



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

## NEWS RELEASE

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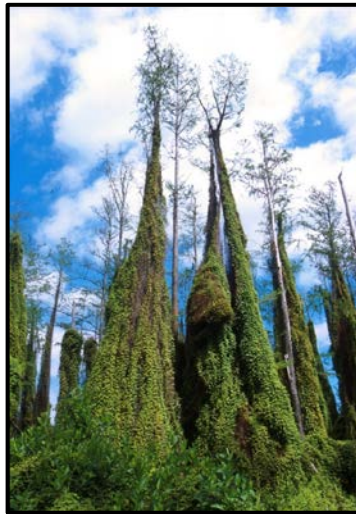
South Florida Water Management District

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### **SFWMD, USDA Extend Research of Biocontrols to Manage Bad Plants** *Reducing melaleuca and other exotic plants is critical to Everglades restoration*



#### **What is a Biocontrol?**

*A biocontrol is the biological control of invasive plants, achieved by importing natural enemies of the plant from its native range. The objective is to establish a sustained population of natural enemies to reduce aggressive growth of the invasive plant. Biological control will not eradicate the invader, but it is a vital component of pest management strategies.*

*A biocontrol to suppress Lygodium was introduced in the area to the left while the area to the right was untreated.*

**West Palm Beach, FL** – The South Florida Water Management District (SFWMD) extended an agreement with the U.S. Department of Agriculture to continue biocontrol development for managing South Florida’s most aggressive exotic plants, an essential component of restoring America’s Everglades.

“Controlling exotic plant species helps to protect South Florida’s natural ecosystems,” said Governing Board member Jim Moran. “Continuing this essential work will advance the research and also achieve insect releases to suppress invasive plants in our most sensitive environmental areas.”

The District’s \$3.3 million investment will help fund another five years of biological control efforts at the U.S. Department of Agriculture’s Agricultural Research Service (USDA-ARS) Invasive Plant Research Laboratory in Davie. The 2,700-square-foot “mass rearing annex” at the lab, operated by the SFWMD, is responsible for implementing biocontrols to manage:

- Melaleuca (*Melaleuca quinquenervia*)
- Brazilian pepper (*Schinus terebinthifolius*)
- Old World climbing fern (*Lygodium microphyllum*)
- Australian pine (*Casuarina equisetifolia*)

Construction on the annex was completed by the U.S. Army Corps of Engineers in 2013 as a component of the Comprehensive Everglades Restoration Plan (CERP). Program objectives include culturing and releasing approved biocontrols, evaluating release strategies, monitoring field populations and evaluating effectiveness.

Science at the facility has so far produced releases of:

- 485,505 brown lygodium mites
- 268,202 lygodium mites
- 406,500 hyacinth leafhoppers
- 116,181 air potato leaf beetles

### **Invasive Species Background**

Invasive plant species are reported to cause \$36 billion of economic impact in the United States each year.

In South Florida, exotic plants stress the natural environment by competing with native vegetation for resources such as sunlight, water and nutrients. Exotics can ultimately choke out the natural habitat, impacting wildlife and reducing biodiversity. Invasive plants can also clog flood control canals and structures, impede waterway navigation and impact recreation.

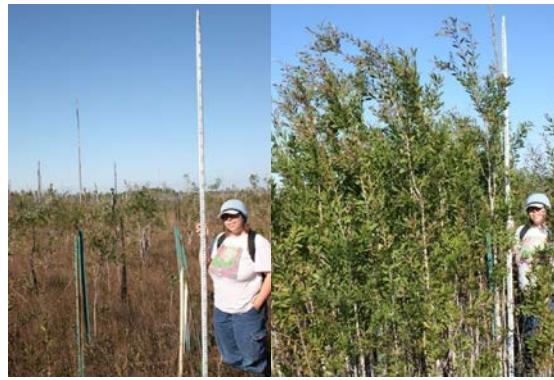
As custodian of more than 1.5 million acres of public land in South Florida, the SFWMD has an established invasive species management program. The agency's toolbox for exotics includes herbicides, mechanical removal, prescribed fire and biocontrols.

Biocontrols typically cost less and take less time to develop compared to herbicides. Although establishment of biocontrols at a specific site can take time, success has been documented.

For example, canals infested with water lettuce and treated with biocontrols yielded 37 percent more open water and 77 percent less biomass, according to USDA-ARS researchers. While the plants are not entirely removed by the biocontrol agent, the infestation becomes more susceptible to chemical treatments, and impairment of water flows in the canals are minimized.

In USDA-ARS experimental plots containing melaleuca, biocontrols yielded:

- 77 percent less biomass
- 95 percent fewer seeds
- 47 percent less density
- 36.5 percent more susceptibility to fire
- 30 to 40 percent more susceptibility to herbicides.



**Left: Biocontrol; Right, No Biocontrol**

### **Continued Vigilance**

The SFWMD supports continued applied scientific research that improves management efforts, participating with state and federal agencies that include the Florida Fish and Wildlife Conservation Commission; the Florida Department of Environmental Protection; the U.S. Fish and Wildlife Service; the USDA's Agricultural Research Service; the U.S. Army Corps of Engineers; and the U.S. Department of the Interior.

Residents and visitors also play a role in protecting South Florida's environment. One of the primary ways invasive species, both plant and animal, end up in the natural environment is by being thrown out or released by people who no longer want them. For example, emptying a tropical aquarium full of live but non-native aquatic plants can have serious consequences for the environment and for the flood control system.

### **For More Information**

- [www.sfwmd.gov](http://www.sfwmd.gov)
- SFWMD Senior Scientist Mike Bodle discussed invasive plants.

 [Audio Interview](#)

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### **About the South Florida Water Management District**

*The South Florida Water Management District is a regional, governmental agency that oversees the water resources in the southern half of the state – 16 counties from Orlando to the Keys. It is the oldest and largest of the state's five water management districts. The agency mission is to manage and protect water resources of the region by balancing and improving flood control, water quality, natural systems and water supply. A key initiative is cleanup and restoration of the Everglades.*