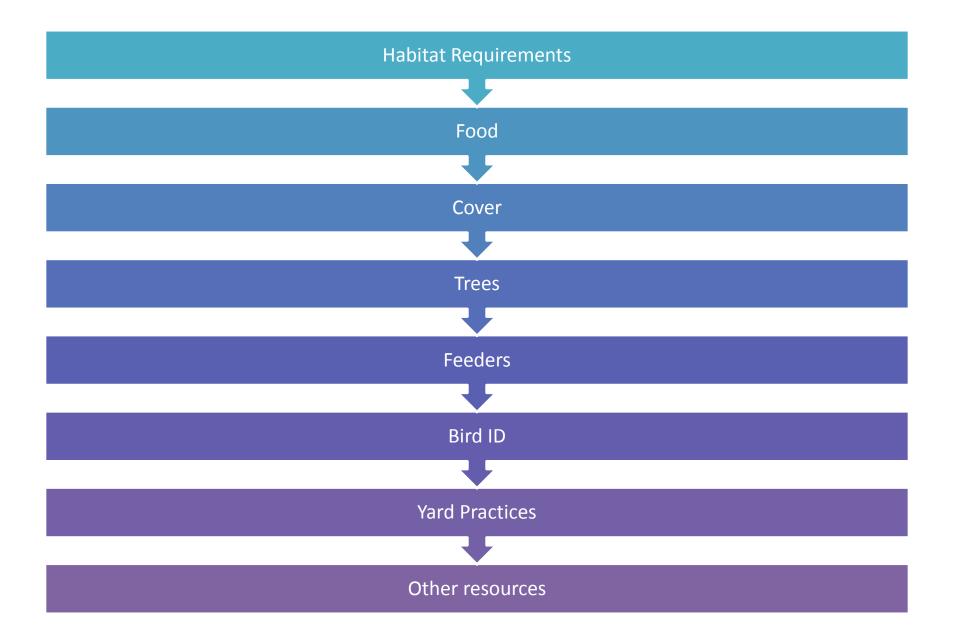


Outline



Florida-Friendly Landscaping PROGRAM W

Protects Florida's unique natural resources by conserving water, reducing waste and pollution, creating wildlife habitat, preventing erosion. Any landscape can be Florida-Friendly if it is designed and cared for according to the nine principles. The 2009 Florida Legislator use of FFL is a compelling public interest and is essential to the state's efforts in water conservation and water quality protection and restoration.

How many birds can you identify here?

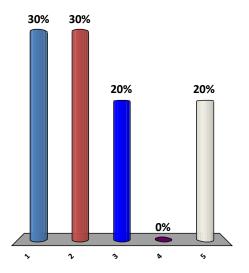
A. 1

B. 2

C. 3

D. 4

E. 5







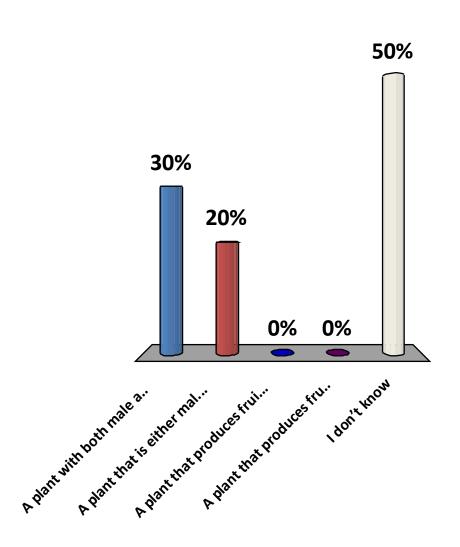






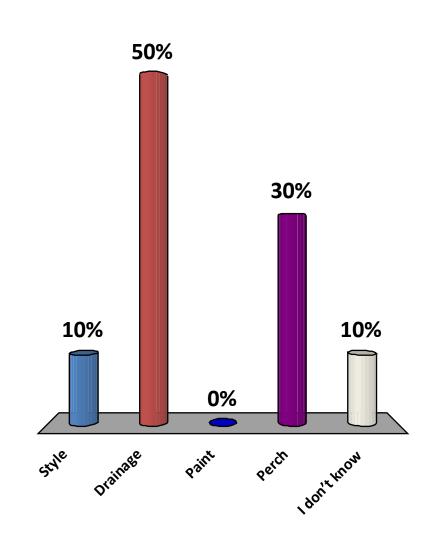
What does monoecious mean?

- A. A plant with both male and female parts
- B. A plant that is either male or female
- C. A plant that produces fruit once per year
- D. A plant that produces fruit multiple times a year
- E. I don't know



Which is an important consideration for nest box construction?

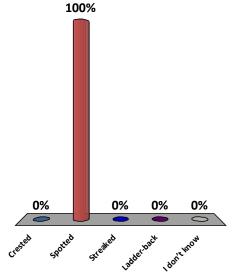
- A. Style
- B. Drainage
- C. Paint
- D. Perch
- E. I don't know



Is this bird...

- A. Crested
- B. Spotted
- C. Streaked
- D. Ladder-back
- E. I don't know





Bird Species of Florida

- How many? 516!
- Endemic? 1! The Florida Scrub Jay
- Threatened
 - White-crowned pigeon
 - FL Scrub Jay
- Endangered
 - Snail Kite
 - Cape Sable Seaside Sparrow
 - FL Grasshopper Sparrow
- Species of Special Concern
 - Scott's Seaside Sparrow
 - Wakeulla Seaside Sparrow





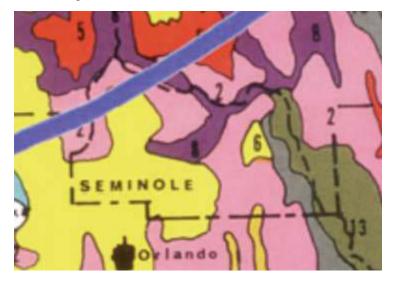
Your backyard habitat

- What type of landscape design will work for me aesthetically and within the community where I reside?
- What types of wildlife am I most interested in supporting? What are their needs?
- What are my current site conditions?
- What are my realistic plant choices?

Central Florida ecosystems

When selecting for wildlife, consider what region you're in and what space exists

- Scrub
- Flatwoods
- Sandhills
- Hardwood hammocks
- Freshwater marsh



No matter what the growing conditions, we find native communities of plants and wildlife adapted to live in them

Habitat needs

Habitat is the collection of resources required by each species of wildlife for its survival



It's not habitat if something is missing

Food

Seasonality Size Abundance Taste Dependability Sex Invertebrates

Food: Seasonality

What time of year is the food produced?

Stagger food production so something is always ready.







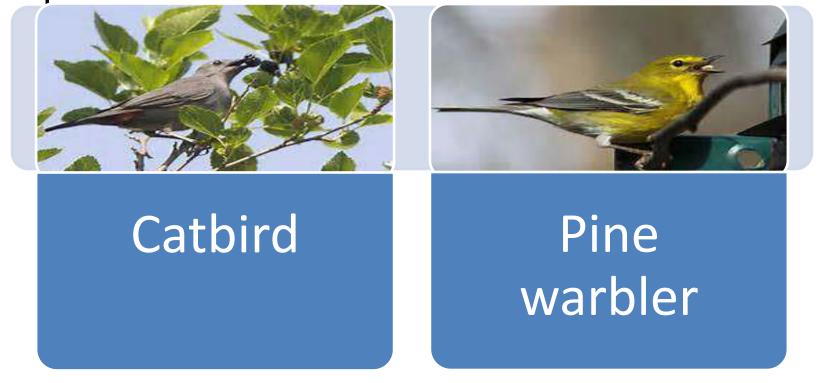
Spring

Fall

Year round

Food: Size

- Birds swallow food whole so size matters
- Fruit and seed size can differ with plant species



Food: Abundance

- If one plant is particularly productive, only plant a couple and increase diversity elsewhere
- Beautyberry





Food: Taste

- If it tastes good to us, it likely taste good to wildlife
- All food becomes more valuable with scarcity





Food: Dependability

- Some plants won't produce fruit crops every year
 - Can depend on fire, drought, frost, growing season
 - Right plant, right place!

Food: Sex

- Monoecious –plant produces male and female flower parts
- Dioecious –there are male and female plants. You will need both nearby for the females to produce fruits
 - Wax myrtle, southern red cedar,
 FL privet



Food: Invertebrates

Building a healthy and productive invertebrate food base will increase wildlife higher up the food chain

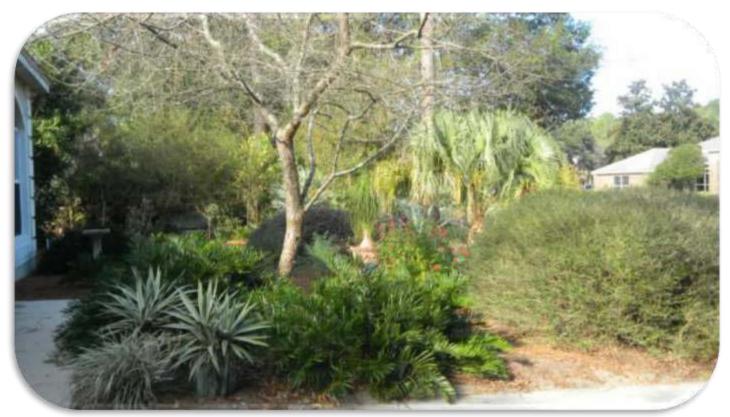
- Larval food plants
- Native species
- Integrated pest management
- Flowers: oaks, red mulberry
- Bark: pines, no smooth bark
- Mulch and leaf litter: decomposable

Cover & Space

- The amount of cover will depend on the amount of food and water available and the wildlife species' lifecycle (breeding, nesting, migrating)
- How does the structure of the plant and landscape help the species?

Cover: Size

- How tall will it grow? How wide will it spread?
- A few tall, more short
- How will it mature?



Cover: Foliage Density

- How dense is the foliage?
- Where can the wildlife hide?
 - Thorniness
- Some birds want to perch to be seen
- Evergreen vs deciduous
- Branch structure
 - The best nesting trees are those with a great diversity in branch sizes and branch forks

Snags

- Dead standing trees
- Used for feeding and nesting







Southern Red Cedar Juniperus silicicola

Sun	Full
Soil	Any texture, low moisture, any pH
Size	30-45' high 20-30' wide
Leaves	Evergreen
Season of fruiting	Fall. Only females bear fruit
Birds	Tree swallows, cedar waxwings, mockingbirds, yellow-rumped warblers, bluebirds, flickers



Cherry Laurel Prunus caroliniana

Sun	Full
Soil	Moist to well drained
Size	20 – 40' high
Leaves	Evergreen
Season of fruiting	Late summer to Winter
Birds	Used when little use is available





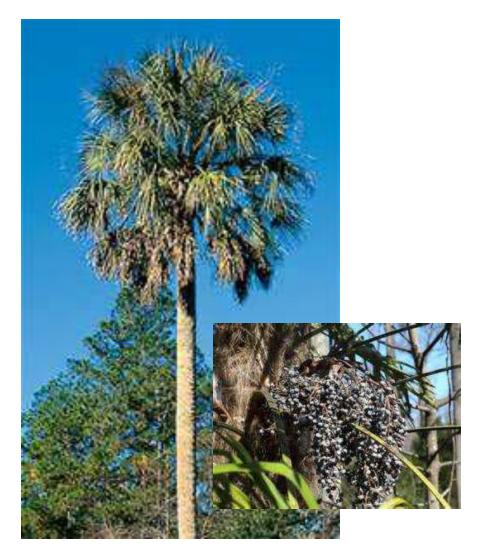
Hackberry Celtis laevigata

Sun	Full
Soil	Any texture, low moisture, any pH
Size	Up to 90' high
Leaves	Deciduous
Season of fruiting	Summer through Fall
Birds	Catbirds, mockingbirds, robins, thrashers, towhees, cedar waxwings, flickers



Cabbage or Sabal Palm Sabal palmetto

Sun	Full
Soil	Any soil texture, moisture or pH
Size	25 60' high 10 – 15' wide
Leaves	Evergreen
Season of fruiting	Fall
Birds	Robins, grackles, mockingbirds, thrashers, red-bellied woodpeckers, catbirds



Sweetgum Liquidambar styraciflua

Sun	Full
Soil	Any texture, low to medium moisture, any pH
Size	40 – 100' high 40 – 60' wide
Leaves	Deciduous
Season of fruiting	Fall/winter
Birds	Finches, siskins, wrens, chickadees, titmice, cardinals, quail



Blackberry *Rubus spp.*

Sun	Full
Soil	Low to moist
Size	Sprawling
Leaves	Deciduous
Season of fruiting	Summer
Birds	Many, good cover



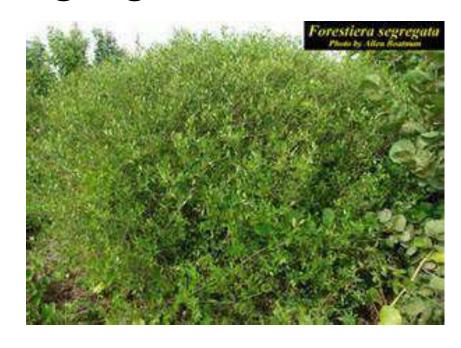
Marlberry *Ardisia escalloniodes*

Sun	Shade
Soil	
Size	4' tall
Leaves	Evergreen
Season of fruiting	Spring- Winter
Birds	Eaten by most fruit-eating birds



Florida Privet Forestiera segregata

Sun	Partial shade
Soil	Well-drained, acidic pH
Size	10 – 15' H 5 – 10' W
Leaves	Evergreen
Season of fruiting	Spring flowers, summer fruits
Birds	Warblers feed on insects. Fruit by fruit-eaters



Beautyberry Callicarpa americana

Sun	Partial sun
Soil	Any texture, low moisture, Acid to slightly alkaline pH
Size	6 – 8' high 6 – 8' wide
Leaves	Deciduous
Season of fruiting	Fall – Winter
Birds	Many



Water sources

- Natural
- Retention Ponds
- Bird baths







Shelters

- Brushpiles
- Nest boxes





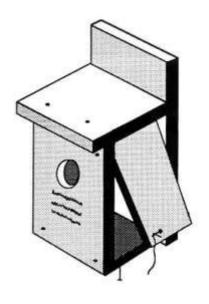
Nest boxes

- 25 FL birds species use cavities in trees but with different specifications
- Set out for nesting season
- Considerations:

Cleaning	Include hinge door to check and clean periodically
Drainage	3 to 4.25 inch holes to drain any rain water
Attachment	Post, tree or building
Perches	No perch! Scratch surface to roughen up
Roof	Front edge should overhang to prevent rain
Ventilation	Holes or slits near top

Nest boxes

Nails	Use galvanized nails
Floor	Above a ¼ of an inch around sides to prevent rain seeping into nest
Wood	1" x 4" or 1" x 6" or 1" x 12" of untreated wood
Paint	Birds prefer weathered look.
Style	Not as important as Dimensions
Dimensions	Varies with species. Specified in handout.







Feeders

Type

Shape and perch availability

Food

Depends on species you want.



Cleaning

 Clean at least once a month to rid disease

Squirrels

Location and feeders



- For you
- For wildlife





Feeders: Type







Tube

- Metal perches
- Short perches= small birds

Hopper

- Larger than tubes
- Less refilling
- Larger birds

Platform

- Tray feeders
- Good for ground
- Clean of droppings

Feeders: Type







Suet

- Wire cage
- Clinging birds

Nyjer

- Small seed = small birds
- Sock
- Winter

Nectar

- Hummingbirds
- Red
- Special cleaning

Feeders: Food







Sunflower

- Black-oil best
- High energy

Safflower

- Thicker than black-oil
- Hopper and platform

Millet

- Small-beaked birds
- Nuisance species

Feeders: Food







Cracked corn

- Less desirable, soaks up water
- Larger birds
- Nuisance birds

Peanuts

- Similar to corn
- Keep dry
- Tube, hopper, or platform

Nyjer

- Small birds
- Expensive
- Seed should not germinate

Feeders: Food







Suet

- Rendered animal far
- High energy
- Pre-made or homemade
- Heat

Milo, Wheat & Oats

 Low priced but not a favorite

Sugar Water

- Hummingbirds + others
- 4 parts boiling water to 1 part sugar
- Nectar packets

Feeder Location

- Give yourself a good view
- Place different feeders at different heights
 - Increase diversity
- For a small garden locate feeder within 3 m of window
- 10 − 15 feet away from pushes
 - Not too far, not too close

Feeder cleaning

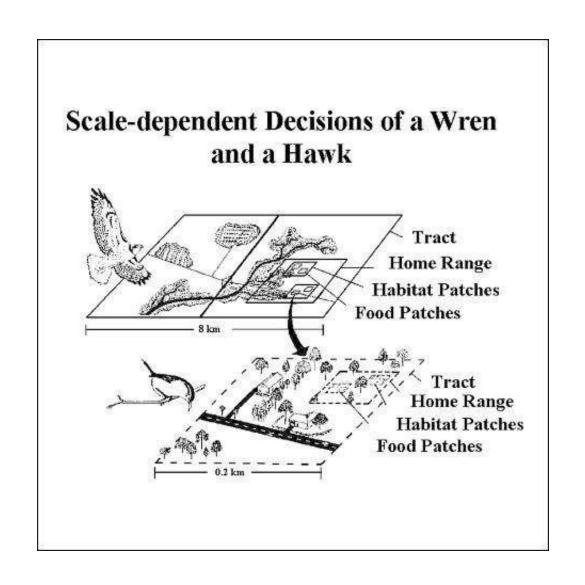
- Discourage disease
- At least once every 2 3 weeks
 - Moldy, decomposing seeds, droppings, contaminants
- Plastic/Glass -10% bleach solution. Dry out.
- Wooden –Hot soapy water and bristled brush
- Hummingbird feeders every 3 5 days
 - Fermentation and mold growth
 - Clean with hot water (No bleach or soap)

Feeders: Squirrels

- Do not hang from tree
 - Located 10 15 feet awayfrom tree
- Can chew through wood and plastic
 - No plastic holding bins
- Try design with domed overhang or baffle box



Expand scale of habitat



ID Tips

- Size
 - Tip to Bill: Small (pencil), medium (12 in), or large (bread box)?
- Range
 - Expect the expected
- Binoculars
 - Magnify 7x to 10x
 - Outside lenses 35 mm to 50 mm

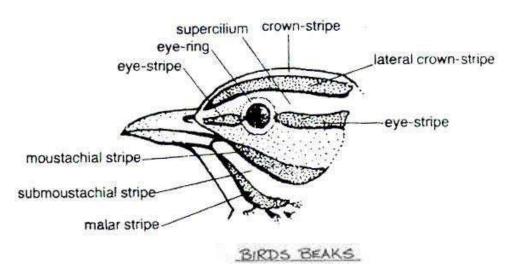
Look at the bird, not the book

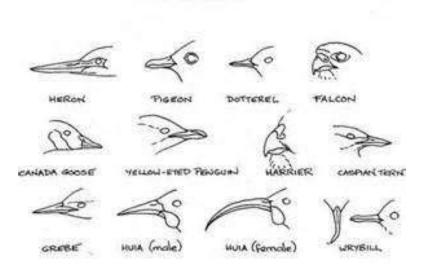
Head

- Stripes?
- Line over eye?
- Tuft?
- Noticeable color?

Bill

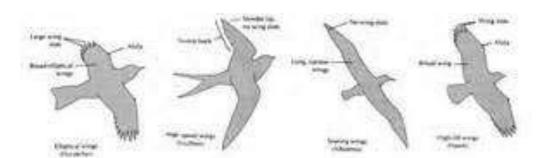
- Short or long?
- Wide or narrow?
- Straight or curved?





Look at the bird, not the book

- Is the back darker or lighter than the head or belly?
 - Streaks? Spots? Plain?
- Wing bars
- Tail
 - Long or short?
 - Rounded or forked?
 - Darker or light than the back? One color?
 - Is it held cocked up or angled down?



Florida Bird Sounds

 http://www.flmnh.ufl.edu/birds/florida-birdsounds/

Bird ID Apps

- iBird Pro
 - \$25.00 for full guide
 - All of N. America
 - Detailed pictures, descriptions, searches
- Audubon
 - **-** \$5.00
 - High quality pictures, songs, searchable
- Cornell Merlin Bird ID
 - Free
 - Pictures, descriptions, ID key
 - Add data

Seasonality

Summer

- Courtship, breeding, nesting and brooding
- Possibly lower diversity because breeding/nesting needs aren't met in urban environment

Winter

- Year-round + Winter residents
- May be part of flocks
- Use environment to forage or roost

Fall/Spring

Year-round + Winter comings/goings + neotropical migrants = greater diversity

Blue Jay



Blue Jay Year-Round

Food	Acorns, other nuts and berries, insects, small reptiles and mammals
Nesting	Variety of trees 10 – 30' off the ground
Feeders	YES, peanuts
Nestbox	NO
Trees	Oaks, beeches, pines (mast producing)
Comments	Large number of trees mixed with open land. Aggressive. Stores food. Crow family

Carolina Wren, House Wren



Carolina Wren Year round



House Wren Winter

Food	Insects –spiders, ants, bees, caterpillars
Nesting	Cavities or crotches of trees/shrubs
Feeders	YES. Peanut butter, suet cakes
Nestbox	YES. Try hanging gourd. Loves different man-made cavities.
Trees	Sweetgum
Comments	Likes wooded gardens, dense shrubs

Carolina Chickadee, Tufted Titmouse



Carolina Chickadee Year round



Tufted Titmouse Year round

Food	Insects
Nesting	Natural cavities (dig own) and abandoned woodpecker holes
Feeders	YES. Hanging suet feeders, sunflower seeds
Nestbox	YES
Trees	American beech, pines, sweetgum
Comments	Mature trees and dense understory

Screech Owl, Barred Owl, American Kestrel



Screech Owl Year round



Barred Owl Year round



American Kestrel
Year round

Food	Mice and insects
Nesting	Cavities. Old hardwoods and old woodpecker holes in pines.
Feeders	NO. Will use water.
Nestbox	YES. Population depends on available cavities.
Trees	Pines, hardwoods
Comments	Nocturnal.

Woodpeckers



Red-headed Year round



Red-bellied Year-round



Downy Year-round



Flicker Year-round



Pileated Year-round

Woodpeckers





Food	Grubs and eggs, ants, beetles. Also berries, nuts, and seeds
Nesting	Cavities in dead and dying trees
Feeders	YES. Suet
Nestbox	YES (except pileated)
Trees	Cedar, Magnolia, Hackberry, Cabbage palm
Comments	

Robin, Wood Thrush, Rufous-sided Towhee



Robin Winter



Wood Thrush
Summer/Migrant



Rufous-sided Towhee Year-round

Food	Insects. Fleshly fruits and berries
Nesting	Shrub cover (Towhee close to ground, Thrush 6-12' high)
Feeders	Robin and Towhee RARELY, Thrush YES. Mixed seed and berries.
Nestbox	NO
Trees	Beech, Hackberry,
Comments	Wooded gardens with dense understory. Berries in winter. Water and feeders close to ground.

Orioles, Summer Tanager





Northern Oriole Winter

Summer Tanager Summer

Food	Insects, fleshy fruits, berries
Nesting	Oriole –Shade, street trees. Tanager –deciduous trees
Feeders	YES. Fruit, Suet.
Nestbox	NO
Trees	Fruit trees –dogwood, mulberry, tupelos, wild cherry, blackberry.
Comments	

Cedar Waxwing



Cedar waxwing Year-round

Food	Fleshy fruits, buds and flowers on hardwoods
Nesting	Does not nest in FL
Feeders	RARELY
Nestbox	No
Trees	Dogwood, holly, red cedar (Late winter), short-leaf fig
Comments	

Nuthatches



White-breasted Year-round



Brown-headed Year-round

Food	Insects from bark, seeds, nuts.
Nesting	Cavities in dead trees or woodpeck holes
Feeders	YES. Suet, sunflower
Nestbox	YES
Trees	Snags! Oaks, pines, beech,
Comments	In decline.

Doves and Pigeons



Mourning Dove Year round



Ground Dove Year-round



White-crowned Pigeon Year-round



Rock Pigeon Year-round

Food	Insects, seeds, nuts, fruit
Nesting	Ground shrubs, vines. Nest year-round –up to 3-4 times.
Feeders	YES
Nestbox	NO
Trees	
Comments	Dense shrubs near open fields or lawns scattered with trees. Pigeons are ground feeders. Water on the ground.

Northern Bobwhite



Northern Bobwhite Year-round

Food	Seeds, acorns, some fruit, some insects, beetles, spiders
Nesting	Ground nest in brushy open grasslands, open pine woods
Feeders	YES. Comes to seed on ground.
Nestbox	NO
Trees	
Comments	Brushpile. Pinelands/brushy agricultural fields. Not suburbia.

Finches



Gold Finch Winter



Purple Finch Winter

Food	Buds, soft fruits, seeds
Nesting	Not in FL
Feeders	YES. Sunflower, thistle seeds, niger seeds.
Nestbox	NO
Trees	Sweetgum, sycamore, winged elm
Comments	

Ruby-crowned Kinglet, Blue-gray Gnatcatcher



Ruby-crowned Kinglet
Winter



Blue-gray gnatcatcher
Year-round

Food	Tiny insects. Wax myrtle berries (kinglet)
Nesting	Gnatcatchers nest on limbs 25' or higher
Feeders	YES. Suet
Nestbox	NO
Trees	Conifers
Comments	

Eastern Phoebe, Great Crested Flycatcher, Eastern and Gray Kingbird



Eastern Phoebe Winter



Great Crested Flycatcher Year-round



Eastern Kingbird
Summer



Gray Kingbird Summer

Food	Insects, bees, grasshoppers, moths, ants. Some fruits
Nesting	Often near water. Kingbird –medium shrubs and trees. Great crested –natural cavities. Phoebe –eaves and rafters
Feeders	YES. Ground feeders. Water sources
Nestbox	NO
Trees	Sassafras
Comments	All types of open habitat.

Warblers



Orange-crowned Winter



Yellow-rumped Year-round



Parula Year-round



Pine Year-round



Yellow-throated Year-round

Warblers

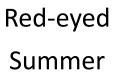




Food	Insects, some seeds
Nesting	Large trees, shrubs, near water
Feeders	YES. Suet
Nestbox	NO
Trees	Diverse garden, many layers. Oaks (caterpillars), Cedar, privet
Comments	

Vireos







White-eyed Year-round



Yellow-throated Summer

Food	Insects, spiders, some fleshy fruits
Nesting	Hanging nests from trees 3-4' from ground or tree tops
Feeders	NO
Nestbox	NO
Trees	Diverse, Oaks, Mangroves, Gumbo-limbo, Magnolia
Comments	

Sparrows







White-throated Migrant



Song Migrant



House Year-round

Food	Weed and grass seed. Some insects.
Nesting	Not in C. FL
Feeders	YES. Ground feeders. Water. Mixed seeds, sunflower hearts, cracked corn.
Nestbox	NO
Trees	Winged elm,
Comments	

Wading Birds







Egrets

Herons

Ibis

Food	Fish, frogs, reptiles, small mammals
Nesting	In colonies/rookeries near water or island of small trees/dense shrubs
Feeders	NO
Nestbox	NO
Trees	
Comments	

Hawks and Eagles



Red-shouldered hawk



Red-tailed hawk



Bald Eagle



Osprey

Food	Other birds, small mammals, fish, carrion
Nesting	Mature canopy trees, nest platforms
Feeders	NO –except prey on birds at feeders
Nestbox	NO
Trees	Large trees. Pines.
Comments	

Swallows







Rough-winged Year-round

Tree Winter

Bank Winter

Food	Insects, wax mrytle berries
Nesting	Mud nests to side of man-made structures. Cavities in banks of rivers or streams
Feeders	? Insects
Nestbox	NO (except Tree Swallow)
Trees	
Comments	Few trees. Nest in colonies.

Black birds and Grackles







Red-winged Year-round

Common Year-round

Boat Year-round

Food	Seeds, grains, some insects
Nesting	Wetlands, nearby fields, cattails
Feeders	YES. Ground feeders. Mixed seed, cracked corn, sunflower seeds, suet. Water source
Nestbox	NO
Trees	Beech
Comments	Forage in all types of open habitat

Cardinal, Blue Grosbeak, Buntings



Cardinal Year-round



Blue Grosbeak Summer



Indigo Bunting
Summer



Painted Bunting
Summer

Food	Grass seeds, some insects, fruits
Nesting	Thickets, vines, dense shrubs
Feeders	YES. Sunflower. Millet.
Nestbox	NO
Trees	Beech, Winged elm,
Comments	Few trees. Nest in colonies.

Mockingbird, Cat Bird, Brown Thrasher



Year-round





Cat Bird Winter



Brown Thrasher Year-round

Food	Insects, grubs, fruit and seeds
Nesting	Dense, thorny shrubs or vines, brambles
Feeders	YES.
Nestbox	NO
Trees	Beech, Winged elm,
Comments	

Sandhill crane



Year-round

Food	Seeds, plants, varied
Nesting	Wetlands
Feeders	?
Nestbox	NO
Trees	
Comments	Do not form colonies but travel in smaller groups.

Ruby throated hummingbird



Summer

Food	Flower nectar, tiny insects and spiders
Nesting	Low limb of tree, often overhanging water
Feeders	YES. Sugar water/nectar
Nestbox	NO
Trees	Tubular flowering plants. Firebush, trumpet flower, salvia
Comments	

Introduced Species



European Starling



House Sparrow



Muscovy Duck



Rock Pigeon

Remove invasive species

 Invasives: "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health"



Wild Taro



Mexican Petunia



Lantana camara



Air Potato

Reduce insecticide use

- Most pesticides won't kill just one species
- Ruining your insect food base! And many insects are pollinators. Less than 1% of insects are considered pests
- Spot treat or use specific baits
- Do not spray indiscriminately
 - Remember the pests will return faster than the predators!

Reduce lawn area

- Lawn offers very little food and cover
- Limit amount of mowed lawn especially where there is little traffic, like the corners of your yard
- Eventually new plants will come into un-mowed areas





Manage pets

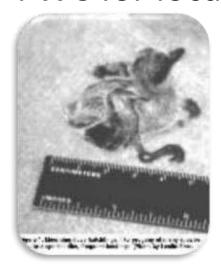
- Cats in the US kill hundreds of millions of birds and possibly more than a billion small mammals each year
- Do not encourage strays
- Keep indoors or screened in
- Do not release exotic pets

Windows

- Can kill up to a billion birds a year!
- Fly into windows because...
 - They think it's continued landscape (reflection)
 - It's in their air space
 - They attach their reflection
- Reduce collisions by—
 - Correctly placing feeder
 - Adding outside netting
 - Streaking windows
 - Closely placed decals
- http://www.allaboutbirds.org/Page.aspx?pid=1184

Orphaned, Injured or Sick

- Bringing the animal into your home to care for it may be the worst thing you can do
 - You need a permit, it's a lot of work, and the parents may be nearby
- If it can run, fly, or defend itself. Leave it alone.
- If it has signs of sickness call Humane Society or FWC for local wildlife rehabilitator







Backyard Certification



 http://www.nwf.org/How-to-Help/Garden-for-Wildlife/Create-a-Habitat.aspx

FL Bird Monitoring Program

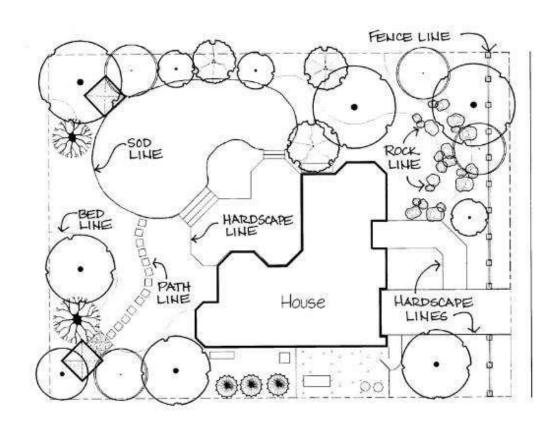
- People can enter and view bird survey data
 - 129, 764 birds counted
 - 267 bird species
 - 206 sites
- Sign up and survey using point counts or transects
- Also report bird mortality
- http://wec.ifas.ufl.edu/birds/default.aspx

Bird Banding

- Bird Studies at Lake Lotus Park, Altamonte Springs
- http://wikivaband.blogspot.com
- andybgator@yahoo.com
- 407-896-5554
- Banding most Sunday mornings

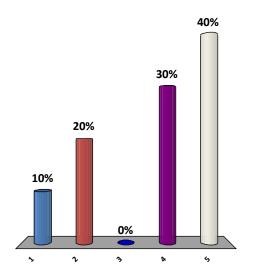
What's next?

- Florida-Friendly Landscape Design
- Oct 23, 6:30 -8:30
- Extension Auditorium
- 250 W. County Home Road
- Call 407-665-5575



How many birds can you identify here?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5







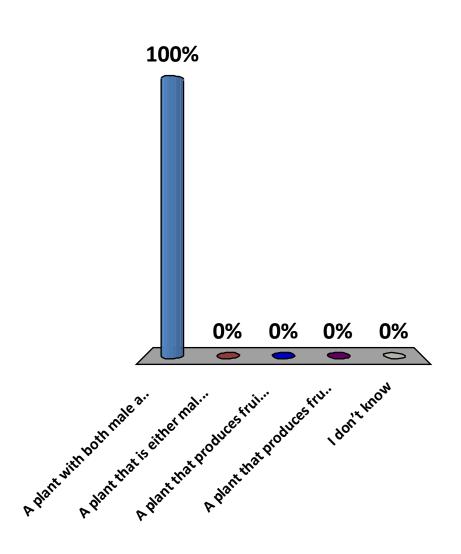






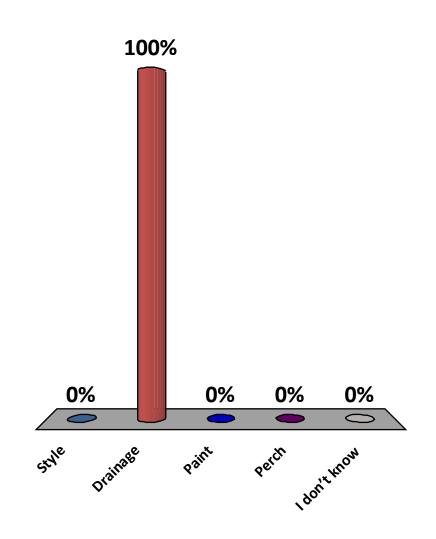
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Which is an important consideration for nest box construction?

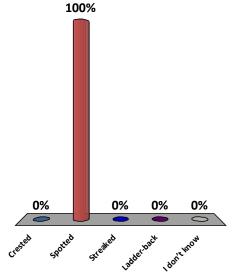
- A. Style
- B. Drainage
- C. Paint
- D. Perch
- E. I don't know



Is this bird...

- A. Crested
- B. Spotted
- C. Streaked
- D. Ladder-back
- E. I don't know





How much did you learn from this class?

- A. Nothing
- B. A little
- C. Some
- D. A lot

How many changes will you make to your yard as a result of this class?

- A. 0
- B. 1-2
- C. 3-5
- D. 5-10
- E. 10+

Seminole County Extension Master Gardener



Plant Clinic and Help Line
250 West County Road, Sanford
Monday through Friday
9 am-12pm and 1 pm- 4 pm
407-665-5550

Thank You!

Taryn Sudol

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Questions?

