

Know Before You Grow

Natives to Invasives: How plant terms can
inform landscaping choices



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With photographs by David Biega, Laura Bennett-Kimble and others

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INTRODUCTION

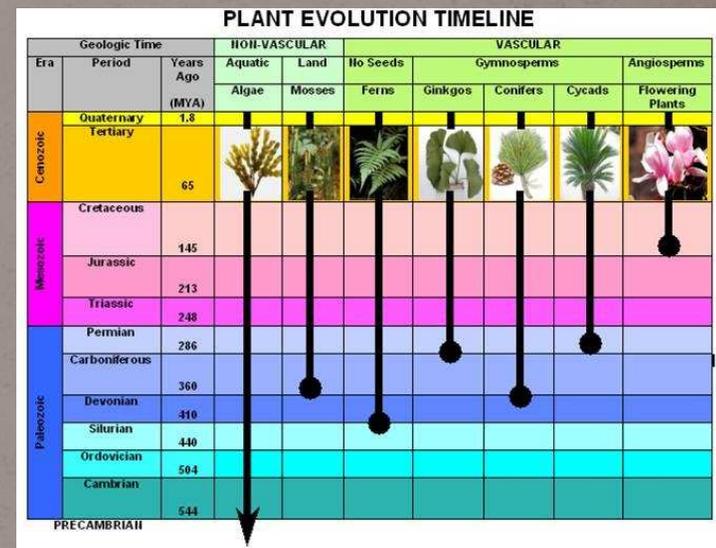
- Define terms
 - Lake County species numbers from the Atlas of Florida Plants
- Discuss the habitat value of the species the terms encompass
- Explain personal choices and considerations for removing and adding plants
- Identify invasive species



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NATIVE PLANT

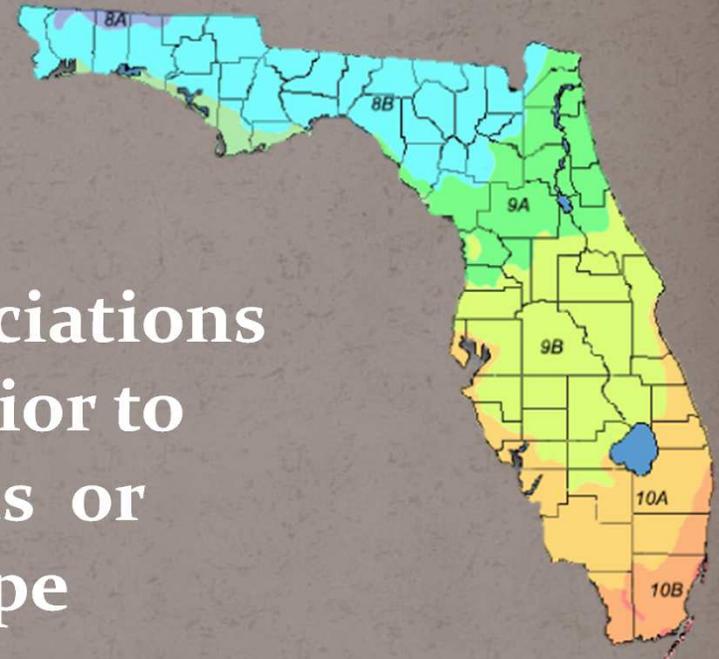
- A plant that is part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem
- Native should always be used with a geographic qualifier



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FLORIDA NATIVE PLANT

- Documented within the state boundaries prior to European contact
- Occurring in natural associations in habitats that existed prior to significant human impacts or alterations of the landscape
- Long enough to develop relationships with other species



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FLORIDA ENDEMIC PLANT

- Natural range is restricted to Florida or an area within Florida.
- Many Florida native plants are native to other states as well
- Most associated with dry habitats such as sandhill, scrub, scrubby flatwoods and pine rocklands.



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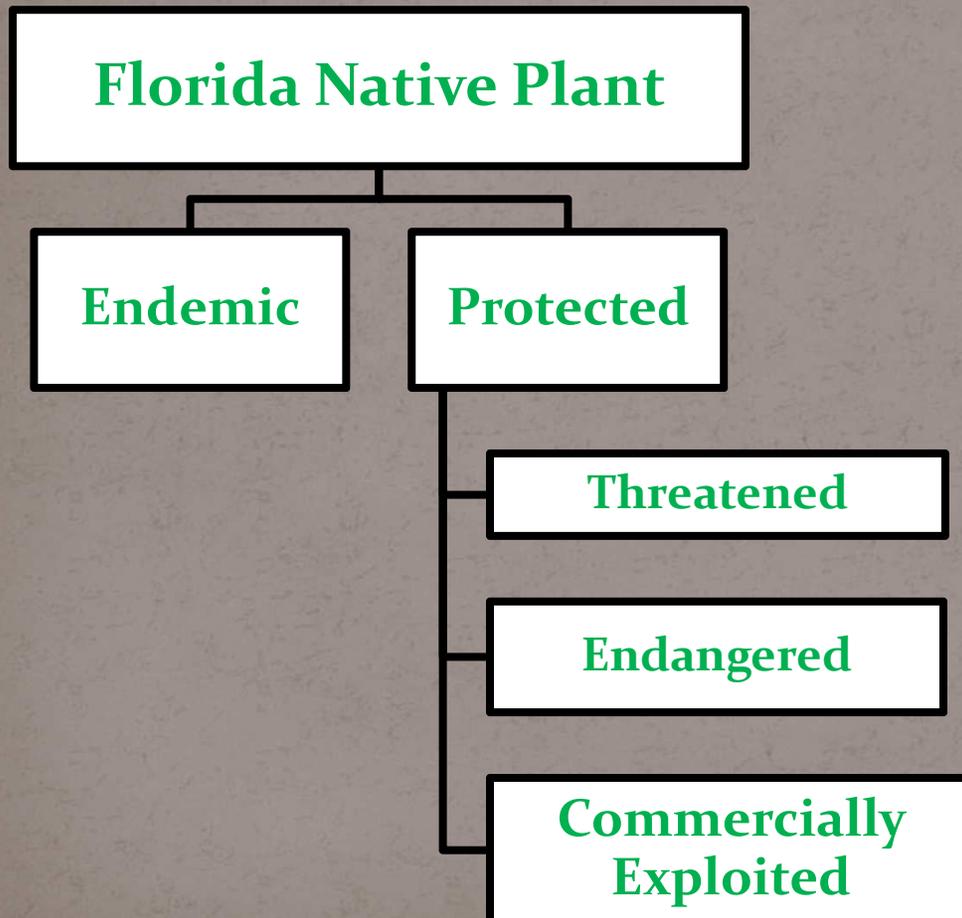
FLORIDA'S PROTECTED PLANTS

- Legally protected at State or Federal level
- *Endangered* – in imminent danger of becoming extinct
- *Threatened* – in rapid decline
- *Commercially Exploited* – removed from native habitats and sold or transported
- Illegal to dig up or destroy



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NATIVE PLANT TERMS



Florida has:

- 3,303 Native Species
- > 2000 Endemic Species
- 448 State and 54 Federally Endangered
- 118 State and 14 Federally Threatened

Lake County has:

- 1,147 Native Species
- 63 Endemic Species
- 31 State and 8 Federally Endangered
- 27 State and 4 Federally Threatened

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NON-NATIVE PLANT

Alien

Introduced

Exotic

Non-Indigenous

Foreign



- Living outside their natural distribution range
- Introduced intentionally or accidentally

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NATURALIZED PLANT

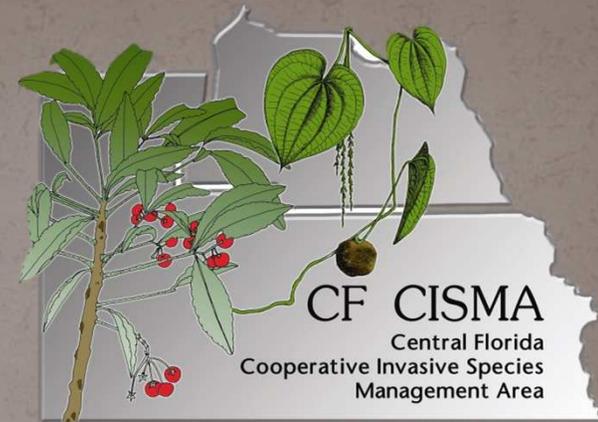
- Non-native plant growing on its own in nature
- Does not require human aid such as watering, fertilizing, pest or weed control
- Predominantly near human-dominated areas
- Becoming naturalized does not make a plant native



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INVASIVE PLANT

- Generally non-native and naturalized
- On the list compiled from State and Federal agencies and maintained by the Florida Exotic Pest Plant Council.
- Category I – species that are causing ecological damage
- Category II – species that have increased in abundance or frequency, but have not yet altered native plant communities



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NON-NATIVE PLANT TERMS

**Non-Native, Alien, Introduced,
Exotic, Foreign, Non-Indigenous**

Naturalized

Invasive

Category I

Category II

Florida has:

- Over 20,000 Introduced Species
- 1,516 Naturalized Species
- 81 Category I Species
- 85 Category II Species

Lake County:

- 265 Naturalized Species
- 32 Category I Species
- 30 Category II Species

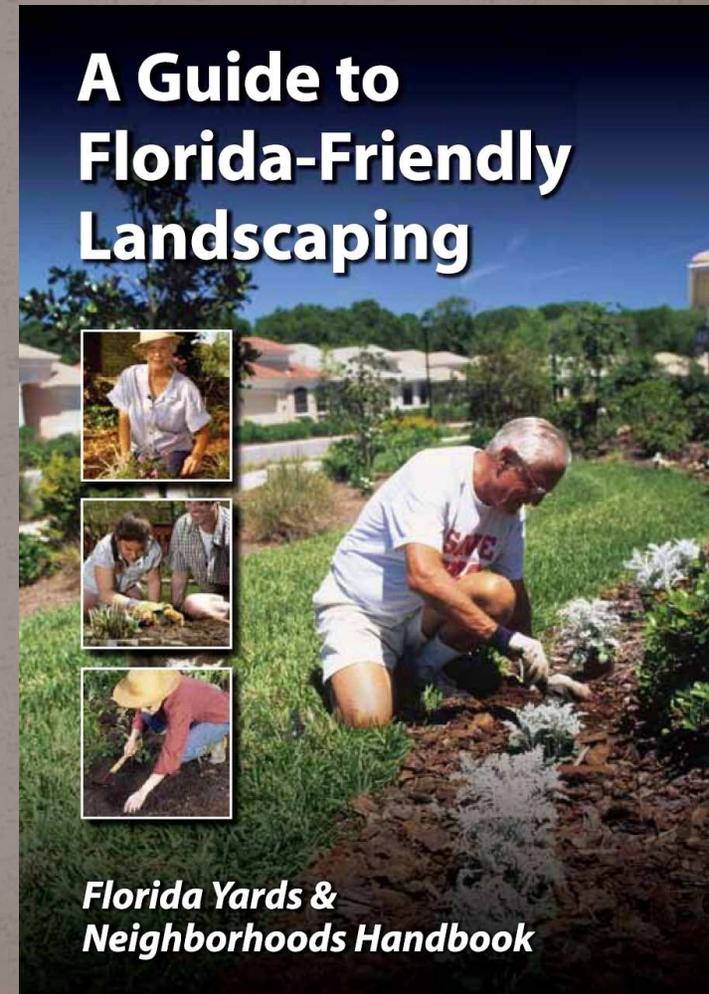
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FLORIDA-FRIENDLY

Term used by several Florida agencies to refer to landscaping that:

- conserves water
- protects the environment
- is adaptable to local conditions
- is drought tolerant

Expansion of the Xeriscape concept to better fit Florida's environment



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FLORIDA-FRIENDLY

Promotes an integrated approach to landscaping that emphasizes nine interrelated principles and best management practices

- 1 Right plant, right place**
- 2 Water efficiently**
- 3 Fertilize appropriately**
- 4 Mulch**
- 5 Attract wildlife**
- 6 Manage yard pests responsibly**
- 7 Recycle yard waste**
- 8 Reduce stormwater runoff**
- 9 Protect the waterfront**

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FLORIDA-FRIENDLY PLANTS

Those included in various Florida-Friendly Plant Guides

- Includes non-native species that do not become invasive and spread outside where they are planted
- Florida-Friendly does not always mean “native”



Black-Eyed Susan

Rudbeckia hirta



Blanket Flower

Gaillardia pulchella



Blazing Star

Liatris spp.



Blood Lily

Haemanthus multiflorus



Blue Daze

Evolvulus glomeratus



Blue Phlox

Phlox divaricata

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WEED

A plant that is not valued where it is growing

- Usually grows and reproduces rapidly
- Can be native or non-native, invasive or non-invasive, beneficial or not beneficial



A *noxious weed* is a plant that is designated by State or Federal government as harmful to the environment, animals, agriculture, or people.

- All noxious weeds are invasive species

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WEED

Doesn't always have a derogatory meaning - many native wildflowers have the word "weed" as part of their name



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AGGRESSIVE PLANT

- Usually grow and reproduce rapidly
- Spread faster than preferred and into areas where they are not wanted
- Difficult to control
- Aggressiveness can vary by location
- Not the same as invasive – common misuse of terms



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OPPORTUNISTIC or RUDERAL PLANT

- Species that is able to exploit disturbance to the soil or existing vegetation to fill the void
- Temp workers of the plant community - other species more competitive in the long run
- Can be native – native habitats include “disturbed sites” or “roadsides”
- Not the same as aggressive or invasive



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Now that we know what the terms mean . . .

Can we use this information to inform choices about what we plant and maintain in our landscapes?

We can if we look at the plants in each group and assess

- Benefits to wildlife
- Habitat value



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NATIVE PLANTS

Adapted to the soil and climate

Evolved with wildlife to provide food and shelter

Everything from the shape of the leaf to the chemical content of the leaves is tailored to the feeding habitats of native insects, birds and animals



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NATIVE PLANTS



Leaf growth correlates with feeding habits and reproductive cycles of butterflies and moths.

Plant bloom time correlates with pollinator cycles



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NATIVE PLANTS

Plant cycles ensure the insect population is at its peak in time to feed hungry nestlings

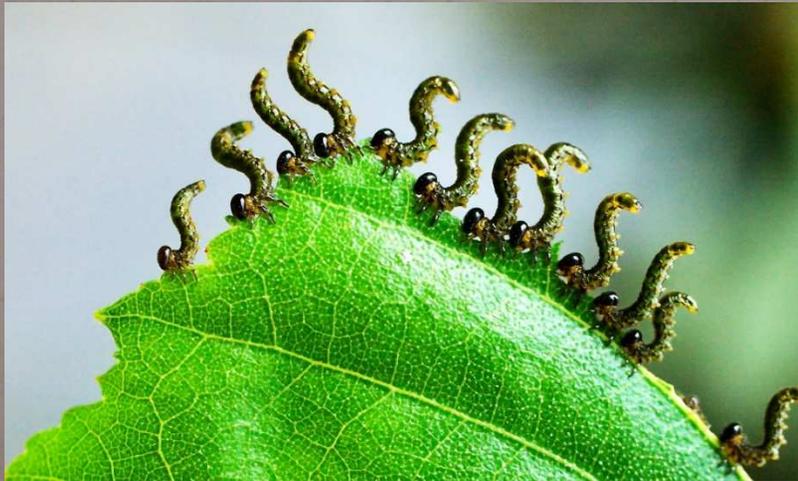


Bird and animal migration cycles correlate with the native fruit, nut, and berry maturation.

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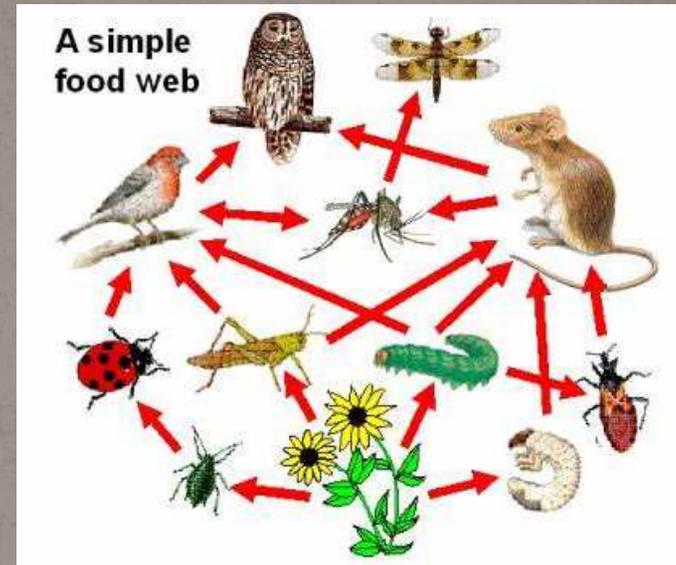
Studies by Dr. Doug Tallamy show native plants

- Produce 4 times more herbivore food
- Support 3 times as many species
- Provide 35 times more caterpillar food than non-native plants



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All life depends, directly or indirectly, on plants – the only organism that can transform sunlight into food energy



When the natural order of plant availability is compromised, wildlife may not be able to make an adjustment quickly enough to survive.

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Native plants grown from local seed stock have a much higher rate of success in growing and maturing as well as sustaining wildlife

A Florida native plant may also be native to other areas; however, since plants adapt to their environment over time, they may look the same, but ecological function may be compromised



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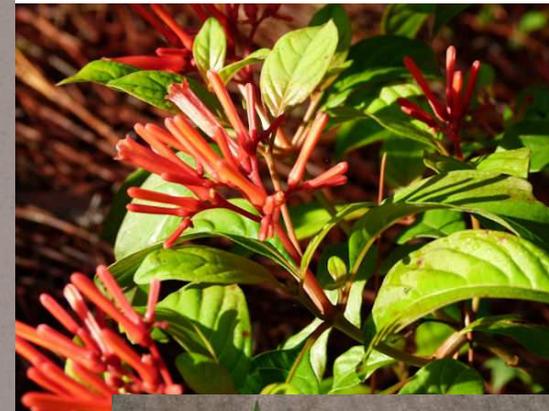


Ecological function may also be compromised if plants are:

- Cultivars produced by selective breeding for desirable characteristics.
- Hybrids achieved by cross-pollinating two or more species.



L-R: Native Firebush (*Hamelia patens* var. *patens*), Non-native *H. patens* var. *glabra* (frequently sold as 'African' or 'Dwarf' and sometimes 'Compacta'), Non-native *H. cuprea*, Non-native hybrid of *H. cuprea* and *H. patens*.



On the left, native Firebush leaves are broadly lanceolate, in whorls of 3-4 (typically 3), and often tinged with red. Leaves and young stems are covered with appressed (flattened) hairs. On the right, non-native Firebush, of a variety frequently marketed as "dwarf" (but not dwarf), with glabrous (no hairs) leaves whorled in groups of 3-4 (typically 4).

Non-local varieties can hybridize with wild Florida natives and affect the gene pool.

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NON-NATIVE FLORIDA-FRIENDLY

- May not provide any ecological benefit

But . . .

- Do not pose a threat to the ecosystem
- Some benefit wildlife
- Some provide seasonal habitat value

Consider function and habitat value when choosing to use



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NON-NATIVE NATURALIZED

May provide wildlife benefit

May not be a problem in your yard if :

- It is not invasive
- You do not live near a conservation area

If you do, consider removing seedheads and disposing of weeded plants (seeds and roots/corms) as you would an invasive plant



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WEEDS and AGGRESSIVE PLANTS

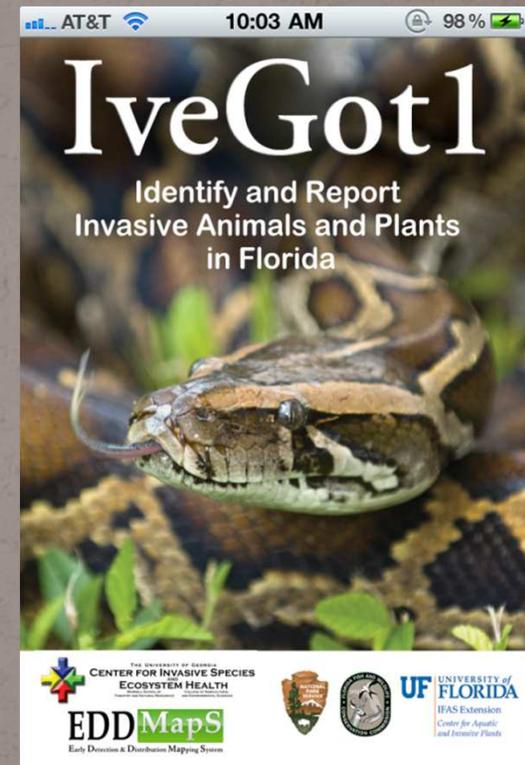
- Some can provide habitat benefit
- Personal choice unless an invasive or noxious weed
- Require higher maintenance



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INVASIVE SPECIES

- Can permanently eliminate native species
- Destroy wildlife food sources and habitats
- Diminish Florida's natural diversity
- Actions:
 - Identify and Report
 - Remove from your yard
 - Dispose of properly



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INVASIVE SPECIES

Fewer than 300 of the non-native plants introduced to Florida are generally considered to be invasive

but

It is estimated that nation-wide approximately 42% of threatened and endangered species are at risk due to invasive species



Cat's-claw vine
Macfadyena unguis-cati
Photo by Ann Murray
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Creating Your Landscape

Creating a nature-friendly living landscape requires us to choose plants with an ecological function and habitat value



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More important than native vs. non-native, *this goal requires ecological benefit:*

- must do more than provide nectar sources for pollinators
- must also provide habitat so pollinators can reproduce and thrive



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As examples:

- Butterflies, skippers and moths need larval host plants.
- Some native bees need hollow stems to effectively overwinter.
- Different flower for different pollinators – sizes , shapes, colors.
- Birds (and beneficial “bugs”) need food sources, shelter and nesting sites.



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If your goal is to benefit wildlife even a small portion of a yard with beneficial plants can add to needed habitat and contribute to conservation space if -



When adding or removing plants you ask:

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Does it benefit the wildlife you want?

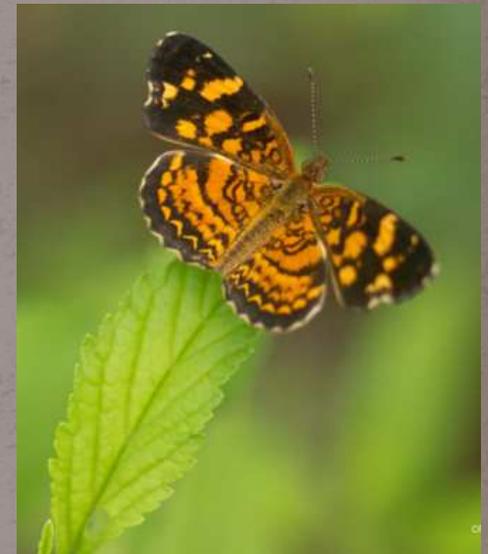
- ✓ Find out if it has habitat value -- Nativity alone shouldn't be the only criteria for keeping or adding a plant.
- ✓ Are you providing all the requirements to support wildlife?
- ✓ Wildlife needs food and shelter and support for their young.
- ✓ A great many butterfly species use native grasses as their host plants; native grasses also feed some songbirds in the late fall and early winter.



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Does it benefit multiple kinds of wildlife?

- ✓ Consider what types of flowers and potential nesting sites makes it attractive to different species.
- ✓ Consider the needs of migratory species as well as native species.
- ✓ Does it provide a benefit not already offered in your landscape?
- ✓ Consider including as many types of flowers as possible to attract all types of pollinators - and planting in large groupings to provide “pollinator targets”.
- ✓ Use plants that provide both nectar and pollen sources and larval host plants.



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Does it provide a seasonal purpose?

- ✓ If intentionally planted to provide nutrition for pollinators, then needs to contain a mixture of plant species of bloom times ranging from early spring to late fall.



Is it native to this area of Florida?

- ✓ Choosing plants that come from Florida stock and seeds from local sources will increase the chances a plant will thrive and provide the intended wildlife benefit.

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Are you promoting natives with your choices?

- ✓ Buy from reputable native nurseries
 - Helps support and strengthen the industry
 - Protects Florida's native plants and natural biodiversity by not removing native plants from the wild



Are you doing harm to the environment by keeping a plant?

- ✓ Learn to identify local invasive species and how to properly remove them

AIR POTATO *Dioscorea bulbifera*

I



CORAL ARDISIA *Ardisia crenata*

I



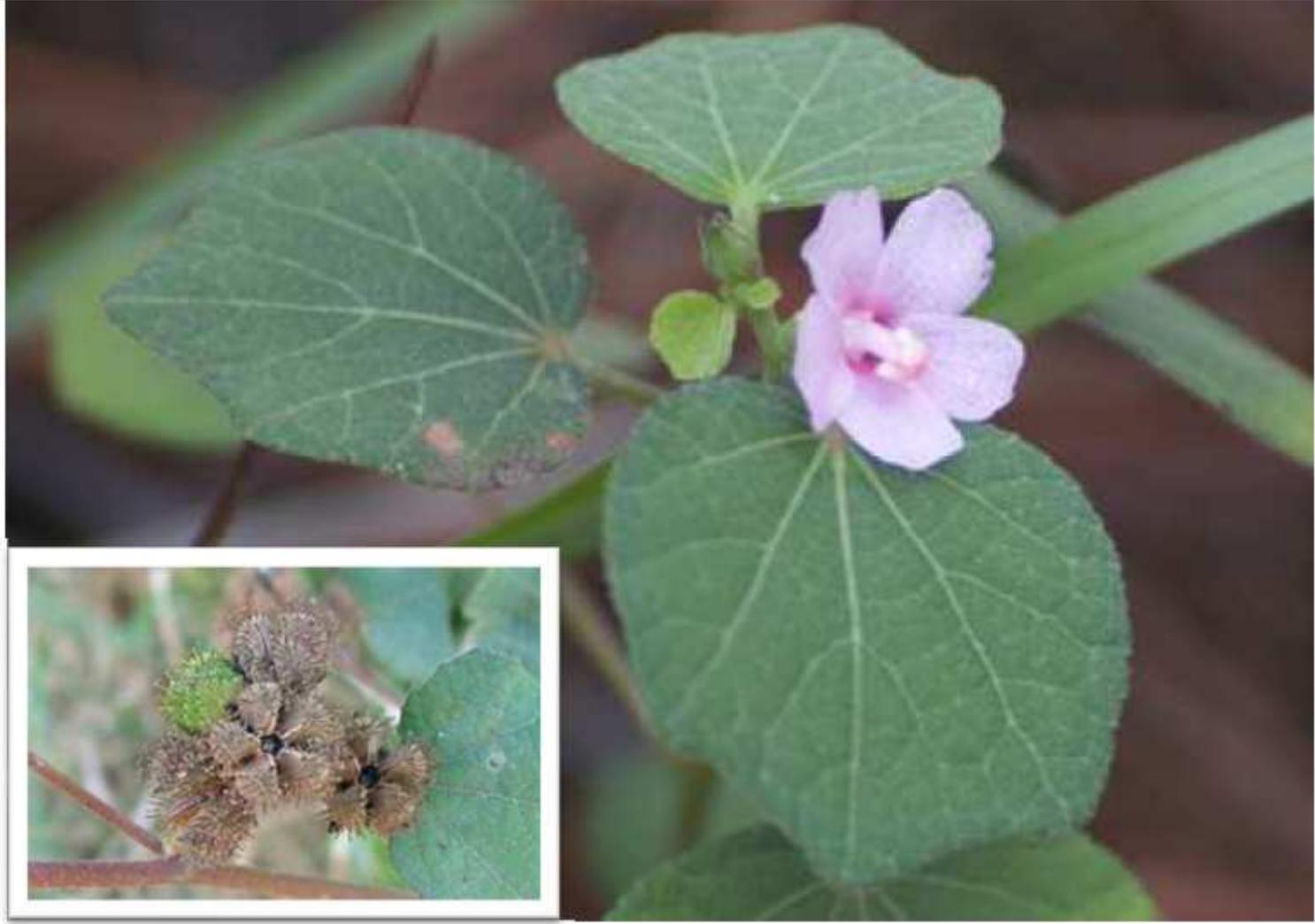
BRAZILIAN PEPPER *Schinus terebinthifolia*

I



CAESARWEED *Urena lobata*

I



ROSARY PEA *Abrus precatorius*

I



NATAL GRASS *Melinis repens*

I



COGON GRASS *Imperata cylindrica*

I

WANTED. DEAD.

COGON GRASS COLONY FORMING, DENIES PERENNIAL GRASS.

GROWS FROM 2' TO 30" HIGH CREATING DENSE MATS THAT CHOKER OUT NATIVE PLANTS.

KEEP TO IDENTIFY BY SILVER-WHITE FLOWERS THAT BLOOM IN THE SPRING.

PLANTS SPREAD FROM BRANCHING, SHARP-TIPPED UNDERGROUND STEMS.

YELLOWISH-GREEN LEAVES ABOUT 1" WIDE WITH 10-15 CENTRAL VEINS. WHITE VEIN (LEAF EDGES) ARE ROUGH & 2-3" IN SHARP POINT.

THIS PLANT HAS INFESTED MORE THAN A MILLION ACRES IN THE SOUTHEAST.

DANGEROUS ALIEN GRASS INVADES FROM ASIA!
COGON GRASS - ONE OF THE WORLD'S MOST AGGRESSIVE PLANTS - CAN TAKE OVER RIGHT OF WAYS, FORESTS, FIELDS, PASTURES AND ORCHARDS. IF YOU SPOT COGON GRASS ON YOUR PROPERTY, CALL THE BUREAU OF PLANT INDUSTRY AT 1-662-325-3390. HELP IS AVAILABLE TO ASSIST YOU WITH HUNTING DOWN AND DESTROYING THIS FOREIGN INVADER.
THE ONLY GOOD COGON GRASS IS DEAD COGON GRASS.
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MISSISSIPPI DEPARTMENT OF AGRICULTURE

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JAPANESE CLIMBING FERN *Lygodium japonicum*

I



WEDELIA *Sphagneticola tilobata*

II



TUBEROUS SWORD FERN *Nephrolepis cordifolia*

II



PRAXELIS *Praxelis clematidea*

II



BALSAM APPLE *Momordica balsaminato*

II



CASTORBEAN *Ricinus communis*

II



GREEN SHRIMP PLANT *Ruellia blechum*

II

Increasingly found in Lake County:
It is the larval food source for the
beautiful Malachite butterfly normally
found in Central and Northern South
America.



Know Before You Grow

Removal of invasive species requires persistence

Properly Dispose of Invasive Plant Material

- Bag all flowers/seeds/roots at site in heavy plastic bag
- Tie tightly
- “Solarize” for several weeks
- Dispose of in regular trash
- Do not compost or put in yard waste

