



Exotic Aquatic Plants

Explanation of Indicator

Florida is particularly susceptible to infestations of exotic aquatic and wetland plants because of its warm climate and abundance of aquatic habitats. Florida is also home to a large exotic aquarium plant and ornamental foliage industry that imports millions of non-native plants each year. Many of these imported plants have escaped. Control efforts on exotic aquatic plants have cost the Florida taxpayers more than \$104 million to control since 1980. At least 25 exotic plant species inhabit the state's water bodies and wetlands. Two of the problem exotic aquatic plants are hydrilla and water hyacinth.

Hydrilla was brought into the United States by aquarium plant horticulturists in the early 1950s from Sri Lanka. Hydrilla provided the aquarium industry with a plant that could grow under low light conditions typically found in aquaria. Because of its ability to grow in low light conditions, its rapid growth rate, and a high capacity for survival, hydrilla has become a serious aquatic weed in Florida. It has the ability to quickly fill waterways, limiting recreational and commercial boating, wildlife use, and flood control. It is difficult to control because of its rapid rate of growth and resistance to management techniques. This growth rate allows hydrilla to outcompete native submersed aquatic plant communities, thereby reducing plant diversity. Dense infestations of hydrilla can reduce dissolved oxygen levels increasing the potential for fish kills. Hydrilla accelerates the natural aging in waterbodies (eutrophication) by causing increased sedimentation. Hydrilla is present in freshwaters of Asia, Europe, Africa, Australia, and the United States.

Water hyacinth, a native to South America, was imported into and is a major weed species in 53 countries. This floating pest was introduced into Florida in the 1880s and covered more than 125,000 acres of public lakes and navigable rivers by the early 1960s. Since then the U.S. Army Corp of Engineers has reduced water hyacinth to approximately 2,000 acres. The growth rate of water hyacinth is among the highest of any plant. In Florida, water hyacinth populations can double in as little as 12 days by sending off short runner stems which develop new plants. It can also reproduce by seed. Water hyacinth blocks waterways and limits boat traffic, recreation, flood control and wildlife use. By shading and crowding out native aquatic plants, this exotic species reduces biological diversity in aquatic ecosystems.

Source

This information can be obtained from Don Schmitz, Wetland and Upland Alien Plant Coordinator for the Bureau of Aquatic Plant Management, Department of Environmental Protection, Innovation Park, Collins Building, 2051 East Dirac Drive, Tallahassee, Florida 32310 or at (904) 488-5631.

Data Characteristics

These estimates are collected on an annual basis, statewide. The data can be obtained in a hard copy format at no cost.

Overall Assessment

The data in this indicator should be used as a benchmark until further data is available. This indicator is useful in that it documents changes in the amount of exotic aquatic plants in Florida.

Analysis of Indicator

Management efforts have been able to reduce the acreage of infested waters. In 1982, the estimated acreage infested was 6,251.6 acres. The following year experienced an increase of 200 percent when this plant infested 18,804.3 acres. Since 1983, however, there has been a general downward trend. From 1983 to 1991, there has been a decrease of 88 percent with only 2,199.2 acres of waters being infested by water hyacinth in 1991.

Infestation by hydrilla, on the other hand, has increase substantially. In 1982, 13,145.7 acres were infested by this exotic aquatic plant. The following year resulted in an increase of 204 percent when 39,906.7 acres of Florida's waters were infested. Since 1983, there has been a general upward trend with decreases in 1986 and 1989. In 1991, over 40 percent of Florida's public lakes and rivers were infested with hydrilla, covering approximately 66,600 acres, making it the most abundant freshwater plant in Florida public waters. There has been an overall increase of 407 percent from 1982 to 1991.

Estimated Acres Infested By Exotic Aquatic Plants

Year	Water hyacinth	Hydrilla
1982	6,251.6	13,145.7
1983	18,804.3	39,906.7
1984	8,253.2	41,586.9
1985	4,472.5	48,777.5
1986	6,918.8	35,755.4
1987	5,831.6	36,200.2
1988	2,965.2	52,657.0
1989	2,174.5	41,611.6
1990	1,087.2	57,055.4
1991	2,199.2	66,618.2

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