

# Functioning Green Communities

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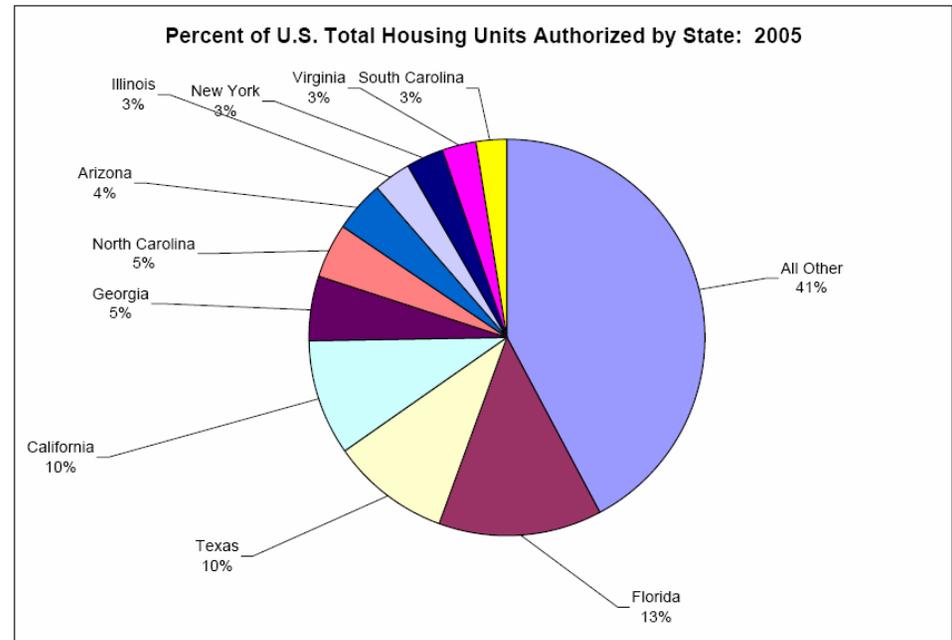


# Overview

- **Components of green communities**  
(homeowners, developers, policymakers)
- **Features of green communities**
- **How can policy help?**
- **Partnering with Extension**

# In Perspective - Housing

- Florida Building Permits - Single Family Detached:
  - 2002 ~ 127,000
  - 2003 ~ 155,000
  - 2004 ~ 185,000
  - 2005 ~ 204,000
- #1 in U.S. 12 out of Last 14 years

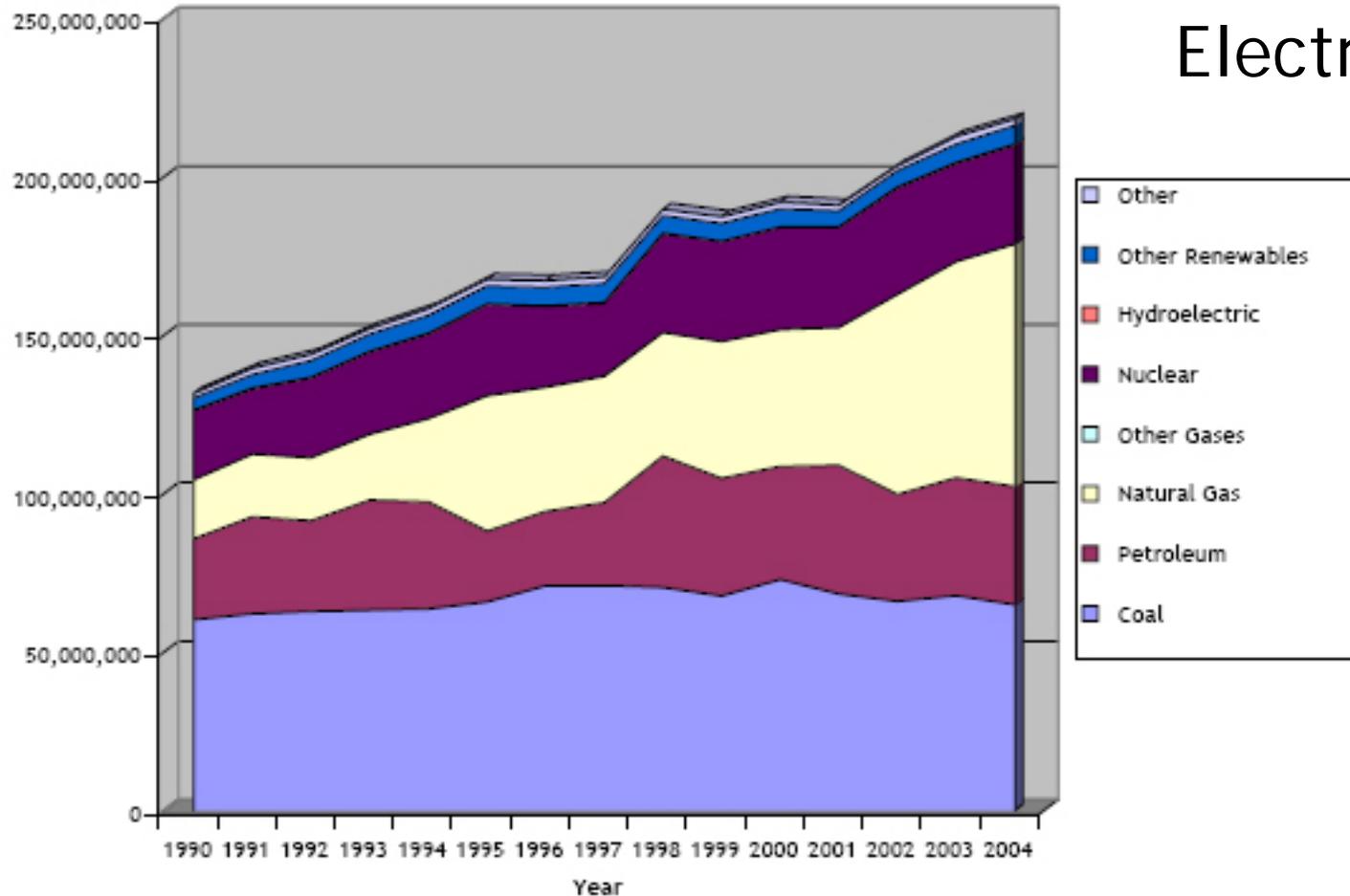


Source: U.S. Census Bureau

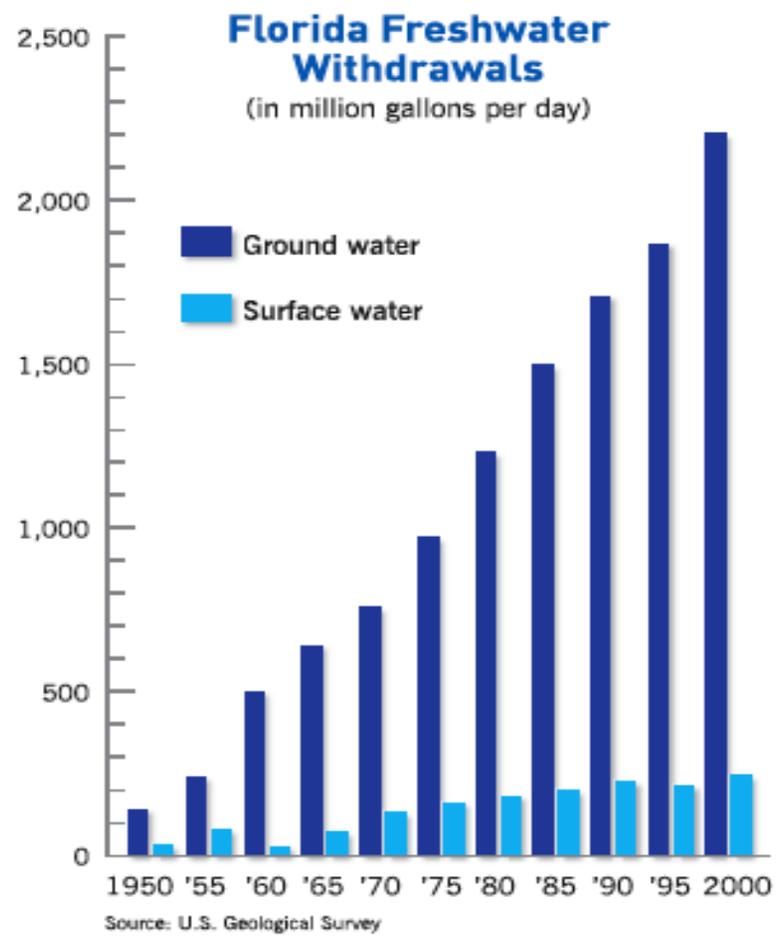
# In Perspective - Electricity (FL)

Florida Electricity Generation in MWH (By Source 1990 - 2004)

Population ↑ (34%)  
Electrical ↑ (66%)



# In Perspective - Water (FL)



# In Perspective - Transportation



Traffic delay (avg. in U.S.):  
16 hrs/yr in 1982  
47 hrs/yr in 2003

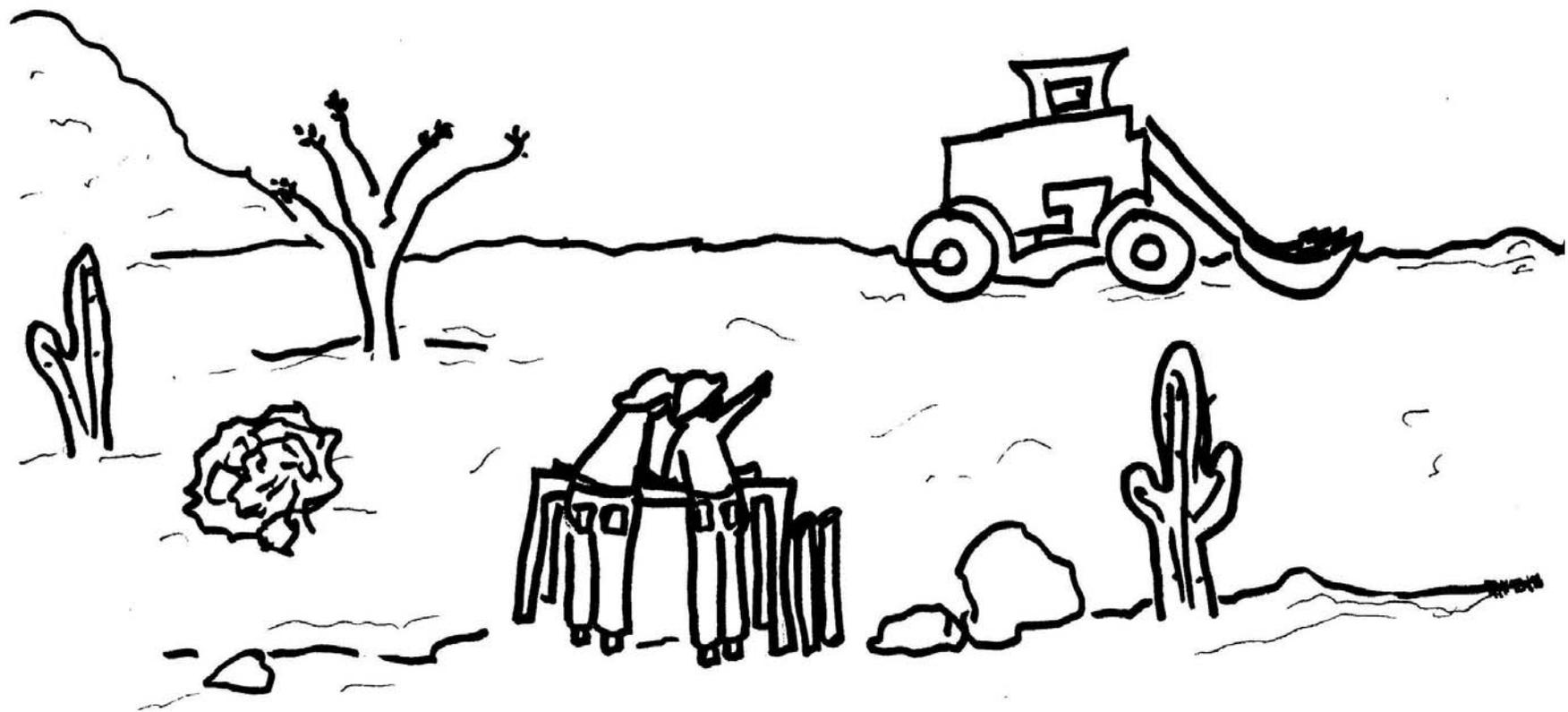
2003 Cost – 63 billion gallons of fuel

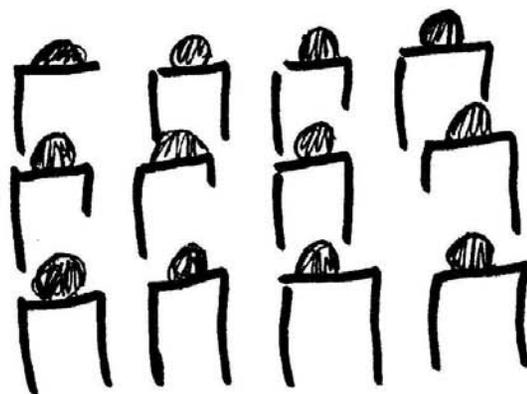
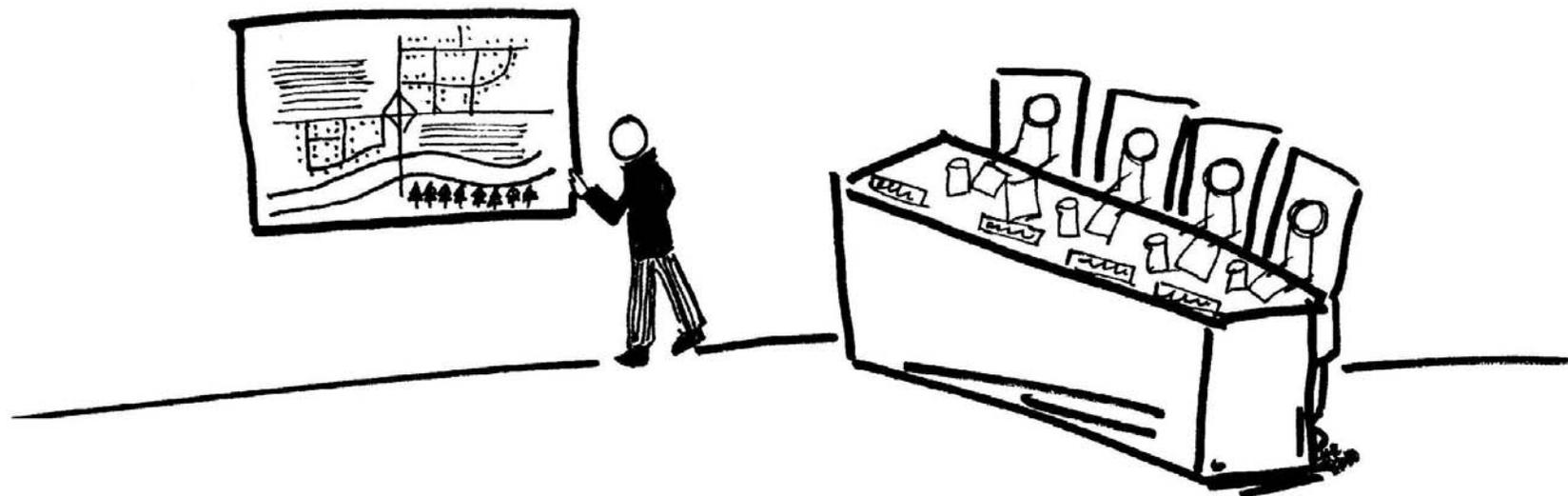
Source: <http://www.roadwaysafety.org/RSF%20Reporter/2nd%20Qtr%202002/Traffic.GIF>

A photograph of a grassy area with two large trees in the foreground and sunlight filtering through the leaves. The scene is bright and green, with a wooden boardwalk leading into the distance. A semi-transparent green box is overlaid on the image, containing the text.

# **Components of Green (i.e., Sustainable) Communities?**







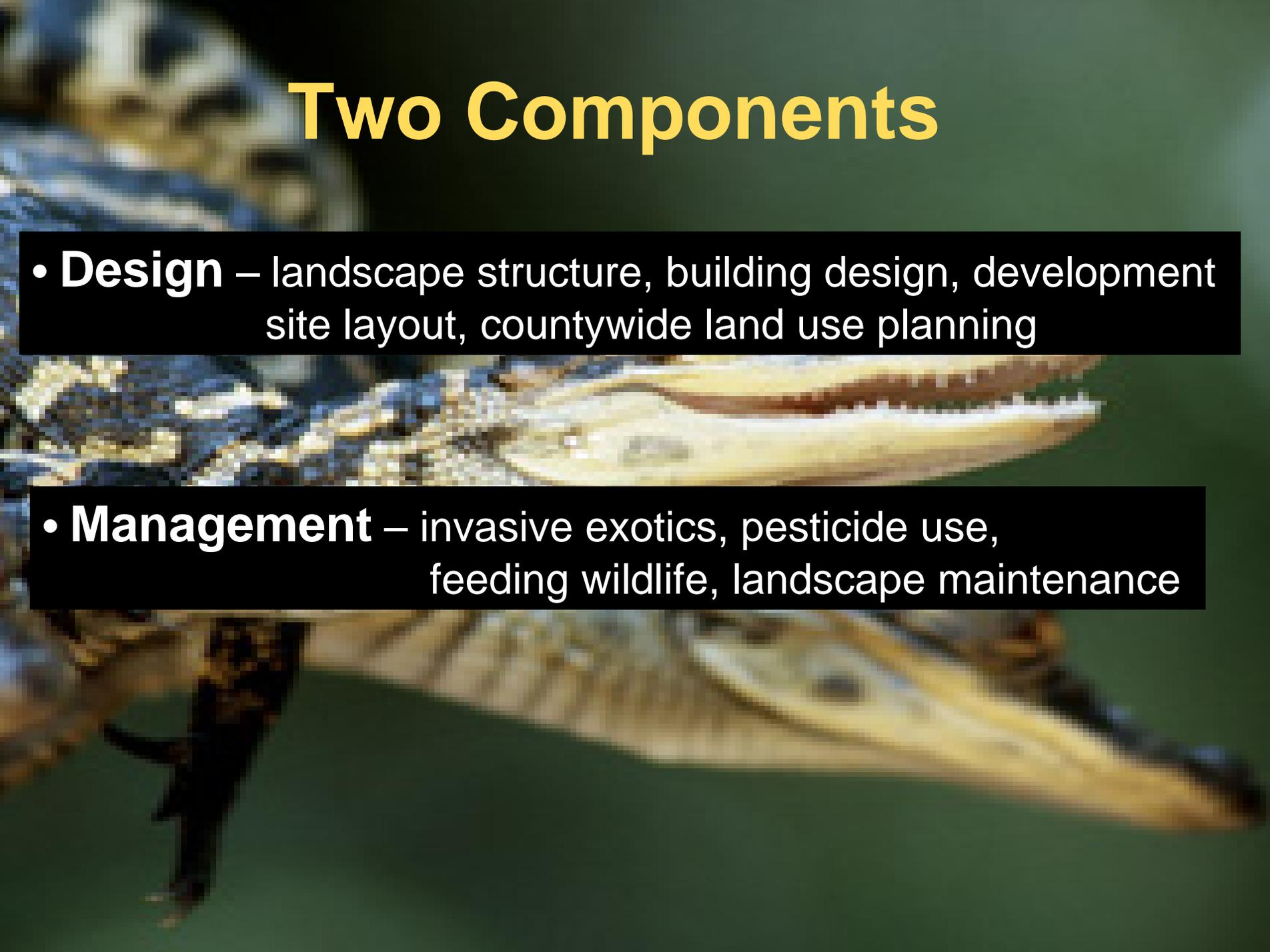
# Overall

- Homeowners
- Developers
- Policy/Planners





# Two Components



- **Design** – landscape structure, building design, development site layout, countywide land use planning

- **Management** – invasive exotics, pesticide use, feeding wildlife, landscape maintenance



# Features of Green Communities?

# 1. Transportation Ecology & Open Space

- Reduce vehicle use and increase trails, sidewalks and paths

- Promotes walking and healthier lifestyle
- Decreases air pollutants
- Reduces traffic congestion (time and money)
- Promotes community interaction



- Decrease impervious surfaces

- Decreases storm water runoff
- Decrease urban heat island effect



# 1. Transportation Ecology & Open Space

- Increase open space (clustering)
  - Saves energy and money (less infrastructure)
  - Increases biodiversity
  - Open space, studies that indicate improvement in cognitive ability of kids, reduce stress of residents, promotes satisfaction, property values increase



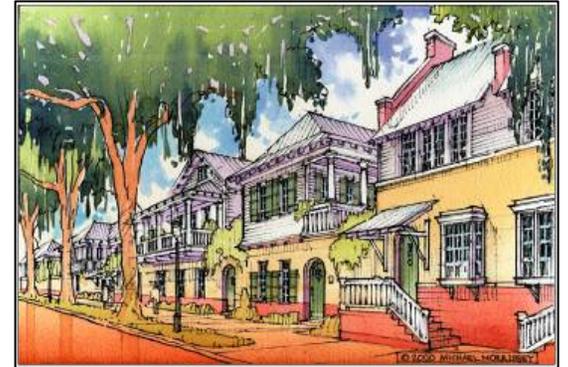
Source: <http://www.sfrc.ufl.edu/4h/saweco.jpg>

# 2. Community Morphology

- **Mixed use** (New urbanism - commercial and residential)

## Benefits

- Promotes walking and healthier lifestyle
- Decreases air pollutants
- Reduces traffic congestion
- Promotes community interaction (sense of community)
- Saves energy and money (less infrastructure)



# 2. Community Morphology

- Environmental Codes, Covenants & Restrictions

## Benefits

- Promotes sustainable behaviors
- Helps with long-term management of homes, yards, and neighborhoods



# 3. Urban Landscapes

- **Efficient irrigation** (micro-irrigation & soil moisture sensor)
- **Distributed storm water system** (no curb & gutter)

## Benefits

- Improved water quality and water conservation
- Protection of water bodies (e.g., Indian River Lagoon – 60% of pollution from non-point sources)



# 3. Urban Landscapes

- **Native landscaping** (remove invasives)
- **Appropriate tree and natural area protection** (trees alive, prescribed burns)
- **Right plant in right place** (FYN program)

## Benefits:

- **Easy maintenance of trees and vegetation**
- **Saves energy and money** (less infrastructure and management costs)
- **Increases biodiversity**



# 4. Sustainable Architecture

- **Building envelope and materials** (low VOC paints, durable framing and siding)
  - Improved indoor air quality
  - Durable (e.g., hurricane house)
- **Efficient HVAC systems**
  - Improved indoor air quality (less mold)
  - Conserve energy
- **Energy Star Homes** (insulation, etc.)
  - Save money (lower utility bills)
  - Conserve energy



# 5. Community Understanding & Acceptance

- Acceptance of sustainable policy initiatives by politicians, planners, and public
- Trained developers, architects, civil engineers, etc. (Site layout)
- Trained contractors, landscaping companies, etc. (construction)
- Educated homeowners (Post-construction)



# 5. Community Understanding & Acceptance

## Benefits

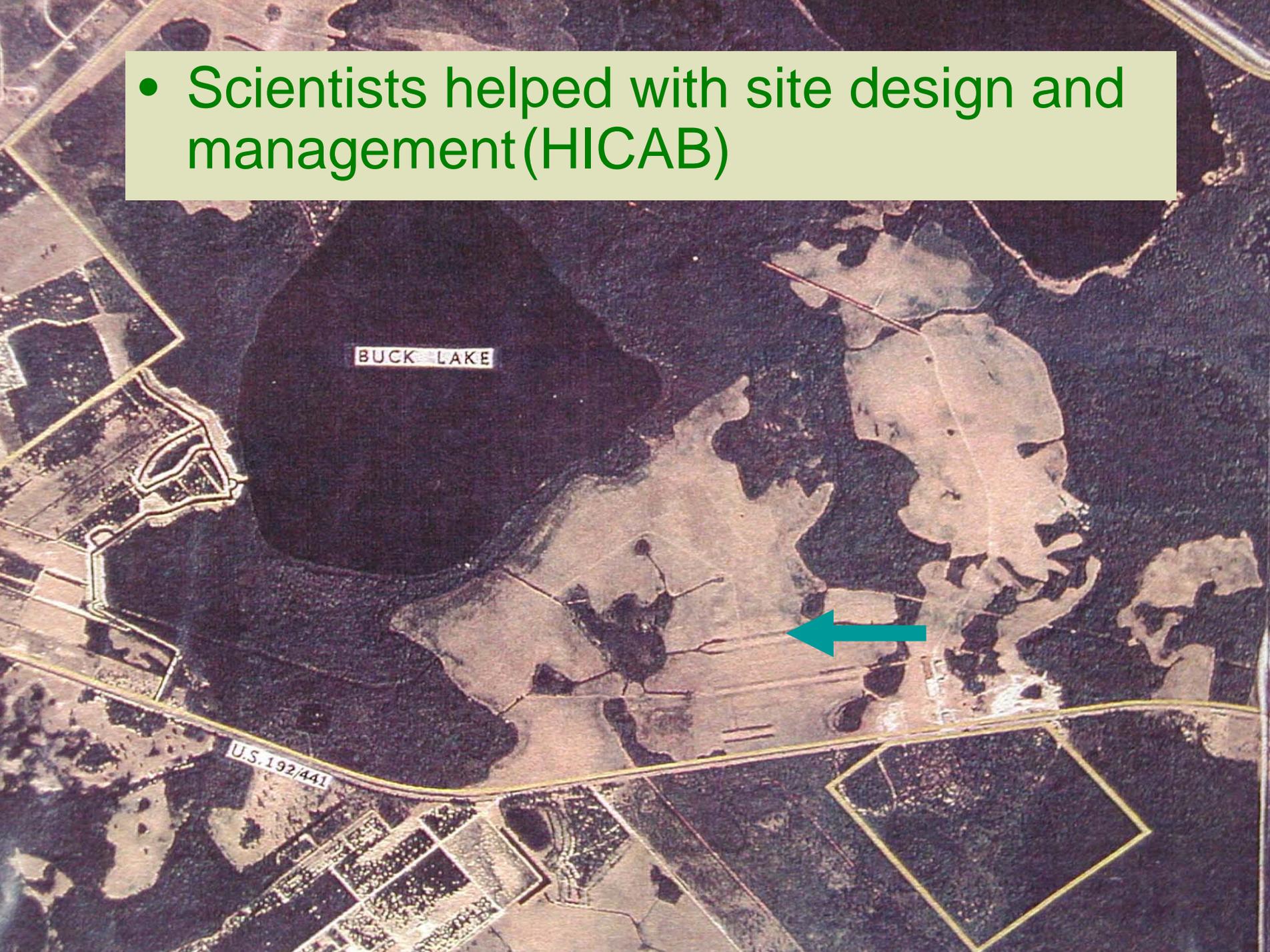
- A functioning community that is livable, economically viable, healthy, and resource efficient



# Town of Harmony (11,000 acres)



- Scientists helped with site design and management(HICAB)



# Harmony's CDD

Buck Lake (Harmony, FL)



Source: Harmony, FL

Lakeshore Park (Harmony, FL)



Source: <http://harmonyfl.com/>

Source: Harmony, FL

# Harmony's CDD

- Paid for management of open space  
(invasive exotic control, prescribed burns)
- Hired conservation manager
- Environmental education program



# Dynamic Signs

- Water
- Energy
- Wildlife
- Pollinators/Insects
- Native Landscaping
- Natural/Human History & Conservation
- Lacustrine Habitats

# Web Site

## LIVING IN HARMONY

[Water](#) [Energy](#) [Waste](#) [Landscaping](#) [Wildlife](#) [Local history](#)

Harmony is designed with the idea that people and nature can coexist. Residents have many opportunities to learn about and explore their environment. For example, with lakes and natural areas nearby, one can hear and see a variety of wildlife species. The connection between humans and nature is an important one. Our economy, culture, and even politics are closely tied to the environment. Many Floridians wish to preserve our natural heritage and conserve natural resources for future generations, and each person can make a difference.

The goal of this website is to provide environmental information so that each homeowner can make informed decisions and take action. Many features in Harmony make it one step closer to becoming a community that conserves natural resources (e.g., water, energy, and wildlife). Construction of energy-efficient homes and buildings, preservation of open space, landscaping with natives, and conservation of natural areas and wildlife are just a few ways the Town of Harmony is such a unique place.

However, in order for Harmony to function as a "green" community, each resident must make a conscious effort to environmentally manage their homes, yards, and neighborhoods. We invite you to learn more – please click on the subjects below.

### Live sustainably in Harmony



#### [Using Water Wisely](#)

Improve your water use practices and save money by following some water conservation tips.



#### [Managing Household Waste](#)

Reduce, reuse, and recycle to help limit waste.



#### [Meet your Wild Neighbors](#)

Learn to identify some of the animals you share your neighborhood with.



#### [Energy Efficient Living](#)

Benefit from positive cash flow, improved comfort, better indoor air quality, and reduced moisture problems.



#### [Landscaping for the Environment](#)

Landscaping for a Florida yard provides habitat for wildlife and helps to reduce your water and energy bills.



#### [Harmony's Natural History](#)

Florida's valuable assets include its' natural history and diverse ecosystems.



### Harmony Highlight



Visit the seven kiosks that are distributed along the Wildside Walk in Harmony. Each discusses an environmental issue relevant to the community. Information is rotated quarterly for each kiosk.

[Find out more.](#)

### Living in Harmony Partners

[Department of Wildlife Ecology and Conservation](#)

[UF/IFAS Extension](#)

[Osceola County Extension](#)

[The Harmony Institute](#)

[UF Program for Resource Efficient Communities](#)

# Homeowner Brochure & Covenants

- Helps orient homeowners about the local issues
- Lets homeowners know about educational program (e.g., signs and Web site)
- Covenants help “flavor” the community

In “green” communities like Harmony, decisions made by homeowners ultimately determine whether a community functions as a green community. For example, residents determine which light bulbs to purchase, what types of vegetation to plant (e.g., exotics vs. natives), how much water to use, and whether to landscape their yards for wildlife.



The purpose of this brochure is intended to give residents a starting point from which to learn about Harmony's environment and how residents can conserve and enjoy their natural resources. More information about the environmental issues highlighted in this brochure can be found at Harmony's environmental Web site and Harmony's educational kiosks.



**WEB SITE**  
[www.wec.ufl.edu/extension/gc/harmony](http://www.wec.ufl.edu/extension/gc/harmony)

This Web site is designed to provide Harmony residents with detailed environmental information. From the website, residents can link to various environmental topics and learn more about local resources, issues, and conservation strategies.

**EDUCATIONAL KIOSKS**

Seven educational kiosks are placed along the Harmony trail system, and each discusses a particular topic spanning seven themes: Water, Energy, Wildlife, Environmental Landscaping, Insects/Pollinators, Lakes, and Natural/Human History. Each kiosk will have new topics displayed throughout the year.

**SPONSORS**

UF Program for Resource Efficient Communities  
[snre.ufl.edu/programs/prec.htm](http://snre.ufl.edu/programs/prec.htm)

Department of Wildlife Ecology and Conservation

UNIVERSITY OF FLORIDA  
IFAS EXTENSION

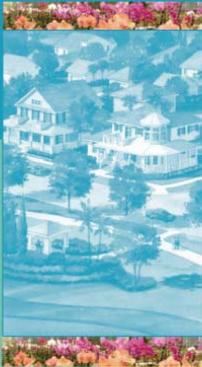
HARMONY FLORIDA

HARMONY  
Community Development District

HARMONY INSTITUTE

**FOR MORE INFORMATION CONTACT:**  
Greg Gologowski  
Harmony Conservation Director  
Phone: 407-957-7776  
E-mail: [ggologowski@birchwoodactes.com](mailto:ggologowski@birchwoodactes.com)

**LIVING IN HARMONY**



Conserving Natural Resource  
in Your Community

A photograph of a grassy lawn between two large trees. The scene is captured from a low angle, looking down a path of sunlight on the grass. The trees are in the foreground, and their shadows are cast across the lawn. A semi-transparent green rectangular overlay is positioned in the center of the image, containing the text "How Can Policy Help?" in a bold, yellow, sans-serif font.

# How Can Policy Help?



# Policy

- **“Sticks”**
  - **Alternative zoning ordinances (overlays)**
  - **Clustering requirements**
  - **Urban service boundaries**

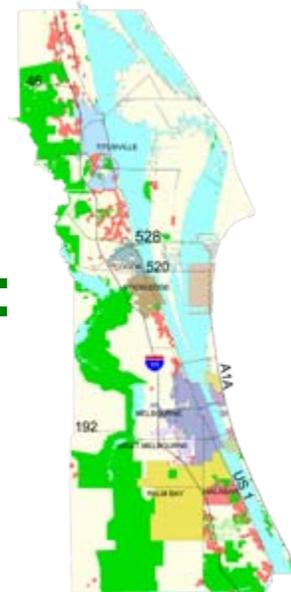


# Policy

- **“Carrots”**
  - **Transfer of development rights (TDRs)**
    - **Sending to receiving areas, Towns Villages & Countryside, St. Lucie County**
  - **Community Development Districts (CDDs)**
  - **Other Incentives (tax breaks, fast tracking)**

# Case Study: Brevard County SEA/CHO

- **Designed for properties > 5-acres within the Crucial Habitat Overlay (CHO) Zone**
  - Mandatory 50% open space
  - Native landscaping encouraged
- **Development design standards included:**
  - Lot densities, size, width, depth, & setbacks
  - Road dimensions
  - Buffer requirements

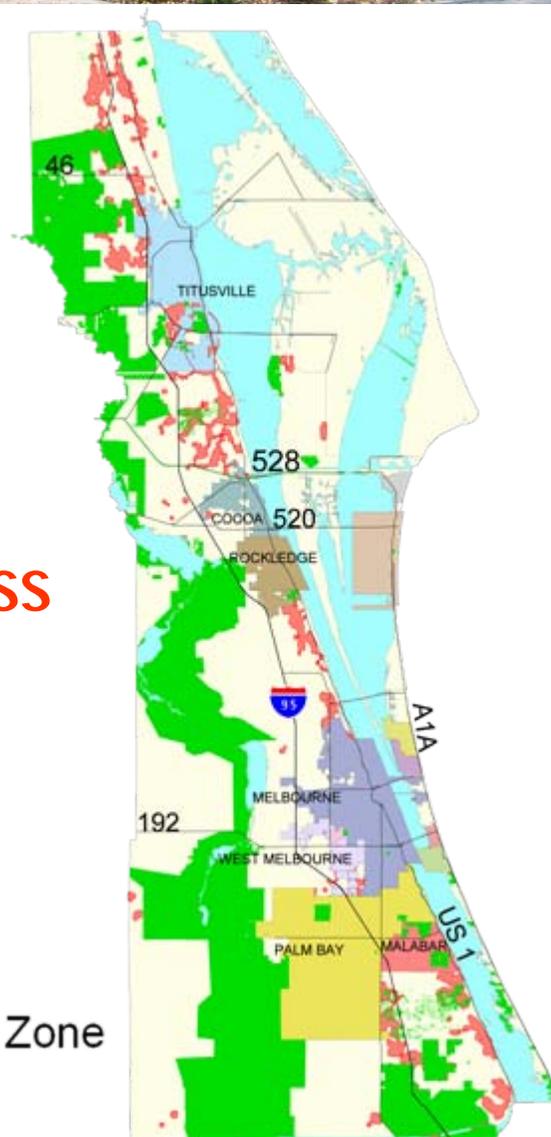


# Case Study: Brevard County SEA/CHO

- **Potential Outcomes**
  - Development process streamlining
  - Site design flexibility
  - Facilitates fulfillment of multiple county, state, & federal requirements

Did Not Pass

 Crucial Habitat Overlay Zone  
 Conservation Lands



Source: Brevard County

# Case Study: Brevard County SEA/CHO

- **Misconceptions and conflicts** (*Why It Didn't Pass*)
  - A “take” of private property?
  - Additional work or expenses by applicant in advance of development?
  - ↑ complications, staff work & time in review process
  - Conflicts w/ other ordinances & regs
- **Main Failure: Public Relations**
  - Education & marketing to garnish public support
  - Project underbudgeted



# Case Study: Gainesville

- **Promote energy-efficient buildings**
  - Must be certified by a third party
  - Meets LEED & FGBC standards
- **Mandatory for city buildings but voluntary for private developments**
- **Incentives**
  - 50% reduction in building permit fee
  - Permits fast-tracked

# Case Study: Gainesville

- **Impact?**
  - Was passed with enthusiasm
  - Only about 28 permits issued since 2003
- **Need more education and marketing**
- **Process a bit cumbersome but getting faster**





# Policy

## Steps to successful policies:

- **Develop incentives with stakeholder input and have county developments mandatory:**
  - LEED certified buildings
  - Environmental landscaping (FYN program)
  - Efficient irrigation and storm water management
  - Conserving and managing open space
  - Use of certification programs (Energy Star, LEED, etc.)
- **Good marketing and education campaign**
- **Incentives evolve into a regulatory policy with additional incentives for more options**

*\*Report available ([hostetm@ufl.edu](mailto:hostetm@ufl.edu))*

# Policy – Open Space Example

- Policy addresses both design and management
- Open space incentive – fast-tracked and density bonus, provided that:
  - Preserve 40% of property
  - Identified critical habitat during site design
  - Submitted a construction plan to manage the site to reduce impact on the open areas (trained contractors)
  - Establish a funding mechanism to manage the open areas and educate homeowners



# Management?

- **Funding mechanisms!**
  - **Portion of CDD sale allocated to management**
  - **Portion of lot sales**
  - **Portion of sale of development rights**
  - **Income from hunting leases, forestry, and even agriculture**
  - **Monthly contribution to HOA dues**

# Where to Go from Here?

- Homeowners
- Developers
- Policy/Planners





Understanding and Tools?

# Program for Resource Efficient Communities and St. Lucie County Extension

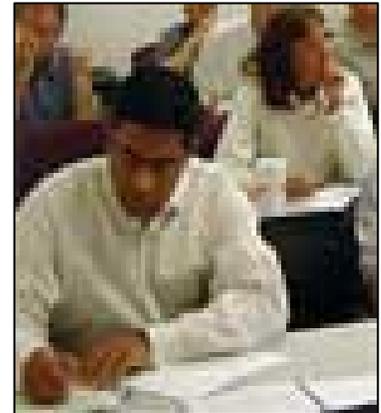
# Program for Resource Efficient Communities

**Mission** - To promote the adoption of best design and operation practices in new residential community development that measurably reduce energy and water consumption and environmental degradation.



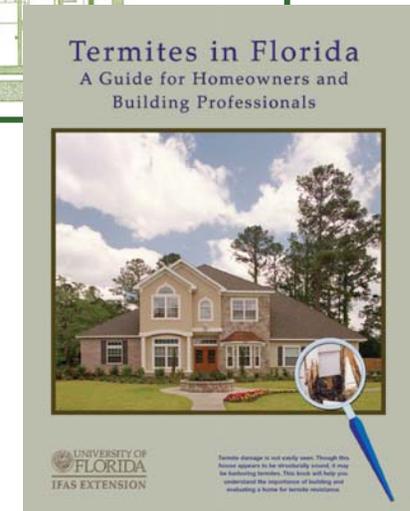
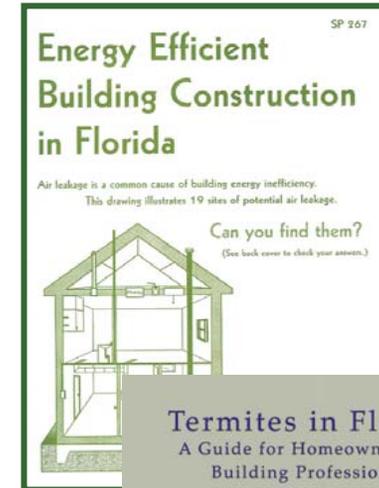
# PREC - Continuing Education

- 1 – 4 hr modules
- Over 25 different courses
  - Preserving wildlife habitat
  - Energy-efficient housing
  - Trees Alive
- Audience
  - Policymakers and planners
  - Design build professionals
  - Citizens



# Publications

- Sell various publications
- *Energy Efficient Building Construction*  
~27,000 copies



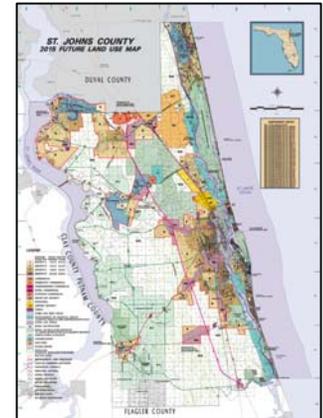
# Charrettes with Local Developers

- **Charettes and consultation activities with local developers**
- **PREC have conducted charettes with several developers**



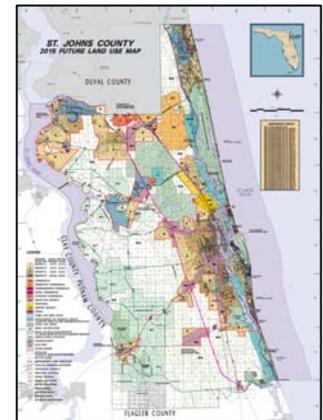
# Workshops with Municipalities

- **Conduct workshops to help foster sustainable-based policies** (e.g., Lake County, St. Johns County)
- **Team of scientists present and facilitate discussions** (planners, citizens, developers)



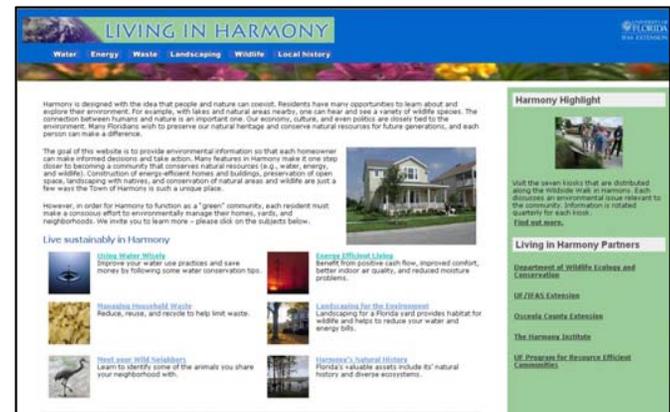
# St. Lucie County Extension

- **FYN is conducting a landscaping workshop on Sept 28<sup>th</sup>**
- **St. Lucie Extension**
  - **JP Gellerman** (growth management)
  - **Anita Neal** (Env. horticulture/FYN)
  - **Ken Gioeli** (nat. resources)



# Env. Education Package

- Kiosks, web site, and brochure tailored to local communities
- Tool for long term management (study indicated that residents in green communities do not differ in terms of env. knowledge, behavior, and attitude)





# Summary

- **Sustainable development – combination of decisions by citizens, developers, policymakers**
- **Design is not enough – need buy-in, understanding, management**
- **Policy can be crafted to promote sustainability**
- **Educational courses and programs from PREC and St. Lucie County Extension**

A photograph of a single-story house with green horizontal siding and a grey shingled roof. The house features a covered front porch supported by white columns. The house is surrounded by lush green trees and a well-maintained lawn. A paved driveway leads to the house. The text 'Program for Resource Efficient Communities' is overlaid in large yellow font across the middle of the image.

# Program for Resource Efficient Communities

[www.energy.ufl.edu](http://www.energy.ufl.edu)