and may impact non-target native plants or animals.

Two species of Water Hyacinth weevils *N. eichhorniae* (left) *N. bruchi* (right)

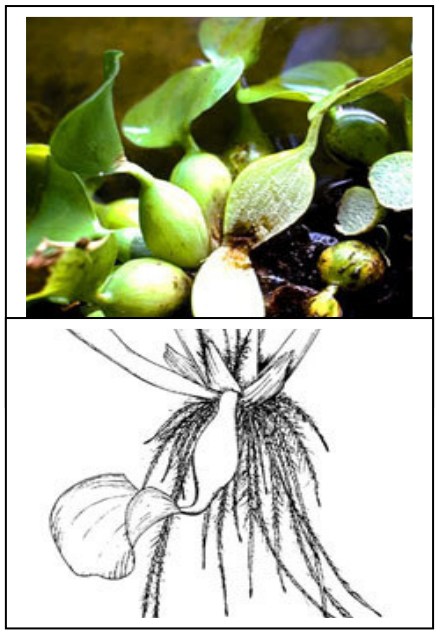
Other Information

- Informational websites:
  http://aquat1.ifas.ufl.edu/ (Center for Aquatic and Invasive Plants)
  http://nas.er.usgs.gov/queries/plants/PlantState.html (USGS- search for exotic species by state)
  www.ProtectYourWaters.net (Aquatic Nuisance Species national web site)
- *E. crassipes* is now in the Federal Noxious Weed List and remains a very popular aquarium plant.
- *E. crassipes* spreads very rapidly, and according to one documented case, a matt can double in size in only 6-18 days. (Mitchell 1976).
- When not blooming, Water Hyacinth *(E. crassipes)* may be confused with the native Frog-bit (*Limnobium spongia).*

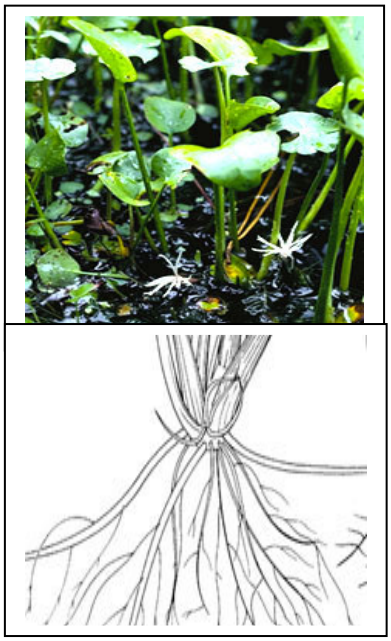
Water Hyacinth compared to native Frog's Bit



Water Hyacinth in bloom



Water Hyacinth has inflated spongy leaf stalks (above) and dark, dense feathery roots (below).



Frog's Bit has slender firm leaf stalks (above) and light colored sparse roots (below).

Prevent The Spread!

- Never release any plant or animal into a waterbody unless it came from that waterbody.
- Never empty aquariums or release garden pond plants into a local water body.
- Remove ALL plant matter and mussels from boat, trailer, anchors, fishing and dive gear.

References:

1) Literature References:
Paper by Victor Ramey FCAIS & SeaGrant http://plants.ifas.ufl.edu/seagrant/eiccra2.html
Florida Center for Aquatic and Invasive Species http://plants.ifas.ufl.edu/eiccra.html
2) Photographs were obtained from: http://plants.ifas.ufl.edu/eiccra.html
3) The distribution map was taken from: http://plants.usda.gov/cgi_bin/topics.cgi

For more information or to report a sighting, please contact:

D.C.R. Office of Water Resources, Lakes and Ponds Program
Michelle Robinson at: michelle.robinson@state.ma.us
Or visit the Lakes and Ponds web site at: http://www.mass.gov/lakesandponds
Prepared by Michelle Robinson: March 2003