



Taking Back the Landscape: Planting with Florida Natives Plants

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And

The Naples Chapter of the FL Native Plant Society

Office: Kapnick Center @ Naples Botanical Garden

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- The background features a close-up photograph of a plant with long, green, lanceolate leaves and a reddish, segmented stem. A semi-transparent map of the state of Florida is overlaid on the image, showing the outline of the state and its major water bodies. The map is positioned in the upper left and right areas of the frame.
- Environmental Issues of Southwest Florida
 - HIPPO
 - Definitions
 - Horticulture and Landscaping Pressures
 - Solutions
 - Resources

Human Land-Use has reduced the earth's biodiversity

40-50% of land surface is used, disturbed, or degraded by human activities.

How do humans disturb/degrade the earth's ecosystems?

Habitat fragmentation and degradation

→ **Invasive species**

Population growth

Pollution

Overharvesting and overuse

Habitat Loss, Fragmentation & Degradation

1950's



Today



Habitat Loss, Fragmentation & Degradation

FGCU Campus



Water Quality & Quantity

Lee Co. asking residents to limit water usage during drought

Residents are being reminded to conserve water after below-average rainfall was recorded between November and March.

Monday, April 9th 2018, 5:09 PM EDT by Cristina Mendez

Updated: Monday, April 9th 2018, 6:34 PM EDT



Water Quality & Quantity

FGCU research finds more algae toxins in air samplers — toxins some scientists link to deadly brain disease

[Amy Bennett Williams](#), Fort Myers News-Press | Published 5:27 p.m. ET Jan. 3, 2019 | Updated 12:33 p.m. ET Jan. 4, 2019



Water Quality & Quantity

Agencies overwhelmed as scores of dead dolphins wash up on Southwest Florida shores in 2018

[Amy Bennett Williams](#), Naples Daily News Published 6:03 p.m. ET Dec. 27, 2018



A dead dolphin lies on the beach south of the Naples Beach Hotel & Golf Club close to Central Avenue in Naples on the morning of Nov. 26, 2018.

(Photo: Photo courtesy of Colleen Gill)



Definitions

Native— a species living and growing in its natural range.

Exotic— a species introduced to area, either purposefully or accidentally, from a natural range outside of that area.

Naturalized exotic— an exotic that sustains itself outside of cultivation (it is still exotic; it has not “become” native).

Invasive exotic— an exotic that not only has naturalized, but is expanding on its own in an area outside of its natural range.

Pest – an organism that humans consider to be a nuisance.



Weed – a plant that humans consider to be pests or a nuisance.



What makes a good invasive species?

- High rate of reproduction
- Pioneer/Ruderal species
- Short generation times
- Long-lived
- High dispersal rates
- Vegetative or clonal reproduction
- High genetic variability
- Broad range, tolerant of wide range of conditions
- Generalist Species

Invasive Plants in Florida:

80 Category I Species

85 Category II Species

Category I → Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives.

Category II → Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I if ecological damage is demonstrated.*

Environmental & Economic Impacts:

Threat to biodiversity, 2nd to habitat loss

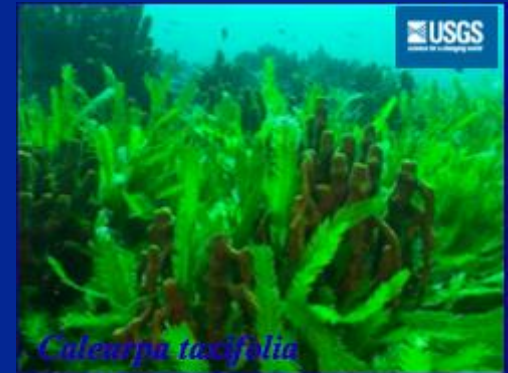
- In the U.S., 50% of listed species are threatened by invasives

Large economic costs:

- U.S. 336 billion/year worldwide
(Pimentel et al. 2001)

Human Health Impacts:

- e.g. West Nile Virus, Melaleuca Pollen



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- Environmental Issues of Southwest Florida
 - Horticulture and Landscaping Pressures
 - Horticulture Goals
 - Plant Supply
 - Aesthetics
 - Solutions
 - Resources

Typical Florida Landscaped Community



Horticulture

the art and science of plant production for both beauty and utility.



What traits make good candidates for horticulture?

horticulture

What makes a good ~~invasive~~ species?

- High rate of reproduction
- Pioneer/Ruderal species
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- ~~High genetic variability~~
- Broad range, tolerant of wide range of conditions
- Generalist Species

Big-Box Stores, Landscapers, Community Associations and Home Owners

- Easy Establishment
- Low genetic variability
- Low maintenance
 - Survive variety of conditions
 - Pest resistant
- Aesthetics



Idealistic Aesthetics vs. Local Aesthetics

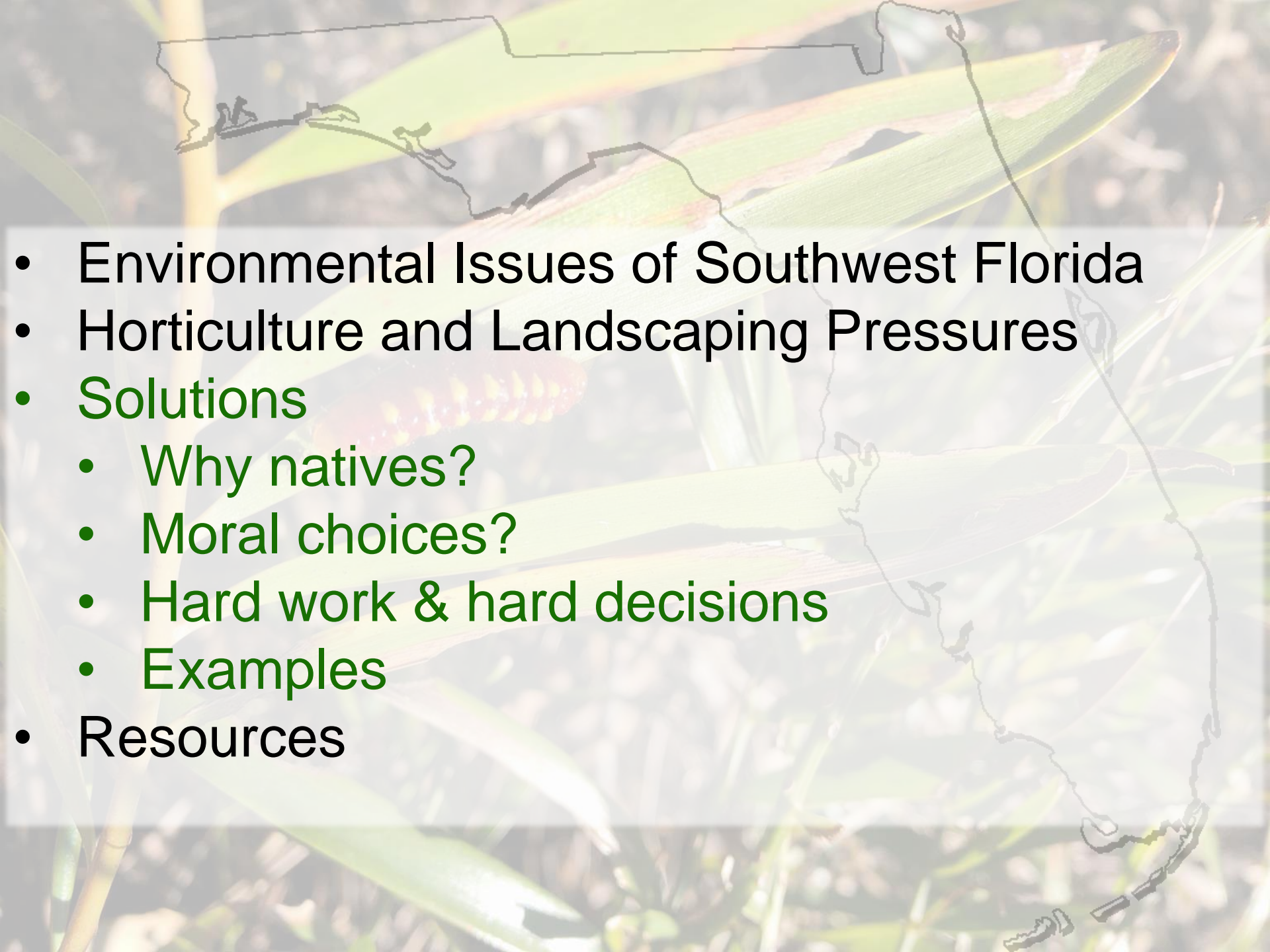


Idealistic Aesthetics vs. Local Aesthetics



Consequences

- Decreases in biodiversity
- Increased fertilizer
- Increased irrigation
- Low biodiversity → Increased pesticide use
- Decreased native pollinators
- Decreased native fauna (e.g. birds)
- Loss of ecosystem functions and services
- Downstream water quality issues

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- Environmental Issues of Southwest Florida
 - Horticulture and Landscaping Pressures
 - Solutions
 - Why natives?
 - Moral choices?
 - Hard work & hard decisions
 - Examples
 - Resources

Why Native Plants in Southern Florida?

- Species Conservation
 - Creates habitat for other native plants and animals
 - Mitigates habitat loss, fragmentation, etc.
 - Reduces extinction risks of natives
- Reduced irrigation
- Reduced fertilizer usages
- Potentially reduced pesticide usage
- Self propagation



Why Native Plants in Southern Florida?

Do we have the right to steal experiences from future generations and other organisms?



Or do we have a moral responsibility to do something better?

How to recreate native systems

Determine the appropriate ecosystem/community for your yard/community.

Coastal Strand

Scrub

Pineland

Hammock

Marsh

Swamp



How to recreate native systems

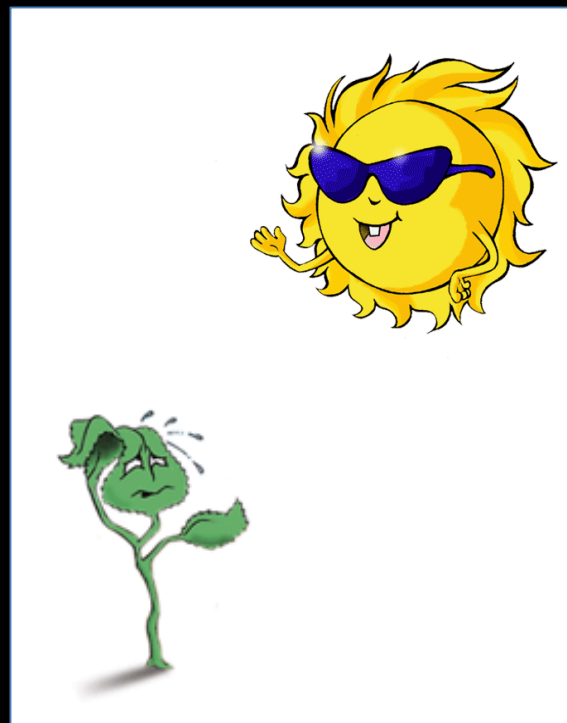
Choose site appropriate species.

Sun vs. Shade

Wet vs Dry

Salt Tolerance

Wind exposure



Use resources like:

IRC's Natives for Your Neighborhood



Habitats

Habitats in Zip Code 34112

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.

Freshwater Tidal Swamp

[Learn More](#)[Plant List](#)

Hydric Hammock

[Learn More](#)[Plant List](#)

Mesic Flatwoods

[Learn More](#)[Plant List](#)



- Widely cultivated
- ▲ Cultivated at native plant nurseries

Common Name

Scientific Name

[Alligatorflag, Fireflag ▲](#)

[Thalia geniculata](#)

[Alligatorlily](#)

[Hymenocallis palmeri](#)

[American beautyberry ■](#)

[Callicarpa americana](#)

[American bluehearts](#)

[Buchnera americana](#)

[American white waterlily ▲](#)

[Nymphaea odorata](#)

[Arrowfeather threeawn ▲](#)

[Aristida purpurascens](#)

[Bald cypress ■](#)

[Taxodium distichum](#)

[Ball-moss](#)

[Tillandsia recurvata](#)

[Banded wild-pine, Twisted airplant](#)

[Tillandsia flexuosa](#)

[Bay lobelia](#)

[Lobelia feayana](#)

[Beaked panicum ▲](#)

[Panicum anceps](#)

[Big floatingheart](#)

[Nymphoides aquatica](#)

[Blackeyed susan ▲](#)

[Rudbeckia hirta](#)

How to recreate native systems

Choosing appropriate plants to conserve diversity.

- Avoid overuse of one species (including turf)
- Create a diversity of habitats
 - Species Composition
 - Physical Structure



How to recreate native systems

Choosing appropriate plants to conserve diversity.
**Attracting Wildlife... Provide food: nectar,
seeds, fruit, insects**



Bahamian Wild
Coffee



Dahoon Holly



Fiddlewood
Leafroller

How to recreate native systems

Minimize or Eliminate:

Irrigation

Fertilizers

Pesticides

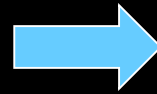


How to recreate native systems

Think of native alternatives to exotic options:



Fountain Grass
Pennisetum sp.



Muhly Grass
Muhlenbergia capillaris

Trees for Thought:

Large Trees:

Paradise tree
False Mastic
Willow Busic
Pigeon Plum
Fiddlewood

Palm Trees:

Cabbage Palm
Thatch palm
Paurotis (Everglades) Palm
Buccaneer (Sargent's) Palm

Smaller Trees/Shrubs:

Dahoon holly
White Stopper
Spanish Stopper
Geiger tree
Buttonwood
White Indigoberry
Jamaica Caper-tree
Seven Year Apple

Trees for Thought:

Large Trees:



Paradise Tree
Simarouba glauca



Don & Joyce Gann

Pigeon Plum
Coccoloba diversifolia

Nectar plant for butterflies.
Other animals and birds eat fruit

Trees for Thought:



Roger Hammer

Spanish Stopper
Eugenia foetida

Food and cover for wildlife.

Smaller Trees/Shrubs:



Geigertree
Cordia sebestena

Nectar plant for butterflies.

Trees for Thought:



Paurotis (Everglades) Palm
Acoelorrhaphe wrightii

Food source for wildlife.

Palm Trees:



Buccaneer (Sargent's) Palm
Pseudophoenix sargentii

How to recreate native systems

Requires:

- **Work**
- **Educating yourself**
- **Not always easy decisions**
- **More difficult acquisition**
- **Still requires “gardening maintenance”**

How to recreate native systems

Think outside the
box:

Rooftop Gardens

Vertical Gardens

Patio

Lanai



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 - Resources
 - Books
 - Internet
 - Local Organizations

Book Resources

Native Florida Plants by Haehle &
Brookwell

Native Plant Landscaping by Huegel

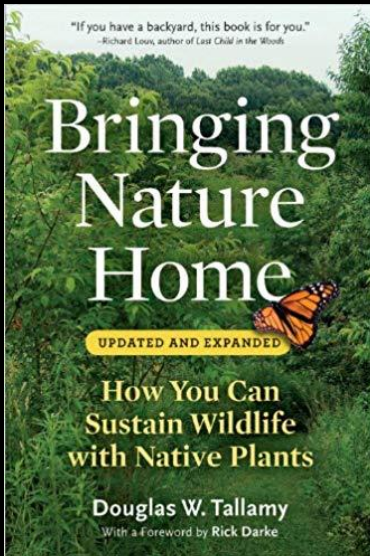
Florida's Best Native Landscape Plants
by Nelson

Sustainable Gardening for Florida by
Stibolt



Native Wildflowers and Other
Groundcovers for Florida Landscapes
by Huegel

Florida Butterfly Caterpillars and Their
Host Plants by Minno, Butler & Hall
Bringing Nature Home by Tallamy



Internet Resources

IRC Natives for your Neighborhood:

<https://www.regionalconservation.org/>

Florida Native Plant Society

<https://fnps.org/>

IFAS/UF

<https://ifas.ufl.edu/>

Florida Exotic Pest Plant Council

<https://www.fleppc.org/>

Naples Botanical Garden

SCCF Native Landscapes and Gardens



Rooftop Garden Resources:

Website:

Chicago Botanic Garden:

https://www.chicagobotanic.org/research/building/green_roof

Books:

Fletcher, D. 2015. *Rooftop Garden Design*. The Images Publishing Group Pty Ltd.

Hanson, B. and Schimdt, S., 2012. *Green roofs and rooftop gardens*. Brooklyn Botanic Garden.

McIntyre, L. and Snodgrass, E.C., 2010. *The green roof manual: a professional guide to design, installation, and maintenance*. Timber Press.

A close-up photograph of a red and yellow striped caterpillar on a green leaf. The caterpillar is positioned horizontally across the middle of the leaf. The leaf shows signs of being eaten, with some holes and damage. A black outline of the state of Florida is overlaid on the image, framing the scene. The background is a blurred natural setting with other green leaves and stems.

Questions?