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Our History is a Treasure: Chapter Thirty-Four *By Jan Otten*

INVASIVE VS. ENDANGERED (Part 1) (There is so much important and interesting information on this topic that it is necessary to make it a two-part article)

Hobe Sound is a truly unique space in the peninsula we call Florida. This little "bubble" of an unincorporated village is surrounded by nature and protected by early settlers who had a vision to keep this community from being developed into towering apartment complexes and hotels.

The natural areas that surround Hobe Sound are filled with flora and fauna abounding in treasures that are exceptional and readily available to see and enjoy and are what keep this community the very special place that it is.

Oftentimes we read articles, see news items or social media postings about "invasive" wildlife and plants and similarly "endangered" wildlife and plants. These two words are related and critical to keeping Hobe Sound and indeed most all of Florida healthy.

The word **INVASIVE** has a few meanings. Essentially it refers to something that does not belong where it is – it is unwelcome and usually overly assertive and generally causes harm. In the environment it refers to species, whether plant or animal, that have been wrongly brought to an area either on purpose, or inadvertently. In medicine it refers to procedures that involve entering the body usually with instruments in order to diagnose or treat a condition, such as by surgery, biopsies and so on. Or like cancer cells that invade and spread within a body. In behavior it refers to a disrespectful person who enters another's personal space. This could include armies invading other countries. Our purposes for this article will refer to **INVASIVE SPECIES** – things harmful to our local ecosystem.

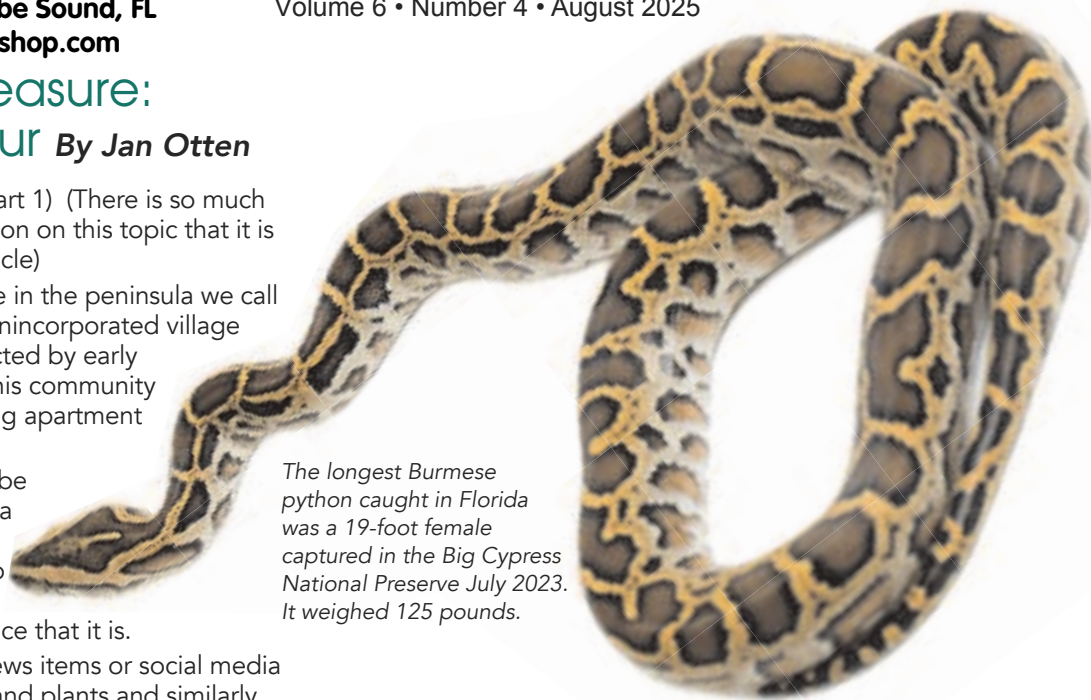
And how about **ENDANGERED**? Its meaning is a little more straight forward and easy to understand. Especially with respect to plants and animals it refers to something that is seriously at risk of extinction. This topic will be tackled in Part 2 of this titled article in the next issue of *Turtle Times*.

These two topics go hand in hand because **INVASIVE SPECIES** have a huge impact on **ENDANGERED SPECIES**. So, what are some of the invasive species that are impacting our native endangered species?

Basically, humans are the biggest form of invasive species harming the environment. And on the other hand, it is humans

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The longest Burmese python caught in Florida was a 19-foot female captured in the Big Cypress National Preserve July 2023. It weighed 125 pounds.

who work diligently to protect and restore what has been damaged. Some invading species have inadvertently reached here when humans arrived from foreign ports and brought with them, accidentally hidden in the ships, or on purpose to have here for food and for work animals. And then, worst of all, eradicating natural habitats and moving onto the lands where the native species lived. Add to that the people who thought it a good idea to release into the wild, pets they no longer wanted. What are the harmful effects of invasive species? They will usually outcompete the native species for resources. They disrupt ecosystems, spread diseases thus causing economic damage. Dangerous invasive species tend to adapt to their new environment, reproduce quickly, and most often lack natural local predators.

With a little understanding of what **INVASIVE SPECIES** means, what are some of them that have become a significant problem in Florida? We can't list and describe all of them in this article, but we can talk about some of the prominent ones that we hear about most often and their effects on our local environment. The following are not just impacting the native ecological world but also human habitats.

In the Animal realm:

Burmese Pythons (*Python bivittatus*) are large snakes that are prime predators in the Everglades, first introduced to Florida in the 1990s as part of the exotic pet trade. Primarily they disrupt the food chain by preying on native mammals, birds, **1**

and reptiles. Many who owned them as pets found these snakes challenging to care for and released them into the wild. Then, in 1992, Hurricane Andrew destroyed a python breeding center which resulted in hundreds more being let loose. The population of these snakes is difficult to control through the removal of individuals. A typical female breeds every other year, produces a clutch of between 20 and 50 eggs, and can live for approximately 20 years. More than 2,000 pythons have been captured since 2005, including hatchling pythons, gravid females, and adults in excess of 17 feet. Gut analyses indicate that captured pythons consume nearly any bird, mammal, or alligator found in the Everglades, including among others nationally endangered Key Largo woodrats and wood storks.

According to Smithsonian Magazine a 2015 study showed that Burmese Pythons were responsible for 77% of rabbit deaths in the Everglades. *"Wildlife biologists in Florida are doing everything they can to eradicate invasive Burmese pythons, from hosting public hunting challenges and hiring bounty hunters to affixing tracking devices to male "scout" snakes that can lead them to large, reproductive females."* Very interestingly they have now, come up with "robotic rabbits" as a new tool to help in the battle.

Smithsonian Magazine goes on to state that *"Scientists at the University of Florida are deploying the so-called "robo-bunnies" throughout South Florida in hopes of drawing Burmese pythons out of their hiding places so they can be euthanized, reports Kimberly Miller for the Palm Beach Post. By luring the pythons to the rabbit look-alikes, biologists can save time that might otherwise be spent searching through the swamp for the snakes. The animatronic rabbits are outfitted with motors and internal heaters that are designed to replicate the behaviors and body temperatures of live marsh rabbits (Sylvilagus palustris), which Burmese pythons love to eat."* As a prime invasive creature let's hope that the various means of ridding Florida of these pests will be successful.

Argentine Black and White Tegus (Salvator merianae) are large lizards who eat the eggs of ground-nesting birds, alligators, and turtles, impacting native reptile and bird populations. Like many of Florida's invasive species, these creatures found their way here through the pet trade. According to Florida Wildlife Corridor Foundation, *"Tegus can grow up to 4 feet long and produce a powerful bite that can reach upwards of 200 pounds per square inch of pressure. Coupled with sharp teeth and claws, these animals hold a formidable presence in any ecosystem and can quickly become too much to handle for less experienced animal keepers. Along with this, many reptile keepers opt for outdoor enclosures for these large animals, which can often become damaged in storms and may contribute to escaped pets. The result: numerous tegus being released into the Florida wilderness."*

These lizards are found in savannas and disturbed habitats such as forest clearings, roadsides and fence rows. They are terrestrial lizards rarely climbing more than a few feet off the ground but are strong swimmers.



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Tegus can tolerate marine and freshwater habitats, such as flooded marshes.

During winter months, tegus retreat into burrows while they undergo a hibernation-like period known as brumation. In south Florida, they typically begin to emerge from their burrows in February. Tegu breeding in Florida begins in early spring. They lay an average of 35 eggs per year. Females construct nests of dried vegetation, often at the base of trees, in clumps of tall grass or in burrows. Eggs incubate for approximately 60 days and require stable temperatures for successful hatching. After hatching, juvenile tegus grow quickly. Tegus may live up to 20 years. Typically, they consume fruits, eggs, insects, and small animals including reptiles and rodents. They are efficient egg predators that will consume the eggs of ground-nesting birds and reptiles. They may also consume pet food that has been left outdoors. In Florida, they have been documented consuming American alligator eggs and may also impact other ground-nesting native wildlife such as the gopher tortoise, American crocodile, sea turtles and ground-nesting birds.

Green Iguanas' (Iguana iguana) negative impact includes damage to seawalls and other structures with their burrows as well as competing with native

wildlife for resources. They are large, typically green lizards, though they can sometimes be brown or almost black in color. Some adults can take on an orange or pink coloration during certain times of the year. Hatchling and young green iguanas usually have bright green coloration. Males can grow to over five feet in length and weigh up to 17 pounds while females can also reach five feet in length but usually do not exceed seven pounds. They generally nest on riverbanks, beaches and other sandy areas.



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Green iguanas can live on the ground, in shrubs, or in trees in a variety of habitats including suburban developments, urban areas, small towns, and agricultural areas. They are excellent swimmers, tolerating both salt and freshwater and can submerge themselves for up to four hours at a time. Females dig egg chambers that may contain nearly 80 feet of interconnected tunnels and multiple entrances and lay clutches of anywhere from 14-76 eggs. In the wild they can live up to 10 years and about 19 years in captivity.

Essentially, they feed on a wide variety of vegetation, including shoots, leaves, blossoms and fruits of plants such as nicker bean, firebush, jasmine, orchids, roses, Washington fan palms, hibiscuses, garden greens, squashes and melons. This species is a nuisance to homeowners due to their tendency to eat ornamental plants. Adult green iguanas also feed on bird eggs and dead animals. Juvenile green iguanas feed on vegetation, insects and tree snails.

As reported by Florida Fish and Wildlife Conservation Commission (FFWCC), *"Iguanas are attracted to trees with foliage or flowers, most fruits (except citrus) and almost any vegetable. Some green iguanas cause damage to infrastructure by digging burrows that erode and collapse sidewalks, foundations, seawalls, berms and canal banks. Green iguanas may also leave droppings on docks, moored boats, seawalls,*

porches, decks, pool platforms and inside swimming pools. Although primarily herbivores, researchers found the remains of tree snails in the stomachs of green iguanas in Bill Baggs Cape Florida State Park, suggesting that iguanas could present a threat to native and endangered species of tree snails. In Bahia Honda State Park, green iguanas have consumed nicker bean, which is a host plant of the endangered Miami Blue butterfly. As is the case with other reptiles, green iguanas can also transmit the infectious bacterium *Salmonella* to humans through contact with water or surfaces contaminated by their feces."

Feral Pigs (*Sus scrofa*) also known as wild hogs, are a significant problem in Florida and are found in all 67 counties. Resident populations have existed here for hundreds of years. It is thought that they may have been introduced in Florida by Spanish explorer Hernando DeSoto as early as 1539.

Wild hogs can reach weights of more than 150 pounds and measure 5 to 6 feet long. Their rooting and wallowing behavior agitates natural environments, damaging soil structure, causing erosion, and harming native plants and crops. They also impact wetlands and other habitats. As with most invasive species they compete with native wildlife for food and resources. Feral pigs often carry diseases that can be transmitted to other wildlife, livestock, and humans.



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They are found in a wide variety of habitats but prefer oak-cabbage palm hammocks, freshwater marshes and sloughs, pine flatwoods, and more open agricultural areas.

These invasive pests usually travel in small family groups or sometimes alone.

Wild hogs eat a variety of plants and animals and feed by rooting with their broad snouts. They may disturb the soil and ground cover vegetation and leave the area looking like it has been plowed.

Per the FFWCC, "Trying to prevent wild hogs from coming onto your property can be difficult, but adequate fencing should keep them



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out of small yards and gardens. With landowner permission, wild hogs may be trapped, shot or hunted year-round with no fees, licenses or permits required (including when using a gun and light during non-daylight hours). Poisoning wild hogs is prohibited. Private nuisance wildlife trappers offer services including trapping, removal and disposal of wild hogs. The Florida Department of Agriculture and Consumer Services (FDACS) regulates the transportation and holding of live wild hogs. Persons transporting or holding live wild hogs must contact the FDACS to obtain appropriate permits."

Cuban Tree Frogs (*Osteopilus*

septentrionalis) can be a nuisance and compete with native tree frogs for resources. There are multiple reasons why these pests are more than an annoyance:

1. Their skin secretions can cause allergic reactions or irritation to humans, especially if the mucus gets into eyes or nose;
2. Cuban tree frogs can invade buildings, clog drains, and even cause power outages by entering electrical equipment; and
3. They are a potential for parasites whereby a single Cuban tree frog

was found to be carrying a rat lungworm parasite, which could potentially infect family pets that come into contact with the frog.

This specific variety of tree frog can be tough to identify because they can be white, gray, green, or brown, and can change colors. Some Cuban tree frogs have dark streaks or splotches on their backs, while others are nearly solid color with no markings.

Cuban tree frogs eat at least five different species of native frogs, not to mention the occasional lizard or small snake, and their tadpoles compete with native tadpoles for space and food. Most commonly found in urban areas, they are known to hang out near lights on the walls of houses and catch insects. They often deposit their droppings on walls and windows (leaving ugly stains), take over birdhouses, and lay eggs in fishponds and bird baths. Sometimes they even find their way into homes, hanging out in toilets and clogging sink drains. Cuban tree frogs grow very large and are known to cause costly power outages by short-circuiting utility switches. Florida's native tree frogs are all much smaller and aren't known to cause such utility problems.

It is believed that these tree frogs were accidentally brought to Florida in the 1920s, probably as hitchhikers in cargo containers on ships.

Bufo Toads (*Rhinella marina*), also known as Cane Toads, are an invasive, poisonous species. South Florida's warm climate and abundant water sources make it a haven for the amphibians, which were initially introduced to control agricultural pests. Now, they thrive in residential areas, hiding in mulch, landscaping, and near pools. They pose a threat to pets and native wildlife due to the toxins they secrete. They are commonly found in urban, suburban, and agricultural areas, including yards, around buildings, or near canals and ponds. Bufo/Cane toads though first introduced into Florida to control pests have become an invasive species, competing with native varieties and spreading rapidly. They are



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particularly active during the spring and summer months, especially after heavy rains.

These dangerously toxic toads generally range in size from 6 to 9 inches in length, are reddish-brown to grayish-brown with a light-yellow or beige belly and can be uniform in color or have darker markings around the body. They have enlarged glands behind the eyes, which angle downward onto the shoulders. The glands secrete a potent milky-white toxin (bufotoxin) as defense against predators including domestic pets. They are often confused with the native southern toad; however, adult Bufo toads are much larger than adult southern toads which only grow to a maximum of approximately 3 to 4 inches. In addition, the Bufo toads do not have ridges across the head, as seen in the southern toad.

The toxin that the Bufo toad secretes is potent enough to kill very large animals. Dogs are particularly susceptible to Bufo toad poisoning due to their tendency to investigate and mouth objects, including toads. It is said a dog doesn't even have to bite the toad. They can touch it with their paw while the toxin is secreting and lick their paw.

If your dog does come in contact with the toad's toxin it can cause immediate and severe reactions, including excessive drooling, pawing at the moth, difficulty breathing and seizures. It is imperative that you seek prompt veterinary care being mindful that the toxin can be deadly. In the meantime, immediately rinse the pet's mouth with a hose, pointing the water downwards to avoid swallowing the toxin; wipe the gums and tongue with a damp cloth to remove the toxin. Do not delay treatment, as the effects can be rapid and severe. And for yourself, do not approach or handle a Bufo toad, seek a professional pest control service that specializes in removal of these creatures.

What can you do to help keep them out of your yard? Keep yards clean and remove clutter or debris piles where toads may hide; trim low-hanging branches and shrubs; eliminate sources of stagnant water, (that's where toads lay their eggs); turn off outdoor lights or use yellow "bug lights" to reduce insects, which attract toads; avoid leaving pet food or water outdoors, especially at night; and use fencing or barriers to restrict toad access to your property.

Giant African Land Snails (*Lissachatina fulica*) consume a wide variety of native plants and can carry a parasite that can cause meningitis in humans.

The Giant African Land Snail (GALS) is noted by the Florida Department of Agriculture and Consumer Services as *"one of the most damaging snails in the world and consumes at least 500*

different types of plants." They also note that *"these snails could be devastating to Florida*

agriculture and natural areas as they cause extensive damage to tropical and subtropical environments." In

addition, they can pose a serious health risk to humans because they also carry a parasite known as rat lungworm, known to cause meningitis in humans. It is illegal in the United States to import or possess them without a permit.

Two times the Giant

African Land Snails have been eradicated in Florida. The first detection was in 1969 and was eradicated in 1975. The most recent eradication of this pest was in 2021 from a detection in 2011 in Miami-Dade County.

Giant African land snails vary in their color pattern. The populations previously eradicated in South Florida and the populations in Lee County possess dark brown shells with grayish-brown flesh. The snails detected in Pasco County have light to dark brown shells with milky white flesh. The lighter fleshed snails are sometimes referred to as "albino



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GALS" and are more desirable in the illegal pet trade. If you are interested in adopting an invertebrate pet, please visit the USDA Invertebrate Pets website

Birds:

Muscovy Ducks (*Cairina moschata*) create problems through competition with native species, damage to property, and transmission of disease. They are large ducks, averaging 9 pounds with a typical wingspan between 54-61 inches. Males are generally larger than females. Muscovy ducks have red, fleshy protuberances on the face while their plumage is brownish-black with iridescent green and purple and white wing patches. Though not native to Florida they have become a common sight in neighborhoods throughout the state. In fact, the FFWCC estimates that there are tens of thousands of Muscovy Ducks in Florida. On the plus side, they will eat mosquitoes at both larval and adult stages making good pest control for flies and insects. Surprisingly, Muscovy Duck eggs are safe and considered delicious to eat. Apparently, they are larger and richer than chicken eggs, with a high yolk-to-white ratio, and are often described as having a slightly richer flavor. They are considered to be very nutritious, containing more protein, vitamins, and minerals than chicken eggs.

Muscovy ducks are communal with a social hierarchy in which males protect territories established by dominating other males with visual displays. Dominant males maintain territories and mate with females that nest in those territories while other males that live within the territory act as bachelors. This species is non-migratory and are most active during the day.

Considered to be omnivorous (eats both plants and animals), Muscovy ducks prefer to feed on roots, stems, leaves, and seeds of aquatic and terrestrial plants, as well as small fish, reptiles, crustaceans, insects, millipedes, and termites.

Muscovy ducks can create problems through competition with native species, damage to property, and transmission of disease.

Monk Parakeets

(*Myiopsitta monachus*), also known as Quaker Parrots, found mostly in urban and suburban areas, were introduced in Florida primarily through the pet trade, with individuals escaping and forming self-sustaining breeding populations. Their diet consists mostly of a variety of seeds, fruits, blossoms, insects, and vegetation. In urban settings, they readily take advantage of ornamental fruit trees and

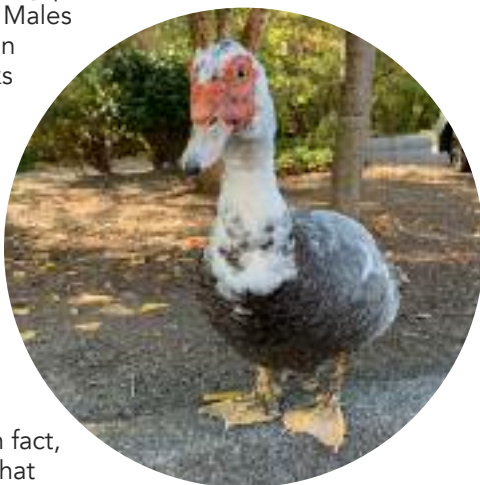


Photo by Nancy Lee

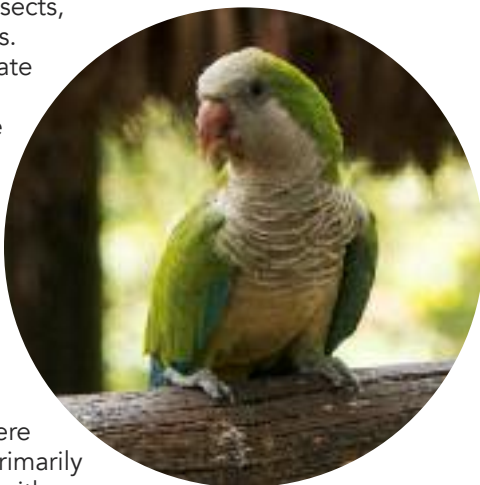


Photo by Cadu Mello

backyard bird feeders, especially ones with sunflower seeds. They can also have an impact on agricultural crops like corn, rice, and sunflowers. The primary struggle with Monk Parakeets is their tendency to nest on electric utility equipment, which can lead to power outages and fires when the nests contact energized apparatuses. And of course they may also compete with native wildlife for resources.

They are medium-sized, green and gray parrots, although considered to be invasive, they are attractive, most often found in South Florida and the Tampa Bay area. This author saw a huge flock a while ago in Sand Sprit Park in Stuart. A truly fascinating sight but at that time I was not aware that they are an invasive species. I just enjoyed the beauty of these birds.

Marine Life

Lionfish (*Pterois volitans*) are insatiable predators consuming native reef fish, impacting the delicate balance of marine ecosystems. By eating native fish, they can reduce native populations and have negative effects on the overall reef habitat and health as they can eliminate species that serve important ecological roles such as fish that keep algae in check on the reefs.

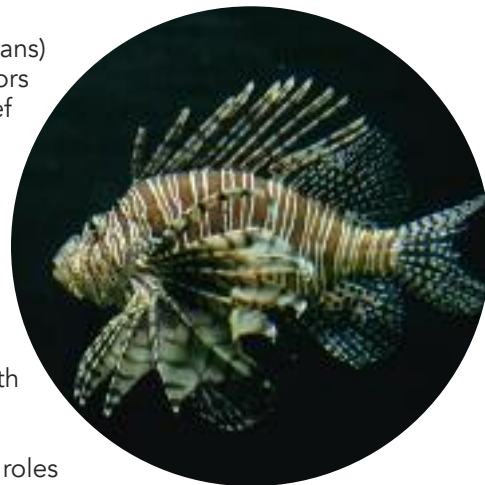


Photo by Cristian Rojas

This marine species is primarily red, brown and white and has a striped, zebra-like appearance. While there are two distinct, but visually identical species found in their non-native range, about 97 percent are red lionfish. They grow to about 12-15 inches in length; however, they have been noted to be larger in areas where they are not indigenous, exceeding 18 inches. Females release two gelatinous egg masses of about 12,000 to 15,000 eggs each. These masses float and can drift for about 25 days. Lionfish can spawn every four days in warmer climates.

The flesh of the lionfish is not poisonous or venomous, but they have 18 venomous spines that are used defensively against predators. These spines should be avoided during capture and handling because of their ability to cause painful injuries.

Once they settle into a suitable location as an adult they tend to stay there and can reach densities of more than 200 adults per acre. They can consume prey that are more than half of their own length and are known to prey on more than 70 marine fish and invertebrate species including yellowtail snapper, Nassau grouper, parrotfish, banded coral shrimp, and cleaner species. They also compete for food with native predatory fish such as grouper and snapper and may negatively impact the overall reef habitat by eliminating organisms that serve important ecological roles such as herbivorous fish that keep algae in-check. Adult lionfish spread their pectoral fins and use them to "herd" prey. They are the only species known to blow water at prey to get them to turn toward the lionfish before being devoured.

Surprisingly, even though Lionfish are a venomous fish they are safe to eat. They can be prepared in many ways: baked, broiled, fried, poached, grilled, seared or blackened.

The FFWCC encourages people to remove lionfish from Florida waters to help limit negative impacts to native marine life and ecosystems.

And in the world of Vegetation:

Australian Pine (*Casuarina equisetifolia*) is a tree that alters coastal habitats and outcompetes native vegetation. It is a tropical evergreen that grows up to 150 feet tall with needle-like branchlets and small cone-like flower clusters. It is also known by such names as beefwood, ironwood, she-oak and horsetail tree. A native of Australia, South Pacific islands and Southeast Asia it was introduced from Australia to Florida during the 1890s being widely planted here to form windbreaks around canals, agricultural fields, roads and houses. The FFWCC reports that, *"Habitats disturbed by both human activities and natural events seem particularly prone to invasions by Australian pine. Because Australian pine trees are resistant to salt spray, and can grow close to sea water, they have invaded thousands of acres of southeastern and southwestern coastal areas of Florida."* The Commission goes on to report that, *"Australian pine trees threaten native Central and South Florida beach plant communities by quickly invading newly accreted beaches, beaches where dredge spoil has been deposited, and beaches where a storm has destroyed existing vegetation. Australian pine trees have also invaded South Florida's hammock and tree island communities in the Everglades. These trees outcompete native vegetation by producing a dense leaf litter beneath them. Because of shallow root systems, Australian pine trees tend to uproot and topple during high winds and pose a significant hazard to coastal storm evacuation routes."*

This invasive tree often displaces native beach plant communities that provide critical wildlife habitat for threatened and endangered plant and animal species. In addition, they can encourage beach erosion by displacing deep-rooted vegetation. Most especially their dense shallow root system interferes with the ability of the endangered American crocodiles and sea turtles to construct coastal nests, and they provide little to no native wildlife habitat.

Brazilian Pepper (*Schinus terebinthifolius*) shrubs can form dense thickets, displace native plants and reduce biodiversity. This small shrub-like tree, typically 15 to 30 feet in height, is the most widespread of Florida's nonnative invasive plant species occupying more than 700,000 acres. Brazilian pepper is a medium-sized evergreen shrub-like tree native to Brazil and Paraguay. It produces dense clusters of small berries that

change from green to bright red as they ripen.

First introduced during the 19th century it has invaded many habitats in Central and South Florida. It is primarily an invader of landscapes in which the soil has been disturbed, and fire excluded and has formed large dense forests in relatively undisturbed areas adjacent to mangroves along the southwestern portion of Everglades National Park and within the coastal areas of West Central and South Florida. Brazilian pepper is

Photo by George Gentry, USFWS



related to poisonwood, poison oak and poison ivy. Because of its relationship to poison ivy, many who come in contact with its sap develop allergic skin reactions.

A significant threat to Florida's native plant and wildlife populations, typically, Brazilian pepper forms dense forests that exclude all other plant life by producing a dense closed canopy. These forests are considered to be poor habitat for native wildlife species and may negatively impact bird populations. Brazilian pepper produces dense closed canopy forests that shade out almost all other plant life, they alter natural fire regimes and are considered to be poor habitat for native wildlife species.

The FFWCC affirms, *"Because of its aggressive growth rate, never plant Australian pine trees. There are native trees that provide shade and do not harm the environment. Possession of Australian pine with the intent to sell or plant is illegal in Florida without a special permit."*

Old World Climbing Fern (*Lygodium microphyllum*) can smother native vegetation, impacting forests and other natural areas. This is highly invasive in natural areas and is a severe threat to Everglades tree island communities. It is a canopy producer that smothers native trees and shrubs and

can serve as a fire ladder that carries fire into native tree canopies that normally wouldn't burn. It continues to rapidly spread in South Florida's public conservation lands.

This is a fern with dark brown, wiry stems forming layered mats or canopies over existing vegetation. They do not produce flowers. Ferns are a spore-releasing class of vascular plants with many thousands of tiny spores released per plant and carried by wind, dust, animals, clothes, and equipment.

This rapidly spreading fern invades new areas without the need of habitat disturbance and often completely dominates native vegetation by forming a dense canopy. The fern, first found to be established in 1965 in Martin County, now infests more than 200,000 acres in South Florida. 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 horizontal canopies allows it to cover whole communities of



Photo by Michael Lusk, USFWS

plants reducing native plant 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 tree islands are so completely blanketed by the fern that it is not possible to see trees and other vegetation beneath the fern canopy.

Managing this invasive fern is difficult. Pulling the fern out by the roots is an option, but it can be labor-intensive. Herbicides can be effective, but repeated treatments are often necessary. According to the USDA ARS researchers are exploring biological control methods, such as introducing insects that feed on the fern, to manage its spread.

Melaleuca (*Melaleuca quinquenervia*) is a tree that forms dense monocultures, displacing native species and altering hydrology (the distribution and movement of water both on and below the Earth's surface.) In appearance Melaleuca is a large evergreen tree typically 65 feet in height with

a brownish white, many-layered papery bark. Its flower is creamy white to pinkish "bottle brush" spikes to 6 inches long and its fruit broadly cylindrical, thick-walled, capsules to 3/8 inches wide, in clusters surrounding young stems; each capsule holding 200-300 tiny seeds and can flower five times per year.

It is estimated melaleuca trees inhabit more than 400 thousand acres, mostly in South Florida.

Melaleuca was introduced into Florida from Australia and

Malaysia in 1906 as potential commercial timber and later extensively sold as a landscape ornamental tree and windbreak. It was also planted to dry up the Everglades to decrease mosquito populations and allow for development.

Melaleuca trees grow quickly, typically 3-6 feet per year, in disturbed wet pine flatwoods, marshes and swamps. This nonnative tree is rapidly displacing native cypress and sawgrass in the Everglades. Any damage to the tree that cuts water flow to the stems containing seed capsules, such as fires, freezes and control techniques, will result in seed release. Seeds can remain viable for 10 years, and a single tree can store 2 to 20 million seeds. The FFWCC states that *"their dense stands result in almost total displacement of native plants that are important to wildlife. In the Everglades, melaleuca trees form nearly monospecific forests in formerly treeless sawgrass marshes, disrupting historical water flows. Melaleuca forests represent a serious fire hazard to surrounding developed areas because of the oils contained within the leaves that create hot crown fires."*

There are many more invasive species present in Florida. What happens once an invasive species has been detected; how do we go about eliminating them? It is through a combination of scientific research, public engagement, and targeted management strategies, that Florida strives to mitigate the impacts of invasive species and protect its unique ecosystems. Essentially it begins by educating residents about invasive species, including how to identify them, and how to prevent their spread. Organizations such as Florida First Detector empower individuals to identify and report invasive species.



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Some trivia of interest:

- Florida First Detector is a multiagency educational effort focused on enhancing the early detection of exotic, invasive pests that threaten agriculture, nursery industries, and natural areas. Their website provides scripted presentations for educators of Master Gardeners, small farm producers, nursery growers, public garden staff, and state park personnel as well as interested members of the public. Its program is a cooperative effort between the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), and Plant Protection and Quarantine (PPQ), the University of Florida, Florida Department of Agriculture and Consumer Services (FDACS), the Cooperative Agricultural Pest Survey Program (CAPS), the National Plant Diagnostic Network (NPDN), Protect U.S. and the Sentinel Plant Network (SPN).
- There are specific laws and permits involved with humanely resolving the problem of nonnative invasive species whether on public or private lands. Before taking it upon yourself to dispose of any animal, bird, marine life or plant life be sure to contact Florida First Detector or Florida's Fish and Wildlife Conservation Commission (FFWCC) to learn about the appropriate ways to do so and the proper permitting and licensing necessary.
- Through Florida's Fish and Wildlife Conservation Commission's Exotic Pet Amnesty Program pet owners who are either unable to care for their exotic pets, or who no longer wish to keep them can surrender them with no questions asked and without penalties regardless of whether those pets are kept legally or illegally. Surrendered pets are adopted to new owners who have been pre-qualified and who have any required permits. The program helps reduce the number of nonnative species being released into the wild by pet owners and fosters responsible pet ownership, giving pet owners an ethical and ecologically sound alternative to releasing an exotic animal.
- *Accreted beaches are those where sand and sediment have accumulated over time, causing the shoreline to advance seaward. This process is the opposite of erosion, where the shoreline retreats. Accretion can result from natural processes like wave action, currents, and sediment deposition from rivers, or from human activities like beach nourishment.

Research for this article included:

Florida Fish & Wildlife Conservation Commission (FFWCC)
SW Florida Water Management District
University of Florida, Department of Wildlife Ecology & Conservation
Florida Wildlife Corridor Foundation
Florida Department of Agriculture and Consumer Services
Smithsonian Magazine
Discover Martin County

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Real Estate Corner

I love living in Hobe Sound where people still care, talk to each other and even smile at one another whenever they cross paths. I have been licensed in real estate for over 25 years and many changes have taken place over that time and still changes take place daily in the real-estate world! Home prices go up and down, demand changes as our world revolves.

One thing that I enjoy is all the other Realtor® associates I have worked with over the years. They are by and large people who have the concerns of their clients in mind more than the buyer or seller realize. Most Realtors® are involved and volunteer one way or another in the community in which they serve and are held to a high standard of ethics!

It is a service industry, and the most successful agents deliver the most service. Generosity is also a hallmark of a successful Realtor® as shown by the relief given to the victims of the recent Texas floods.

Note this quote from the National Association of Realtors®:

"Following the tragic floods in Texas, we at the National Association of REALTORS® and the REALTORS® Relief Foundation are heartbroken at the lives lost and the communities devastated. We know that the recovery efforts will take time and commitment, and we are working closely with Texas REALTORS® and local REALTOR® associations to make sure that the \$500,000 we are providing goes toward supporting communities in areas affected by the flooding. NAR and RRF stand with Texans today, tomorrow, and in the months and years to come as we rebuild together," said RRF President Greg Hrabcak."

The Keyes Company with whom I am proudly affiliated states: *"Giving back to our community – time, funds, service or otherwise – has always been the foundation of who we are. We are proud to partner annually with the Dolphins Challenge Cancer, Move 4 Hunger, and numerous other organizations. Our offices, corporate staff, and individual Realtors® give back because our business is about more than just real estate; it's about taking care of people. Annually Raises and donates over \$250,000 to our community."*

In addition, with over 4000 Realtors® directly working under the Keyes umbrella each individual is encouraged to volunteer in their communities and spend lots of money and time to improve life for all.

I say Kudos to All Realtors®!

The benchmark for a balanced market (favoring neither buyer nor seller) is 5.5 months of inventory. Anything higher is traditionally a buyers' market, and anything lower is a sellers' market. The single-family home market is almost back to a balanced market. Last May 2024 the months of inventory was 2.9 (Sellers Market) this year May 2025 it is 6.4 and dropping towards a more balanced market.

Just sayin!

Rich Otten, PSA, C2EX

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A little Trivia from Dictionary.com

yen [yen] noun. a desire or craving

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Space Invaders

When the editor mentioned the theme of this issue is surrounding invasive species and how they can contribute to the endangerment of other ones, I realized I had written an article a couple of years ago for this newsletter that focused on the same ideas. To summarize, 'non-native' species make their way to new environments, compete with the ones that already live there, known as indigenous species, and become 'invasive' if they become established, spread, and interfere with the pre-existing ecosystem into which they arrive (sometimes to great detriment). I gave some of the most conspicuous local examples like the Burmese pythons, green iguanas, lionfish, and fire ants that now call Florida home, but after reading it over, I realized I didn't mention another species that really gets around, and is, coincidentally, largely responsible for the invasive species problem we have here in Florida to begin with. I bet you guessed it already!



I was recently having a conversation with someone about the profound impact humans have had on pretty much all the environments they've encountered, and he came to the same conclusion as many do - humans somehow just aren't natural, it seems that human activity differs so greatly from that of any other species that there must have been some outside influence that provided our vastly superior intellect, resulting, in part, to all this destructive behavior. In his opinion, it must have been aliens. For others, it might be the creation stories provided by religious teachings. To be sure, I don't claim to know, and have every respect for everyone's beliefs. As a biologist, however, I look for patterns and clues in nature to help explain some very complex questions like these.

Within the fossil record, evidence abounds that our species co-existed with many other smart and capable species like us, known as 'hominins', the most famous probably being the Neanderthals, whose genes still reside in the genomes of non-African people, and the Denisovans, whose genes still reside in some Asians. Though we'd been around for about

300,000 years already, it appears as if Homo sapiens, as a whole, may have been the first to combine intellect, language, cooperation, and toolmaking together in just the right way between 100,000 and 40,000 years ago. And then the invasion began. With a strong competitive edge, H. sapiens started to march its way across the globe. Given our modern-day reputation for conquest both of the environment and other cultures, is it all that surprising that the rest of our hominin brethren gradually disappeared shortly thereafter? In fact, not only are our closest relatives gone, but even our next closest, the great apes like chimpanzees, gorillas, and orangutans, have been pushed to the brink of extinction too, some requiring armed guards for protection. Without them around either, the intelligence gap between humans and other species would appear to widen even more dramatically.

Among other things, the stellar ability of humans to quickly adapt to new environments is what truly sets us apart from other species. As humans spread from continent to continent over tens of thousands of years, they were doing the same thing that the invasive species we speak about are doing today. Though sometimes transported unintentionally, individuals among the species that find their way to new places have no choice but to compete or perish, from the tiniest bacteria all the way to the mighty H. sapiens. In more recent times, humans have ushered other species around with them as hitchhikers, in fact some species as familiar to us as earthworms and modern horses are not native to North America, but instead were brought here by European settlers.

So, as we do our best to address the issues surrounding unwanted species here in Florida (and rightly so), as the runaway champions of invasiveness ourselves, I figure we can somehow relate to them at the same time. There's not that much difference in our behaviors, it's just that we're vastly more impactful than most once we've arrived. The big questions are where will this pattern of behavior lead us next, and have we learned anything from our mistakes? Frankly, I'd be getting a little nervous if I were a Martian!

Submitted by Larry Wood, Ph.D.

Research Coordinator
National Save The Sea Turtle
Foundation
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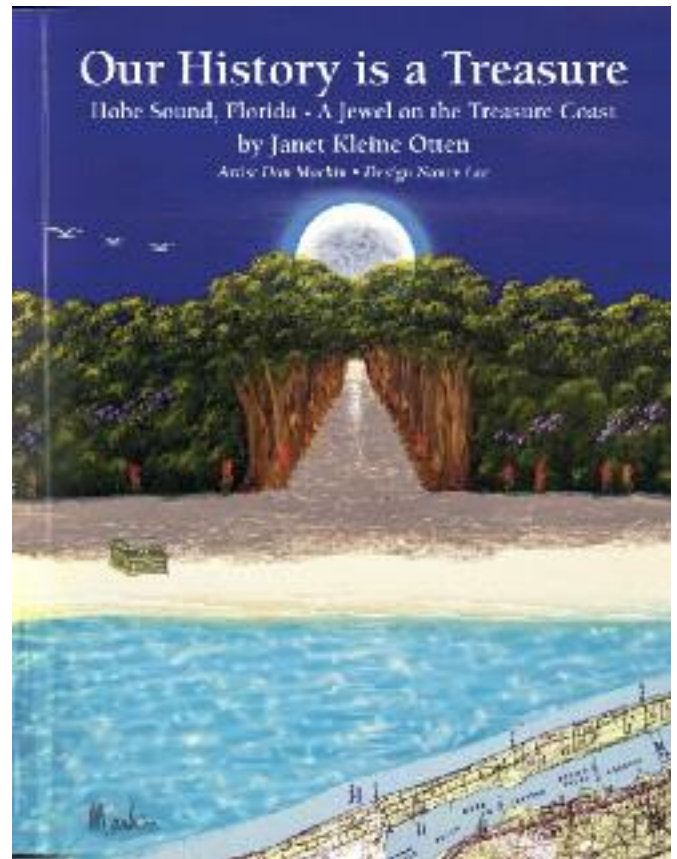
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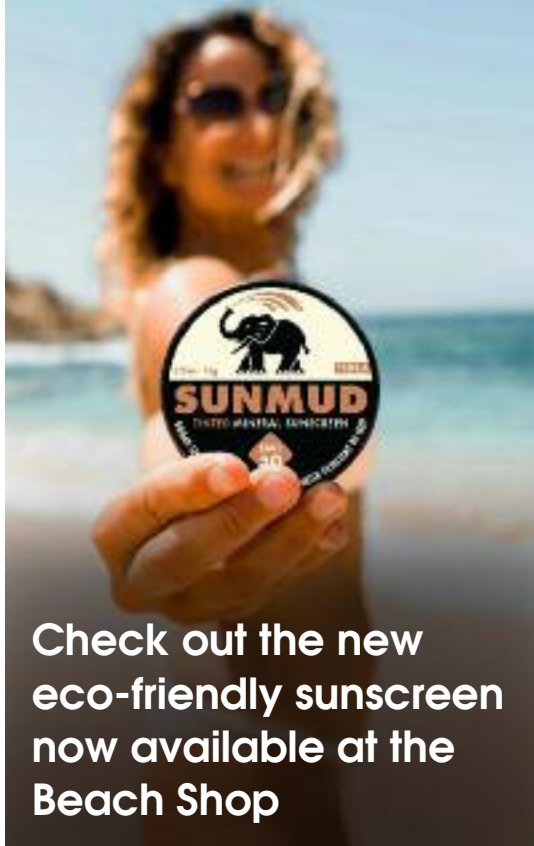
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