Florida-Friendly Landscaping™ (FFL)
Florida-Friendly Landscaping™ 101

Dr. Pat Williams

UF | IFAS Extension
UNIVERSITY of FLORIDA

WAKULLA COUNTY

Florida-Friendly Landscaping™ PROGRAM
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

• 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

<table>
<thead>
<tr>
<th>Landscape A</th>
<th>Landscape B</th>
<th>Landscape C</th>
</tr>
</thead>
<tbody>
<tr>
<td>All native</td>
<td>Natives and ornamentals</td>
<td>Ornamentals</td>
</tr>
<tr>
<td>No turf</td>
<td>Limited water</td>
<td>50% Turf area</td>
</tr>
<tr>
<td>No water</td>
<td>Some fertilizer</td>
<td>Fertilizer</td>
</tr>
<tr>
<td>No fertilizer</td>
<td>Limited pesticides</td>
<td>Irrigation</td>
</tr>
<tr>
<td>No pesticides</td>
<td></td>
<td>IPM</td>
</tr>
<tr>
<td>Weeds hand pulled</td>
<td></td>
<td>Mulch</td>
</tr>
<tr>
<td>Composting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 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™

- FYN Programs
  - Homeowner
  - Builder & Developer

- Green Industries BMP Program
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
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
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
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

FFL Principle #1 – Right Plant/Right Place
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.
Right Plant, Right Place

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

<table>
<thead>
<tr>
<th>Landscape 1</th>
<th>Landscape 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Quarter acre</td>
<td>• Quarter acre</td>
</tr>
<tr>
<td>• All lawn = 10,890 sq. ft.</td>
<td>• Part lawn = 2723 sq. ft.</td>
</tr>
<tr>
<td></td>
<td>• Remainder planted with low maintenance plants</td>
</tr>
</tbody>
</table>

Landscape 1 demands 4x the energy costs as Landscape 2 (mowing, edging, pesticides, fertilizers - Parker 1982)
FFL Principle #1 – Right Plant/Right Place

Alternative Approach

Before:

After:
FFL Principle #1 – Right Plant/Right Place

Alternative Approach

Before:

After:
FFL Principle #1 – Right Plant/Right Place

Alternative Approaches
FFL Principle #2

Water Efficiently

• Most Florida lawns and landscape plants are irrigated with potable drinking water.
FFL Principle #2 – Water Efficiently

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
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
## FFL Principle #2 – Water Efficiently

### Home Water Use

<table>
<thead>
<tr>
<th></th>
<th>March '06</th>
<th>APR '06</th>
<th>MAY '06</th>
<th>JUNE '06</th>
<th>JULY '06</th>
<th>Aug '06</th>
<th>SEPT '06</th>
</tr>
</thead>
<tbody>
<tr>
<td>33000</td>
<td>20000</td>
<td>14000</td>
<td>9000</td>
<td>12000</td>
<td>16000</td>
<td>33000</td>
<td></td>
</tr>
<tr>
<td>72000</td>
<td>85000</td>
<td>42000</td>
<td>32000</td>
<td>44000</td>
<td>26000</td>
<td>17000</td>
<td></td>
</tr>
<tr>
<td>29000</td>
<td>39000</td>
<td>45000</td>
<td>15000</td>
<td>26000</td>
<td>22000</td>
<td>17000</td>
<td></td>
</tr>
<tr>
<td>42000</td>
<td>40000</td>
<td>30000</td>
<td>5000</td>
<td>19000</td>
<td>21000</td>
<td>32000</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>57000</td>
<td>29000</td>
<td>18000</td>
<td>17000</td>
<td>23000</td>
<td>12000</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>38000</td>
<td>45000</td>
<td>41000</td>
<td>40000</td>
<td>33000</td>
<td>25000</td>
<td></td>
</tr>
<tr>
<td><strong>21000</strong></td>
<td><strong>19000</strong></td>
<td><strong>4000</strong></td>
<td><strong>11000</strong></td>
<td><strong>5000</strong></td>
<td><strong>4000</strong></td>
<td><strong>3000</strong></td>
<td></td>
</tr>
<tr>
<td>64000</td>
<td>20000</td>
<td>19000</td>
<td>6000</td>
<td>16000</td>
<td>6000</td>
<td>10000</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>96000</td>
<td>18000</td>
<td>22000</td>
<td>19000</td>
<td>15000</td>
<td></td>
</tr>
</tbody>
</table>
FFL Principle #2 – Water Efficiently

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.
FFL Principle #2 – Water Efficiently

Low-Volume Irrigation

Drip Tubing

Drip Emitters

Micro-sprinkler

Microirrigation applies water to the root zone (gallons per hour versus gallons per minute)
FFL Principle #2 – Water Efficiently

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)
FFL Principle #2 – Water Efficiently

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.
FFL Principle #3

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
FFL Principle #3 – Fertilize Appropriately

Fertilize Appropriately

• Calculate area to be fertilized
• Avoid using “weed and feed” products
• Do not fertilize new turf for 30-60 days
FFL Principle #3 – Fertilize Appropriately

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.
FFL Principle #3 – Fertilize Appropriately

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

FFL Principle #3 – Fertilize Appropriately
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)
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.).
FFL Principle #4 - Mulch

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
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
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)

- 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

FFL Principle #6 – Manage Yard Pests Responsibly
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
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
FFL Principle #8

Reduce Stormwater Runoff

• **Definition**: excess water from irrigation, rain, or other sources.
FFL Principle #8 - Reduce Stormwater Runoff

Keep Stormwater “at Home”

• Direct downspouts to porous areas.
• Sweep grass clippings, fertilizer, and soil back onto the grass.
FFL Principle #8 - Reduce Stormwater Runoff

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.
FFL Principle #8 - Reduce Stormwater Runoff

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
FFL Principle #9

Protect the Waterfront

• Every FL home is “waterfront property.”
• Know Your Watershed:
  https://cfpub.epa.gov/surf/state.cfm?statepostal=FL
FFL Principle #9 - Protect the Waterfront

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
FFL Principle #9 - Protect the Waterfront

Protect the Waterfront

- Remove invasive exotics.
  - Check regulations
- Protect/plant native shoreline plants
FFL Principle #9 - Protect the Waterfront

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**
http://fyn.ifas.ufl.edu/
FFL Resources

...and much more!

Landscape Pattern Books

Tutorials
Yard Recognition Program
Acknowledgements

• Florida-Friendly Landscaping™ Program

• Reviewers: Dr. Esen Momol, FFL Program Director, Claire Lewis, Statewide FYN Program Coordinator, Center for Landscape Conservation and Ecology, UF/IFAS, and Lynn Barber, FFL Agent, UF/IFAS Extension Hillsborough County

• Dr. Sydney Park Brown, CLCE, 2018 revision