CISMA
Everglades Cooperative Invasive Species Management Area

# Newsletter

Volume 2, Issue 1 March 2011

**Highlights Inside This Issue:**



## Mikania: Preventing the Next Lygodium

*- Jane Griffin Dozier, Miami-Dade Park and Recreation, and Dennis J. Giardina, FWC*

*Mikania micrantha*, a vine native to Central and South America and the Caribbean, has been found growing in the continental United States in the Redland Agricultural Area of Miami-Dade County, Florida. Also known (frighteningly) as "mile-a-minute vine," it is on both the federal and state noxious weed lists, and is considered to be one of the worst invasive plant species worldwide. It is known to cover crops with a dense mat of foliage, and it exhibits the same behavior in disturbed forests.

It was first positively identified in Miami-Dade in November 2009 by Keith Bradley, of the Institute for Regional Conservation. Immediately, the Florida Cooperative Agricultural Pest Survey (CAPS) Program, a cooperative survey and detection initiative between the USDA Animal & Plant Health Inspection Service (APHIS) - Plant Protection & Quarantine (PPQ) and the Florida Department of Agriculture & Consumer Services - Division of Plant Industry (FDACS-DPI), took action by inspecting plant nurseries (the suspected source of introduction) and surveying the area to determine its occurrence. Through these efforts, some vine removal took place in January 2010, and a Pest Alert was issued that same month.

The Redland area of southwestern Miami-Dade is the county's historic agricultural community. Here exists an abundance of ornamental plant nurseries and fruit groves that host many weedy vine species. They trail up and over fences and shrubs,

***Tony Pernas inspects Mikania***

scale structures, power poles, and street signs, and sometimes climb high up into the trees. So, it's no wonder that yet another vine went unnoticed for a while.

*Mikania micrantha* is very cryptic but becomes

***Continued Mikania, page 3***

## ECISMA Completes 09-10 Mapping of Four Priority Plants

*- LeRoy Rodgers, SFWMD*

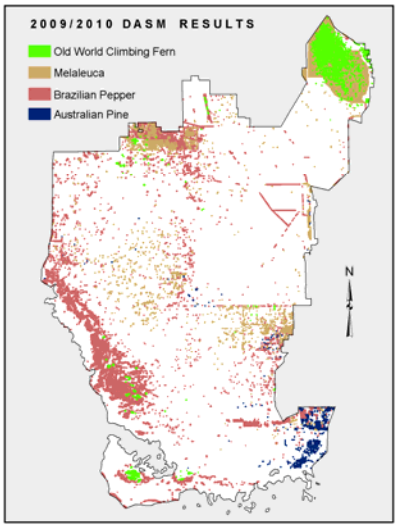
To address the need for more detailed and timely geospatial information on priority invasive plants, ECISMA cooperators are utilizing Digital Aerial Sketch Mapping (DASM) for invasive plant surveys in the Everglades.

Manual sketch mapping—drawing observations from low flying aircraft on paper maps—has been around for a while, but in the 1990s the U.S. Forest Service began integrating computing and GPS technologies with sketch mapping to make a very efficient mapping system for features not reliably detected using other remote sensing techniques. The current DASM system utilizes touch screen computers, GPS receivers, specialized software, and high resolution imagery, allowing trained observers to digitize spa-

***Continued Survey, page 2***

*LeRoy Rodgers maps invasive plants using DASM technology*

*Photo credits: Tony Pernas, NPS and LeRoy Rodgers, SFWMD*




***"Recent DASM efforts have greatly improved understanding of Brazilian pepper distributions in the Everglades. This invasive tree is "peppered" across ECISMA…"***

## *Survey* *cont. from Page 1*

tial features and attribute observations in real time. With over one million hectares of conservation lands within ECISMA, invasive species scientists recognized DASM as a potentially cost-effective tool in surveying Australian pine, Brazilian pepper, melaleuca, and Old World climbing fern throughout the entire ECISMA. The resulting maps tell many stories, some hopeful, some sobering, about the status of these aggressive weeds in Florida's Everglades.

### *Australian pine*

Regionally speaking, Australian pine can now be considered at maintenance control levels in the mapped portions of the Everglades. DASM estimates of gross infested acres (GIA) suggest that 2,338 ha of the ECISMA are infested with Australian pine. The large majority of Australian pine (87%) occurs on District and Miami-Dade County lands in the South Dade Wetlands and Model Lands Basin where it forms dense stands to widely scattered patches in remote mangrove swamps and sawgrass marsh. Australian pine also remains in widely scattered patches in sawgrass marshes in the northeastern ENP.

### *Brazilian pepper*

Recent DASM efforts have greatly improved understanding of Brazilian pepper distributions in the Everglades. This invasive tree is "peppered" across ECISMA (estimated GIA = 27,282 ha) and is an aggressive invader in many Everglades plant communities. Brazilian pepper is a dominant component of buttonwood (*Conocarpus erectus*) swamps and graminoid marshes throughout the southwestern region of ENP. Dense infestations of Brazilian pepper also occur throughout the Big Cypress Seminole Indian Reservation, primarily on improved pastures and along the fringes of cypress swamps. The 2009-10 DASM efforts confirmed that Brazilian pepper occurs on small tree islands throughout the central Everglades region.

### *Melaleuca*

In terms of gross infested acres, melaleuca remains the invasive plant giant of the Everglades (estimated GIA = 41,938 ha). However, when we adjust the acreage according to cover dominance, it turns out that the net infested area (NIA) for melaleuca (5,689 ha) is less than that calculated for Brazilian pepper (NIA = 7,600 ha). This large discrepancy between gross infested and net infested area is attributed to large polygons of low-level infestations in the Loxahatchee National Wildlife Refuge (NWR) where it occupies sawgrass marsh, wet prairie, and cypress strands. ECISMA cooperators hope to refine the melaleuca map for this area in 2011. Significant infestations of melaleuca also occur within the Big Cypress Seminole Indian Reservation, where it invades pine flatwoods, wet prairie, and cypress swamps. Melaleuca is on the run at Big Cypress National Preserve and eastern ENP and is finally at maintenance control levels in WCAs 2 and 3.

### *Old World Climbing Fern*

Old World climbing fern currently infests 2,338 ha (GIA) within ECISMA, with the large majority (92%) occurring within the Loxahatchee NWR. An estimated 1,988 ha of graminoid/prairie marsh in the southwestern sections of the ENP are infested with Old World climbing fern. At the time of the survey (March 2010), *Lygodium* cover was substantially reduced by frost damage in this region, so current estimates substantially underestimate infestation levels for both percent cover and areal extent. Old World climbing fern was not detected in WCA 3 using DASM, but land managers have observed increasing numbers of small infestations in tree island understories. This result emphasizes the importance of ground-based surveys in helping to contain the spread of this aggressive Everglades invader.

## Introduced Reptile Early Detection and Documentation (REDDy) Training

*- Monica E. McGarrity, University of Florida*

More than 50 people have completed the REDDy training thus far. REDDy participants report that their ability to identify introduced reptiles has increased as a result of the training--even individuals who were fairly confident in their skills saw improvement.

Are you certified as a REDDy observer? If not, take 45 minutes to prepare yourself to deal with introduced reptile sightings. In less than an hour, the REDDy training will teach you how to quickly distinguish invaders from similar native species and identify them to species.

You will also learn what materials you should keep handy to record sightings, exactly what data to collect, and how to submit reports. The highly interactive training will offer the opportunity to practice your newly-learned skills. REDDy trainees can print a certificate of completion at the end of the course and will be provided with numerous printable references that facilitate identification and reporting.

Get REDDy – visit the website at **http://ufwildlife.ifas.ufl.edu/reddy.shtml.**

***African python in situ, Miami-Dade County***

***Photo credit: Tony Pernas, NPS Photo***

## Mikania cont. from page 1

really conspicuous when it covers itself in profuse clusters of sweet-smelling white flowers during November and December.

It was recently discovered that *Mikania micrantha* was photographed in the Redlands as early as 2007, but was misidentified as *Mikania scandens*, one of two native *Mikania* species, but one which occurs mostly in wet areas. When in flower, *Mikania micrantha* can also be confused with *Chromolaena odorata*, a common Redlands shrub species.

Taking advantage of this flowering period, a small group of ECISMA partners, using the CAPS positive find maps, conducted additional surveys in the Redlands in November 2010 to learn how to identify this species and to scout for more.

In December 2010, believing that eradication was a possibility, a group of about two dozen people from ECISMA partner agencies met in the Redlands to survey for and treat *Mikania micrantha.* With the blessing of the property owner, ECISMA partners removed and treated (with glyphosate) a dense infestation on the street corner where it was first identified, as well as several other occurrences along rights-of-way in the area.

In addition to the hands-on removal, surveys by vehicle and foot were made, turning up a few more unmapped infestations. Shortly afterwards, what we were dreading occurred: *Mikania micrantha* was found in two nearby County nature preserves, Camp Owaissa Bauer Park (on the hammock edge) and Castellow Hammock Park (on the hammock interior). County work crews have now treated the infestations in these two parks.

In January 2011, a three-day event was held to continue to remove and treat as many of the known infestations as possible, scout the area further, and to make more contact with affected property owners. Again, additional occurrences were found.

Furthermore, to our dismay, the areas that had been sprayed while flowering in November were found to have been able to set seed. The seeds of *Mikania micrantha* disperse much like those of dandelions, floating happily away on the slightest breeze, or whenever well-meaning volunteers attempt to pull down a vine.

### *A Personal Note:*

***Many of us, who participated in these EDRR events, now drive through the Redlands much like the avid birder --- slamming on the brakes, craning our necks, and swerving off the road to get a closer look at a suspicious vine. While our hopes of eradication are diminished, they're not yet dashed. We believe the occurrence of Mikania micrantha is still confined to an approximately ten-square mile area in the Redlands. For now, we've collected seeds from two of the properties where we chemically treated the vines while they were in full flower to test their viability. We've been putting our heads together on possible alternatives to reduce future seed dispersal.***

**Jane Griffin Dozier**

## Need to Identify a Python? There's an App for That!

*- Erin Griffin, University of Georgia*


*"The IveGot1 app is free through the itunes Application Store..."*

The Center for Invasive Species and Ecosystem Health at the University of Georgia has developed an iPhone app, called IveGot1, to help identify native and non-native reptiles in Florida. The IveGot1 app is based on a publication developed through the Everglades Cooperative Invasive Species Management Area (CISMA). This user-friendly mobile application allows users to quickly and easily search for species identification characteristics.

The Center is working with the Everglades CISMA to report, share and store species sightings and distribution information using EDDMapS. EDDMapS is a national invasive species reporting and mapping system developed by the Center. "The iPhone app is becoming another tool in the fight against invasive animals in Florida," says Chuck Bargeron, Technology Director at the center "However, this is only the first step. We are always improving and expanding the EDDMapS to make it easier for users to report and access information wherever they are."

Currently, the IveGot1 iPhone app provides information on 15 reptiles in Florida. The Center is hoping to add more species and regularly update the list. The app also provides photos and species information (i.e. length, body characteristics, pattern, visual head identification characteristics, native or non-native status).

The IveGot1 app is free through the iTunes Application Store and is available to all iPhone users running iOS 4.0 and greater. The IveGot1 app has been featured in several media outlets including: USDA Blog, The Palm Beach Post, Field and Stream and American Hunter online blog. Since its launch on July 15, 2010, the app has been downloaded 1,335 times.

The development of this iPhone app led to a five year project for the Center, funded by the U.S. National Park Service, to develop the EDDMapS Animals reporting app. With this new app anyone will be able to report suspected infestations anywhere, from their mobile device.

The additional iPhone app will include a reptile identification guide and allow users to report invasive sightings from their mobile phone. Reports of invasive animals will be automatically sent to officials at the Florida Fish and Wildlife Conservation Commission, National Park Service and U.S. Fish and Wildlife Service. For more information, contact Chuck Bargeron at 229-386-3298 or visit **http://www.eddmaps.org/florida/iphone/**

***iPhone screen page of Ivegot1 App photo credit: University of Georgia***

## NAISN Established in North America *- Don C. Schmitz, FWC*

A number of invasive species centers, institutes, labs, and networks have been established in North America over the years to help meet the needs of public conservation land and waterway resource managers. The North American Invasive Species Network (NAISN) was recently established to unify and connect these existing invasive species efforts into a single network. Some of the goals of this new continental network are: coordinated surveys targeting resource managers to determine and refine services offered, encourage the use of the proven Cooperative Invasive Species Management Area (CISMA) concept and their establishment throughout North America, track and disseminate information about current invasive species research at the regional levels, implement regional "Invasive Species Watch Lists," and begin to address a coordinated public awareness campaign about invasive species in natural areas within North America along with tracking their economic costs.

## The Trouble with Tegus - *Dennis J. Giardina, FWC*

*Trail camera photo of a tegu raiding a bait station of buried chicken eggs.*

*Photo credit: Tony Pernas, NPS photo*

In April of 2009, Helena Giannini (Miami-Dade County) took pictures of a large lizard on the same dirt road where Tony Pernas saw one the year before. The photos were clear enough to determine that it was a tegu lizard (***Tupinambis***), a large South American species. Not long before that, Skip Snow (NPS) reported the capture of a Columbian tegu (***Tupinambis teguixin***), from a roadside hammock in Everglades National Park. In July of 2009, Tony and I continued our tegu surveys and we observed two large lizards basking in the late afternoon sun. One retreated into non-native grass-covered boulders on the roadside but one remained long enough to be photographed and identified as an Argentine black and white tegu (***Tupinambis merianae***), the largest and most temperate species of the genus. Black and white tegus commonly reach lengths of over three feet. They are an omnivorous, terrestrial species that is similar-looking but not related to the monitor lizards (***Varanus***) of Africa, Asia and Australia. They are also very popular in the pet trade.

These and other events propelled an Early Detection Rapid Response for tegus in Miami-Dade County. So far, ECISMA has accomplished the following: **1)** an update of the FWC Tegu Bioprofile (Enge) with Florida Atlantic University **2)** a live trapping effort from Florida City to Everglades National Park with FWC, NPS and Miami-Dade County, later expanded across the South Dade Wetlands to the US 1, C-111 canal intersection with help from USDA and USGS, resulting in the collection of 50 live tegus **3)** a range survey and a camera trapping effort **4)** a laboratory analysis of the gut contents of collected tegus (FAU) along with a bait-test study (Wildlife Services) **5)** and the launch of a radio telemetry study - implanting radio transmitters into five adult tegus by partners at the University of Florida for daily tracking and mapping their movements with FWC and the NPS.

Over the past year we have determined that Argentine black and white tegus have spread across and are apparently established over a 30 square mile area. Eradication now seems unlikely. It does seem likely that tegus will spread across Southeastern Miami-Dade County to Biscayne and Florida Bays. Ground nesting birds and reptiles, Key Largo and its rare native rodents may be threatened by tegus. To see the ECISMA Exotic Lizard EDRR slide show given at the 2010 Everglades Invasive Species Summit, go to **http://www.evergladescisma.org/summit10/Lizards.pdf**

*"Over the past year we have determined that Argentine black and white tegus have spread across and are apparently established over a 30 square mile area."*

## 2011 Everglades Summit

In 2011, the Everglades Invasive Species Summit will return to its customary format, a two-day meeting composed of representatives from ECISMA's partner agencies. Tentative dates are July 13-14.

Day one will feature operations reports and EDRR updates. Day two will include break out sessions to define the objectives of sub committees and to address any issues or concerns identified ahead of time by the Steering Committee.

At this point, the location and date of the next Summit has not been determined but we're looking into potential venues in Broward County.

**2011 SUMMIT**

### *About ECISMA*

*ECISMA was created to formalize cooperation among land management agencies to improve the effectiveness of exotic species control by sharing information, innovation and technology across borders through a memorandum of understanding with the ultimate goal of helping to ensure the success of the Comprehensive Everglades Restoration Plan.*

## A View from the Top – How the South Florida Ecosystem Restoration Task Force and Working Group Are Responding to Invasive Exotic Species

*- Cynthia Guerra, Miami-Dade County Environmentally Endangered Lands Program*

The South Florida Ecosystem Restoration Task Force, consisting of federal agencies, tribes, state, and local governments, was established in 1996 and charged with coordinating the development of policies and actions to support restoration, preservation, and protection of the South Florida ecosystem.

The Working Group was established at the same time and consists of 25 members, representing federal, tribal, state and local entities. The Working Group is charged with assisting the Task Force and facilitating coordination between different interests and stakeholders. The Task Force established a shared vision that recognizes the need for ecosystem-wide restoration and protection. There are three main objectives that guide them toward achieving this vision: getting the hydrology and water quality of South Florida right; restoring, preserving and protecting natural habitats and native species; and fostering compatibility of artificial and natural systems.

Both the Task Force and the Working Group recognize that control of invasive exotic species is integral to the restoration of the greater Everglades ecosystem and they have dedicated significant time in recent meetings to discuss how best to achieve significant progress. From their discussions, four specific recommendations have been developed, with the overarching goal of improving invasive species control and management at the landscape level (across jurisdictions):

1. Promote federal prevention initiatives and risk assessment tools – National screening is recognized as the most cost effective and certain way to prevent invasive exotic problems from their first introduction. Prevention and assessment tools need to be further developed, refined and put into common use. As part of this initiative, the Task Force is considering visiting local ports of entry to examine current control methods, and commissioning an economic analysis to fully evaluate the financial impacts of invasive exotic species.

2. Establish an Everglades Early Detection Rapid Response (EDRR) Coordinator and dedicated EDRR funding – EDRR is believed to be the second-most cost effective way to prevent invasive exotics from getting out of control once they have been introduced into the environment. A dedicated and funded EDRR Coordinator can serve as a first responder assisting across jurisdictions to identify and prioritize needed action. This position may also be able to facilitate response on private lands.

3. Coordinate development of a cross-cut budget – While it is broadly recognized that there will be difficult coordination issues reviewing the budgets of many jurisdictional entities, efforts to assess how much is being invested now by all the various entities and coordinating those resources may yield cost savings and resource efficiencies.

***Bullseye snakehead fish from South Florida***

***Photo credit: Dennis J. Giardina, FWC***

4. Promote continuous improvements in coordination through master planning, regulatory compliance, and resource sharing – The concept is to build on the success of existing interagency coordination like ECISMA and formally develop a framework for regional comprehensive invasive species management.

You can learn more about the Task Force, Working Group and their efforts related to invasive exotic species at **www.sfrestore.org**.

## 2010 ECISMA Summit at GEER Summary *- Tony Pernas, NPS*

In 2010, the Everglades Cooperative Invasive Species Management Area (ECISMA) held its Annual Invasive Species Summit in conjunction with the Greater Everglades Ecological Restoration (GEER) Conference in Naples. (July 12th -16th). The GEER Conference provides a biennial forum for restoration practitioners to share their knowledge and challenges with private, public and tribal decision makers, engineers, planners, resource managers and scientists.

The ECISMA Steering Committee's goal of the joint meeting was to emphasize the importance of addressing invasive non-native species concerns as they relate to the restoration of the Everglades ecosystem to the hundreds of people attending the GEER Conference. ECISMA partner Jon Lane, U.S. Army Corps of Engineers took the lead in coordinating this effort by becoming a member of the GEER Conference Program Committee and was able to arrange to have the ECISMA Summit on the first day of GEER and also developed an entire session devoted to invasive species issues that spanned two days and featured 16 presentations.

***Continued 2010 Summit page 9***

***Rory Feeney and Steve Terry, Miccosukee Tribe of Indians of Florida, at the 2010 ECISMA Summit***

***Photo Credit: Tyler Lennon Jones***

## USDA Wildlife Services Update

***- John Humphrey, Wildlife Biologist, USDA/WS***

**Sacred Ibis Eradication:** All suspected sightings of any remaining sacred ibises continue to be followed up on by USDA Wildlife Services and others, including two trips to Loxahatchee NWR in May and June 2010, and visits to Tropical Park Miami in late Spring/early Summer 2010, and Black Point Dump area in Miami in November 2010 to confirm a sighting of a banded bird, likely the same one.

Birds reportedly seen at Loxahatchee NWR appear to likely have been immature White ibis or Wood storks based on follow-up with the persons who reported the birds. It is too early to report the species eradicated based on a few unconfirmed sightings of a banded bird. But if there are sacred ibises remaining in the wild, there are likely very few of them.

**African Python Trapping:** USDA Wildlife Services began work for the South Florida Water Management District to survey the Bird Drive Basin area for African pythons, to remove them and any other non-native snakes. Trapping began in December with traps developed by the USDA/WS and the University of Florida. Surveys are currently scheduled to continue on a bi-monthly schedule through January 2011 when the agreement with SFWMD ends.

USDA/WS has also supported an effort by Everglades National Park and Auburn University to test the efficacy of dogs trained to find pythons. Training was conducted at the USDA/WS National Wildlife Research Center's Florida Field Station in Gainesville using live pythons, including an African python. The pythons were placed in mesh bags and put out in a variety of natural environments to test the dog's ability to track the scent. Additionally, snake handling support was provided during the transition and training period in the Everglades region.

**Argentine Black and White Tegu:** Six tegus, live-caught in Homestead by Everglades CISMA and USGS personnel, have been transferred to the USDA/WS National Wildlife Research Center's Florida Field Station in Gainesville for quarantine and acclimatization. These animals will be used for research and development of improved baiting and trapping techniques to support the efforts of Everglades CISMA and its partners to manage tegu lizards in Southeast Florida.

***Photo of Radio-transmittered sacred ibis***

***Photo credit: John Humphrey, USDA/WS***

## Just Another Day in the Life of a Miami-Dade Biologist

*- Dallas Hazelton, Miami Dade Parks and Recreation*

Joe (my boss) called me one morning as I was driving to the office and told me to head to the Martinez Pineland Preserve because a work crew had just found a large snake. It's easier to capture a large snake during the winter months because they are usually cold and inactive. However, this was a hot day in August and what I expected to find was a warm and alert snake.

When I arrived, the crew took me out into the pineland and pointed to the tail end of a partially visible snake, mostly buried in the palmetto and pine duff. I immediately searched for the head and realized that it was a pretty big snake, but I still had no idea how big. Because I didn't want to be bitten (been lucky so far), and I didn't trust my speed against a warm snake, I tried to pin its head with my snake hook.

Because I was too careful trying not to hurt the snake, it squirmed away in a surprisingly rapid retreat. Then, I managed to grab it by the tail, but it was too strong for me. It was pulling me through the palmetto when a couple of the crew guys grabbed it and stopped it which really agitated the snake. Quickly, I left the guys at the tail end and went crashing through the palmetto after the head. That's when I started to appreciate just how long this snake actually was. I intercepted it as it tried to loop back around to the guys holding onto its tail when it began striking at me and anyone else who got too close to the business end of its mouth. I finally managed to pin it again and got a hand around its neck but then I found myself down on my hands and knees, struggling just to hold on to the snake while the guys at the other end were pulling it away from me like in a tug of war.

Alarmingly, the snake tried to wrap around my waist and I started yelling for someone to come up and grab it in the middle. But only one person on the crew spoke English and, unfortunately, I still haven't learned any Spanish yet. Of course, I was really wishing I had at that very moment because everything I said had suffered a time delay going through the interpreter.

As I wrestled with the snake, I managed to push its coils down off my waist with an elbow so it ended up coiled around one of my legs. After what was probably just a few seconds but seemed like a long time, one of the guys came and helped remove the snake from me.

More guys from the crew arrived and we were able to pick up and move the snake, but it was still fighting us and was so strong that we could not get it into the snake bag. We ended up carrying it out to a clearing and then we basically sat on it while we (or maybe just me) regained our strength.

***Dallas Hazelton, Sonya Thompson and Miami-Dade Work Crew with reticulated python.***

***Photo credit: Alicie Warren MDPR***

As we were sitting there, I noticed that I didn't recognize this species of snake. It didn't look like any of the non-native big snakes I had encountered before such as Boa constrictors, and Burmese and African pythons. After a few minutes, thankfully the snake tired and we finally managed to bag it. When we arrived back at the office, we tried to weigh it but it overloaded our hanging scale. When we first measured it, the snake was 17 feet 6 inches. Measuring it a second time more carefully, we got 18 feet long!

A few USDA Wildlife Services biologists were nearby and decided to come over to see our snake. They identified it as a Reticulated Python (*Python reticulatus*) and said it was probably a female.

We then took her over to Zoo Miami to use their large animal scale; it weighed in at 130 pounds! When the Zoo herpetological staff saw her, it was love at first sight. Currently she is still in quarantine but eventually an enclosure will be built for her and she will be put on display.

***"Alarmingly, the snake tried to wrap around my waist and I started yelling for someone to come up and grab it the middle."***

## *2010 Summit* *cont. from page 7*

The 2010 Summit was shortened from the usual two days to one and was largely composed of operations report slide shows presented by ECISMA partner agencies regarding their invasive non-native species management efforts, including for the first time a presentation from Miami-Dade County Park and Recreation. Rounding out the agenda were presentations pertaining to the early detection, rapid response (EDRR) initiatives for emerging invasive non-native species led by ECISMA and a rousing speech by Colonel Pantano, of the U.S. Army Corps of Engineers.

In retrospect, the ECISMA Steering Committee believes that the goal of raising the importance of considering invasive species issues at the GEER Conference by hosting the Summit there was worthwhile. We had well over a hundred people attend the Summit and all of the presentations given during the invasive species session were well attended. To see the agenda of the Everglades Invasive Species Summit and the GEER Conference and to read abstracts of the papers presented, go to **http://conference.ifas.ufl.edu/GEER2010** To see PDF versions of the slide shows presented at the Summit, please go to **http://www.evergladescisma.org/summit10**

## *Lumnitzera Racemosa* Eradication Update

***- Jennifer Possley, Fairchild Tropical Botanic Garden***

In the fall of 2008, Tom J. Smith (USGS) reported that a non-native mangrove had naturalized in and around Fairchild Tropical Botanic Garden and had spread onto Matheson Hammock County Park. The species is *Lumnitzera racemosa*, a native to Asia and Australia. Fourteen specimens were planted in the Garden in the 1970s, and it spread unnoticed for 40 years, mostly because *Lumnitzera* looks very similar to the native white mangrove, *Laguncularia racemosa*.

Since its discovery, ECISMA has worked with volunteers from federal, state, county, non-profit and private partner organizations on seven separate days to eradicate *Lumnitzera* from the Garden and neighboring Matheson Hammock. Extensive land and sea surveys by dozens of staff and volunteers have shown that the infestation appears to be confined to the Garden and to approximately 19 acres of Matheson's mangrove forest that surround Fairchild. Thankfully, no plants have been found on the Biscayne Bay Coast.

In May of 2010, grant funding was provided to Miami-Dade County through the FWC Invasive Plant Management Section to contract Habitat Restoration Resources Inc., a state-certified exotic vegetation removal contractor, to treat the *Lumnitzera*. The contract crew spent a total of five weeks in Fairchild and Matheson, cutting trees and saplings, applying herbicide to the stumps and hand-pulling tens of thousands of seedlings.

While eradicating 19 acres of non-native mangrove can seem like a daunting task, we are lucky that this invasion is apparently still isolated within these two parks.

Although it will likely take multiple years of follow up surveys and treatments, we fully believe that it is feasible to eradicate *Lumnitzera racemosa* and stop it from spreading into all of Florida's mangroves.

To view the slide show given at the 2010 Everglades Invasive Species Summit, go to **http://www.evergladescisma.org/summit10/Lumnitzera.pdf**

***Beauty of the beast, Lumnitzera racemosa flowers, Matheson Hammock County Park.***

***Photo credit: Dennis J. Giardina, FWC***

# Talking Beyond Prevention

*- Larry Perez, NPS*

Public awareness campaigns have traditionally asked audiences to help prevent the introduction of invasive species by being conscientious about what they grow in their yards, what pets they purchase, how they maintain their property, and how they dispose of unwanted plants and animals. Although these efforts have no doubt elevated our general understanding of how invasions occur and why they should be avoided, it remains a discouraging fact that the arrival of new organisms has continued unabated. The present scale of our global commerce (coupled with inconsistent regulation and enforcement, and the periodic occurrence of natural disasters) virtually ensures the continued arrival of new invaders. Even the frailty of our human condition conspires against us—simple mistakes can sometimes trump our better judgment and common sense.

***ECISMA multi-media learning exhibit at the Deering Estate, Miami-Dade County***

***Photo credit: Larry Perez, NPS Photo***

The manner in which we engage our communities in the struggle against invasive species has evolved with our anticipation of new arrivals. Gone are the days when we speak only of prevention. Today, we actively enlist the assistance of those around us to aid in the detection of new invaders wherever they occur. The South Florida landscape is scoured daily by twelve million eyes and ears that potentially serve as our first line of defense. Today's public awareness campaigns seek to tap this potential by arming viewers with tools to help facilitate the reporting of new species. History has demonstrated that early detection and reporting, coupled with swift management action, provides our best chance at eradication.

ECISMA recently unveiled several new tools to encourage viewers into action. This past September, a new multiagency exhibit was installed for permanent exhibition at The Deering Estate at Cutler. The multimedia exhibit encourages readers to "Join the Force" against invasive species, and includes a video component that helps familiarize viewers with current species of management concern. Fully funded and designed by Everglades National Park, the exhibits were also installed at the Crandon Park Visitor Center and Big Cypress National Preserve. A fourth panel is in development. The exhibits are expected to reach a potential audience of 300,000 individuals annually.

Of course, invasive species are not solely a problem for our natural areas. Rather, they can affect us individually in far more personal ways. Our communications, therefore, must be similarly tailored to engage people in the spaces they exist. These days, it seems just about everybody is floating around in cyberspace so the University of Florida recently completed development of the Introduced Reptile Early Detection and Documentation (REDDy) online training course, which provides participants background on the proper identification and reporting of nonnative species. Ultimately, cultivating a desire to report observed invasive species demands that we provide functional tools for the field - readily available whether at work, play, or home.

To that end, ECISMA developed a pocket-sized, weatherproof deck of ID cards, depicting Florida's reptile species of management concern that could be kept in a glove box or backpack when needed. Alongside, our partners at the University of Georgia used this artwork to develop a digital version of the exotic reptile ID deck, the IveGot1 iPhone app. The app is available for free from the iPhone App Store, and it is undergoing further development to include additional animals and utilize the geolocation features and integrated camera of the iPhone to facilitate reporting.

CISMA

Everglades Cooperative Invasive Species Management Area

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**Common Acronyms:**

**FWC—FL Fish & Wildlife Conservation Commission**

**SFWMD—South Florida Water Management District**

**USDA—United States Dept. of Agriculture**

**USGS—United States Geological Service**

**NPS—National Park Service**

**ECISMA Website:**

**http://www.evergladescisma.org**