

Invasive Plant Management in Florida

Invasive plants are those that are non-native to an ecosystem and cause harm to the environment or the economy. Unlike most agricultural or garden plants - which usually need human help to survive - invasive plants are able to grow in the wild on their own. Invasive plants grow quickly, spread rapidly, and overtake and displace the habitats of native plants. They can be found on land or in the water. When invasive plants take over a terrestrial (land) or aquatic (water) ecosystem, their presence can lead to a sharp loss of biodiversity (the variety of life in a particular habitat or ecosystem). Invasive plants alter the natural ecological processes and habitats that native species depend on. For example, the Australian Melaleuca tree forms dense forests in the formerly treeless marshes of the Everglades, disrupting and degrading the natural ecosystems there. Many of Florida's native plant and animal communities are found nowhere else in North America, and thus are valued for their ecological importance.

Aquatic invasive plants are especially troublesome in Florida. They can impede navigation and flood control, disrupt recreational water use, and create breeding grounds for mosquitoes. Control of invasive plants in Florida's natural areas and waterways is expensive, costing millions of dollars each year.

Florida has more than 100 years of experience managing aquatic plants. For example in 1899 Congress authorized the U.S. Army Corps of Engineers to remove water hyacinths obstructing navigation in Florida rivers. Water hyacinth is one of the fastest growing plants; it can double its population in just 6-18 days. When it covers the water's surface, sunlight is prevented from reaching native plants below. "Maintenance control" programs in recent years have successfully reduced water hyacinth to low levels in most public waterways in Florida.

Current control methods include physical removal, mechanical removal, selective



Top: A mechanical harvester removes *Ludwigia* spp. (water primrose) from a Florida lake, 2014. Above: A mechanical "hyacinth rake" removes *Eichhornia crassipes* (water hyacinth) from a Florida lake, circa 1930s.



application of approved herbicides, and approved biological control agents:

- Mechanical control involves using large machines in the water to harvest and remove aquatic plants.
- Biological control involves using animals, insects, or bacteria that feed on targeted plants.
- Cultural or physical control entails hand-pulling, raking, and water-level manipulation.
- Chemical control involves the use of registered aquatic herbicides to manage the growth of plants. All herbicides undergo extensive testing and risk analysis by government agencies to ensure their safety before they are allowed to be used.

The Florida Legislature has designated the Florida Fish and Wildlife Conservation Commission (FWC) as the lead agency in the state to control invasive plants, and to work with local governments and private companies to control invasive plants. Control methods are selected that are most appropriate to meet management objectives. They aim to reduce or eliminate negative impacts of invasive species and enhance native plants and animals.

The main goal of the FWC's "Invasive Plant Management Section" is to manage small infestations. In Florida, "maintenance control" on invasive plants is designed to prevent infestations of invasive plants from getting out of control. This ensures the least amount of environmental harm, and costs the least amount of money. This strategy:

- Reduces the environmental impact of noxious weeds
- Provides greater use of our waters
- Uses less herbicides (chemicals that kill plants)
- Reduces the costs of long-term management

Sources:

<http://plants.ifas.ufl.edu/manage/>

<http://myfwc.com/wildlifehabitats/invasive-plants/>

<https://www.invasivespeciesinfo.gov/index.shtml>

https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/Why_We_Manage_Aquatic_Invasive_Plants.pdf