

# “Natives for Your Neighborhood Why Planting Local Matters”

Gardening for Life: Tropical Short Course  
January 20, 2022



International Policy Lead

George D. Gann  
[www.regionalconservation.org](http://www.regionalconservation.org)  
[www.ser.org](http://www.ser.org)



Chief Conservation Strategist

## **Acknowledgements**

- **Barbara Hadsell** for the invitation and coordination.
- **Barbara Hadsell, Reina Snyder, Patricia Binder, Kimberlee Duke Pompeo, and Jerry Lower** for collaboration on publication projects.
- **All the IRC folks**, past and present, and all our **funders** and **conservation partners**.
- **Photographers**, including Roger Hammer, Keith Bradley, Shirley Denton, James Johnson and many others.

## Outline

- 1) IRC's Program
- 2) South Florida Conservation Context
- 3) The Floristic Inventory of South Florida
- 4) Global Change
- 5) Being Restorative: The Key to our Future
- 6) Using NFYN to Make a Difference



IRC aims to protect, restore, and manage all biodiversity on a regional basis, and to **prevent local extinctions of native plants, animals and ecosystems**. All conservation is ultimately local. **2022 was our 38<sup>th</sup> Year**. Staff of 6, 13 Associates and 7 Board Members.

**Floristic and faunistic inventories**

**Rare species research**

**Ecological restoration design and implementation**

**Educational training and workshops**

**Online tools and resources**

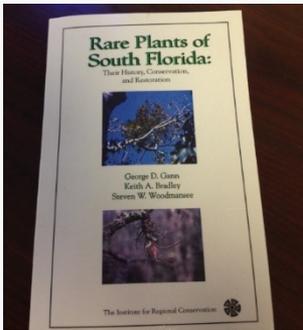
**International policy**

# Some IRC Resources



**Natives For Your Neighborhood**  
*Conservation of rare plants, animals, and ecosystems*

[Donate Now](#) [Subscribe](#)

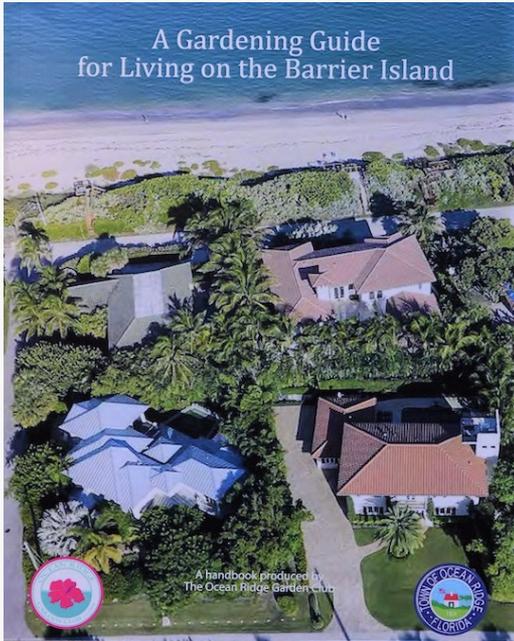


**The Floristic Inventory of South Florida**  
*Conservation of rare plants, animals, and ecosystems*



**Plantas de la Isla de Puerto Rico**  
*Plants of the Island of Puerto Rico*  
Un servicio para la conservación de flora / A conservation service for the flora

**The Institute for Regional Conservation**



Amigos de Plantas de Puerto Rico / Friends of Plants of Puerto Rico

George Gann

Amigos de Plantas de Puerto Rico

Discussion Members Events Photos Files

Write Post Add Photo / Video Create Poll More

ADD MEMBERS

1,155 Members (30 new)

Message Invite by Email

DESCRIPTION

¡BIENVENIDO a Amigos de Plantas de Puerto Rico/ Friends of Plant... See More

TAGS

Add Tags

Add a few descriptive keywords

Online Resources: >1 million page views per year  
NFYN 643,000 (2021)

**Natives For Your Neighborhood**  
*Conservation of rare plants, animals, and ecosystems*

[Donate Now](#) [Subscribe](#)

[Home](#) [NFYN Home](#) [Citation](#) [About NFYN](#) [Map](#) [Online Resources](#)

### Zip Code 33444

search for Native Plants, Habitats and Wildlife

This is a long narrow zip code area east of I 95 and west of US 1 running from Dune Road south to the C-15 canal in Delray Beach in Palm Beach County. Link to [map](#).

#### Native Plants

Whether you are just beginning a new native plant project, or will be introducing native plants into an existing garden, this is the place to find out which native plants are right for your specific area.

• Click below to obtain a list of native plants that are recommended for 33444, and to see photos and learn more about them.

[Get your plant list for 33444 !](#)

[Find Native Plants!](#)

**Acknowledgements and past sponsors**  
[Become a sponsor!](#)

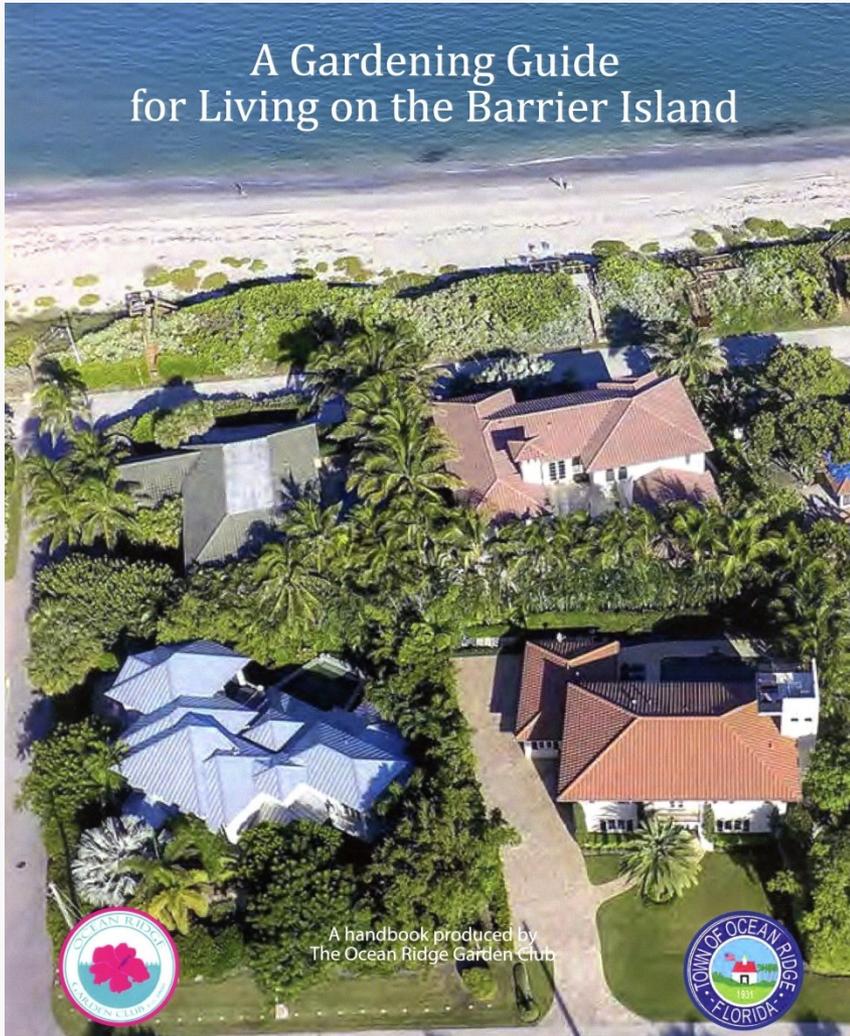
**Emergent Sponsors:**

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# A Gardening Guide for Living on the Barrier Island



A handbook produced by  
The Ocean Ridge Garden Club



## GUIDELINES FOR PLANTING A PINE ROCKLAND IN MIAMI-DADE COUNTY, FLORIDA

George D. Gann, Jennifer Possley,  
Steven W. Woodmansee



Version 2.0  
October 2020

**Why plant a pine rockland?** Pine rockland is a critically imperiled ecosystem that has been heavily impacted by urban development and agriculture. Found only in South Florida and the Bahama Archipelago, less than 2% of the original pine rocklands remain in Miami-Dade County outside of Everglades National Park. Pine rocklands of the lower Florida Keys have also been heavily impacted by development, sea level rise, and flooding from hurricanes and tropical storms. Creating a pine rockland is not easy or simple, but it can be extremely rewarding. Pine rocklands provide wonderful habitats for native plants and wildlife, including many species of very rare plants, butterflies, bees and other pollinators, and songbirds. If well-planned and managed they can also be aesthetically pleasing.



Photo courtesy of Haniel Pulido Jr.

# THE NATIONAL gardener

WINTER 2021



**GROWING  
FOOD AND  
COMMUNITY  
SPIRIT**  
-  
**THE RAINKEEP -  
AN INSPIRED  
INNOVATION**  
-  
**LET'S GET  
GROWING!**



## native gardening - THE POWERFUL CONSERVATION TOOL OF MANY

By George Gann

▲ Native plant gardening and ecological restoration may be more closely linked than you think. A coastal garden at a dune in Ocean Ridge, Florida, uses local native plants to restore a coastal shrub land. It is both beautiful and restorative. Photo by George Gann.

Looking at the many woes of the world, from COVID-19 to climate change, it is understandable to feel overwhelmed. Yet, we know from ample evidence that the sum of individual actions is as important as those of government, large businesses or big conservation organizations. This is especially true in urban and suburban areas, where our collective individual actions may make the difference between conservation success – or the lack thereof. This need for individual action has never been more urgent, no matter where you live, and is embraced by Plant America with Trees, an



▲ Photo by Kimberlee Duke Pompeo

emphasis of National Garden Clubs Inc.

At the international level, there is tremendous work being done to address not one, but three global environmental challenges: countering climate change, preventing the extinction crisis and

providing adequate ecosystem services to meet the needs of a sustainable world. Meeting these challenges requires transformational change; business as usual just won't work. We know that traditional conservation alone, what we think of as "protection" or "preservation," is insufficient to meet these challenges. Instead, we need

# Seagrapes and Biodiversity



A workshop contributing to understanding the issues behind seagrape trimming, ecological restoration, and coastal conservation



December 9, 2020

# Ecological Restoration and Community Outreach



# Restoring the Gold Coast

## Major Sponsors



## Sponsors



## Collaborators



Conference Home

- Registration
- Abstracts
- Schedule
- Photo Gallery
- Info for Presenters
- Meals/Transport/Lod...
- Organizers
- Conference Map
- Connect to Protect  
Network

# 2018 PINE ROCKLAND WORKING GROUP CONFERENCE: EXPANDING THE FOOTPRINT

FEATURING FIU'S TROPICAL BOTANY SYMPOSIUM  
& FAIRCHILD'S CONNECT TO PROTECT NETWORK

October 30 - November 4, 2018

Meeting at Fairchild Tropical Botanic Garden

You're Invited!

Pine Rockland Business Plan Team Meeting and Workshop  
Thursday October 17<sup>th</sup>, 2019 from 10 AM- 3 PM

The Florida Room at Zoo Miami  
12400SW 152nd St, Miami, FL 33177

*Light snacks and refreshments will be provided. Lunch will be available for purchase at nearby Zoo Miami restaurants.  
Be sure to bring a reusable water bottle.*

## We Must Aspire to More!



A Pine Rockland Business Plan is being created for conservation of the pine rockland ecosystem in Miami-Dade County and the Florida Keys. This plan will augment and support existing conservation plans and strategies in a way that quantifies and prioritizes the conservation actions that need to be taken, and the costs to improve pine rockland extent and condition throughout its range.

We'll need some help from folks like you from the greater pine rockland community to develop this plan. Some topics to be covered at this initial meeting will include business planning goals, approach, timeline, and opportunities for collaboration on data needs and acquisition, as well as site-by-site condition scoring.

We hope you can join us as we begin this endeavor!

Please Contact Sarah Martin at [sarah.martin@tnc.org](mailto:sarah.martin@tnc.org) or call 561-744-

6668 ext. 102 For More Information on Attending





# Global Uptake of International Principles and Standards for the Practice of Ecological Restoration



Launched in September 2019

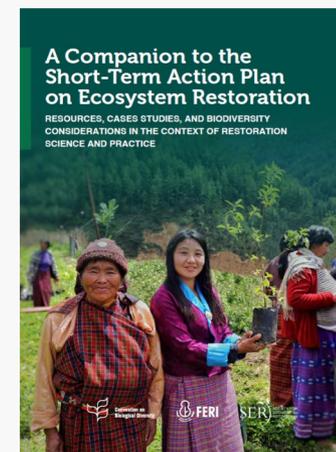
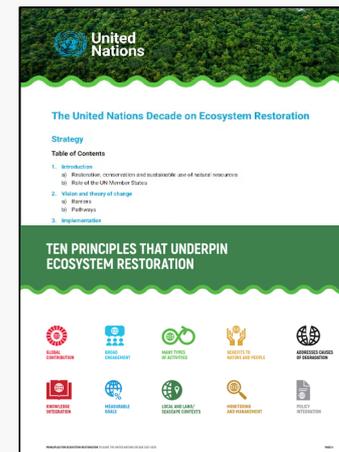
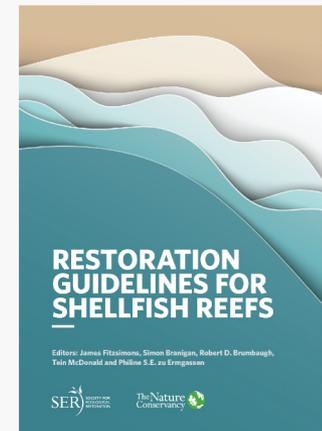
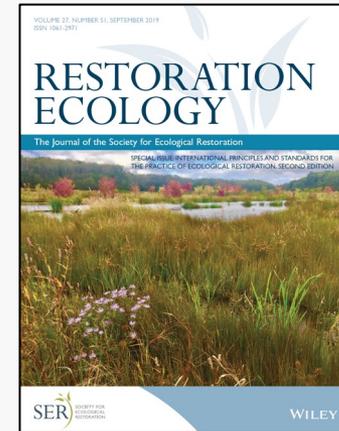
Incorporated into global restoration guidance

Cited as a key document in the official Strategy of the United Nations Decade on Ecosystem Restoration and the Decade Principles

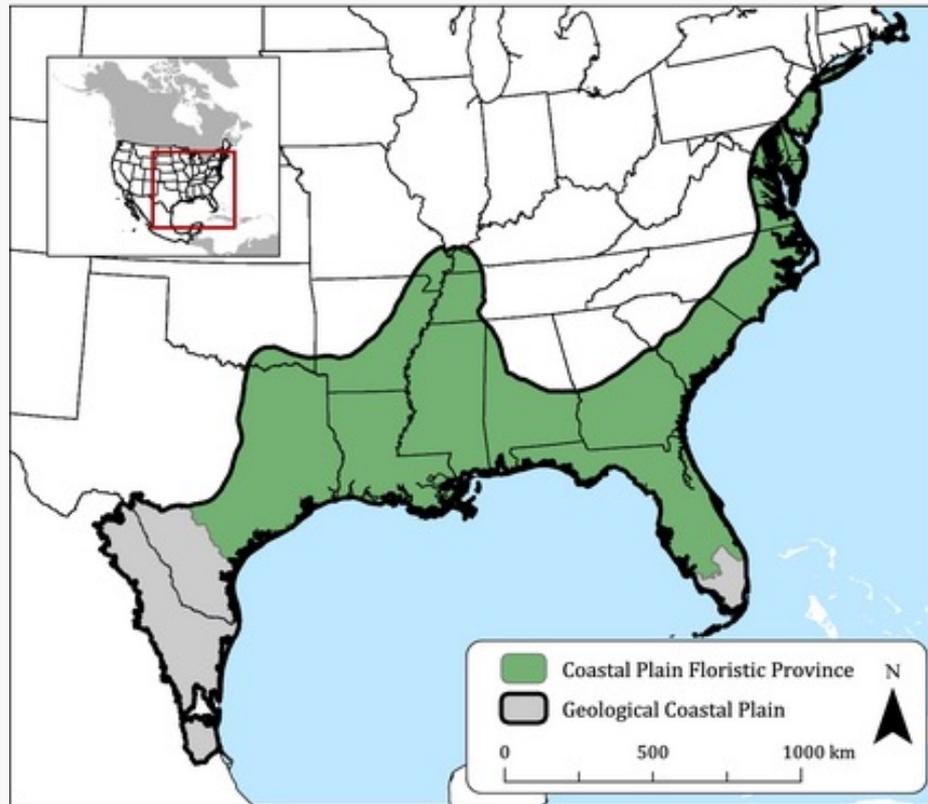
Is the most downloaded manuscript in the history of journal Restoration Ecology (>37,000 downloads in 2+ years)

Cited >270 times (Dimensions)

[www.ser.org/standards](http://www.ser.org/standards), or <https://doi.org/10.1111/rec.13035>



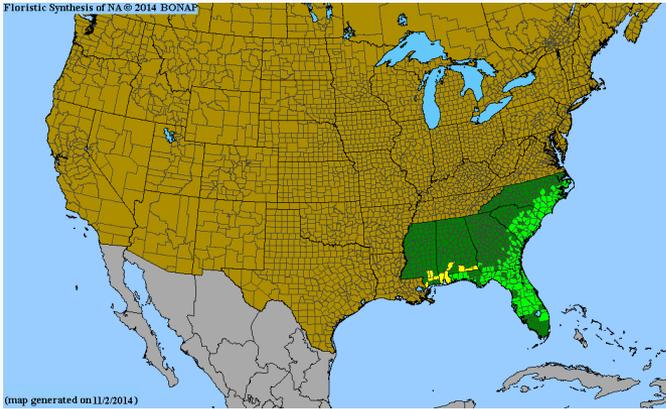
# South Florida Conservation Context



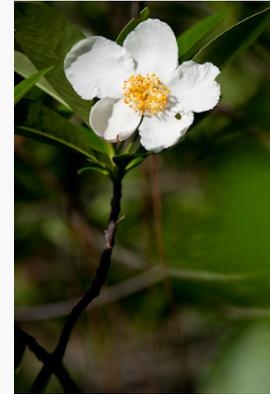
## North American Coastal Plain Global Biodiversity Hotspot

Noss et al. 2014

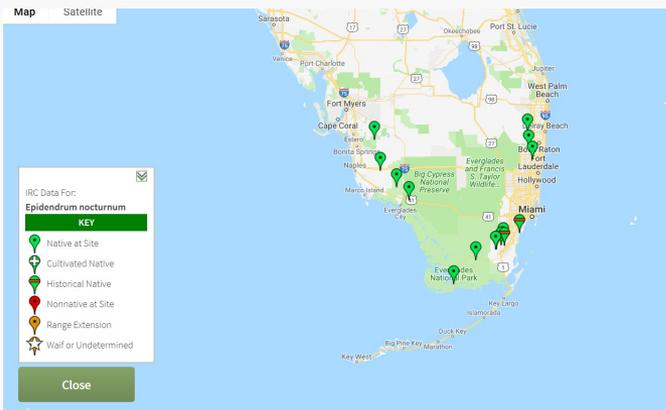
## South & North Range Limits in South Florida



*Gordonia lasianthus* (BONAP.org)



K. Bradley



*Epidendrum nocturnum* (IRC)

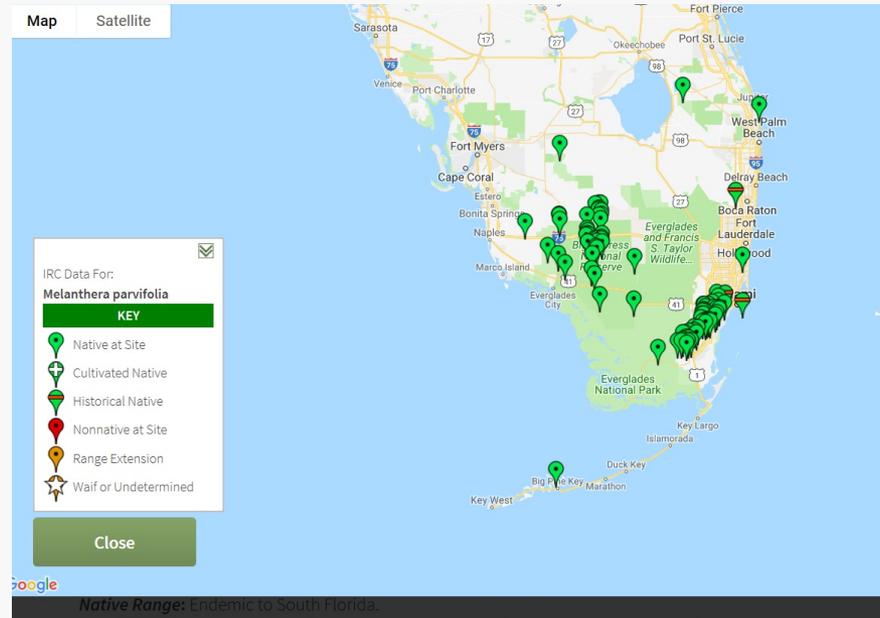


R. Hammer

*Melanthera parvifolia*  
Pineland blackanthers



J. Johnson



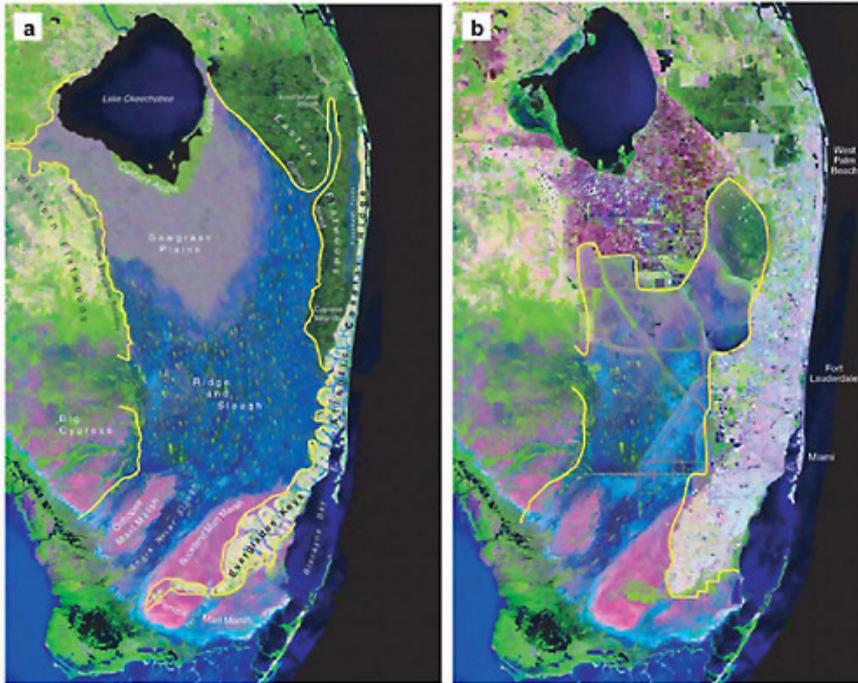
South Florida and Florida  
Endemics,  
>110 taxa in South Florida, of  
which ~50 have been recorded  
in Palm Beach County.

# Local Biodiversity Matters



Species of Management Concern in Everglades National Park, hardwood hammocks.

# Changes to Native Ecosystems



- Everglades transformation
- Coastal development & erosion
- Destruction of critical upland habitat in the interior

>50% of region in conservation; United Nations Convention on Biological Diversity (CBD) 2020 Protected Areas Target = 17%. So everything should be great. But its not.



# Proportionality

## The World Now Protects 15% of Its Land, but Crucial Biodiversity Zones Left Out

■ Sat, 03 Sep 2016

Close to 15% of the Earth's land and 10% of its territorial waters are covered by national parks and other protected areas; coverage of marine protected areas increased by almost 300% in the last decade; and eight in 10 key biodiversity areas worldwide lack complete protection.

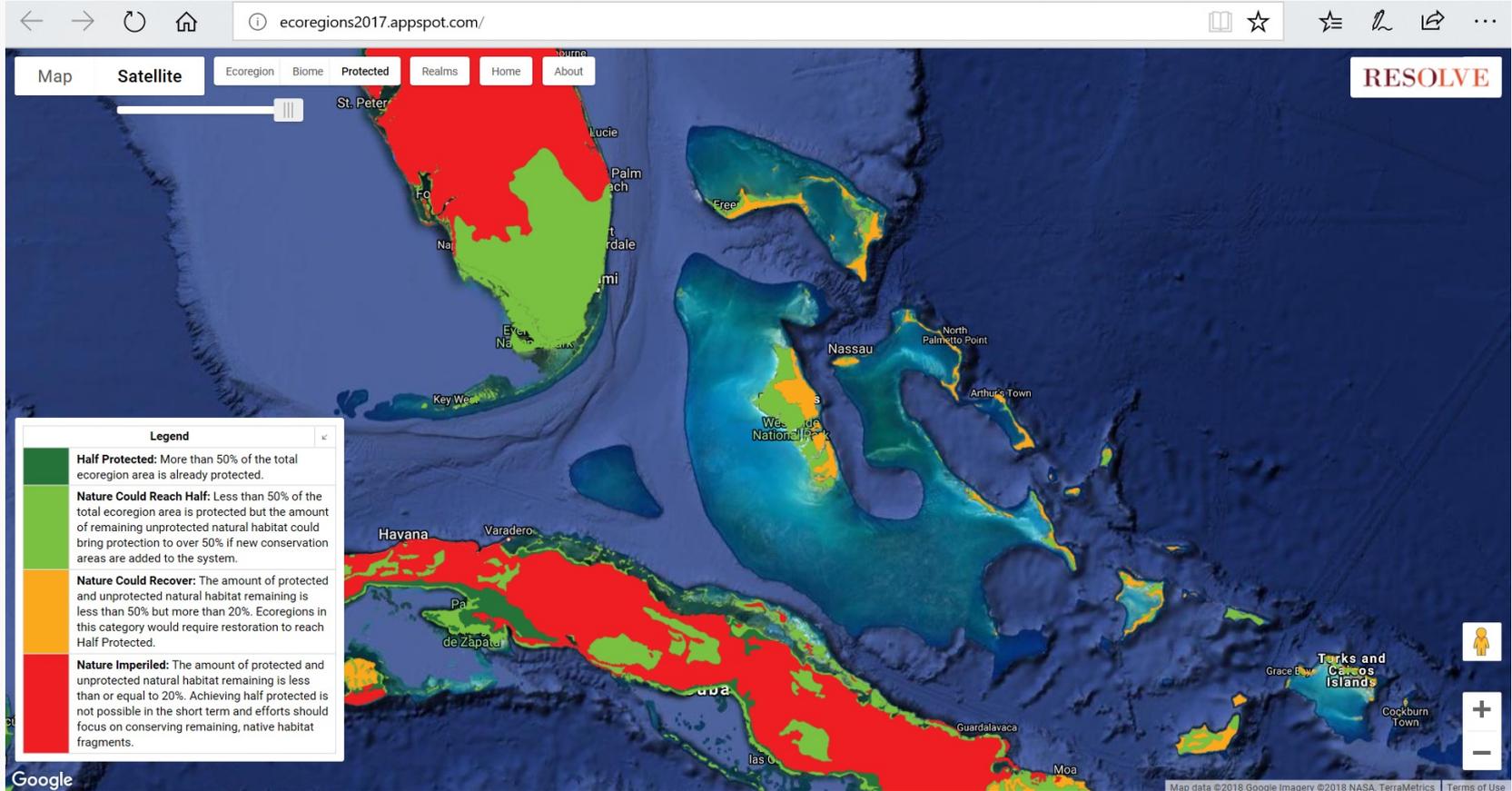


With 14.7 % of the Earth's land and 10 % of its territorial waters under protection, the world is on track to meet a major global conservation target, according to a new report by UN Environment and the International Union for Conservation of Nature (IUCN), launched today at the IUCN World Conservation Congress in Hawai'i.

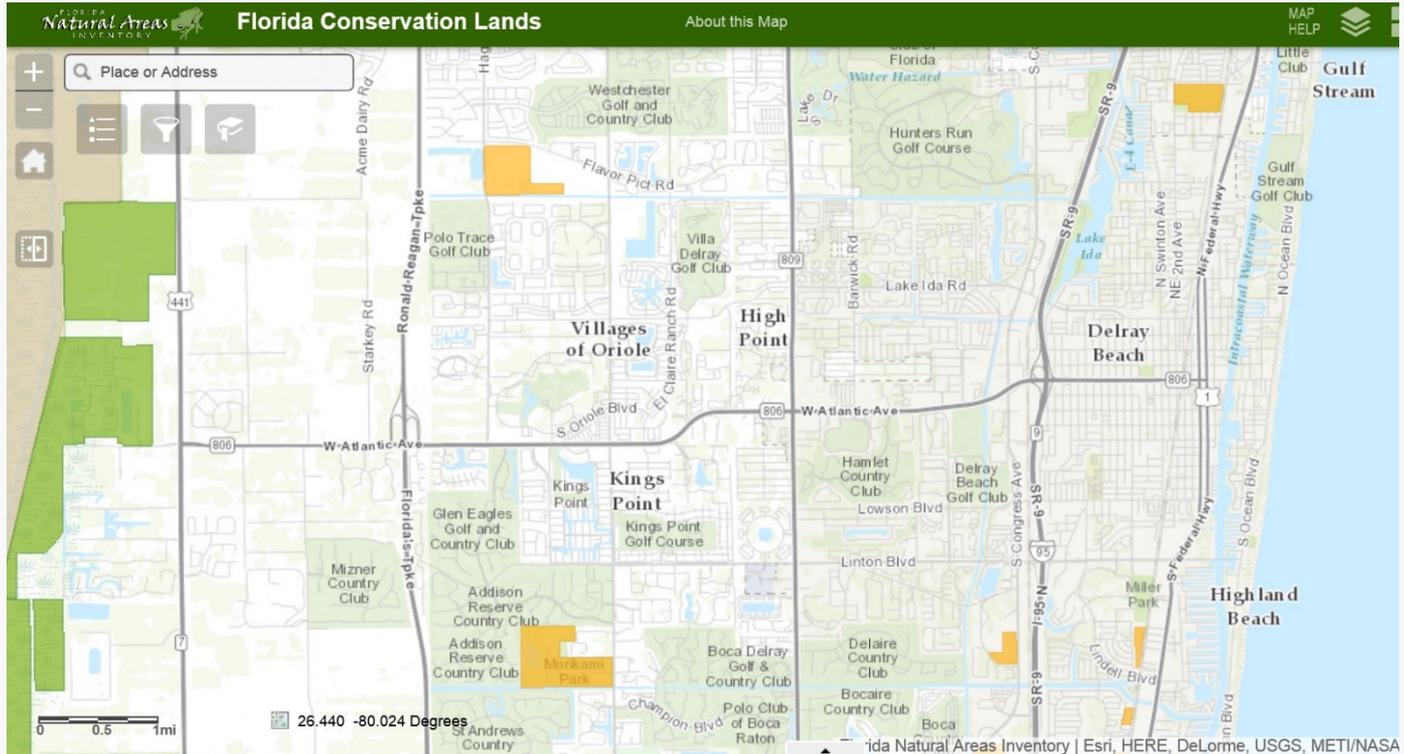
IUCN, 2016

# Nature Needs Half

## 846 Ecoregions, Protect 50% by 2050



# Our Local Reality



Conservation areas in and around Delray Beach.

## Fragmentation leads to inexorable loss

no species are lost from either pool. As fragmentation proceeds we eventually reach some critical level of reduction and fragmentation where species begin to die out. The susceptible pool loses species earlier and loses more species in total than does the resistant pool. When the resistant pool begins to lose species, it loses them very rapidly, because by this time the fragments are small and there is little habitat left.

Insularization causes extinctions over and above those expected through reduction in the total area of habitat. More species persist at equilibrium if the remaining habitat is concentrated into a single large patch rather than distributed over many small fragments (Figure 4). We stress that the results in Figure 4 are equilibrium patterns; depending on the relative time scales of habitat destruction and species'

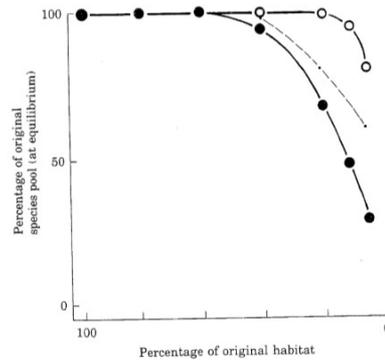


FIGURE 4. The number of species remaining in each species pool as fragmentation proceeds. Closed circles show the pool of species with large area requirements and low vagility. Open circles show the species with less stringent area requirements. The small dots connected by the dashed line depict the proportion of the first pool that would be present when the habitat is minimally fragmented. (From McLellan et al., 1986.)

Wilcove 1986

Some species and groups go faster.





Some go slower.



## Plant and Animal Biodiversity are Linked



Cicada

Images by Mary Trulio Fesmire



Ceraunus Blue

**Biodiversity**, or biological diversity, is the diversity of life at the ecosystem, species, and even genetic level.

**All** biodiversity is important because of its **intrinsic value**, as well as its role in providing **ecosystem services** essential to human survival and wellbeing.

# The Floristic Inventory of South Florida

# The Floristic Inventory of South Florida 1995 – present

The Institute for Regional Conservation  
Florida, Ministry of South Florida Database, Online

Home | IIC Home | About IIC | Programs | IICF | Protected Natural Area | Florida Department of Natural Resources

Flora of South Florida: Plants by Conservation Area | Plants by County | Plants by Habitat

Quick Search | Advanced Search

**Cyrtopodium punctatum (L.) Lindl.**  
Cowheart orchid, Cigar orchid

Family: Orchidaceae  
Group: Monocot  
Substrate: Epiphyte  
Habit: Herb  
Conservation: Endangered

Native Range: South Florida, Greater Antilles (Cuba, Jamaica, Central America and South America)  
Introduction: Global Status: Secure  
State of Florida Status: Endangered  
Federal Nature Area System: State Status: Critically Imperiled  
ARC SOUTH FLORIDA Status: Critically Imperiled  
SOUTH FLORIDA Occurrence: Present  
SOUTH FLORIDA Natural Status: Native  
SOUTH FLORIDA Cultural Status: Endangered

Comments: This was ranked as Imperiled in Base Floristic Inventory of South Florida (1995), but was re-ranked to Endangered based on a re-evaluation of the number of plants and environmental conditions at conservation locations (plant species 2010). It was also ranked as Endangered in the 2010 Floristic Inventory of South Florida. For more information, see the Florida Department of Natural Resources website for more information.

More Links to Conserving Resources

Florida Department of Natural Resources  
Puerto Rico  
TROPICOS.ORG  
USF.org

Other data on *Cyrtopodium punctatum* available from:

**Cyrtopodium punctatum has been found in the following 14 conservation areas:**

Conservation Area	Status
A.S. Wang Hammock Park	Present/Endangered
Alafia River State Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered
Castell Hammock Park	Present/Endangered

**Cyrtopodium punctatum has been found in the following 14 counties:**

County	Status
Collier County	Native
DeSoto County	Native
Florida State County	Native
Hernando County	Native
Manatee County	Native

**Cyrtopodium punctatum has been found in the following 1 habitats:**

Habitat	Status
Wet Forest	Present

All Images

### Castell Hammock Park

County: Miami-Dade County  
Size: 114,739 acres  
Latitude: 25.59972° Longitude: -80.45528°  
Section: 17 Township: 36 Range: 39  
Notes: Historically spelled as Castell, Hammock or Castello's Hammock. For a map and more information click [here](#).  
Managing Agency: Miami-Dade County Department of Parks and Recreation

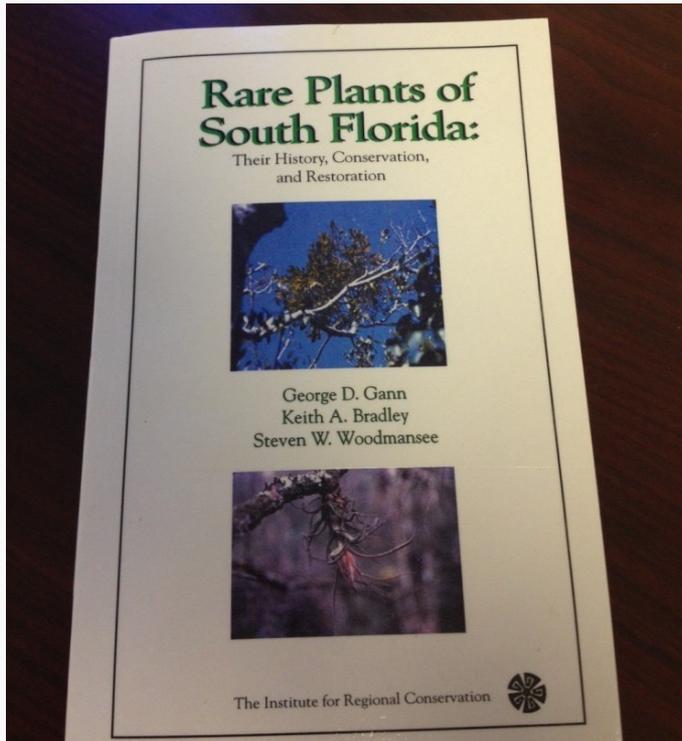
There are 379 taxa reported for Castell Hammock Park

Group By Family:  [Show Results](#)

Scientific Name:	Occurrence:	Native Status:	Introduced Status:	Invasive Status:	Cultivated Status:	Reference:	Voucher:
<b>Acanthaceae</b>							
<i>Baccharis dioica</i>	Present	Not Native, Naturalized	Introduced	Potentially Invasive		2272	2272
<i>Buellia blechnum</i>	Present	Not Native, Naturalized	Introduced	Ruderal		14737	
<i>Buellia simplex</i>	Present	Not Native, Naturalized	Introduced	Potentially Invasive		14737	
<i>Buellia tomentosa</i>	Present	Native	Not Introduced			14737	
<b>Amaranthaceae</b>							
<i>Achyrocline satureia</i> var. <i>aspera</i>	Present	Not Native, Naturalized	Introduced	Ruderal		14737	
<i>Amaranthus spinosus</i>	Present	Not Native, Naturalized	Introduced	Ruderal		14737	
<b>Anacardiaceae</b>							
<i>Marcopoda nidula</i>	Present	Not Native, Naturalized	Introduced	Invasive		14737	
<i>Masopium tomentosum</i>	Present	Native	Not Introduced			14737	
<i>Rhus copallinum</i>	Present	Native	Not Introduced	Native		14737	
<i>Schinus molle</i>	Present	Not Native, Naturalized	Introduced	Invasive		14737	
<i>Toxicaria radicans</i>	Present	Native	Not Introduced	Native		14737	
<b>Anemiaceae</b>							
<i>Anemia adiantifolia</i>	Present	Native	Not Introduced	Native		14737	
<b>Annonaceae</b>							
<i>Annona dioica</i>	Present	Native	Not Introduced	Native		14737	
<b>Apiaceae</b>							
<i>Cycloperum leptophyllum</i>	Present	Not Native, Naturalized	Introduced	Ruderal		14737	
<b>Apocynaceae</b>							
<i>Aspidemia berteroi</i>	Present	Native	Not Introduced	Native		14736	
<i>Asclepias curassavica</i>	Present	Not Native, Naturalized	Introduced	Invasive		14737	
<i>Asclepias viridis</i>	Present	Native	Not Introduced	Native		14736	
<i>Cathartanthus ramosus</i>	Present	Not Native, Naturalized	Introduced	Ruderal		14736	
<i>Eciton umbellatum</i>	Present	Native	Not Introduced	Native		14737	
<i>Morantia scoparium</i>	Present	Native	Not Introduced	Native		14737	
<b>Aquifoliaceae</b>							
<i>Halecassia</i>	Present	Native	Not Introduced	Native		14737	
<i>Teucrium</i>	Present	Native	Not Introduced	Native		14737	
<b>Araceae</b>							
<i>Epipremnum pinnatum</i>	Present	Not Native, Cultivated Only	Not Introduced			14737	
<i>Epipremnum pinnatum</i> cv. <i>Auratum</i>	Present	Not Native, Naturalized	Introduced	Invasive		14736	
<i>Monnina delicata</i>	Present	Not Native, Cultivated Only	Not Introduced	Cultivated Only	Cultivated	14736	
<i>Polkaea monnina</i>	Present	Not Native, Naturalized	Introduced	Invasive		14736	

- ### SOME QUESTIONS
- Are very small, fragmented conservation areas important?
  - How well does the current conservation system protect rare vascular plants?
  - Have there been regional extirpations or extinctions?

# 2002



1 in 4 native plant species were critically imperiled or extirpated.

About 8% were reported as presumed or possibly extirpated or extinct (now 6%).

Four South Florida endemic taxa reported as extinct in Knapp et al. (2020) were documented by IRC in 2002.

## Flora of Broward County (2019 numbers)

731 native taxa  
10-20% are likely extirpated already

Working list of 150+ taxa being reviewed

\*\*\*\*\*

Extirpations in South Florida  
(2002-present)  
6%, slight increase expected

Extirpations in Florida Keys  
(2007-present)  
13%, likely to go up



*Bidens laevis*



*Pleopeltis astrolepis*



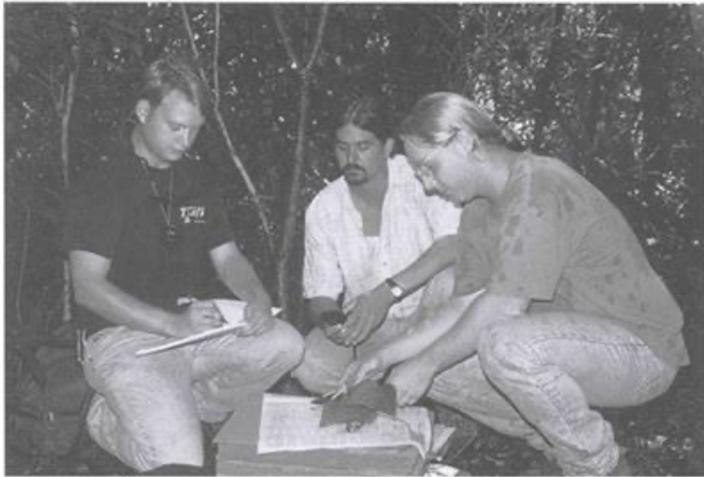
*Calopogon multiflorus*



*Carya floridana*

# Recognition of our Work

Afield celebrates...  
ORION



80 Species To Be Added to Florida's  
Endangered Species List

Orion Magazine 1996

face endangerment in the Florida Everglades



Washington Post, March 2015

# Global Change

← Previous Post Next Post →

**WWF REPORT: 52 PERCENT OF THE WORLD'S BIODIVERSITY IS GONE**

BY CANDICE GAUKEL ANDREWS | OCTOBER 7, 2014 | 10



According to the World Wildlife Fund's "Living Planet Report 2014," biodiversity in Latin America dropped by 83 percent in just 40 years. ©Patrick J. Endres

**World Wildlife Fund 2014**

**Science**  
**'Hyperalarming' study shows massive insect loss**



The emerald anole, one of the main insect eaters in the Luquillo forest of Puerto Rico. (Brad Lister/PNAS)

**Washington Post 2018**

# The Newsfeed on Biodiversity

Most comprehensive assessment of its kind;  
Current global response insufficient;  
1,000,000 species threatened with extinction;  
'Transformative changes' needed to restore and protect nature;  
Opposition from vested interests can be overcome for public good

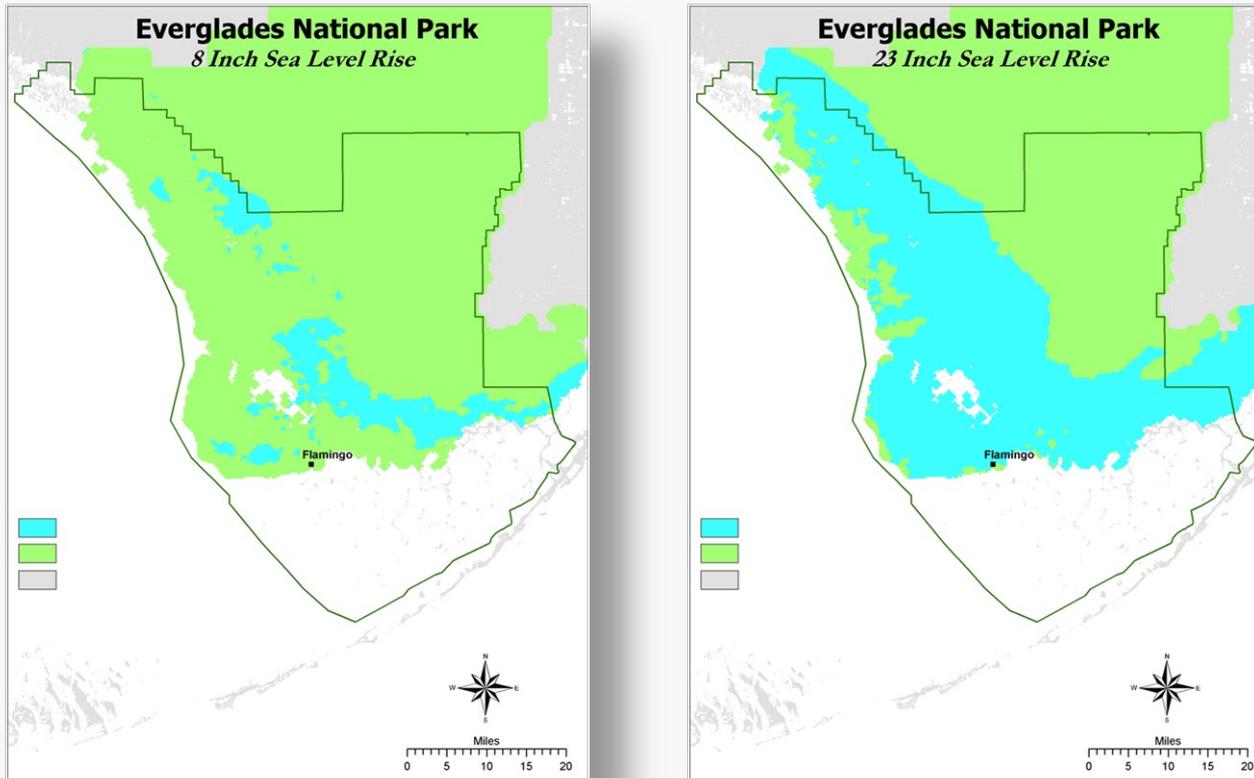
**SUSTAINABLE DEVELOPMENT GOALS**

Home About Campaigns Goals Take Action Partnerships News And Media Learn More

UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'

**Intergovernmental Panel on Ecosystem Services and Biodiversity 2019**

## Sea Level Rise



Everglades National Park scenarios by end of this century from 2007 IPCC projections.

# King Tides, West Palm Beach, 2016



# Extreme Storms, Pulse Events, and Ecosystem Reassembly



ENVIRONMENT

## Could more powerful hurricanes threaten South Florida's disappearing forests?

BY JENNY STALETOVICH

MARCH 25, 2019 06:00 AM, UPDATED 7 HOURS 44 MINUTES AGO

[Twitter](#) [Facebook](#) [Email](#) [Print](#)

# Migration and Ecological Reassembly

← → ↻ 🏠 🔒 [https://www.nrs.fs.fed.us/atlas/tree/fut\\_fortypes.html#](https://www.nrs.fs.fed.us/atlas/tree/fut_fortypes.html#)

Find on page  No results < > Options ▾

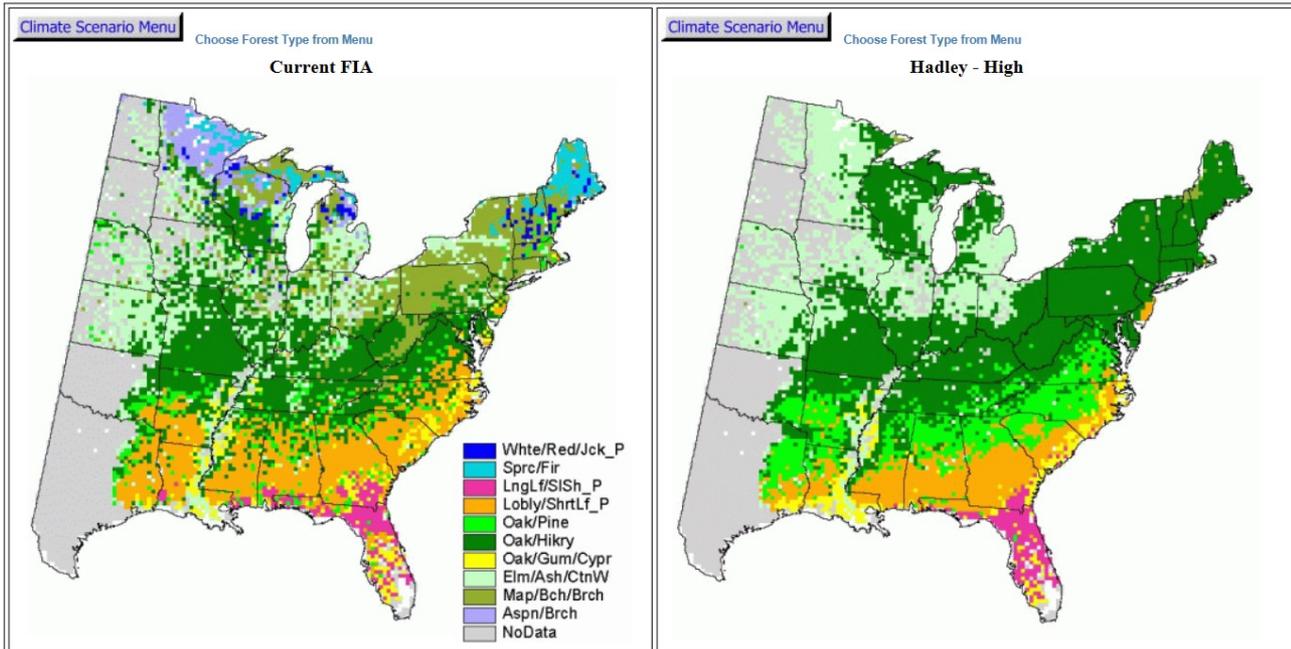
## Potential Future Forest Type Changes

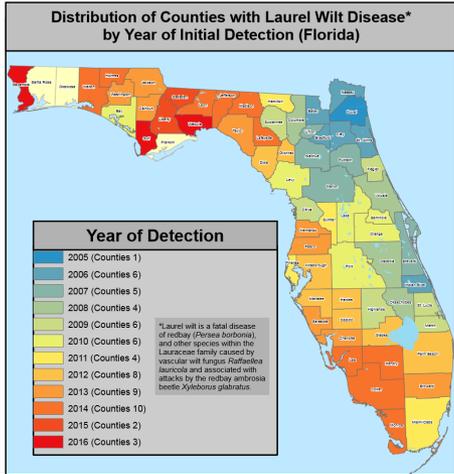
The links below allow comparison of maps of potential forest-type changes according to the various GCM scenarios.

**IMPORTANT:** Make sure you read the help file before interpreting the changes.



[View Summary of Changes](#)





## Invading Pests and Diseases



### Emerald Ash Borer Information Network

This Website is part of a multinational effort to bring you the latest information about emerald ash borer.

Esri, USGS | Esri, HERE, Garmin, NGA, USGS

**Being Restorative**  
**The Key to Our Future**

# Thinking, Thinking, Thinking



Page 4, Spring 1987, PALMETTO

## Restoration: a Global Perspective

“Particularly hazardous to Florida is the potential for a **global climate change** related to tropical deforestation and the excess burning of fossil fuels. A slight **rise in sea level** could destroy many of our native plant communities...”

“In the United States, and particularly in Florida, preservation has been the basis of the native plant movement. More recently, **restoration** as a conservation alternative has received some attention, although it is certainly not accepted by all.”

“By concentrating on **sustainable development**, rather than preservation, as a goal international conservation movements seem to be moving ahead in terms of meeting the environmental needs of the future.”



George 1985



Trans Amazon Highway, Brazil

Early publishing  
1987

Are we in the  
extinction prevention business?

Or the biodiversity recovery  
business?

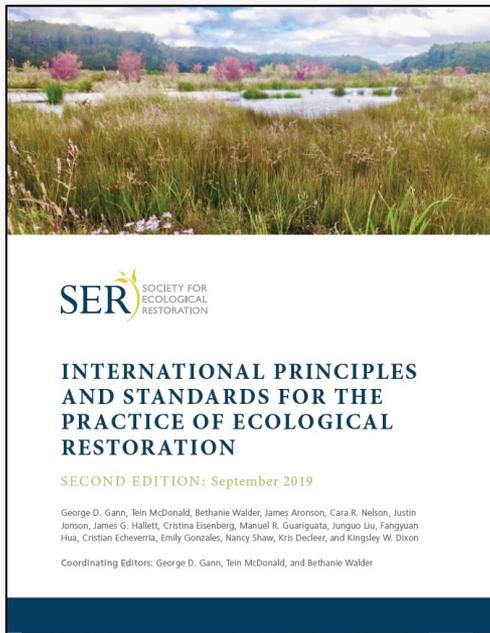
How do we actually Save Species?

And ourselves?

**United National Decade on Ecosystem Restoration 2021-2030**  
“There has never been a more urgent need to restore damaged ecosystems than now”



# Progressive Industry Standards



Linking Local and Global Thinking to Achieve Transformative Change

## Eight Principles Underpinning Ecological Restoration

**1** ENGAGES STAKEHOLDERS

**2** DRAWS ON MANY TYPES OF KNOWLEDGE



**3** IS INFORMED BY NATIVE REFERENCE ECOSYSTEMS, WHILE CONSIDERING ENVIRONMENTAL CHANGE



**4** SUPPORTS ECOSYSTEM RECOVERY PROCESSES



**5** IS ASSESSED AGAINST CLEAR GOALS AND OBJECTIVES USING MEASURABLE INDICATORS



**6** SEEKS THE HIGHEST LEVEL OF RECOVERY POSSIBLE



**8** IS PART OF A CONTINUUM OF RESTORATIVE ACTIVITIES



**7** GAINS CUMULATIVE VALUE WHEN APPLIED AT LARGE SCALES



# THE RESTORATIVE CONTINUUM

Improving biodiversity, ecological integrity,  
and ecosystem services



REDUCING  
SOCIAL  
IMPACTS

IMPROVING  
ECOSYSTEM  
MANAGEMENT

REPAIRING  
ECOSYSTEM  
FUNCTION

INITIATING  
NATIVE  
RECOVERY

PARTIALLY  
RECOVERING  
NATIVE  
ECOSYSTEMS

FULLY  
RECOVERING  
NATIVE  
ECOSYSTEMS

REDUCED IMPACTS

REMEDICATION

REHABILITATION

ECOLOGICAL RESTORATION

**SER** SOCIETY FOR  
ECOLOGICAL  
RESTORATION

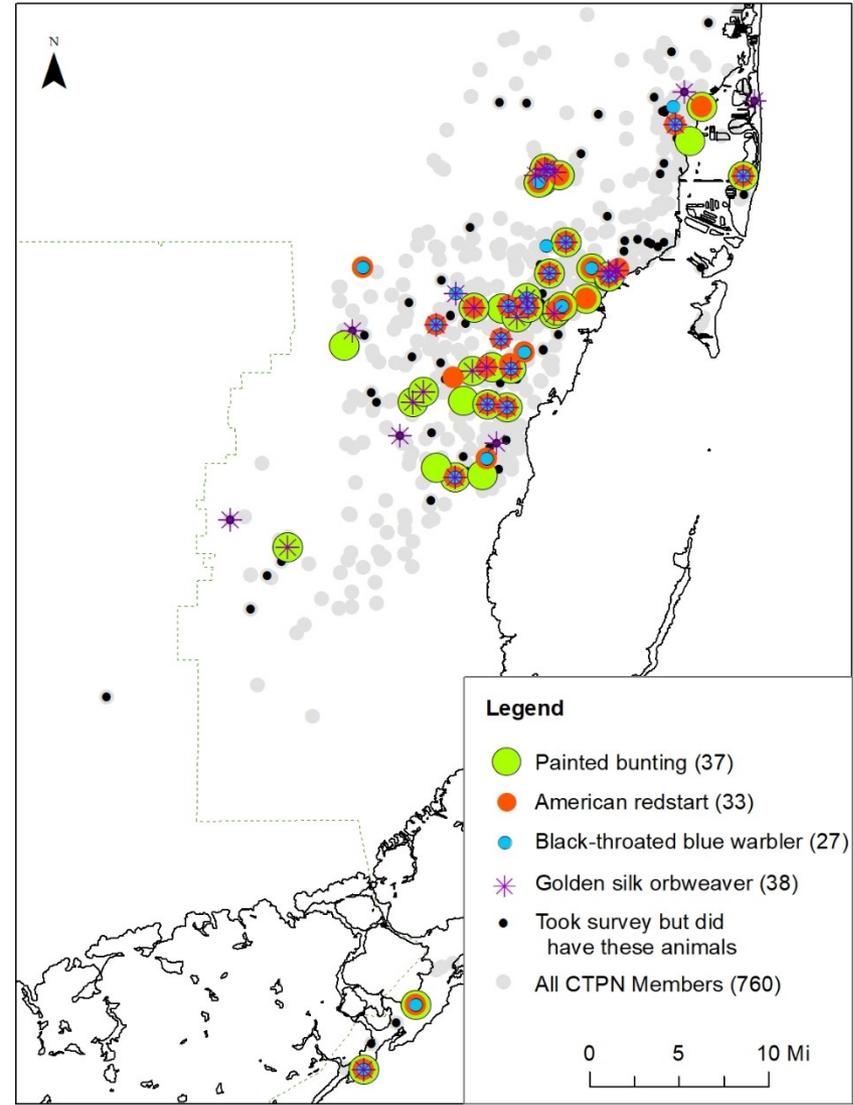
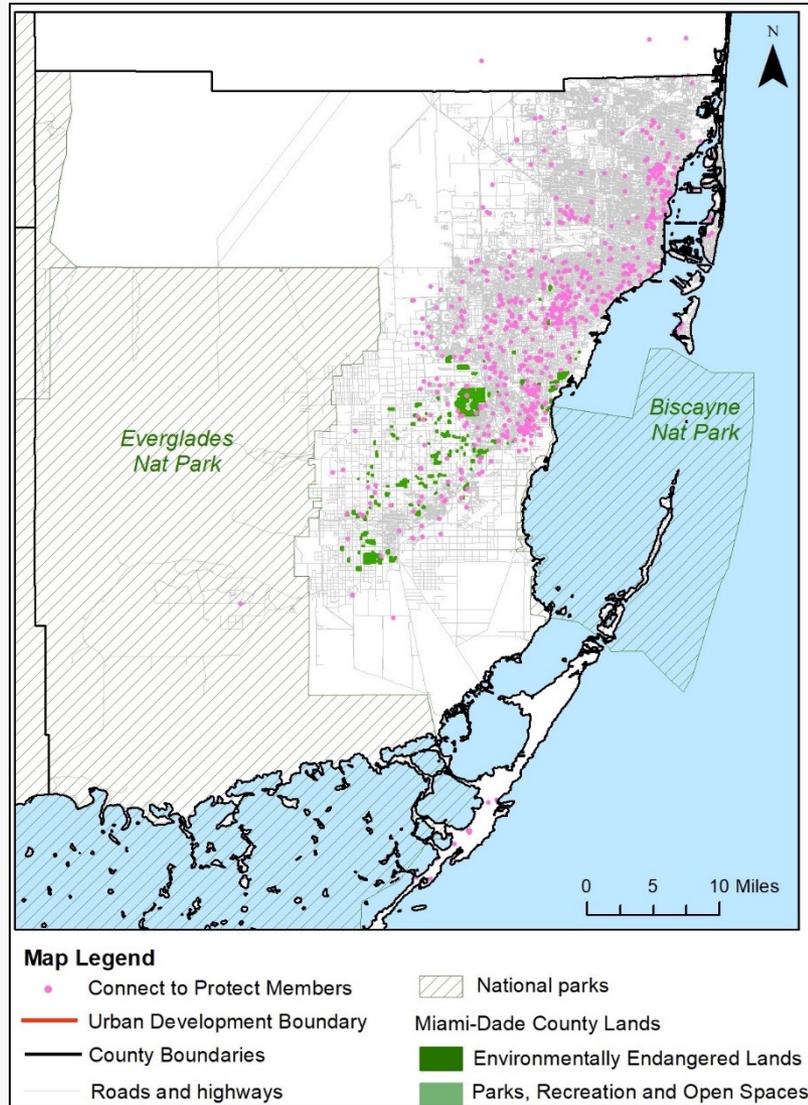
**All restorative activities matter**, no matter how small. But some activities may not be restorative at all (e.g., some mitigation, afforestation of native savanna).

# Impacts of Individual Landscapes

Every garden or landscape project can have beneficial outcomes regardless of size by:

- increasing numbers and population sizes of depleted native species
- increasing connectivity of native ecosystems
- reducing populations of invasive species and other threats
- improving ecosystem functions such as pollination and trophic interactions
- sequestering CO<sub>2</sub>eq

# Impacts at Landscape Scale



FTBG Connect to Protect Network

## Business As Usual Thinking

1. Sustainability is about reducing impact
2. Emphasis is on gray infrastructure, not green infrastructure

## Transformative Thinking

1. The baseline is Net Degradation Neutrality (sensu UNCCD)
2. The goal is restorative (e.g., bending the curve, net gain, moving the needle, ecological uplift) with regard to biodiversity and ecosystem services.

Using NFYN to Make A Difference

# Sources of Native Plant Data



**Florida Native Plant Society**

Who We Are | What We Do | Native Plants | Resources | Events | Chapters

Join / Support

Home > Native Plants

## Native Plants

**Learn about native plants!**

Click on the links to learn more.

- Native Plants for Your Area
  - Get a list of species appropriate for landscaping in your area. You can explore the entire list, identify species that thrive in specific conditions (salt tolerance, water use, etc.), that provide habitat for butterflies and wildlife, and that are native to your particular area. Descriptions and photographs are provided.
  - Native Plants for landscaping and restoration: [Plants](#)
  - Attracting butterflies and native pollinators: [Butterflies and Pollinators](#)
  - Attracting Wildlife: [Wildlife](#)
- Native Plant Communities
  - Native plants exist naturally in specific habitats. This page provides general information and photographs of the major natural communities that support plants in Florida.
- Gardens with Natives
  - Find public gardens near your community that have native plants. Most also have non-natives.



**Florida Association of Native Nurseries (FANN)**

Growing, planting and promoting Florida native plants for sustainable landscapes.

Plants | Plant Communities | Professionals | About Us | News | Learn More | Membership

**REAL Florida Professionals**

- Wholesale Growers
- Landscape Professionals
- Environmental Professionals
- Nursery and Landscape Products
- Commercial Services
- Retail Nurseries

CONTINUING EDUCATION (CEUS)

ANNUAL WHOLESALE TRADE SHOW: [NativePlantShow.com](#)

**REAL Florida Landscapes**

Starting a design? Consider what grows naturally, then find the plants.

Select Your County

Or enter your Zip...

**Know Your Natives: Navigating the Hamelia Mess**

**FEATURED NATIVE PLANT**  
Butterfly Milkweed  
*Asclepias tuberosa*

In Florida, out-of-state plant stock often performs poorly. Ask your grower about plant/seed origin and choose Florida native ecotype for use in Florida. Growers now recognize at least two native ecotypes in Florida: one which prefers moist pinelands, with blooms that are typically bright orange; and another which thrives in excessively well-drained sandhills and scrub, with blooms that exhibit more color variation from yellow-orange to orange-red. The pinelands ecotype may be easier to use in most typical landscape settings.

**Find a specific plant**

Enter the first few letters of the common or botanical name, then select a plant from the list.

Looking for...

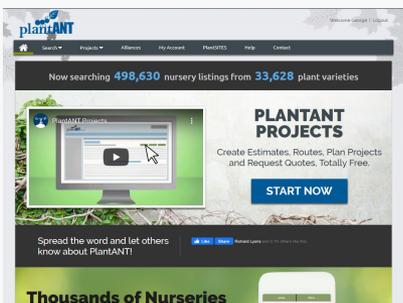
Or, choose a plant type below:

or select plant type

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Now searching **498,630** nursery listings from **33,628** plant varieties

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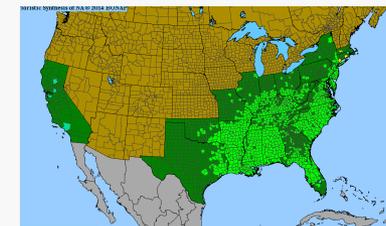
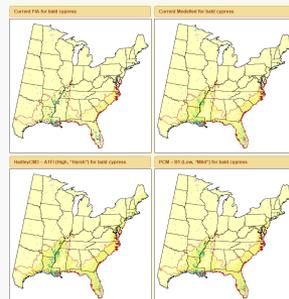
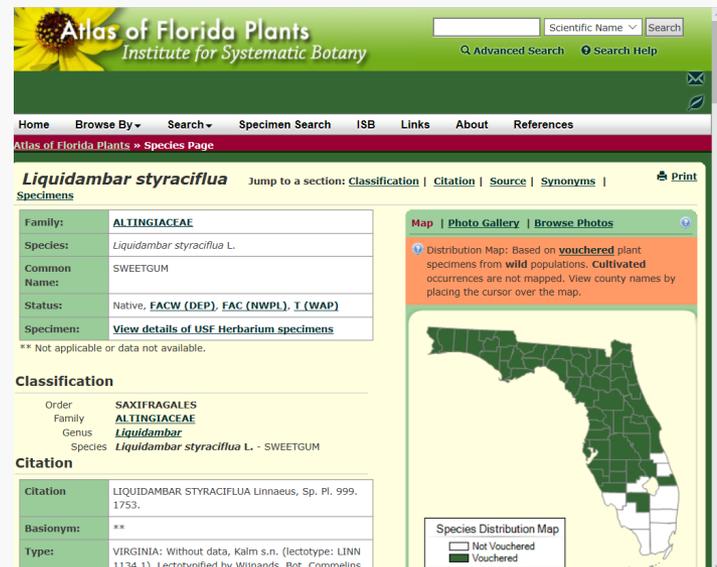
Spread the word and let others know about PlantANT!

**Thousands of Nurseries**



**Audubon**

Bring more birds to your home with native plants.

**Atlas of Florida Plants**  
Institute for Systematic Botany

Home | Browse By | Search | Specimen Search | ISB | Links | About | References

Atlas of Florida Plants > Species Page

**Liquidambar styraciflua** Jump to a section: [Classification](#) | [Citation](#) | [Source](#) | [Synonyms](#) | [Print](#)

**Specimens**

Family:	ALTINGIACEAE
Species:	<i>Liquidambar styraciflua</i> L.
Common Name:	SWEETGUM
Status:	Native, <b>FACW (DEP)</b> , <b>FAC (NWPL)</b> , <b>I (WAP)</b>
Specimen:	<a href="#">View details of USF Herbarium specimens</a>

\*\* Not applicable or data not available.

**Classification**

Order	SAXIFRAGALES
Family	ALTINGIACEAE
Genus	<i>Liquidambar</i>
Species	<i>Liquidambar styraciflua</i> L. - SWEETGUM

**Citation**

Citation	LIQUIDAMBAR STYRACIFLUA Linnaeus, Sp. Pl. 999. 1753.
Basionym:	**
Type:	VIRGINIA: Without data, Kalm s.n. (lectotype: LINN 1134.1). Lectotyped by Witnands, Bot. Commelinis

**Map | Photo Gallery | Browse Photos**

Distribution Map: Based on **vouchered** plant specimens from **wild** populations. **Cultivated** occurrences are not mapped. View county names by placing the cursor over the map.

**Species Distribution Map**

Legend:  Not Vouchered  Vouchered

### Zip Code 33413

#### search for Native Plants, Habitats and Wildlife

This is a large zip code area in western West Palm Beach mostly south of Belvedere Road, east of the Florida Turnpike and west of Jog Road. Link to [map](#).

#### Native Plants

• Click below to obtain a list of native plants that are recommended for 33413, and to see photos and learn more about them.

Whether you are just beginning a new native plant project, or will be introducing native plants into an existing garden, this is the place to find out which native plants are right for your specific area.

Get your plant list for 33413 !

Advance search for plants

#### Habitats

• You can try your hand at ecological restoration in your yard or project site by recreating a native habitat.

• Click below to view a list of some native habitats for 33413.

To take gardening with natives a step further, you can learn about the plant and animal habitats that are native to your area. Here you can also learn more about native habitats and ecosystems, and get a list of plants native to this habitat that are recommended for your zip code.

Read more about restoring native habitats in our [Frequently Asked Questions section](#), and learn how you can attract wildlife such as birds and butterflies to your yard.

Get your list of habitats for 33413 !

[Find Native Plants!](#)

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# Hard Coded Precise Data Encouraging the Use of Native Species Within Their Native Ranges

# How Does It Work?

County Lists – Ecological generalists with broad ranges



ZIP Code Lists – Ecological generalists + generalists within local habitats



Habitat Lists – Generalists + habitat specialists within native range within ZIP Code



# NFYN Encourages It is not Prescriptive

**Bourreria succulenta**

**Boraginaceae**

**General Landscape Uses:** Accent or specimen flowering shrub or small tree.

**Ecological Restoration Notes:** A relatively common mid-canopy or ecotonal species in rockland hammocks in the Florida Keys. Very rare elsewhere.

**Availability:** Native plant nurseries. Available in Fort Myers at **All Native Garden Center and Plant Nursery** ([239-939-9663](tel:239-939-9663)) and in Lake Worth at **Indian Trails Native Nursery** ([561-641-9488](tel:561-641-9488)).

**Description:** Large shrub or small tree with spreading branches that droop toward the tips. Trunks erect, about 2-6 inches in diameter. Bark thin, light brown tinged with red, slightly roughened. Leaves smooth, shining, about 2-3 inches long. The leaves can be hairy or even rough when plants are immature, sometimes leading this to be misidentified as the very rare *B. radula*.

**Dimensions:** Typically 10-15 feet in height; to 28 feet in South Florida. Can be as broad as tall in the sun, but usually taller than broad in the shade.

**Growth Rate:** Moderate.

**Range:** Monroe County Keys and Miami-Dade County; West Indies and northern South America. Very rare on the mainland south of the Miami River. For a digitized image of Elbert Little's Florida range map, visit the [Exploring Florida](#) website.

***Map of select IRC data from peninsular Florida.***

**Habitats:** Coastal hammocks.

**Soils:** Moist, well-drained limestone or calcareous sandy soils with humusy top layer.

**Nutritional Requirements:** Moderate; can grow in nutrient poor soils, but needs some organic content to thrive.

**Salt Water Tolerance:** Low; does not tolerate long-term flooding by salt or brackish water.

**Salt Wind Tolerance:** Moderate; grows near salt water, but is protected from direct salt spray by other vegetation.

**Drought Tolerance:** High; does not require any supplemental water once established.



*Copyright by: George D. Gann*

*in habitat, Everglades National Park, Key Largo,  
Florida, 2013*



NFYN can be used virtually anywhere – at residences and office complexes, in parks, and even in medians. And by increasing, restoring, and connecting existing protected areas.

# Planting Native Trees

← → ↻ 🏠 🔒 https://www.gardenclub.org/plant-america



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HOME | PLANT AMERICA

## Plant America

Inspiring Gardens Across the Americas

LEARN MORE ➔



The theme for President Gay Austin's administration is **Plant America**, a singularly focused initiative on gardens and gardening. Both a call to service and a description of what NGC clubs do, Plant America supports the main reason that people say they join a

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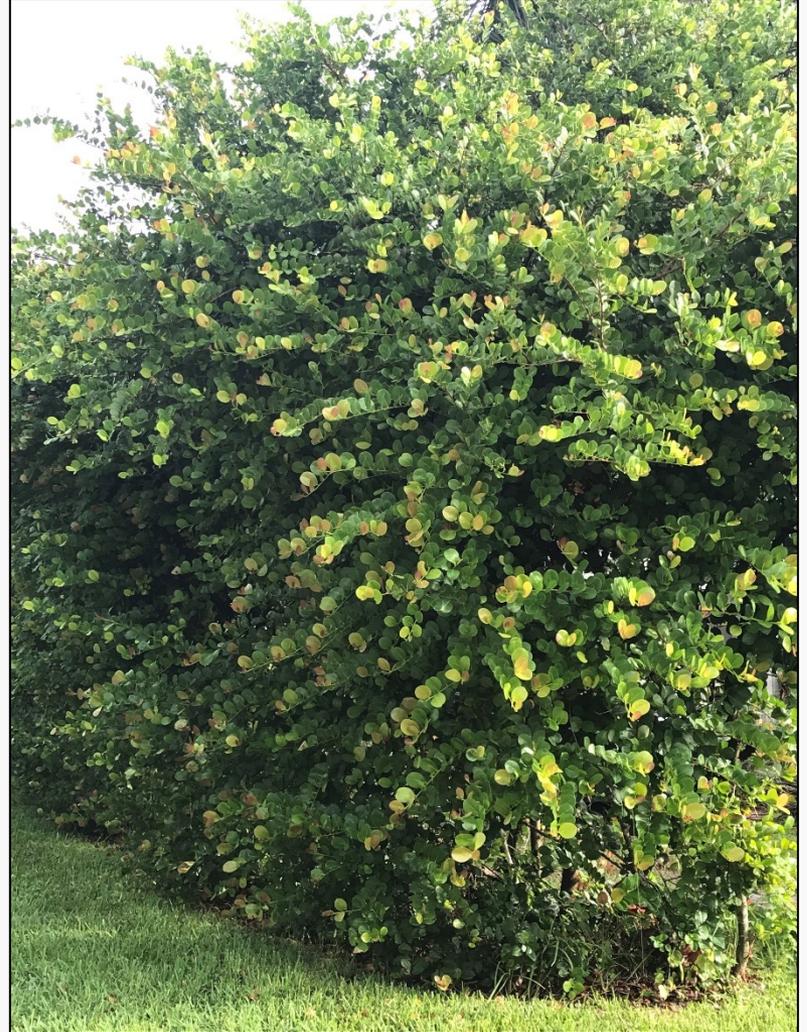


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*Citbarexylum spinosum, Myrcianthes fragrans*



*Chryrsobalanus icaco*

## Switching Out Hedges



Native Landscapes



Raul Moas Garden  
Pinecrest

## Native Landscapes



Restoring Native Ecosystem Landscapes at Scale



Rooftop Gardens



Facilitating Recovery: Restoring Key Species



*Piriqeta cistoides* subsp. *caroliniana*



*Trichostem dichotomum*

Facilitating Recovery: Restoring Biodiversity

Four Larval Host – 10 Coastal Butterflies

Zebra Heliconian



Cassius Blue



Large Orange Sulphur



Martial Scrub-Hairstreak



Common Buckeye



Gray Hairstreak



Phaon Crescent



White Peacock



Gulf Fritillary



Julia Heliconian

Facilitating Recovery: Habitat for Birds and Butterflies



Floristic Inventory of South Florida  
Floristic Inventory of the Florida Keys  
Natives for Your Neighborhood  
Plantas del Mayab (Yucatan)  
Plantas de Puerto Rico / Plants of Puerto Rico

Restoring the link between people and nature

[Learn More](#)

IRC's Book



Ecological Restoration Standards



Pine Rockland Initiative



### A Resource to Help Change a Hobby for a Few into a Powerful Conservation Tool of Many.

Here you can learn how to turn simple gardening into habitat restoration by using plants that are native to your specific area. This website will provide you with the information you need to do that. By planting native plants and recreating natural habitats that are unique to your area, you will make a valuable contribution to the conservation and restoration of South Florida's natural heritage!

Find out About the Unique Plants, Habitats, and Wildlife in Your Area.

Choose what you would like to search:

Florida Zip Code

By County

Plant

Animal

Search By Florida Zip Code

Start by entering a 5-digit Florida ZIP Code here:

33413

Find

If you would like to learn more about native plants and the importance of conserving them, or [how to use this website](#), see the topics at right.

### Map

Originally designed for South Florida (counties from Lake Okeechobee southward), NFYN is now moving north with the aspiration of serving all of the state of Florida by 2020. Where complete, a list of the cultivated native plants that commonly occur throughout that each county will be provided. If you'd like to obtain information specific to your home or project site, please enter the 5-digit ZIP code of your area on the NFYN Home Page.

[Find Native Plants!](#)

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■ Widely cultivated

▲ Cultivated at native plant nurseries

Common Name

Scientific Name

Trees



Bald cypress ■

Taxodium distichum



Cabbage palm ■

Sabal palmetto



Coastal Plain willow ▲

Salix caroliniana



Dahoon holly, Dahoon ■

Ilex cassine



Gumbo-limbo ■

Bursera simaruba



Lancewood ▲

Nectandra coriacea



Laurel oak, Diamond oak ■

Quercus laurifolia



Paradisetree ■

Simarouba glauca



Persimmon, Common persimmon ▲

Diospyros virginiana



Pigeonplum, Tietongue ■

Coccoloba diversifolia

PRINTER FRIENDLY VERSION

Please scroll to the bottom for more images.

**Piriqueta, Pitted stripeeed**  
***Piriqueta cistoides* subsp. *caroliniana***  
**Passifloraceae**

**General Landscape Uses:** Primarily recommended for natural landscapes and habitat restorations. Also wildflower gardens.

**Availability:** Grown by enthusiasts and occasionally by native plant nurseries.

**Description:** Small herbaceous wildflower.

**Dimensions:** About 4-8 inches in height. Usually taller than broad, but sometimes falling over and forming small patches.

**Growth Rate:** Fast.

**Range:** Southern United States south to the Monroe County Keys; West Indies. In the Monroe County Keys, apparently disjunct from Miami-Dade County to the pine rocklands of Big Pine Key; also collected once on Key Largo, but perhaps introduced there.



[\*Map of select IRC data from peninsular Florida.\*](#)



[\*Map of suggested ZIP codes north to Indian River and Manatee counties.\*](#)



[\*Map of ZIP codes with habitat recommendations north to Martin and Charlotte counties.\*](#)

**Habitats:** Pinelands, prairies and marshes.

**Soils:** Moist to seasonally wet, well- to moderately well-drained sandy or limestone soils, without humus.

**Nutritional Requirements:** Low; it grows in nutrient poor soils.

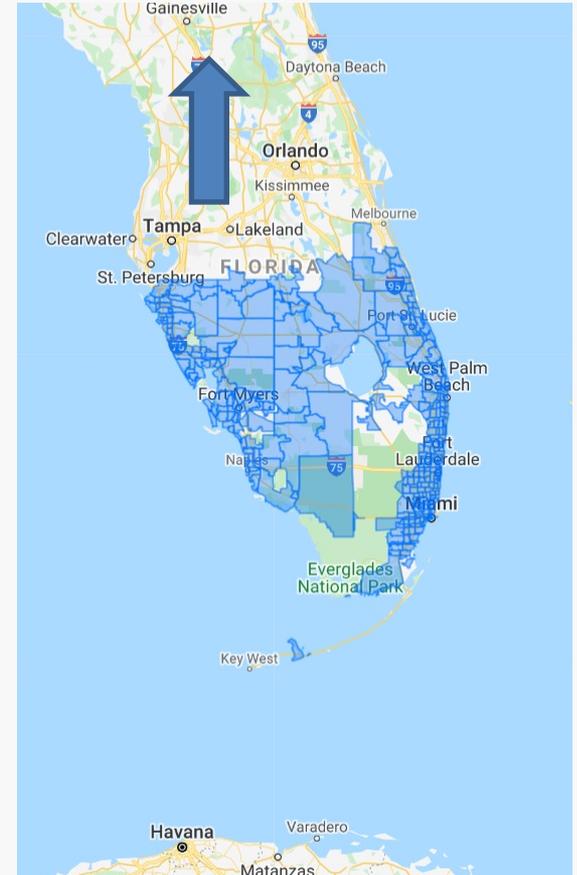
**Salt Water Tolerance:** Low; does not tolerate long-term flooding by salt or brackish water.



Copyright by: James Johnson, 2014

In habitat, Everglades National Park, Florida

[Expand](#)



## Habitats

Habitats in Zip Code 33444

To take gardening with natives a step further, you can learn about the native plant habitats that are appropriate for your area. You can then choose a habitat, and view a list of plants for that specific habitat. This way, you can try your hand at restoring a native plant habitat in your yard or project site. Habitat lists also include some hard to grow natives and natives with narrow habitat requirements, such as strictly coastal species, that may not be included on your main zip code list.

### Bayhead

[Learn More](#)

[Plant List](#)

### Dome Swamp

[Learn More](#)

[Plant List](#)

### Mesic Flatwoods

[Learn More](#)

[Plant List](#)

### Mesic Hammock

[Learn More](#)

[Plant List](#)

### Prairie Hammock

[Learn More](#)

[Plant List](#)

### Scrub

[Learn More](#)

[Plant List](#)

### Find Native Plants!

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Below is a list of animals that may be observed in this zip code. By planting native species, you will not only create a low-maintenance landscape to enjoy, but you will also create habitat for these wildlife species.

Sort  
By:

Scientific Name

Common Name

PRINTER FRIENDLY VERSION

Common Name	Scientific Name
-------------	-----------------

Butterflies



Barred Yellow

Eurema daira



Black Swallowtail

Papilio polyxenes



Brazilian Skipper, Canna skipper

Calpodes ethlius



Carolina Satyr

Hermeuptychia sosybius



Cassius Blue

Leptotes cassius theonus



Ceraunus Blue

Hemiargus ceraunus antibubastis



Wildlife-Plant Interactions

Plant Associates of  
Gulf Fritillary

Sort By:

Scientific Name

Common Name

PRINTER-FRIENDLY VERSION

Common Name	Scientific Name	Plant Uses
<a href="#">Blue porterweed, Joee</a>	<a href="#">Stachytarpheta jamaicensis</a>	Nectar source.
<a href="#">Christmasberry, Carolina desertthorn</a>	<a href="#">Lycium carolinianum</a>	Nectar source.
<a href="#">Common wireweed, Common fanpetals</a>	<a href="#">Sida acuta</a>	Nectar source.
<a href="#">Corkystem passionflower</a>	<a href="#">Passiflora suberosa</a>	Larval host.
<a href="#">Jack-in-the-bush</a>	<a href="#">Chromolaena odorata</a>	Nectar source.
<a href="#">Maypop, Purple passionflower</a>	<a href="#">Passiflora incarnata</a>	Larval host.
<a href="#">Paper flower</a>	<a href="#">Bougainvillea glabra</a>	Nectar source.
<a href="#">Passion fruit, Purple granadilla</a>	<a href="#">Passiflora edulis</a>	Larval host.
<a href="#">Piriqueta, Pitted stripeseed</a>	<a href="#">Piriqueta cistoides subsp. caroliniana</a>	Larval host.
<a href="#">Scorpiontail</a>	<a href="#">Heliotropium angiospermum</a>	Nectar source.
<a href="#">Silver sea-oxeye-daisy, Bushy seaside oxeye</a>	<a href="#">Borrichia frutescens</a>	Nectar source.
<a href="#">Snow squarestem</a>	<a href="#">Melanthera nivea</a>	Nectar source.

Find Native Plants!

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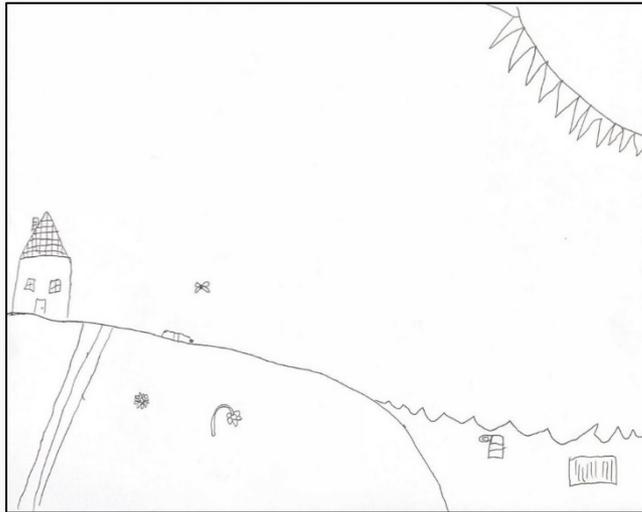
## We Want to Increase Success

- In the Garden
- For Conservation, Restoration and Sustainability

Be Restorative!

# Even Kids Can Visualize Transformative Change

Degraded Dune



Restored Dunes



Banyan Creek  
Elementary  
Kindness Matters  
Club (2<sup>nd</sup> grade)  
February 2020





# Play the Long Game

