

The cover features a sunset scene with a bright sun low on the horizon, casting a warm orange glow over a field of tall, thin grasses. In the foreground, a close-up of a snake's head is shown, with its mouth slightly open, revealing a pattern of yellow, black, and brown scales. The overall composition is dramatic and emphasizes the theme of environmental invasion.

FLORIDA INVADERS

UNDER SIEGE BY PLANT AND ANIMAL INVADERS,
NATURE AND OUR ECONOMY ARE AT RISK!

SOUTH FLORIDA EDITION

Produced by the National Park Service and the Florida Fish and Wildlife Conservation Commission

FLORIDA INVADERS

A Joint Publication of the National Park Service and the Florida Fish and Wildlife Conservation Commission

WHAT'S AT STAKE

In 2007, more than 85 million visitors arrived by land, sea and air to enjoy a taste of our subtropical paradise. A great place to visit, south Florida is also an inviting destination for a few undesirable species— and they threaten to undermine the health of our environment. More than an inconvenience, invasive plants and animals can greatly alter our native landscape, adversely impact native wildlife, destroy agricultural crops and threaten our health.

Invasions of exotic species cost Floridians over \$500 million each year. We spend more than \$50 million annually just to eradicate exotic weeds from our fields, pastures, canals, ponds, lakes, rivers and greens. And the economic costs are small potatoes compared to the ecological ones.

In south Florida, millions of acres of public lands help secure a unique quality of life for both tourists and residents. A diverse array of federal and state parks and preserves not only protect the world-renowned Everglades ecosystem, they furnish us with the water we drink, the air we breathe and countless recreational opportunities. Our nearby public lands are easy for us to visit but are also highly vulnerable to invasion by exotic plant and animal species— more than 1.7 million acres of Florida's natural areas have become infested.

Once an exotic species has made itself at home, giving it the old heave-ho is costly. **EDUCATION, PREVENTION, EARLY DETECTION AND RAPID RESPONSE** are the keys to protecting the Sunshine State. Success depends upon the involvement of government agencies, a variety of organizations, businesses and you! Learn more about how you can help at **FLORIDAINVADERS.ORG**.

DEFINITIONS

NATIVE species are plants and animals that establish themselves in an area through natural means without the aid of humans. **Synonym:** indigenous.

EXOTIC species are not native to Florida and are introduced by human activity. They are brought in either intentionally, as ornamentals or pets, or accidentally, as hitchhikers that arrive at airports, seaports or through the mail. Florida's first European settlers brought plants and animals from their homelands including wheat, oranges, cattle and horses. Species have always moved around the globe, and the majority are not problematic. It is today's enormous volume of global trade and travel that provides an unprecedented opportunity for species to invade. One third of all plant species in Florida are now exotic. **Synonyms:** alien, introduced, nonnative and nonindigenous.

INVASIVE EXOTIC species are not constrained by the natural factors that existed in their native habitats— other native species, diseases and predators. Their rapid growth and spread has the potential of altering what remains of Florida's natural areas, resulting in economic or environmental harm or harm to human health and well being. Fortunately, most exotic species are not invasive. Our concern is with those exotic species that have already become invasive or that are likely to become invasive in the future. **Synonyms:** invasive, pest or nuisance species.



"MORE THAN AN INCONVENIENCE, INVASIVE PLANTS AND ANIMALS CAN GREATLY ALTER OUR NATIVE LANDSCAPE, ADVERSELY IMPACT NATIVE WILDLIFE, DESTROY AGRICULTURAL CROPS AND THREATEN OUR HEALTH."

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NPS.gov



MyFWC.com

ADDITIONAL ORGANIZATIONS WAGING WAR ON INVASIVE EXOTIC SPECIES

The Nature Conservancy

tncweeds.ucdavis.edu/index.html

Invasive Species Working Group

www.ISWGfla.org

The Florida Exotic Pest Plant Council

www.fleppc.org

Center for Aquatic and Invasive Plants

plants.ifas.ufl.edu

Institute of Food and Agricultural Sciences

edis.ifas.ufl.edu

Florida Department of Environmental Protection

dep.state.fl.us/lands/invaspec/index.htm

Florida Department of Transportation

www.MyFloridaBeautiful.com

Florida Department of Agriculture and Consumer Services

doacs.state.fl.us

Northwest Florida Water Management District

nwfwmd.state.fl.us

Southwest Florida Water Management District

swfwmd.state.fl.us

South Florida Water Management District

www.sfwmd.gov

St. Johns River Water Management District

sjr.state.fl.us

Suwannee River Water Management District

www.srwmd.state.fl.us

U.S. Geological Survey

www.usgs.gov

Florida Power & Light Company

www.fpl.com

U.S. Fish and Wildlife Service

www.fws.gov

U.S. Department of Agriculture

www.aphis.usda.gov

Miami-Dade County

www.miamidade.gov

Broward County

www.broward.org

Monroe County

monroecofl.virtualltownhall.net

Palm Beach County

www.pbcgov.com

DON'T PACK A PEST!

MEDITERRANEAN FRUIT FLY, USDA



We take Florida's palm trees, tropical fruits and outdoor lifestyle for granted but actually they are all at risk. We need your help to stop the onslaught of new pests and diseases like red palm mites, citrus greening, Mexican bromeliad weevil, ficus whitefly, imported fire ants and Africanized honeybees.

WHY YOU SHOULD CARE

Just two infestations caused by Mediterranean fruit flies that managed to slip through Florida's busy ports have already cost taxpayers nearly \$50 million.

You may have already been stung by fire ants. Now Africanized honeybee populations are expanding. Many humans have been stung and pets and livestock have been killed.



MEXICAN BROMELIAD WEEVIL, J. L. CASTNER/UNIV FL

The Mexican bromeliad weevil discovered in a Fort Lauderdale nursery in 1989 has spread widely, devastating bromeliads in nurseries and natural areas. These examples illustrate the need for **EARLY DETECTION**—crucial to controlling a pest before it reaches crisis proportions.

In 2005, a serious new problem, citrus greening, a disease spread by a nonnative insect, was detected in Homestead. Federal, state and university scientists have implemented a **RAPID RESPONSE** plan to monitor and control this disease.



MONK PARAKEETS, FLORIDA POWER & LIGHT COMPANY

WHAT'S BEING DONE

Agricultural inspectors are always on the lookout for new pests. Recently, a nonnative whitefly has been found in Miami-Dade County attacking ficus and causing them to drop their leaves. Inspectors have also detected the red palm mite, that has produced a serious outbreak in the Caribbean, on coconut palms in south Florida.



WHITEFLIES DECIMATE A FICUS HEDGE, UNIV FL/IFAS

Like other invasive species, nonnative insects arrive without their natural predators. Once an infestation is identified, the race is on to find a biological control agent—sometimes pitting one exotic insect against another— with no guarantee of success. **PREVENTION** remains the best solution!



RED PALM MITE (MAGNIFIED ABOUT 300X), USDA

FIRE ANTS, USDA

FIVE THINGS YOU CAN DO

- **DON'T PACK A PEST!** When you travel out of Florida do not bring back fruit, vegetables, flowers, or nuts.
- Purchase only certified plants from registered nurseries.
- If you see signs of disease or an unusual pest, contact your county extension office.
- While managed honeybee colonies are vital to agriculture, Africanized honeybees pose a threat to humans. If you find bees nesting on your property, call a licensed pest control company. For a list of companies contact the Florida Department of Agriculture and Consumer Services at 888-397-1517.
- Use less toxic insecticidal soaps to control pests. This will help protect native insects that can serve as a defense against invasive species.

FLYING THE COOP

Even more familiar birds and mammals can pose a threat to Florida's nature and economy. Be a responsible pet owner and help PREVENT a problem. Before you buy that exotic pet, find out how to take care of it. Can you devote the time and attention this animal deserves? It's an important question because when pets escape or are released into nature, they can become real problems.

WHY YOU SHOULD CARE

The escaped Monk Parakeet, imported in large numbers by the pet industry in the 1960s, gets in hot water because its large, condo-like nests built on electric structures and substations cause power outages and fires, requiring costly repairs.



MONK PARAKEETS CAN DAMAGE POWER STRUCTURES WITH THEIR NESTS, FLORIDA POWER & LIGHT COMPANY



COMMON MYNA, SERGEY YELISEEV, FLICKR.COM

A more recent avian arrival, the Common Myna, native to Asia, hangs out near buildings and likes to nest in signs. No longer just an urban resident, it now breeds near buildings in Everglades National Park where it may compete with our native wildlife for natural nest cavities in trees.

WHAT'S BEING DONE

In the 1990s, the nonnative Gambian pouched rat, weighing up to 9 lbs., became established in the Florida Keys. This rat, a vector for serious human diseases, including monkey pox, is now a prohibited species in Florida. **RAPID RESPONSE**, crucial to controlling exotic species, is proving successful in this case. Nonetheless, several additional years of monitoring will be needed to ensure all Gambian rats have been removed from the wild.

The exotic Purple Swamphen, a chicken-sized bird, has recently been reported inside the Water Conservation Areas of south Florida. The state is taking prompt action to control this species before it spreads into other natural areas.

Local, state and federal agencies are also planning to control a small population of Sacred Ibis before it spreads out of control, as it has in Europe. Resembling our endangered Wood Stork and so far dwelling primarily in urban areas, these birds have recently been found in Loxahatchee National Wildlife Refuge and Everglades National Park.

GAMBIAN POUCHER RAT, APOPO INTERNATIONAL



FIVE THINGS YOU CAN DO

- **BE A RESPONSIBLE PET OWNER!** Some exotic species require a LOT of special care. Do as much research as possible and avoid impulse buys!
- Be aware of any applicable laws and regulations. Even previously allowed pets, like Gambian pouched rats, may have new restrictions in place.
- If you can no longer care for your pet, find someone who can. Remember, **DON'T LET IT LOOSE!**
- Wonderful cats and dogs are waiting for adoption at local shelters. Adopt this traditional domestic pet and save a life!
- Learn more about invasive exotic birds and mammals at **FLORIDAINVADERS.ORG**.

WICKED TAILS AND BAD ATTITUDES

South Florida's warm climate and diverse habitats provide ideal conditions for the invasion of foreign reptiles. While Burmese pythons have captured attention recently, they are just one of many cold-blooded intruders in our area. That green iguana that's chewing up your garden doesn't belong in your neighborhood. These released and escaped exotic pets can disrupt an area's food chain and threaten our native fauna.



NILE MONITOR, TODD CAMPBELL

WHY YOU SHOULD CARE



GREEN IGUANAS, THOMAS WRIGHT, UNIV FL

Both the green iguana and the Nile monitor grow into powerful, six-to seven-foot long adults with sharp teeth, wicked

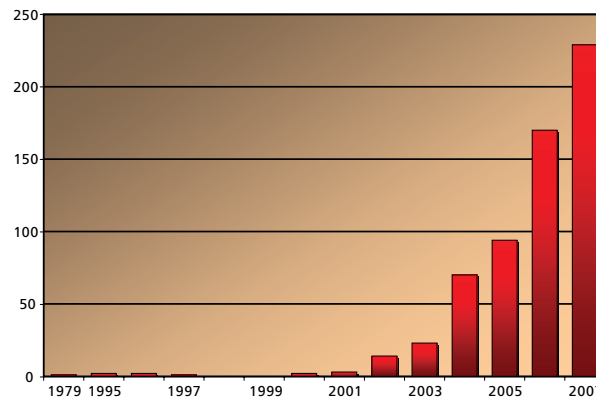
tails and bad attitudes. Excellent swimmers, they can travel between the mainland and barrier islands and along canals.

With their ravenous appetite for vegetation, green iguanas currently threaten many coastal areas and private gardens. Nile monitors eat almost anything, including native burrowing owls and gopher tortoises, and can pose a threat to small pets.

Burmese, African rock and reticulated pythons can grow 20 feet or longer, weigh more than 200 pounds and live 25 years. At three years of age, a "small," 10-foot python will eat two rabbits a month. They are amazing creatures, but combine a huge, powerful body with an instinctive brain and you have an animal not suitable as a pet for most families.

How big a problem is the Burmese python? More than 144,000 have been imported to the U.S. since 2005. In recent years, hundreds have wound up in Everglades National Park and surrounding areas - more than 230 were removed from the park in 2007 alone. And as if that wasn't bad enough— they are reproducing!

Competing for habitat and prey with our large native snakes, the pythons consume a wide variety of native wildlife, including the American alligator and the endangered Key Largo woodrat.



NUMBER OF PYTHONS REMOVED YEARLY FROM EVERGLADES NATIONAL PARK, DATA COURTESY OF SKIP SNOW

WHAT'S BEING DONE

Scientists are investigating new control strategies for some of our most problematic species. The use of radio tracking, pheromone lures, traps and locator dogs are all being evaluated for their effectiveness in removing Burmese pythons.



TRACKING DOGS MAY HELP IN THE CONTROL OF PYTHONS, EVERGLADES NATIONAL PARK

The battle against invasive exotic species can never be won, however, without first **PREVENTING** the introduction of new species into the wild. State agencies are now putting in place new regulations on the purchase and care of certain reptile species.



FEMALE PYTHONS BEARING EGGS ARE NOW ROUTINELY CAPTURED IN THE FLORIDA EVERGLADES, EVERGLADES NATIONAL PARK

IT'S THE LAW: NEW REGULATIONS BEGAN IN 2008

Thinking of buying an exotic pet? Check first to see if you can legally possess it. Certain wildlife species may be kept without notifying the state, while some other species of wildlife are regulated and require a permit. These include Reptiles of Concern (ROCs), venomous reptiles, Class II and Class III wildlife. Yet other species of terrestrial and aquatic wildlife are not allowed to be personally possessed at all, including Class I wildlife, conditional and prohibited nonnative species. For specific information about the categories listed above, the rules pertaining to wildlife as personal pets and for links to online application forms, visit:

MyFWC.com/nonnatives/RuleRegs.html or FLORIDAINVADERS.ORG

GOT A PROBLEM PYTHON IN MIAMI-DADE COUNTY?



MORE THAN 600 BURMESE PYTHONS HAVE BEEN REMOVED FROM EVERGLADES NATIONAL PARK SO FAR.

To request removal of a nuisance python or unwanted pet reptile, please contact the Miami-Dade Fire Rescue Department at:

786-331-4454

If you observe a dead python or other large constrictor, please contact the Python Hotline at

305-815-2080

HELP RESOURCE MANAGERS IN THEIR CONTROL EFFORTS. REPORT DEAD AND NUISANCE PYTHONS!

FIVE THINGS YOU CAN DO

- **BE A RESPONSIBLE PET OWNER!** Reptiles are popular pets. Be sure to learn about the needs of a particular species before you buy.
- Learn to identify our incredible native reptiles so you won't confuse them with exotics. Keep our natives safe and sound in their natural habitats!
- If you have a pet reptile, like a red-eared slider, make sure you know about changes in regulations.
- Learn about smaller exotic reptiles now posing problems in the wild, like the Tokay gecko and the Cuban anole. Visit FLORIDAINVADERS.ORG.
- If you can no longer care for your pet, find someone who can. Remember, **DON'T LET IT LOOSE!**

BEYOND CONTROL

A handful of nonnative amphibians now call south Florida home. While some probably arrived accidentally in potted plants, others have been purposely introduced, sometimes with heart-breaking consequences. The two highlighted here are now so numerous that it is impossible to eradicate them. And, their populations continue to expand into north Florida and Georgia. We face this risk with the introduction of every invasive species. That's why **PREVENTION** is key!



WHY YOU SHOULD CARE

Invasive amphibians can quickly overwhelm native populations. A single female Cuban tree frog, for example, can lay 4,000 eggs at a time— three times more than native green tree frogs!

Some invasive amphibians, like the Cuban tree frog, are voracious eaters, capable of devouring native frogs, toads and lizards.

Like many amphibians, the marine toad and the Cuban tree frog secrete toxins meant to deter predators. Our local wildlife and domestic pets are not adapted to these unfamiliar toxins. Many family pets have died from ingesting these toxins.



MARINE TOAD, HARDIN WADDLE, USGS

WHAT'S BEING DONE

Amphibian populations have been experiencing a sharp decline worldwide. Concerned about the potential loss of biodiversity and this important part of the food chain, scientists are actively monitoring amphibians in and around south Florida's natural areas to evaluate the status of our native populations.

PREVENTION

RELEASING ANY EXOTIC WILDLIFE IN FLORIDA IS A FIRST-DEGREE MISDEMEANOR, SUBJECT TO ONE YEAR IN PRISON AND A \$1,000 FINE.

FIVE THINGS YOU CAN DO

- **BE A RESPONSIBLE PET OWNER!** Learn as much as possible about the needs of an amphibian species before you buy.
- Inspect purchased plants for stowaways before taking them home.
- Learn to distinguish invasives from our native amphibians at **FLORIDAINVADERS.ORG**.
- Biologists recommend that invasive amphibians be euthanized humanely.
- If you can no longer care for your pet, find someone else who can. Remember, **DON'T LET IT LOOSE!**

LEARN & TEACH

EDUCATION is our most powerful tool in the fight against invasive species. Below are additional resources for educators and others who want to learn more about nonnative species. Find details about each of these resources at **FLORIDAINVADERS.ORG**.

PROJECT WILD

Designed for educators of K-12 students, Project WILD is an interdisciplinary, conservation and environmental education program emphasizing wildlife and habitats. Selected activities focus on and are easily adaptable to educate about nonnative species. The Project WILD curriculum is correlated to the Sunshine State Standards and FCAT.

INTRUDERS IN PARADISE: INVASIVE SPECIES IN FLORIDA

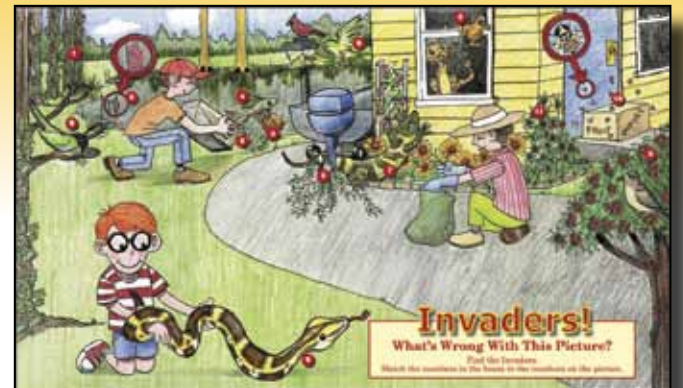
Designed for middle school educators, this program provides background information, vocabulary, interdisciplinary activities, comprehension questions and writing prompts about invasive species. The curriculum correlates to Sunshine State Standards.

INVASIVE PLANT EDUCATION INITIATIVE AND CURRICULA

Aimed at educators of 3-12 students, this program focuses on the importance of native plants and the impacts that invasive plants have on Florida's natural areas. Correlated to Sunshine State Standards, the curriculum provides numerous lessons, activities, photos and free resources.

INVADERS CLASSROOM POSTER

This poster presents both Do's and Don'ts of living in a natural Florida backyard. Identify the problem or solution associated with each number.



INVADERS CLASSROOM POSTER, FWC

INVASIVE SPECIES TRADING CARDS

This free download is a colorful, engaging tool that helps introduce students to nonnative species.

DON'T LET IT LOOSE! ACTIVITY GUIDE

Aimed primarily at middle schools, this activity guide encourages teachers to explore the role of introduced species in our natural ecosystems. Correlated to Sunshine State Standards, the curriculum boasts interactive games and classroom activities that instill students with the importance of responsible pet selection and ownership.

DON'T LET IT LOOSE! E-FIELD TRIP

Available free-of-charge, this interactive, electronic field trip explores the impacts of invasive species on the south Florida environment and includes opportunities for students to "Ask the Experts" their own questions.



STOP AQUATIC HITCHHIKERS

Hitchhikers, escapees and intentionally released plants and animals from home aquariums can devastate Florida's waterways. Florida spends roughly \$70 million each year waging war on invasive aquatic plants, such as water hyacinth and hydrilla, which can clog entire water bodies, shading and out-competing native plants. Invasive exotic animals can also wreak havoc in our waters.



STOP AQUATIC HITCHHIKERS!™

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

FISHY BUSINESS

WHY YOU SHOULD CARE.

A native of South America, sailfin or suckermouth catfish were probably first introduced into our waters



SAILFIN CATFISH,
© DIANE ROME PEEBLES

as fish farm escapees and aquarium releases. Observed regularly in urban canals, sailfin catfish are one of the most abundant and widespread of the exotic catfishes in Florida. They are now found throughout central and south Florida and are known to create spawning burrows along shorelines and canal banks, sometimes undermining lake shorelines.

These aren't the only aquarium fish on the loose however. The Mayan cichlid is probably the most common of all exotic fishes swimming free in south Florida. This cichlid and the African jewelfish are not only living happily in the canals, they have now invaded Everglades National Park as well.



AFRICAN JEWELFISH,
HOWARD JELKS, USGS

WHAT'S BEING DONE. The dazzling but aggressive African jewelfish is a good example of the problem. It is a tempting addition to the aquarium, but when it beats up on all the other fish in the tank, the jewelfish is often dumped into the nearest canal. Only one problem—the canal behind your house has a direct connection to our natural areas. Everglades National Park now has 15 species of exotic fish swimming in its waters.

Populations of exotic fishes are being carefully monitored within Everglades National Park and in limited areas outside the park. Since there are few control options once these species get out in the wild, and research funding to study the impacts of these fishes is very limited, **EDUCATION** and **PREVENTION** remain extremely important.

NONNATIVE ASIAN SWAMP EELS HAVE ALSO INVADED SOUTH FLORIDA. THE U.S. FISH AND WILDLIFE SERVICE HAS REMOVED THOUSANDS FROM CANALS SURROUNDING EVERGLADES NATIONAL PARK!

MAMMOTH MOLLUSKS

WHY YOU SHOULD CARE.

Originally imported from South America for aquariums, the island apple snail has recently been found in south Florida waters. These mega-mollusks, with mega-appetites, can strip large areas of aquatic vegetation in Florida's waterways. This snail can move long distances when it hitchhikes in live wells or with vegetation attached to boats and it has now spread as far north as Tallahassee.



ISLAND APPLE SNAILS (LEFT) GROW MUCH LARGER THAN THE NATIVE SPECIES (RIGHT), EVERGLADES NATIONAL PARK

A prolific breeder, island apple snails can grow as large as baseballs. They lay bright pink egg clusters with up to a thousand eggs on any surface above the water line. Scientists are concerned that this ravenous species could possibly denude shorelines of important wetland vegetation and compete directly with our native apple snail for food and habitat. If the native snail population declines, it could spell further trouble for the endangered Everglades Snail Kite that relies on it for food.

WHAT'S BEING DONE.

The island apple snail is now present in Everglades National Park and the state Water Conservation Areas to the north. Scientists are monitoring the extent of the population and collecting all live snails and eggs while they test trapping methods and the effectiveness of spraying the egg masses.



A CLUSTER OF BRIGHT PINK ISLAND APPLE SNAIL EGGS DIFFERS GREATLY FROM THE WHITE EGGS OF OUR NATIVE SPECIES.

LITTLE CROP OF HORRORS

WHY YOU SHOULD CARE.

Hydrilla, Florida's most widespread exotic aquatic plant, was first imported from Sri Lanka in the early 1950s and sold as an aquarium plant. During the 50s and 60s, aquatic plant farmers "seeded" Florida waterways with hydrilla to offset expenses. By the time it was identified as an invasive plant, hydrilla had already spread throughout many of Florida's canals, ponds, lakes, rivers and springs, shading out and killing native aquatic plants and the fish and other wildlife that depend on them.



HYDRILLA, PHOTO BY VIC RAMEY, UNIVERSITY OF FLORIDA/IFAS CENTER FOR AQUATIC AND INVASIVE PLANTS. USED WITH PERMISSION.

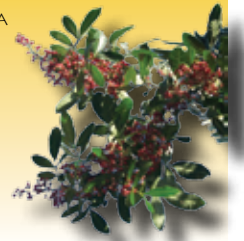
WHAT'S BEING DONE. Florida now spends more than \$30 million each year just to manage hydrilla, which is found in nearly half of Florida's public waters and can grow more than one inch per day. Millions of dollars more are lost in recreation revenue when thick carpets of hydrilla, thick enough for ducks to walk on, make waters inaccessible to anglers, swimmers and boaters.

FIVE THINGS YOU CAN DO

- **BE A RESPONSIBLE PET OWNER!** Be sure to learn about the needs of particular aquarium species before you buy. Visit **FLORIDAINVADERS.ORG**.
- Never release aquarium critters and plants to Florida's water bodies. Do not keep them in outdoor ponds. Remember, **DON'T LET IT LOOSE!**
- Before leaving the water to head home, inspect your boat, trailer, equipment, clothing and buckets. Remove any plants and animals.
- Learn to identify island apple snails and their eggs. Remove and destroy any you find by placing in a plastic bag and freezing them. Do not eat them.
- Check your state regulations and go fishing! Most of our exotic fish have no bag limit.

GREEN ALIENS, INDEED!

BRAZILIAN PEPPER, USDA



Invasive plants not only spoil our natural areas, they can invade your yard and garden too. Once these aggressive plants get a foothold, ripping them out can be a continual challenge. Landscaping with native plants is no sweat; they generally require less water and care while also providing habitat for butterflies and birds.



DON'T PLANT THESE INVASIVE SPECIES



Oyster plant

Tradescantia spathacea

The seeds of this poisonous plant are easily spread by wind and routinely invade native communities.

Photo by Patricia Howell



Asparagus fern

Asparagus sp.

Not a true fern, this common houseplant invades numerous native habitats as birds spread its berries.

Photo by Matthew Merritt



Snake plant

Sansevieria hyacinthoides

Commonly used as an ornamental, this African species quickly invades native hammocks.

Photo by Pat Howell



Queensland umbrella tree

Schefflera actinophylla

Growing up to 40 feet tall, these large trees can spread quickly and easily shade out native species.

Photo by Dennis Gerard



Surinam cherry

Eugenia uniflora

Once planted widely for its attractive edible fruits, this species has now spread to our natural areas.

Photo by Patricia Howell



Jasmine

Jasminum dichotomum

This self-sowing invader flowers year round. Birds and raccoons help distribute the fruits far and wide.

Photo by Paul L. Redfearn, Jr.



Beach naupaka

Scaevola frutescens

Originally introduced to stabilize beach dunes, the plant has now invaded many coastal communities.

Photo by Shirley Denton



Woman's tongue

Albizia julibrissin

This fast-growing tree has invaded habitats from Big Cypress National Preserve to the Florida Keys.

Photo by Shirley Denton



CONSIDER THESE NATIVES INSTEAD



Simpson's stopper

Myrcianthes fragrans

Occurring naturally in dense hammocks, this hearty native is a perfect choice for shady areas.

Photo by Patricia Howell



Locust berry

Byrsonima lucida

The color of these beautiful red flowers changes gradually over time, making this a favorite ornamental.

Photo by Roger Hammer



Spanish bayonet

Yucca aloifolia

Perfectly suited to life in south Florida, this plant is drought and salt-tolerant and resistant to wind.

Photo by Roger Hammer



Pineland morning glory

Jacquemontia curtissii

This delicate vine is endemic to south Florida and thrives in areas that receive full sun.

Photo by Roger Hammer



Cocoplum

Chrysobalanus icaco

This versatile shrub can be kept pruned as a hedge, or allowed to grow larger and sprout edible fruit.

Photo by Roger Hammer



Gumbo limbo

Bursera simaruba

Best known for its shiny, peeling bark, this tree is also wind-resistant and a great attractant for wildlife.

Photo by Roger Hammer



Coontie

Zamia integrifolia

This handsome native thrives with minimal water and is the host plant of the beautiful atala butterfly.

Photo by Roger Hammer



Wild tamarind

Lysiloma latisiliquum

This large tree boasts a robust canopy and grows well in shade. In the wild, its smooth bark attracts tree snails.

Photo by Roger Hammer

WHY YOU SHOULD CARE

Imported in the late 1800s as an ornamental and shade tree, Brazilian pepper is neither a Florida native nor a holly. It is an invasive exotic weed that invades fields, roadsides and canal banks as well as natural pinewoods and hammocks, by forming impenetrable thickets that inhibit the growth of native plants.

Unfortunately, birds gorge themselves on its bright red berries and then spread the seeds far and wide. Brazilian pepper now covers more than 700,000 acres from south Florida to Duval County.

Two highly invasive East Asian vines are infesting Florida. Old World and Japanese climbing ferns climb trees, forming a dense canopy that smothers entire forests. Ferns



OLD WORLD CLIMBING FERN
PEGGY GREB, USDA

are spread by spores and it takes just one spore to establish the plant in a new area. Old World climbing fern currently blankets 300,000 acres of natural lands across central and south Florida. If not controlled, it could cover more area than the top five most invasive species combined.

WHAT'S BEING DONE

Over the years, government agencies have waged war upon some of our most invasive exotic invaders. Great strides have been made in the battle against Australian pine, Melaleuca and Brazilian pepper, though many areas remain infested. **EARLY DETECTION** of new infestations of invasive plants is key to mounting an effective **RAPID RESPONSE**.

FIVE THINGS YOU CAN DO

- Learn to identify invasive exotic plants, remove them from your yard and share your knowledge with neighbors.
- Consider landscaping with native plants.
- Don't throw yard debris in nearby natural areas. Carefully bag it or use noninvasive cuttings for mulch.
- Volunteer to remove exotics from natural areas.
- Learn more about invasive plants and great alternatives at **FLORIDAINVADERS.ORG**.

**LEARN MORE ABOUT PLANTING WITH
NATIVES AT FLORIDAINVADERS.ORG**

DON'T LET IT LOOSE!

BE A RESPONSIBLE PET OWNER

Have an unmanageable exotic pet? Don't add more teeth to Florida's invasive exotics problem.

Bring exotic pets that can no longer be cared for to a Nonnative Pet Amnesty Day near you.

NONNATIVE PET AMNESTY DAYS

FREE AND OPEN TO THE PUBLIC

- ❖ SURRENDER EXOTIC PETS (REPTILES, AMPHIBIANS, BIRDS, MAMMALS, FISHES OR INVERTEBRATES) THAT CAN NO LONGER BE CARED FOR, FREE OF CHARGE.
- ❖ DOMESTIC PETS (CATS, DOGS, RABBITS, FERRETS) WILL NOT BE ACCEPTED.
- ❖ SURRENDERED PETS WILL BE EXAMINED BY A VETERINARIAN. EVERY EFFORT WILL BE MADE TO PLACE ANIMALS THAT APPEAR HEALTHY WITH QUALIFIED ADOPTERS.
- ❖ NO QUESTIONS ASKED! NO PENALTIES!
- ❖ BRING THE FAMILY— LIVE ANIMALS WILL BE ON DISPLAY!
- ❖ TALK TO EXPERTS AND LEARN ABOUT RESPONSIBLE PET OWNERSHIP.
- ❖ MICROCHIP IMPLANTS MAY BE AVAILABLE— CHECK OUR WEB SITE FOR DATES AND LOCATIONS.

DATES AND LOCATIONS FOR UPCOMING NONNATIVE PET AMNESTY DAYS CAN BE FOUND AT:

MYFWC.COM/NONNATIVES

Nonnative Pet Amnesty Days are Sponsored by The Florida Fish and Wildlife Conservation Commission

**RELEASING EXOTIC ANIMALS INTO THE WILD IS
NEVER A GOOD IDEA:**

IT'S HARMFUL TO THE ANIMAL.

IT THREATENS NATIVE FISH AND WILDLIFE POPULATIONS.

IT'S ILLEGAL!