



**What would happen  
if tomorrow every last insect on earth disappeared?**

**What would life be like?**

**Because it wouldn't be just a matter of  
no more fruits and veggies or tasty steaks.**

**We might lose most of our migratory birds for lack of food.**

**There wouldn't be any "Garbage Collectors"**

**....think mold, think rampant bacterias**

**....think a world buried in its own waste.**

**When did we humans decide that the natural world was a problem.**

**When did we decide that poisons were the answer.**

**Is it too late?**

**Or....is it time to turn things around and adopt**

# Reconciliation Ecology

A Concept Whose time Has Come!



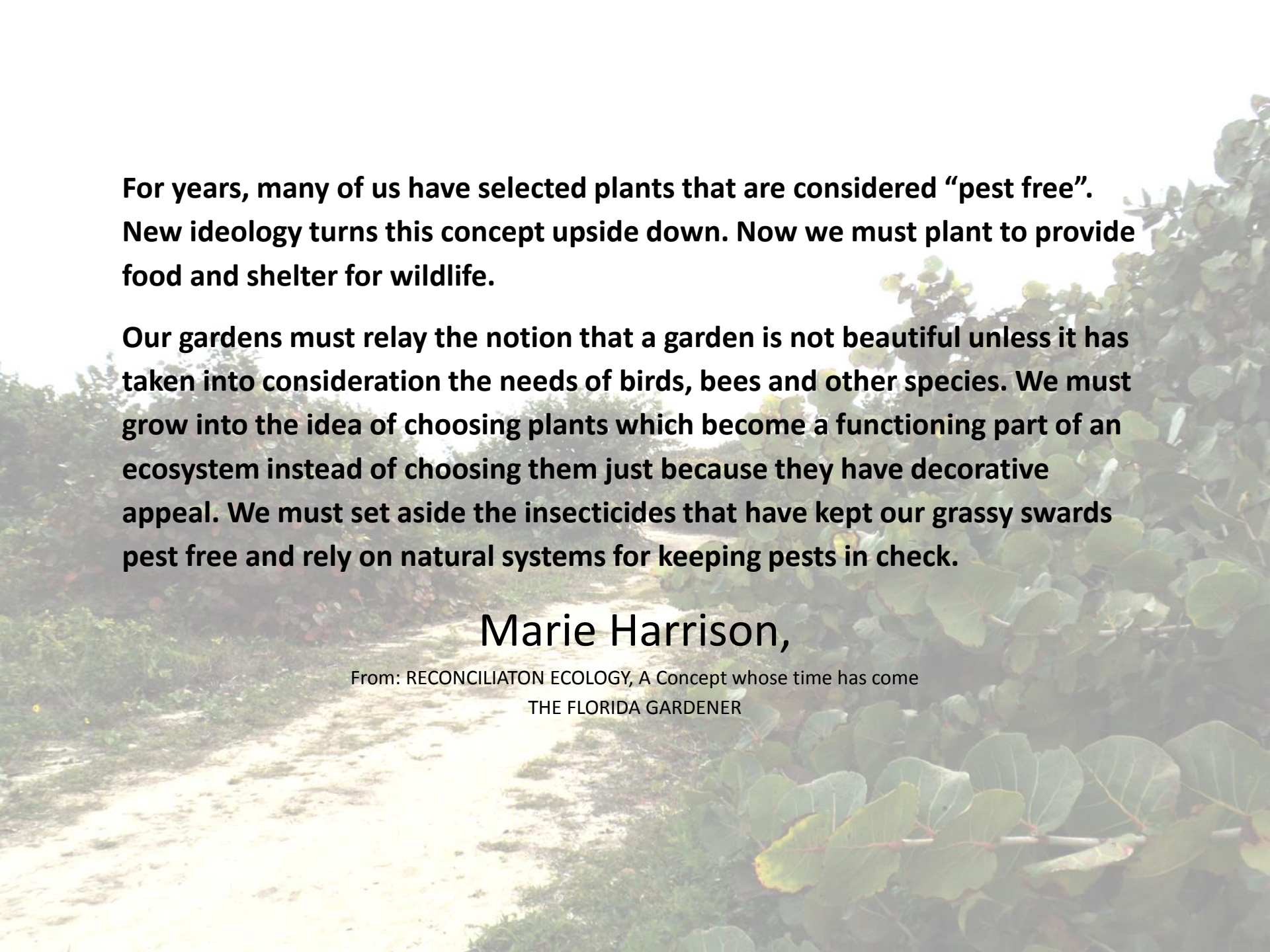
Ramona (Mona) Johnston with special thanks to Marie Harrison for her article in the Florida Gardener

# **What is Reconciliation Ecology?**

**From Marie Harrison's article:**

**Definition per Dr. Michael Rosenzweig:**

**“The science of inventing, establishing,  
and maintaining new habitats to  
conserve species diversity  
in places where people live, work or play.”**



**For years, many of us have selected plants that are considered “pest free”. New ideology turns this concept upside down. Now we must plant to provide food and shelter for wildlife.**

**Our gardens must relay the notion that a garden is not beautiful unless it has taken into consideration the needs of birds, bees and other species. We must grow into the idea of choosing plants which become a functioning part of an ecosystem instead of choosing them just because they have decorative appeal. We must set aside the insecticides that have kept our grassy swards pest free and rely on natural systems for keeping pests in check.**

**Marie Harrison,**

From: RECONCILIATION ECOLOGY, A Concept whose time has come  
THE FLORIDA GARDENER

# Why should we care?

**“Many people see nature as a luxury, something we do in our free time, and fail to recognize that we are dependent on the natural world for survival.**

**Birds aren't just nice to watch, they perform pollination, pest control, seed dispersal and waste management.**

**Insects are even more essential as our world would collapse without them.**

**This is why we need to help increase awareness of the importance of nature.”**

Kelly Brenner is a naturalist, photographer and the author of [The Metropolitan Field Guide](#)

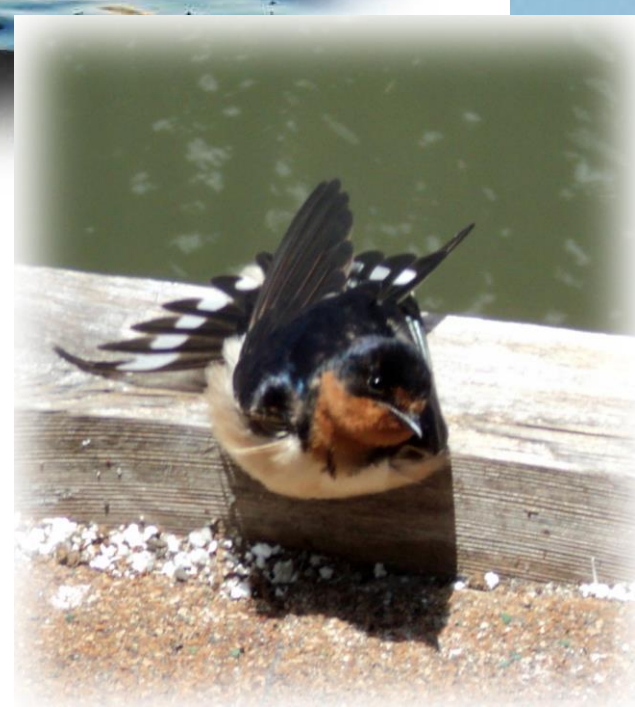
# Why should we do this?

- **BIRDS** help control insect and rodent populations. They pollinate plants (think hummingbirds) and distribute seeds that lead to reforestation. Reductions in bird species and numbers can signal the deteriorating health of ecosystems.
- **BUTTERFLIES** pollinate a wide range of native and cultivated plants. Both as caterpillars and adults they are a food source for other species. Butterflies serve as indicator and umbrella species. Declines in their populations due to habitat destruction and overuse of pesticides can indicate worsening environments.
  - By protecting birds and butterflies, you also protect these important critters...**BUGS!**

Insects are amazing. 75% of crop plants worldwide depend on insect pollination. They become needed sources of protein for migratory and baby birds. They help keep other, often destructive, insect populations in control. By scavenging dead plants and animals they act as our very own miniature Garbage Collectors.

# For the Birds!







# How can we attract birds?

- Remove invasive plants

- Replace with native species endemic to your area that provide year round food and shelter

- Provide a water source---bird bath, shallow pond, fountain

- Don't use pesticides/insecticides:

*Birds rely on healthy insect populations for protein and fat*

- Keep dead trees and brush piles if possible:

*Cavity dwellers like woodpeckers and some owls will appreciate the snags.*

*Other birds will use brush piles for shelter and hunting!*

- Use bird feeders responsibly as a supplement to natural foods

# For the Butterflies!



# How can we attract butterflies?

- Remove invasive plant species
- Install native flowering plants
- Plan for continuous blooming
- Plant both larval and nectar plants
- Provide a puddling station or area
- Avoid pesticides/insecticides:

*These will kill the eggs, caterpillars and adult butterflies as well as other beneficial insects.*

- Provide sunny resting places like flat stones and open areas

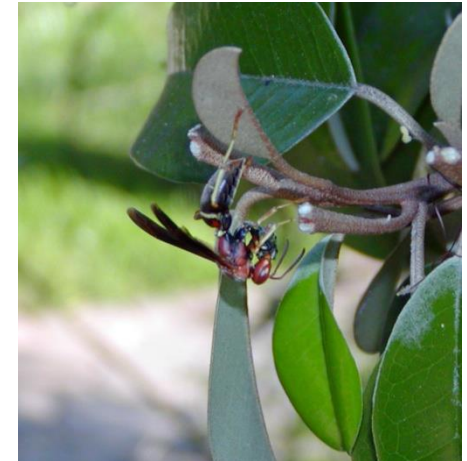
# For our partners—Bees & Moths...



# ...Dragonflies, Wasps & Beetles!

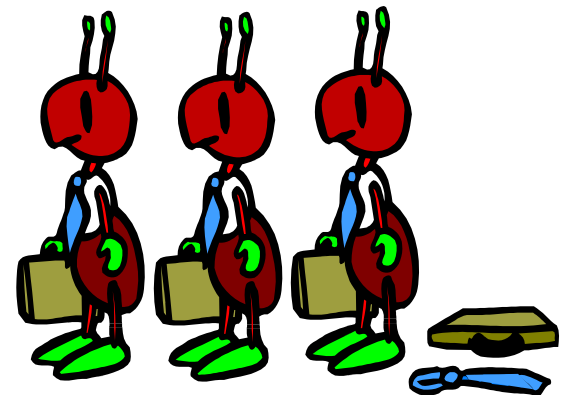


# Predators...they're here and they work for free!



Ficus White Fly?  
Lobate Lac Scale  
Overrun with Grubs & Caterpillars?  
Don't want to touch that "litter" on the lawn?

No worries! They'll get the job done...  
Let's not do them in first!



# How can we attract bugs?

- Know your bugs!

*Pollinators, Predators & Parasitoids*

- Different beneficial insects require a variety of environments:

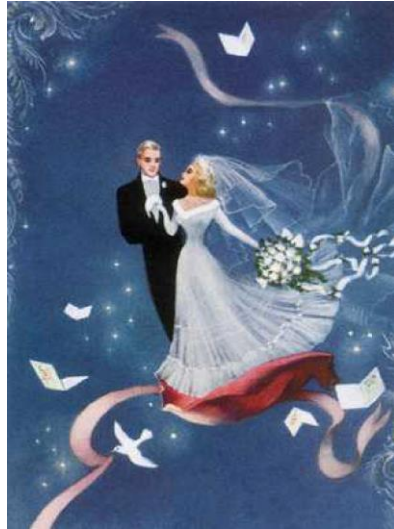
*Damp-Dry, Shady-Sunny, Sheltered-Open*

- Plant Insectory Gardens!

*Beneficial Bug Borders are amazingly diverse and beautiful!*

- Leave leaf litter where possible
- Don't use pesticides/insecticides

# **We need to cure our Nature Deficit Disorder!**



**Think Interdependence,  
Think Reconciliation Ecology!  
For us and our future!**





# **Where do we start...**

## **Let's Identify the Problems!**

- **Poor Land Use/Codes**
  - **Over Development**
- **Over Urbanization Causing Habitat Loss**
  - **Over Use and Misuse of Pesticides**
  - **Over Use and Misuse of Herbicides**
    - **Lack of Education**

# What can we do?



## Let's look at some Solutions

# Encourage planting native species!

**Red Salvia**



**Native Milkweed**



**Jamaican Caper**



**Wild Sage**



**Bay Cedar**

**Morning Glory**



# **Encourage habitat preservation—**



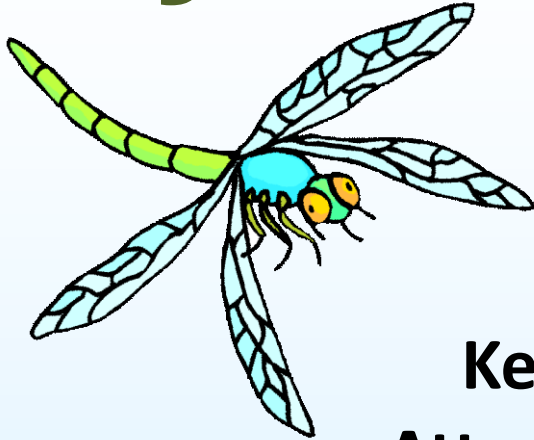
**it's cheaper than restoration!**

# Encourage diversity in the landscape



**it's prettier and healthier!**

# Encourage IPM— Integrated Pest Management Practices



Keep plants healthy  
Attract beneficial insects  
Maximize species diversity  
Minimize pesticide use



**Use the least toxic method first  
because the 'cides can hurt us too!**

# Save Our Soils!

Are we killing our living soils with too many chemicals? What's in your soil?

**EARTH'S AMAZING DIVERSITY IN ONE CUBIC FOOT!  
Guess how many organisms can be found in a cube of soil.**



By Edward O. Wilson

NATIONAL GEOGRAPHIC

FEBRUARY 2010

Photograph by David Liittschwager

# Follow the Nine Principles

## Nine Principles of Florida-Friendly Landscaping™:

1. [Right Plant, Right Place](#)
2. [Water Efficiently](#)
3. [Fertilize Appropriately](#)
4. [Mulch](#)
5. [Attract Wildlife](#)
6. [Control Pests Responsibly](#)
7. [Recycle](#)
8. [Reduce Stormwater Runoff](#)
9. [Protect the Waterfront](#)





# Create the Four Basic Elements of Wildlife Habitats

## Water

All animals need water to survive and some need it for bathing or breeding as well.

## Food

Native plants provide wildlife with nectar, seeds and berries used by an exciting variety of wildlife. Feeders can supplement natural food sources.

## Cover

Wildlife need shelter from bad weather and hiding places—for both predators and prey.

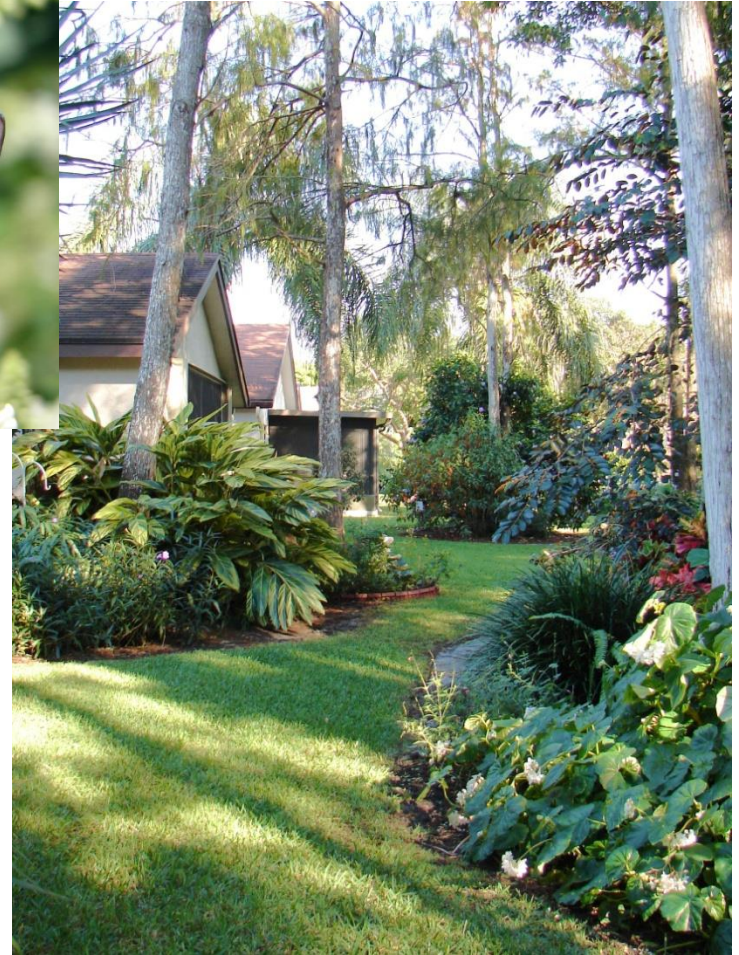
## Places to Raise Young

Wildlife need special habitat for bearing and raising young.



# What's the Reward?

Florida Friendly Living!



Now and for generations to come!

# **Where and When? Here and Now!**

**“If we as gardeners and leaders in Reconciliation Ecology do the work and education involved in incorporating the concept into our way of thinking and doing, we will save countless species from certain extinction.**

**We will preserve life as we know it and ensure that our children and great grandchildren enjoy the benefits of bees, butterflies and myriad creatures that inhabit our earth.**

**Reconciliation Ecology is a concept whose time has come.”**

**Marie Harrison,**

Life Member NGC, FFGC,  
UF/IFAS Master Gardener  
Author

A dirt path leads through a coastal landscape with green bushes and trees. The path is sandy and winds through dense vegetation. The background shows a bright, hazy sky. The overall scene is a natural, outdoor setting.

**Education is the Key!**

**“Our Landscapes=Our Legacy:  
Choices Matter!”**

# Encourage and support environmental education

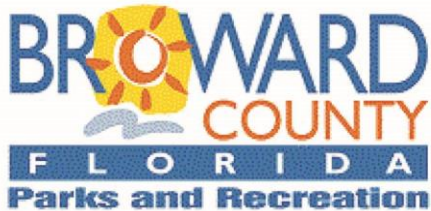


**ENVIRONMENTAL STUDIES      GARDENING STUDY SCHOOL**  
**LANDSCAPE DESIGN STUDY SCHOOL**



# With many thanks to Marie Harrison and her superb articles in The Florida Gardener!

And special thanks to all my mentors and instructors through the years for sharing Science Based Research Education.



**Mona Johnston**

FFGC Landscape Design Consultants Council President  
Senior Master Gardener Coordinator—Coconut Creek  
Extension Education Overall Advisory Council Member  
NWF Habitat Steward  
Master Naturalist

## Recommended Reading and References:

### Priceless Florida: Natural Ecosystems and Native Species

by [Ellie Whitney D Bruce Means](#) and [Anne Rudloe](#) Illustrator--[Eric Jadaszewski](#)

### Key Biscayne: A History of Miami's Tropical Island and the Cape Florida Lighthouse

by [Joan Gill Blank](#)

### Across the Everglades: A Canoe Journey of Exploration

by [Hugh Laussat Willoughby](#)

### Bringing Nature Home

by [Douglas W. Tallamy](#)

### Florida, My Eden

by [Frederic B. Stresau](#)

### The Everglades: River of Grass

by [Marjory Stoneman Douglas](#)

### A Land Remembered

by [Patrick D. Smith](#)

**Check out these web sites to discover more books about Fascinating Florida:**

<http://www.pineapplepress.com/>

<http://upf.com/> **University Press of Florida**

**And a very special book available on Amazon.com**

**Born of the Sun:**

**The Official Florida Bicentennial Commemorative Book**

**January 1, 1975**

by [Joan E. Gill](#) and [Beth R. Read](#)



## Web Sites:

[http://www.sun-sentinel.com/news/palm-beach/fl-fau-ice-age-20140919\\_0,6675458.story](http://www.sun-sentinel.com/news/palm-beach/fl-fau-ice-age-20140919_0,6675458.story)

<http://www.pbhistoryonline.org/page/native-americans>

[http://www.historical-museum.org/archaeology/first\\_arrivals/first\\_arrivals.htm](http://www.historical-museum.org/archaeology/first_arrivals/first_arrivals.htm)

<http://www.broward.org/KnowTheFlow/Pages/History.aspx>

[http://www.allsands.com/History/Objects/airconditioning\\_vsb\\_gn.htm](http://www.allsands.com/History/Objects/airconditioning_vsb_gn.htm)

[http://articles.sun-sentinel.com/1994-01-28/news/9401270254\\_1\\_canal-boats-lake-okeechobee](http://articles.sun-sentinel.com/1994-01-28/news/9401270254_1_canal-boats-lake-okeechobee)

[http://www.landscape.org/explore/natural\\_geographies/ecoregions/East%20Gulf%20Coastal%20Plain/](http://www.landscape.org/explore/natural_geographies/ecoregions/East%20Gulf%20Coastal%20Plain/)

<http://ethnobiology.org/sites/default/files/pdfs/JoE/20-2/Walker.pdf>

<http://www.broward.org/Airport/About/Pages/History.aspx>

<http://www.floridatrust.org/>

<http://www.dep.state.fl.us/water/nonpoint/>

<http://www.broward.org/WaterMatters/Pages/ProgramsNSB.aspx>

[http://www.ffgc.org/projects/adopt\\_a\\_reef-coral\\_reef\\_restoration/index.html](http://www.ffgc.org/projects/adopt_a_reef-coral_reef_restoration/index.html)