

# Florida's Most Wanted

What should we do about invasive plants in Florida?

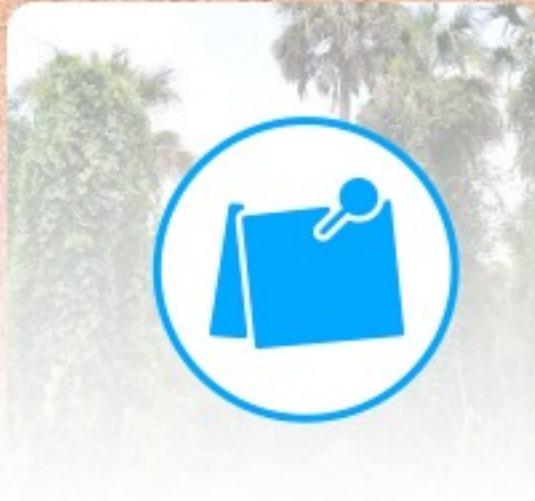


UNIVERSITY of  
**SOUTH FLORIDA**

College of Education

Gus A. Stavros Center for Free Enterprise  
and Economic Education





**Collaborate!**

**What questions do you have?**





Plants

Lawns

Design

Care

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Planting

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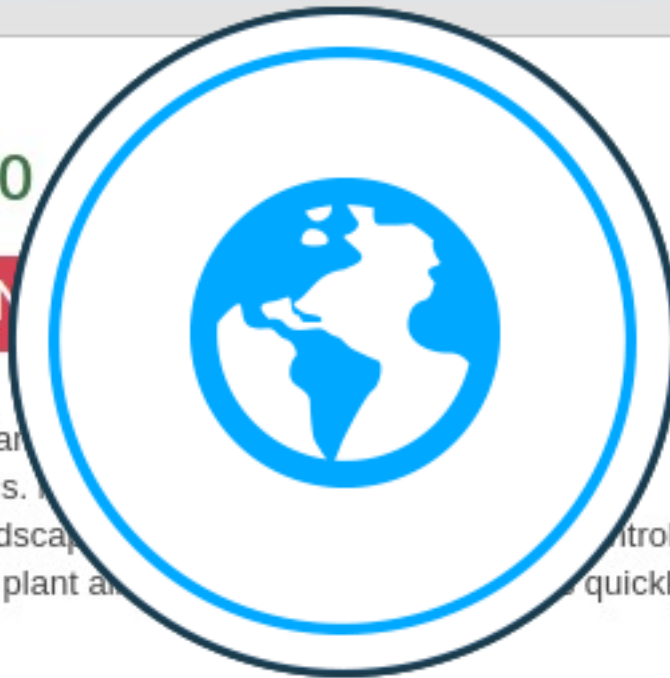
▶ Pests and Diseases

Weeds and Invasive Plants

Weather

## Air Potato

Invasive (N)



Invasive exotic plant that can harm plants and animals. It was introduced as landscape plant but quickly got out of control. It is now illegal to plant air potato in Florida on its own.

Air potato (*Dioscorea bulbifera*) is a vigorously twining vine, which grows from an underground tuber. The stems can rapidly grow to 60 feet in length. Air potato leaves are heart-shaped



<https://gardeningolutions.ifas.ufl.edu/care/weeds-and-invasive-plants/air-potato.html>

Care

inches across.

If you think your landscape contains air potato, contact your county Extension office for information about getting rid of the plant.

### Air Potato Leaf Beetle



# Disciplinary Decisions About Air Potatoes



Disciplines handle problems using different methods and perspectives. Educators are the most important first step because they create awareness. What type of action should be taken? What would a scientist do? The media? An engineer? An economist? The

## Collaborate!

## Disciplinary Decisions About Air Potatoes

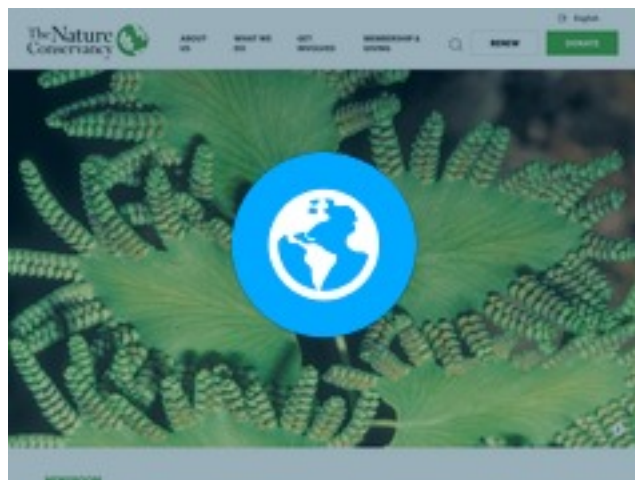
# Open Ended Question



## What makes a plant invasive?

# Poll





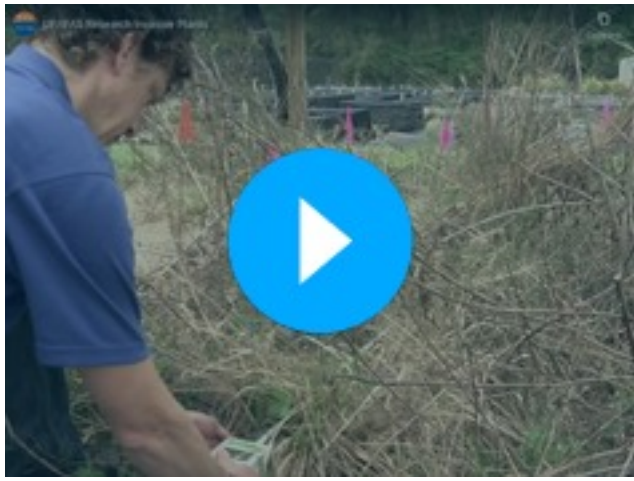
Is spending \$45 million a worthwhile investment to protect Florida's \$50 billion resources?

yes

no



# Open Ended Question



**What is the connection between the ecological and economic cost of invasive plants?**



# Poll



**Should I plant this in Florida?**

- yes
- no
- don't know



# Poll



**The Mexican Petunia is widely available in plant nurseries around the state of Florida. However, since 2001, it has been listed as a Category 1 invasive species by the Florida Exotic Pest Plant Council. What should I do with the Mexican Petunias that have spread into my yard?**

- Get rid of them
- Keep them
- Keep some of them as long as they are confined
- Plant more of them



## Stakeholder Decision-making: What should be



Different stakeholders have their own biases or heuristics (ways of thinking or doing things). Put yourself in the shoes of one of the following stakeholders and state your

# Collaborate!

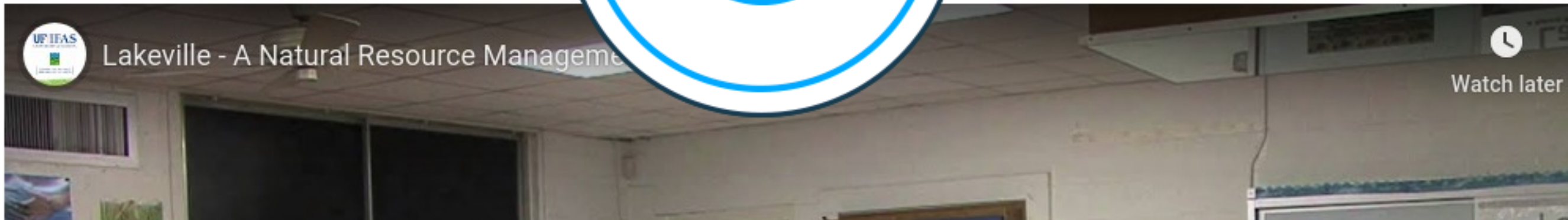
Stakeholder Decision-making: What should be done?



## Florida Invasive Plant Education Initiative & Curriculum Center for Aquatic & Invasive Plants

### Lakeville - A Natural Resource Management Activity

Find out about our Lakeville Workshop for Educators



<http://plants.ifas.ufl.edu/education/lakeville.shtml>










[https://www.youtube.com/embed/iQqc2\\_Cv9A](https://www.youtube.com/embed/iQqc2_Cv9A)

Match the words to the definitions.

	into an area from another area	or economic	Native Plant
	plant not valued in	occur	

## Matching Pairs



<https://www.youtube.com/embed/OCd1-OyqKnk>





# Are You Sure You Love Non-Native Invasive Plants?

Author Profile



**Grantly Ricketts**

Grantly Ricketts is an

0 0 0

<http://blogs.ifas.ufl.edu/osceolaco/2018/05/01/are-you-sure-you-love-non-native-invasive-plants/>

These days invasive species are among the hot topics with homeowners and landscapers. Would you please lend me your ear for a moment? Invasive species can be defined as an organism (plant, animal, fungus, or bacterium) that is not native and has negative effects on our environment, economy, or

# Decisionomics

Wanted: The Florida Backyard Protection Society is looking for teams to determine which invasive plant species is most problematic

Problem: Invasive plant species in Florida damage ecosystems, hurt wildlife, and cost the citizens of Florida millions of dollars.

Alternatives: Cogongrass, Japanese Climbing Fern, Old World Climbing Fern, Water Hyacinth, and Water Lettuce

Criteria: Distribution across land, need for management, environmental damage

Evaluate: Research each invasive plant to determine which is the most damaging to Florida's environment.

Decide: Which plant is the most damaging? Report your findings to the Florida Backyard Protection Society



# Matrix for Research

		Distribution	Why it needs to be managed	Impact on animals and humans
Congon grass				
Japanese climbing fern				
Old world climbing fern				
Water hyacinth				
Water lettuce				



# Weed alert

## Cogon grass (*Imperata cylindrica*)

**Cogon grass** is considered to be one of the top 10 worst weeds in the world. This perennial grass from Southeast Asia was introduced to the U.S. in 1911 near Mobile, Ala. as forage material in a shipment of plants from Southeast Asia and into Mississippi as a forage crop in the 1920s. Later it was introduced into Florida for forage and soil stabilization. Cogon grass was found to be unsuitable for forage, and it rapidly spread and displace desirable native plants, outweighing any soil erosion control benefits.

Cogon grass has extensively invaded areas such as roadsides and fallow pastures throughout North and Central Florida but also in relatively undisturbed sandhill and pine flatwoods. Cogon grass forms dense stands that displace



<https://myfwc.com/media/3221/cogon.pdf>



native plant communities. Because of its rough

pattern, cogon grass degrades native gopher tortoise and indigo snake habitats in Florida.

Cogon grass stands can create a severe fire hazard especially when mixed in with other volatile fuels such as young pine trees. Fires occurring in cogon grass infested woods have significantly



# Weed alert

## Water-hyacinth (*Eichhornia crassipes*)



A beautiful flower, but a major invasive weed species since the late 1890s.

### Water-hyacinth

This native of South America is now considered a major weed species in 90 countries. The floating water-hyacinth was introduced in the 1880s and covered more than 17 million acres of land and navigable rivers by the early 1900s. Management efforts coordinated by the Environmental Protection Agency and the U.S. Army Corps of Engineers reduced water-hyacinth to 1 million acres by 1970.

Water-hyacinth has one of the highest reproduction rates among the highest of any aquatic plant. A single plant can double its population in 12 days by sending off short runner stems (daughter plants). Water-hyacinth also reproduces by seeds.



### Why water-hyacinth must be managed:

Water-hyacinth blocks waterways and limits boat traffic, recreation, flood control and wildlife use.



<https://myfwc.com/media/3222/hyacinth.pdf>

Water-hyacinth is a species that are important to wildlife.

### Environmental damage caused by water-hyacinth populations:

- Water-hyacinth mats lower dissolved-oxygen concentrations, damaging fish populations.





# Weed alert

## Old World climbing fern

(*Lygodium microphyllum*)

### Old World climbing fern

Old World climbing fern is an aggressive invasive fern of moist habitats in South Florida. This rapidly spreading fern invades new areas without the need of habitat disturbance and often dominates native vegetation by forming a dense canopy. The fern, first found to be established in Martin County, now infests more than 20 counties in South Florida.

Although primarily a weed of public conservation areas, Old World climbing fern infests residential landscapes, horticultural nurseries, rangelands and other managed lands near infested natural vegetation. The fern's ability to grow up and over trees and shrubs and to form dense



the *Lygodium microphyllum*'s convoluted leaflets

### Why the Old World climbing fern must be managed:

- Highly invasive in natural areas.

<https://myfwc.com/media/3225/invasiveplants-lygodium.pdf>



diversity. Old World climbing fern can grow in bald cypress stands, pine flatwoods, wet prairies, saw grass marshes, mangrove communities and Everglades tree islands. Some Everglades

- native tree canopies that normally wouldn't burn.
- The fern is rapidly spreading in South Florida's public conservation lands.





# Weed alert

## Japanese climbing fern

(*Lygodium japonicum*)

### Japanese climbing fern

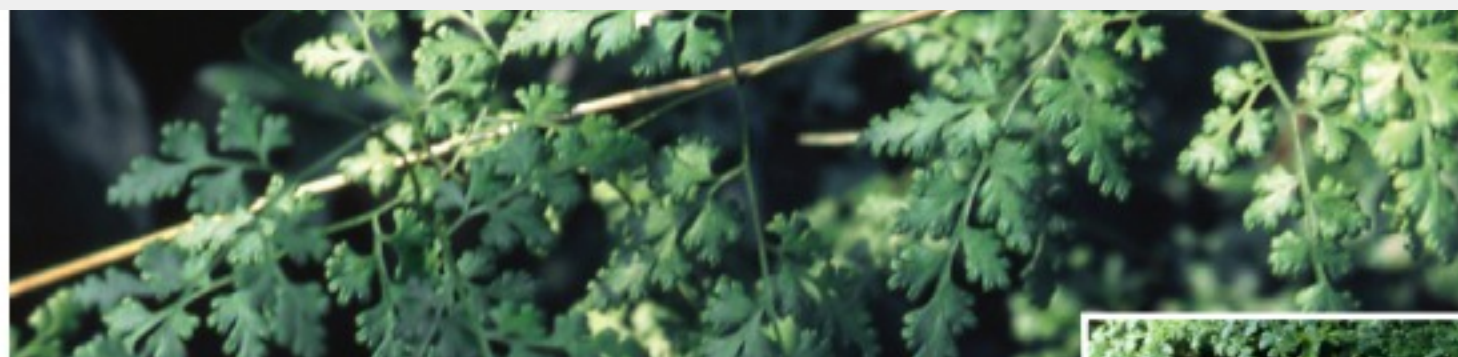
Japanese climbing fern is a highly invasive plant infesting public conservation lands in West Florida and present in much of the U.S. It grows in moist or dry woods, along rivers, and in various disturbed sites. It grows in sun and shade. Like Old World climbing fern (*microphyllum*), Japanese climbing fern



to the tops of trees where its dense growth can cut and eliminate the vegetation below. It was introduced into Florida as an ornamental plant. Japanese climbing fern appears to be common in North and West Florida, but also a significant threat to Central Florida.



<https://myfwc.com/media/3224/invasiveplants-japaneseclimbingfern.pdf>



Left and Below: Fertile leaflets of Japanese climbing fern



# Weed alert

## Water-lettuce

*(pistia stratiotes)*



Water-lettuce

### Water

This water-lettuce is considered to be one of the most resilient and drought-tolerant species in the world. In Florida, its introduction is linked to early shipping routes from South America. Today, water-lettuce is found in the southern portions of the state, but new populations are being found in North Florida's spring-fed waterways. Despite statewide management efforts, water-lettuce populations are increasing in low population densities. Under ideal conditions, water-lettuce can double its population in just a few weeks. Seed production makes this plant highly resilient to environmental conditions such as freezing temperatures and drought.



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### Why water-lettuce must be managed:



<https://myfwc.com/media/3230/invasiveplants-waterlettuce.pdf>

Water-lettuce can crowd out native submersed plant species and can uproot native emergent plants that are important to wildlife.

### Environmental damage caused by water-lettuce populations:

- Water-lettuce mats can lower dissolved oxygen concentrations reducing aquatic life.



# Poll

## Which invasive plant is the most damaging to Florida?

- Cogongrass
- Japanese Climbing Fern
- Old World Climbing Fern
- Water Hyacinth
- Water Lettuce



# Decision

- 1) Rank order the plants from 1 (most invasive) to 5 (least invasive).
- 2) Why did you choose that particular invasive plant? I chose \_\_\_\_\_ because \_\_\_\_\_.
- 3) Write letter to the Florida Backyard Protection Society that lists your choice and why you made that decision based on the evidence.



## Florida Fish and Wildlife Conservation Commission



[Home](#) > [Wildlife & Habitats](#) > [Habitat Management](#) > [Invasive Plant Management](#)

# Invasive Plant Management



### WHAT'S HAPPENING ON MY LAKE

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<https://myfwc.com/wildlifehabitats/habitat/invasive-plants/>

aquatic plants pose a significant threat to human welfare by impeding flood control and affecting recreational use of waterways and its associated surrounding economy. The Invasive Plant Management Section is the lead agency in Florida responsible for coordinating and funding two statewide programs controlling invasive aquatic and upland plants on public conservation lands and waterways throughout the state. The section also ensures that beneficial native aquatic plants in



# Decisionomics

The state of Florida is suffering from economic and environmental damage due to invasive plants. We need to decide what we should do to handle this problem. There are several actions we can take. Many of these actions have both positive and negative consequences. Please consider the options we have posted on the next page. Please write us back and let us know which action, or combination of actions, we should take. Let us know if you have any other ideas you think would help.

Thank-you

Florida Exotic Pest Control Council (FLEPCC)



# Use this data

## What should we do about invasive plants?

Florida Exotic Pest Plant Council (FLEPPC) lists certain invasive plant species that are clearly threatening Florida's natural communities and native species, incurring significant ecological and economic losses to the citizens of Florida.

Action	Problems caused by this action	Problems solved by this action	Other
Do not allow this plant to be sold in Florida	Prohibiting species from sale or use can cause economic hardship and changes of well-established cultural practices.	This would keep more invasive plants from being brought into our state and prevent people from growing and selling them.	Invasive plants that are already here will continue to spread if not stopped.
Mandatory removal of this plant	Ordinances that require mandatory removal of invasive species will cause economic and, possibly, cultural hardships on citizens.	People would be required to remove and destroy these plants on their property. Governments would have to remove these plants from public lands.	This would be very expensive to do.
Exemption from Tree Removal	Because tree removal in this case is a voluntary action and will not impose hardship on anyone	The entire invasive plant list could be exempted from any tree-cutting permit ordinance. This would allow people who want to remove invasive trees from their property to do so more easily.	Many local governments have tree cutting ordinances that require property owners to obtain permits before removing trees of certain size. This would exempt invasive trees from permitting laws.
Warning labels required on plants for sale	Labels warning consumers that these plants are invasive may reduce sales and cause hardship to those who sell them.	May reduce the sale of these plants. May cause people to be more careful about where they plant them.	Even if people are careful about where they place these plants, seeds can be dispersed by wind, water, and animals.



What should be done about invasive plants in Florida?

**Collaborate!**

**What should be done about invasive plants in Florida?**

# Draw It





These plants are on the Most Wanted list in Florida. Create a slogan, icon, or meme to use in a social media campaign.