



FLORIDA
MASTER
GARDENER

Florida-Friendly Landscaping™ (FFL)

Florida-Friendly Landscaping™ 101



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UF | IFAS Extension
UNIVERSITY of FLORIDA



Florida-Friendly
Landscaping™ PROGRAM

The graphic part of the Florida-Friendly Landscaping Program logo, featuring a blue water drop, a yellow butterfly, and a map of Florida.

Agenda



- UF/IFAS extends educational practices and doesn't take sides on issues
- What is Extension?
- What is the Florida-Friendly Landscaping™ Program?
- Why is it important to follow the nine Florida-Friendly Landscaping™ Principles?

Learning Objectives

The slide features a decorative header with a light green background. At the top right, there are silhouettes of palm trees. Below the trees, a horizontal band of grass-like shapes spans the width of the slide. The main content area has a solid light green background.

- Explain the purpose of the Florida-Friendly Landscaping™ (FFL) program.
- Understand how landscape management practices can impact Florida's water and other natural resources.
- Know the nine FFL Principles.
- Locate and utilize FFL educational resources.

Comparison of Landscapes



Landscape A

- All native
- No turf
- No water
- No fertilizer
- No pesticides
- Weeds hand pulled
- Composting

Landscape B

- Natives and ornamentals
- Limited water
- Some fertilizer
- Limited pesticides

Landscape C

- Ornamentals
- 50% Turf area
- Fertilizer
- Irrigation
- IPM
- Mulch

What is a Florida-Friendly Landscape?

- Can take any form, style, theme
- Landscape management is key



Part I

Overview of FFL

- What is it?:
 - An integrated approach to maintaining an attractive, colorful, and diverse yard
- Purpose:
 - To educate Floridians about science-based, environmentally-friendly landscape practices
 - To encourage them to conserve and protect water resources.



FFL Yard Recognition



In order for a landscape to be considered for recognition it must contain landscape plants. Landscapes made up entirely of rock, mulch, shell, artificial turf, or other similar materials are not considered Florida-Friendly and are not eligible for recognition.

There are two recognition levels available, Silver and Gold.

For silver level recognition, a landscape must meet all required practices and achieve (2) First Tier, (3) Second Tier and (3) Third Tier practices. If the landscape has an in-ground irrigation system, (2) Irrigation practices must also be met. If the site is on a waterfront practice (1) practice must be met.

For gold level recognition, a landscape must meet all required practices plus the additional gold level practices. The landscape must achieve (3) First Tier, (5) Second Tier and (5) Third Tier practices. If the landscape has an in-ground irrigation system, (3) Irrigation practices must also be met. If the site is on a waterfront practices (2) practices must be met.

Gardening in the Florida Summer

What people think it's like

What it's really like



Using Florida-Friendly principles can make gardening more relaxing and less work!

Florida-Friendly Landscaping™

Florida Statute 373.185

“...quality landscapes that conserve water, protect the environment, are adaptable to local conditions, and are drought tolerant.”

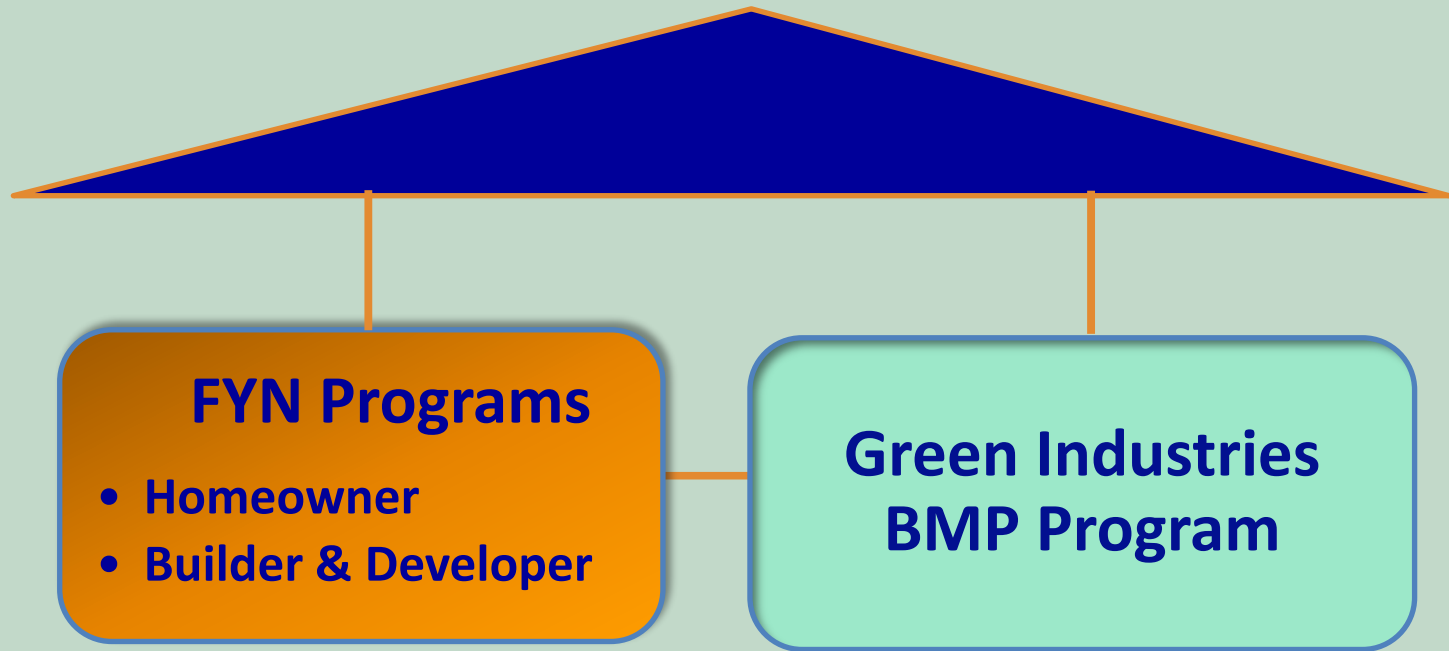


Florida-Friendly Landscaping™

- FL law promotes Florida-Friendly Landscaping™.
- HOA /ARB review may still apply.
- Check first before making changes to your yard.



Florida-Friendly Landscaping™



Florida-Friendly Landscaping™

Goals of FFL:

- Conserve water
- Reduce water pollution
- Preserve natural resources
- Enhance the lives of Floridians



Environmental Concerns

Water Quality

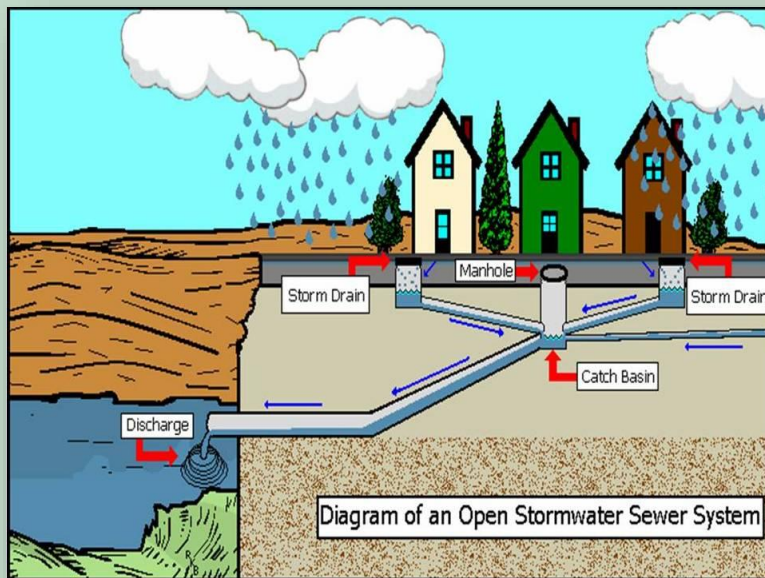
- One of Florida's greatest natural resources is its water
- **Misuse** of fertilizers and pesticides can contribute to water pollution
- 60% of Florida's fresh water is used on landscape irrigation



Environmental Concerns

Water Quality

- Sewage is treated; stormwater is not.
- Storm drains carry polluted stormwater directly to stormwater ponds or waterways.

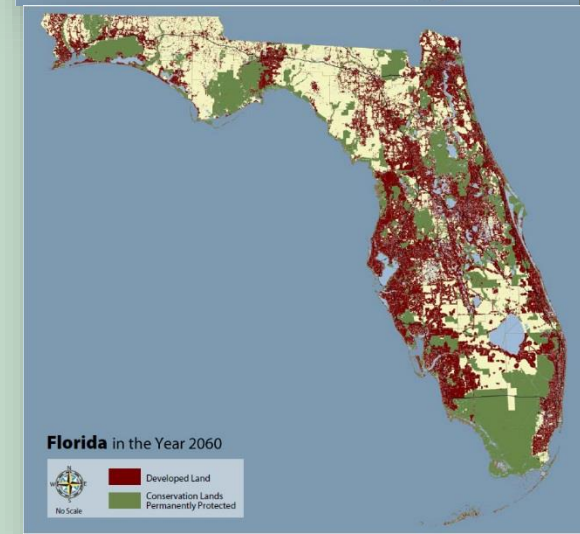
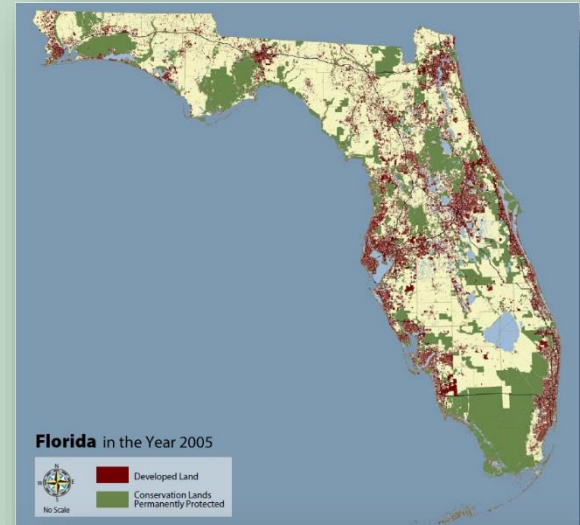


Lake Okeechobee. Credit: South FL Water Management District

Environmental Concerns

Population Growth

- Florida's population is expected to double by 2060.
- Increased demand for water
- Increased pollution
- Decreased filtering of polluted run-off



Economic Concerns



- **Tourism** is Florida's largest industry
 - \$67 billion/year
 - \$22 billion spent at beach destinations

- **Fishing** industry in Florida
 - \$6 billion/year; employs 60,000 people



Economic Concerns

- **Agriculture**
 - \$3+ billion* industry
 - Requires clean water to irrigate crops
- **Hunting**
 - \$1.3+ billion spent hunting migratory birds
 - Reliant on healthy wetlands



Credit: Florida Fish and Wildlife Conservation Commission

Health Concerns

- Algal blooms can have health effects
 - Can cause rashes, stomach or liver illness, respiratory problems, neurological affects



Part II

The Nine FFL Principles

Nine Principles

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



FFL is a collection of practices involving landscape design, installation, operation, and maintenance which are intended to conserve water and protect water quality from the misuse of fertilizer and pesticides.

FFL Principle #1

Right Plant, Right Place

- Cornerstone of the FFL Program
- Plants matched to their site require minimal inputs and maintenance



Right Plant, Right Place

The background features a light green gradient with a decorative border at the top consisting of stylized grass and palm tree silhouettes.

Florida-Friendly Plants:

- Are not necessarily native.
- Are not necessarily drought tolerant.
- Are appropriately sited and maintained!

Site Analysis

Site factors to consider:

- Soil type
- Soil pH
- Drainage
 - Well-drained or poorly drained
 - Areas that flood in high rainfall



Sand



Standing water

Site Analysis

More site factors to consider:

- Light
 - Full, partial, or shade
- Views
 - Outside and from inside of house
- Hardscape
 - Walkways, driveways, pool, or fence
- Structural limitations and obstructions
 - Utility lines (overhead or underground)
 - Orientation of house



Site Analysis

Climatic Conditions

- Utilize FFL resources to find plants for your site.
- Choose plants recommended for your PHZ.
 - Based on average annual minimum winter temperature

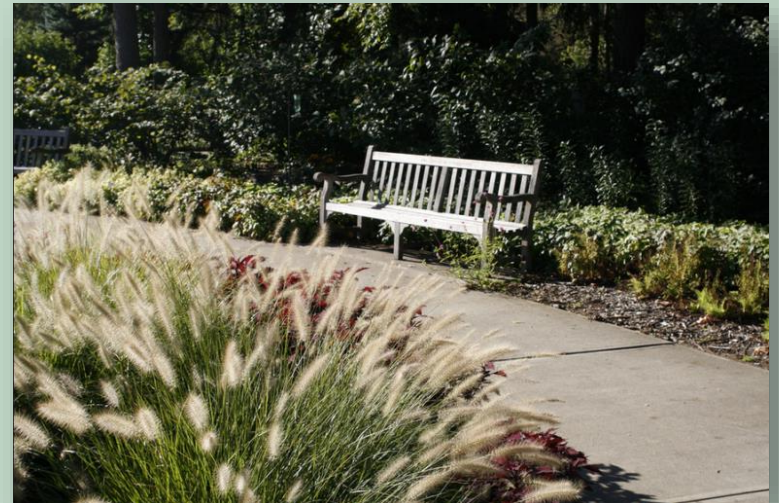


USDA Plant Hardiness Zones in FL

FFL Principle #1 – Right Plant/Right Place

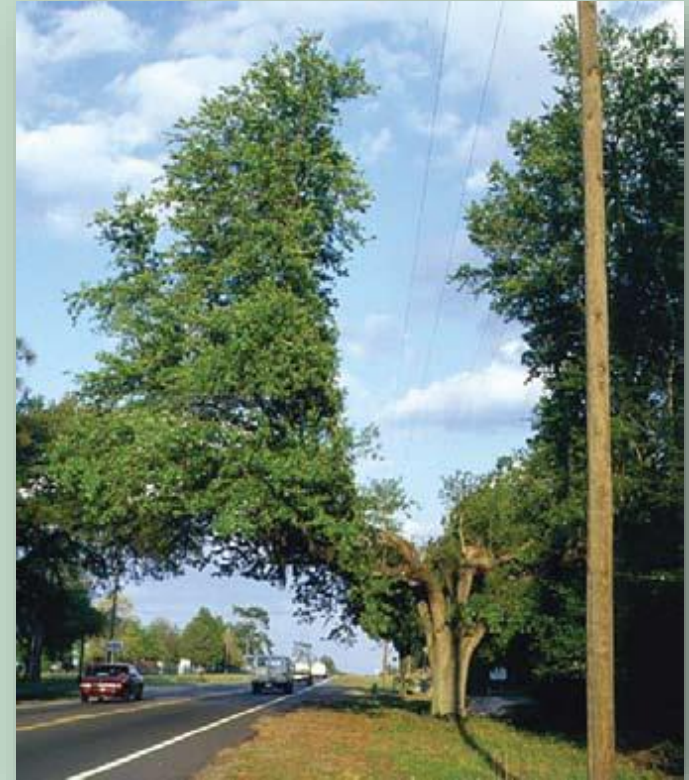
Right Plant, Right Place

- Choose low-maintenance plants suited to your site that require little pruning to maintain the desired form.



Mature Size at Maturity

- Choose plants that require little pruning to maintain the desired height and form.
- Avoid overcrowding.



Diversity

- Monocultures are prone to pests and diseases
- Provides varied habitats for wildlife
- Creates more seasonal interest



Lawn Areas

- Use where needed for play, pets, curb appeal, etc.
- Use groundcovers where grass is difficult to grow or maintain due to shade, slope, etc.
- Mow the lawn high for a deeper root system



Lawn Areas

- Reduce or eliminate areas that are difficult to mow and irrigate:
 - Narrow strips of grass
 - Unnecessary curves
 - Tight areas



Comparison

Landscape 1

- Quarter acre
- All lawn = 10,890 sq. ft.



Landscape 2

- Quarter acre
- Part lawn = 2723 sq. ft.
- Remainder planted with low maintenance plants

Landscape 1 demands 4x the energy costs as Landscape 2 (mowing, edging, pesticides, fertilizers - Parker 1982)

Alternative Approach

Before:



After:

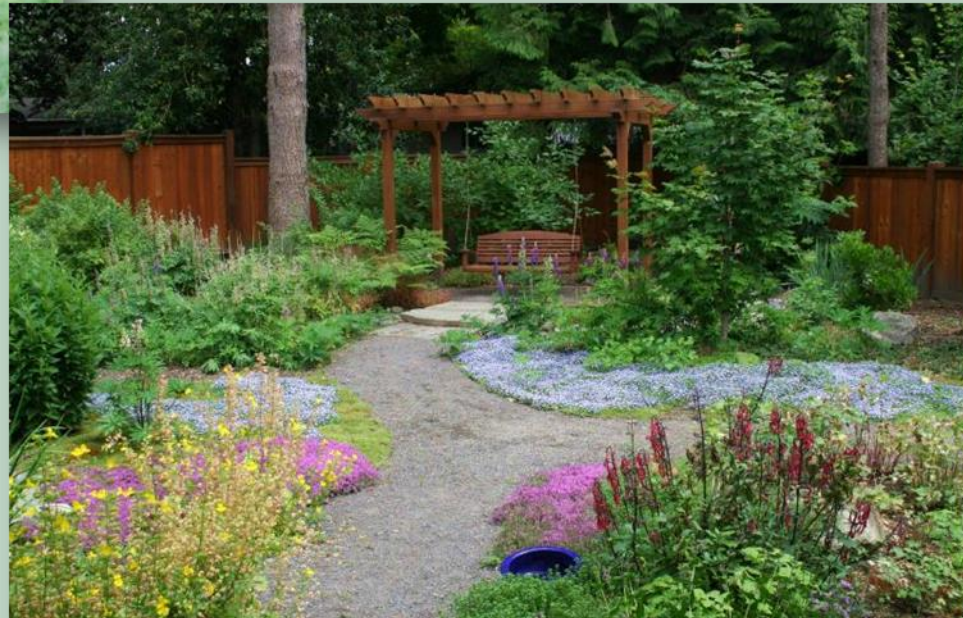


Alternative Approach

Before:



After:



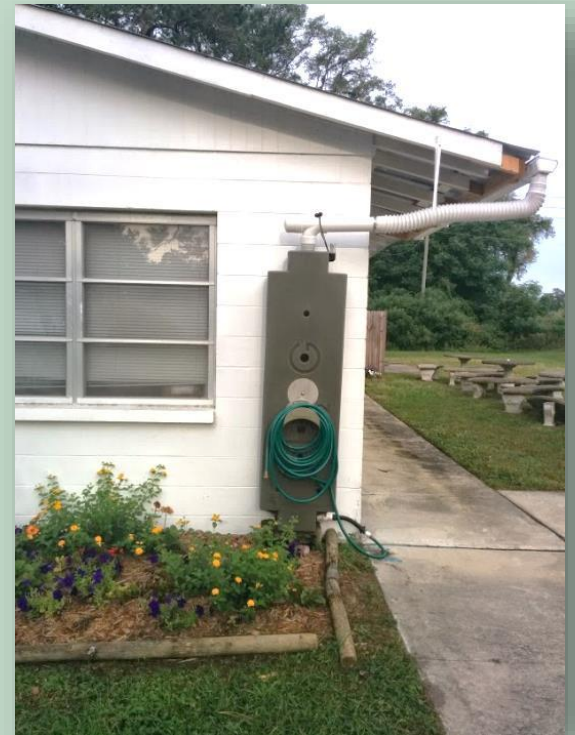
FFL Principle #1 – Right Plant/Right Place

Alternative Approaches



Water Efficiently

- Most Florida lawns and landscape plants are irrigated with potable drinking water.



Florida-Friendly Landscape Design

Design and install landscapes that require minimum irrigation after establishment



Effects of Overwatering

- Encourages disease
- Encourages weeds
- Promotes a shallow root system
- Reduces oxygen to the roots
 - Causes stress



Dollarweed: indicates overwatering

Irrigate “As Needed”

- Only when lawn wilts
- Water less in cooler months - grass is dormant
- Water less in rainy season
- Apply $\frac{1}{2}$ - $\frac{3}{4}$ inch/application



Wilted grass blades



Dormant lawn in winter

FFL Principle #2 – Water Efficiently

Home Water Use



March '06	APR'06	MAY '06	JUNE '06	JULY '06	Aug '06	SEPT '06
33000	20000	14000	9000	12000	16000	33000
72000	85000	42000	32000	44000	26000	17000
29000	39000	45000	15000	26000	22000	17000
42000	40000	30000	5000	19000	21000	32000
0	57000	29000	18000	17000	23000	12000
0	38000	45000	41000	40000	33000	25000
21000	19000	4000	11000	5000	4000	3000
64000	20000	19000	6000	16000	6000	10000
0	0	96000	18000	22000	19000	15000



Efficient Irrigation

- Separate lawn and landscape zones
- Never mix rotor and spray heads in same zone
- Adjust sprinklers - avoid “watering” hard surfaces
- Convert landscape beds to low-volume irrigation
- Test irrigation system monthly for plant blockage, broken heads, etc.



Low-Volume Irrigation



Drip Tubing



Drip Emitters



Micro-sprinkler

Microirrigation applies water to the root zone
(gallons per hour versus gallons per minute)

Irrigate in the Early Morning

- 4 - 7 am
- Wind is calm
- Temperatures are cooler
- Evaporation is low



Watering between 10 AM and 4 PM = high evaporation
(40-60% loss)

Watch the Weather

- Don't water if:
 - Rained in past 24 hours
 - Rain is forecast in next 48 hours
- Purchase a rain gauge to track rainfall amounts.
- Install/maintain a rain shut-off device.
 - Required by law on automatic irrigation systems.



Fertilize Appropriately

- Follow UF/IFAS fertilizer recommendations
- Base fertilizer purchases on soil test results
- Apply only when lawn/plants are actively growing
- Use a deflector shield on your fertilizer spreader



Fertilize Appropriately

- Calculate area to be fertilized
- Avoid using “weed and feed” products
- Do not fertilize new turf for 30-60 days



PALMGAIN 8-2-12 F1557 GUARANTEED ANALYSIS

Total Nitrogen (N).....	8%*	Sulfur (S).....	15.04%	Iron (Fe).....	2.12%
3% Ammoniacal Nitrogen		15.04% Combined Sulfur (S)		2.02% Water Soluble Iron (Fe)	
5% Urea Nitrogen		Boron(B).....	0.08%	0.10% Chelated Iron (Fe)	
Available Phosphate (P ₂ O ₅).....	2%	Copper(Cu).....	0.06%	Manganese (Mn).....	1%
Soluble Potash (K ₂ O).....	12%	0.06% Water Soluble Copper (Cu)		1% Water Soluble Manganese (Mn)	
Magnesium (Mg).....	4%			Zinc (Zn).....	0.58%
4% Water Soluble Magnesium (Mg)				0.58% Water Soluble Zinc (Zn)	

Derived From: Ammonium Sulfate, Polymer Sulfur Coated Urea, Sulfate of Potash, Sulfate of Potash Magnesia, Triple Super Phosphate, Copper Sulfate, Ferric Sodium DTPA, Ferric Sodium EDTA, Ferric Sulfate, Manganese Sulfate, Sodium Borate, Zinc Sulfate.

*This product contains 3.52% slow or controlled release nitrogen derived from polymer coated sulfur coated urea. Chlorine (Cl), not more than 2%.
Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfco.org/metals.htm>

How much? What kind?

- Calculate area to be fertilized.
- Select fertilizers with slow-release nitrogen.
- Avoid using “weed and feed” products.
- Always read the fertilizer label.

GUARANTEED ANALYSIS	
Total Nitrogen (N).....	35.0%
35% Urea Nitrogen*	
Soluble Potash (K ₂ O).....	5.00%
Boron (B).....	0.03%
Copper (Cu).....	0.05%
Iron (Fe).....	5.00%
0.10% Water Soluble Iron (Fe)	
Manganese (Mn).....	0.05%
Molybdenum (Mo).....	0.0006%
Zinc (Zn).....	0.05%
Derived from: Polymer-coated Urea, Urea, Muriate of Potash, Sodium Borate, Copper Oxide, Ferric Oxide, Ferrous Sulfate, Manganese Oxide, Molybdc Oxide and Zinc Oxide.	
* Contains 15% slowly available Nitrogen from coated Urea.	

F1074



When? Where?



- Don't fertilize:
 - before a heavy rain;
 - within 10 feet of water;
 - new turf 30-60 days after planting.
- Do:
 - Sweep-up or blow-off fertilizer from sidewalks and driveways



Effects of Over-Fertilizing:

- Stimulates excessive growth
- Aggravates pest problems
- Requires frequent watering
- Runs off into stormdrains/water bodies
- Seeps into shallow aquifers



Know Your Plants

- Certain plants are prone to specific deficiencies
Ex: Magnesium deficiency on palms
- Correct a deficiency with the specific lacking nutrient
(Ex: Use magnesium sulfate - not a lawn fertilizer like 16-4-8)
- Know what your plant is supposed to look like
(Ex: Yellow or variegated foliage may be normal)



Magnesium deficiency



Variegated leaves

Mulch

- Buffers soil temperature
- Discourages weeds
- Retains soil moisture
- Protects plants from mower /string trimmer damage
- Can add nutrients to soil
- Reduces runoff & erosion
- Adds beauty to the landscape



Mulch



- Replenish mulch as needed.
- Create self-mulching areas under trees.
- Use alternative, by-products or recycled mulches when available.
- Maintain 2-3" layer of mulch



Mulching Do's

- Use organic mulches, especially those from your own property (leaves, etc.).
- Maintain a 2-3 inch layer.
- Replenish mulch as needed.
- Create self-mulching areas under trees.
- Purchase by-product or recycled mulches when available (pine bark, Eucalyptus, melaleuca, etc.).



Mulching Don'ts

- Don't use cypress mulch.
- Don't "volcano mulch."
- Pull mulch 12-18" away from the base of trees; 1-2" from the base of shrubs.



Credit: Durham Extension Master Gardeners

Considerations

- Aesthetics
 - Color, texture, smell
- Longevity and durability
- Sources, availability, and price
- Decomposition rates
- Changes to soil chemistry
- Susceptibility to termites



See Mulch Topic Page on EDIS:
http://edis.ifas.ufl.edu/topic_mulch

Attract Wildlife



Importance of Creating Habitat

- Urban development displaces natural areas and reduces habitat
- Wildlife habitat can be created in yards and neighborhoods
- Provides wildlife viewing opportunities



Create Backyard Habitat

- Provide food, water, cover/shelter.
- Limit the amount of lawn.
- Create vertical layers of plants.
- Provide snags and bird houses for cover/nesting.
- Manage pets.



Provide Food

- Bird feeders
- Native plants



Tufted Titmouse (*Baeolophus bicolor*) © BJS, 2016



Zebra Longwing on Firebush



Robin on Yaupon Holly

Provide Water

- Water is essential for many functions
 - Drinking
 - Bathing for birds
 - Reproduction for amphibians
- Sound of water draws wildlife
- Even small amounts of water can aid many animals



FFL Principle #6

Manage Yard Pests Responsibly

- Don't strive for a pest-free landscape
- Practice Integrated Pest Management (IPM)
 - Use good (FFL) cultural practices
 - Routinely inspect plants for signs of problems
 - Try alternative approaches (hand-picking, pruning)
 - Use least-toxic materials (soap, oil, Bt, etc.)
 - Spot-treat the problem
 - Encourage beneficial insects



Integrated Pest Management (IPM)

The background features a decorative border at the top with stylized green grass and sunflowers. The sunflowers are in shades of green and yellow, positioned on the right side of the top border.

- Observe plants and lawn for signs of problems, check plants regularly.
- Physical, biological and chemical treatments
- Start with the least toxic methods
- Know beneficial insects in your yard.

FFL Principle #6 – Manage Yard Pests Responsibly



Green lynx spider



Green lacewing



Praying mantis

Cultural Practices

- Methods to maintain healthy plants
- Stressed plants are more susceptible to attack
 - Ex. Chinese Elm with crowded roots
- Includes:
 - Right plant, right place
 - Proper irrigation, fertilizer, etc.
 - Correct installation and maintenance



Physical Methods

- Remove pests by hand
- Remove infested parts
- Establish barriers to prevent pest access to plants
- Example: Yellow sticky paper attracts whiteflies and other insects
 - These traps help monitor pest populations in greenhouses



Yellow sticky paper

Chemical Controls



- Last resort
- Choose least harmful pesticides
- Use selective pesticides rather than broad spectrum chemicals
- Avoid the shotgun approach
 - Spot treat your yard
- Follow pesticide label instructions carefully
 - Safety vital when handling toxic chemicals

Recycle Yard Waste

- Saves money on fertilizer, mulch, and waste disposal
- Florida law prohibits disposal of yard waste in lined landfills.



Recycle Yard Waste

- Use fallen leaves and pine needles as mulch
- Create self-mulching areas
- Compost yard debris



Leave Grass Clippings On The Lawn

Grass clippings recycle nutrients back to the turf



Reduce Stormwater Runoff

- **Definition:** excess water from irrigation, rain, or other sources.



Keep Stormwater “at Home”

- Direct downspouts to porous areas.
- Sweep grass clippings, fertilizer, and soil back onto the grass.



Keep Stormwater “at Home”

- Use porous surfaces for walkways, patios, and driveways.
 - Pavers, mulch, porous concrete
- Create swales and terraces to slow or hold water.



Reduce Stormwater Runoff

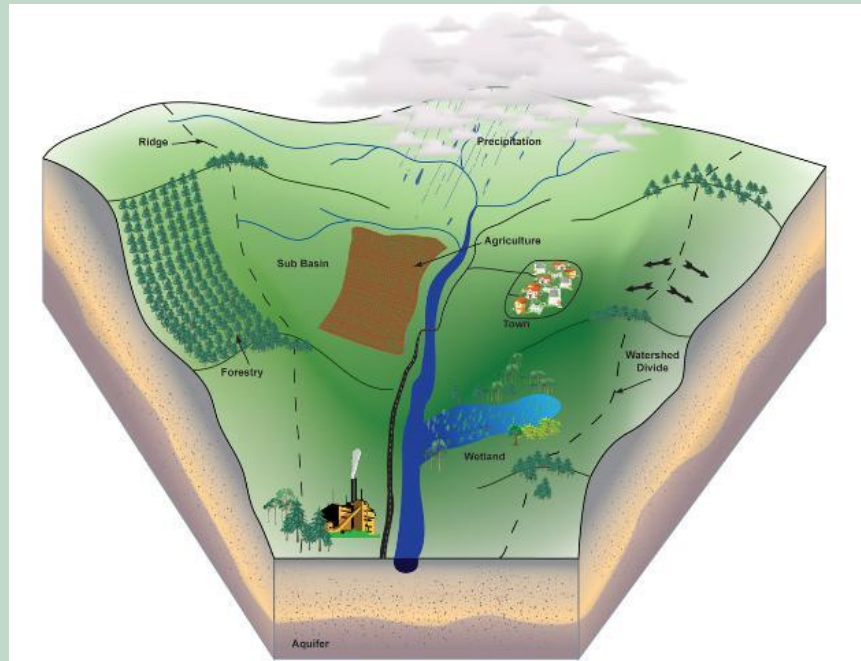
- Collect and store rain runoff from your roof in a rain barrel or cistern
- Create a rain garden to capture and filter stormwater



Protect the Waterfront

- Every FL home is “waterfront property.”
- Know Your Watershed:

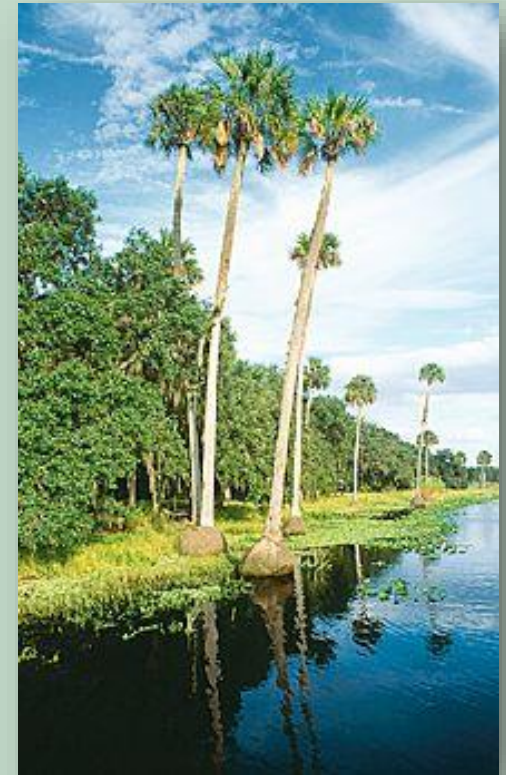
<https://cfpub.epa.gov/surf/state.cfm?statepostal=FL>





Protect the Waterfront

- No one in Florida lives more than 60 miles from water!
- 75% of Florida's population lives within 30 miles of the beach
- Know your watershed
- Where does your water go?



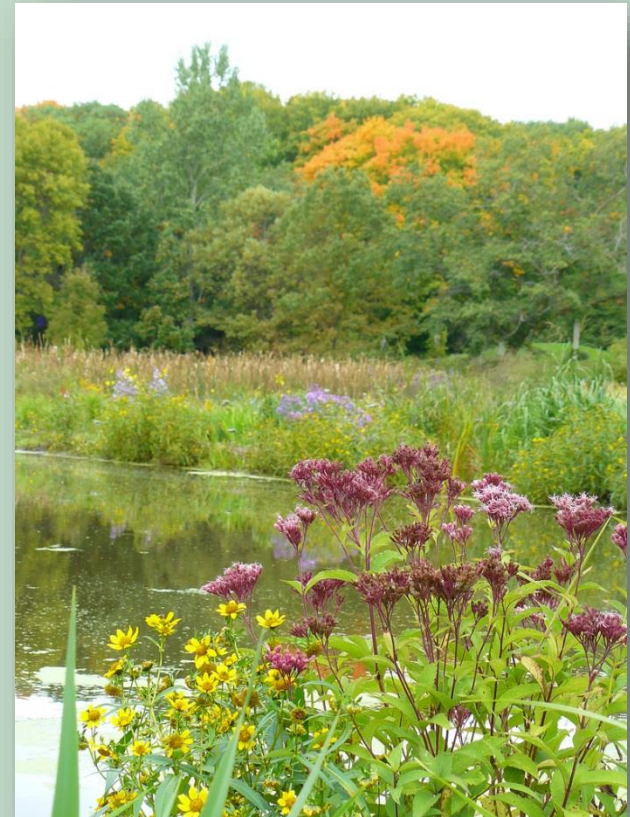
Protect the Waterfront

- A 10' buffer zone of low maintenance plants between lawn and shoreline:
 - Helps protect waterfront from runoff
 - Absorbs nutrients
 - Provides wildlife habitat
 - Prevents erosion



Protect the Waterfront

- Remove invasive exotics.
 - Check regulations
- Protect/plant native shoreline plants



Shoreline Plants

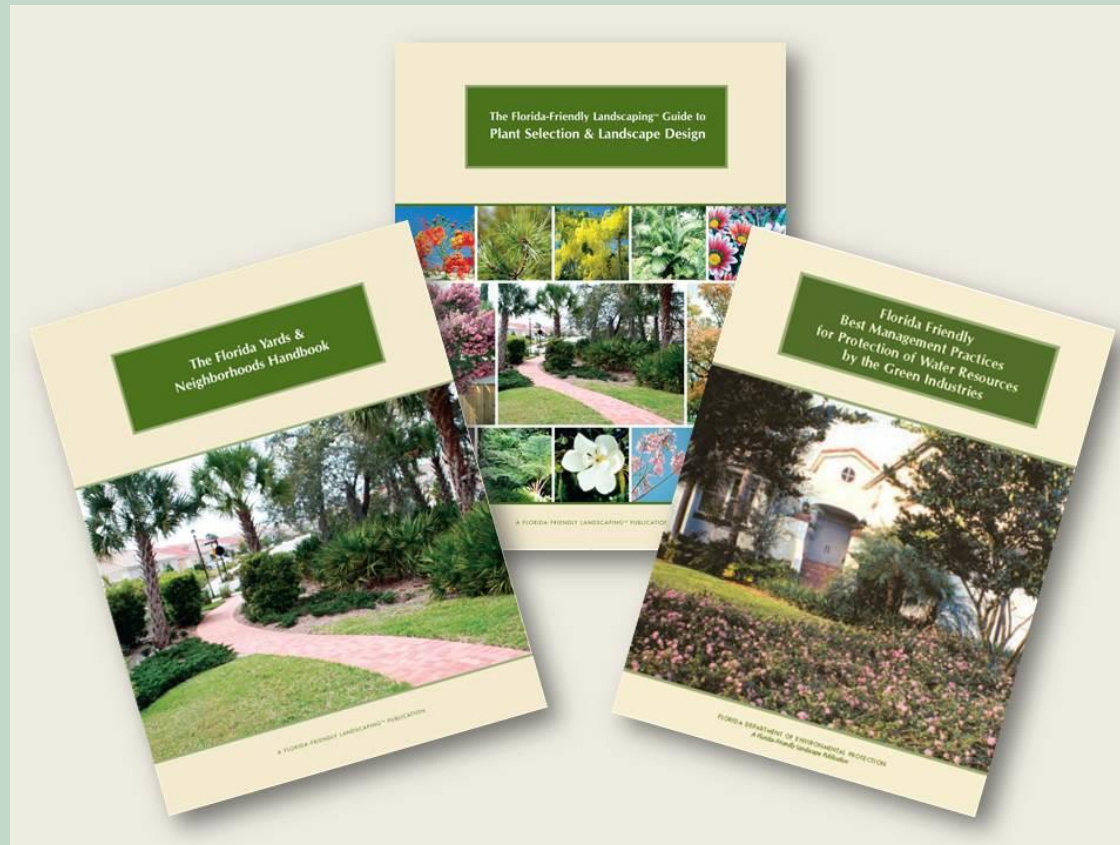
- Protect/plant native shoreline plants.
- Remove invasive exotics.
 - Check UF, state, and local lists of invasive plants.



Part III

FFL Resources

FFL Handbooks & Guides

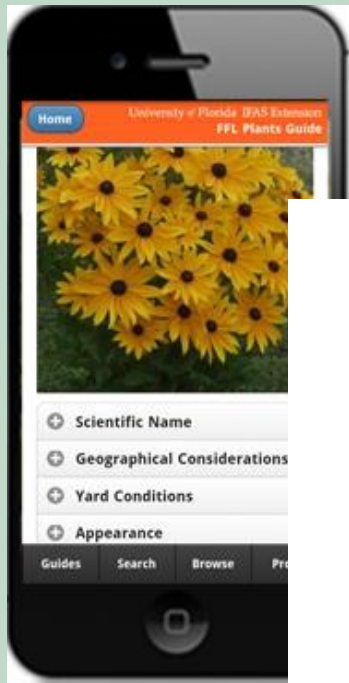


<http://fyn.ifas.ufl.edu/>

FFL Resources

Apps

<http://ffl.ifas.ufl.edu/apps.html>



E-Newsletter

The Neighborhood Gardener – January



Happy New Year, gardeners!

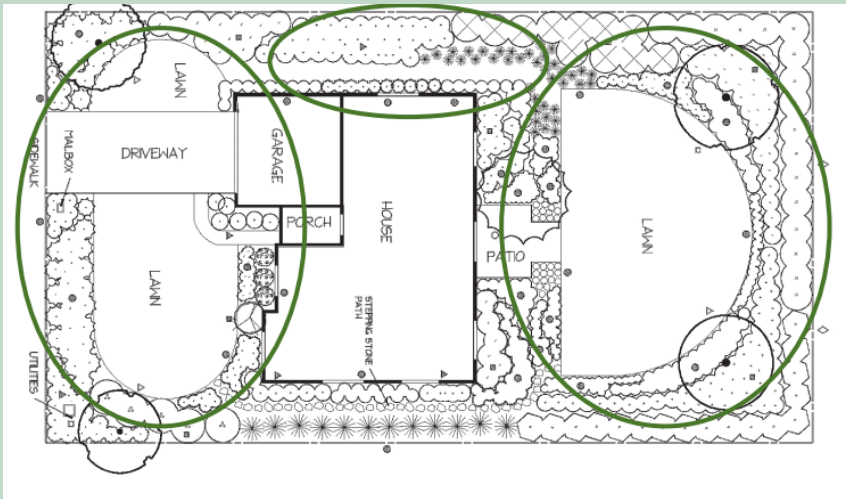
 Sign up for our e-newsletter

<http://fyn.ifas.ufl.edu/>

FFL Resources

...and much more!

Landscape Pattern Books



Tutorials



Yard Recognition Program



Acknowledgements



- Florida-Friendly Landscaping™ Program
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