

A guide to
Environmentally Friendly
Landscaping

Florida Yards and Neighborhoods Handbook



*"All this will be for a future race...
Yet I do not wish it less. On the same
principle on which I am still planting
trees, to yield their shade and
ornament half a century hence."*

Thomas Jefferson

*writing at Monticello
June 24, 1812*

Florida Yards & Neighborhoods: The First Line of Defense

It may surprise you to know that your yard is the first line of defense for Florida's fragile environment. The health of Florida's estuaries, rivers, lakes and aquifers depends in part on how you landscape and maintain your yard. And you don't even have to live on the water to make a difference.

Stormwater runoff is the reason. Rain falls on yards, roads and parking lots, then washes into streams and bays, carrying pollutants like fertilizers, pesticides, soil and petroleum products. Scientists have discovered that fertilizers and pesticides from residential areas can be serious threats to the health of Florida's waters. When runoff contains nitrogen from fertilizers, algae can become so abundant that aquatic plants are smothered, oxygen is depleted and fish kills may result. In some freshwater environments phosphorus is often the nutrient responsible for algae blooms. Toxic substances such as common landscape and household pesticides can damage reproduction in marine life.

But all is not gloom and doom. A new ethic is emerging among concerned Florida homeowners who seek to redefine the image of home and landscape. The idea is to cooperate with local, natural conditions, rather than battle the elements.

More people are conserving water and energy inside and outside the home. Interest is growing in landscaping with native and other beneficial trees, shrubs and ground covers. Homeowners are choosing plants that blend beauty and

environmental benefits. People are selecting safer alternatives to chemicals used indoors and out.

Best of all, many of these benefits to the environment also save time and money while enhancing our special Florida lifestyle.

This handbook on the Florida Yards & Neighborhoods Program provides helpful concepts, tools and techniques for creating your own Florida Yard. You'll learn the basics of designing a landscape featuring carefully selected plants suited to our climate, natural conditions and wildlife. Tips on cost-saving, environmentally friendly landscape maintenance also are included to help you reduce water, fertilizer and pesticide use. A helpful section for waterfront homeowners addresses shoreline management. This handbook also provides tips for working with your neighbors to share costs and work. Handy reference lists are located in the back of the handbook.

Whether starting from scratch with a new landscape or considering changes in an existing one, the information provided here will help you get started on your Florida Yard. For more assistance, contact the Cooperative Extension Service in your county and ask about the Florida Yards & Neighborhoods Program.

In the Sarasota Bay watershed, fertilizer runoff from residential areas is estimated to be responsible for one-third of the excess nitrogen that is polluting the bay.

About the Florida Yards & Neighborhoods Program

The natural beauty of Florida continues to attract people—lots of people. The explosive growth of communities throughout Florida since World War II has taken its toll on fragile ecosystems. From freshwater wetlands and streams to mangrove marshes and bays, the natural systems that attracted

Our yards and neighborhoods are pathways to our waterways. The decisions we make—from developing a homesite to improving and maintaining our property—will determine the future of our treasured water resources.

us in the first place are damaged and dwindling.

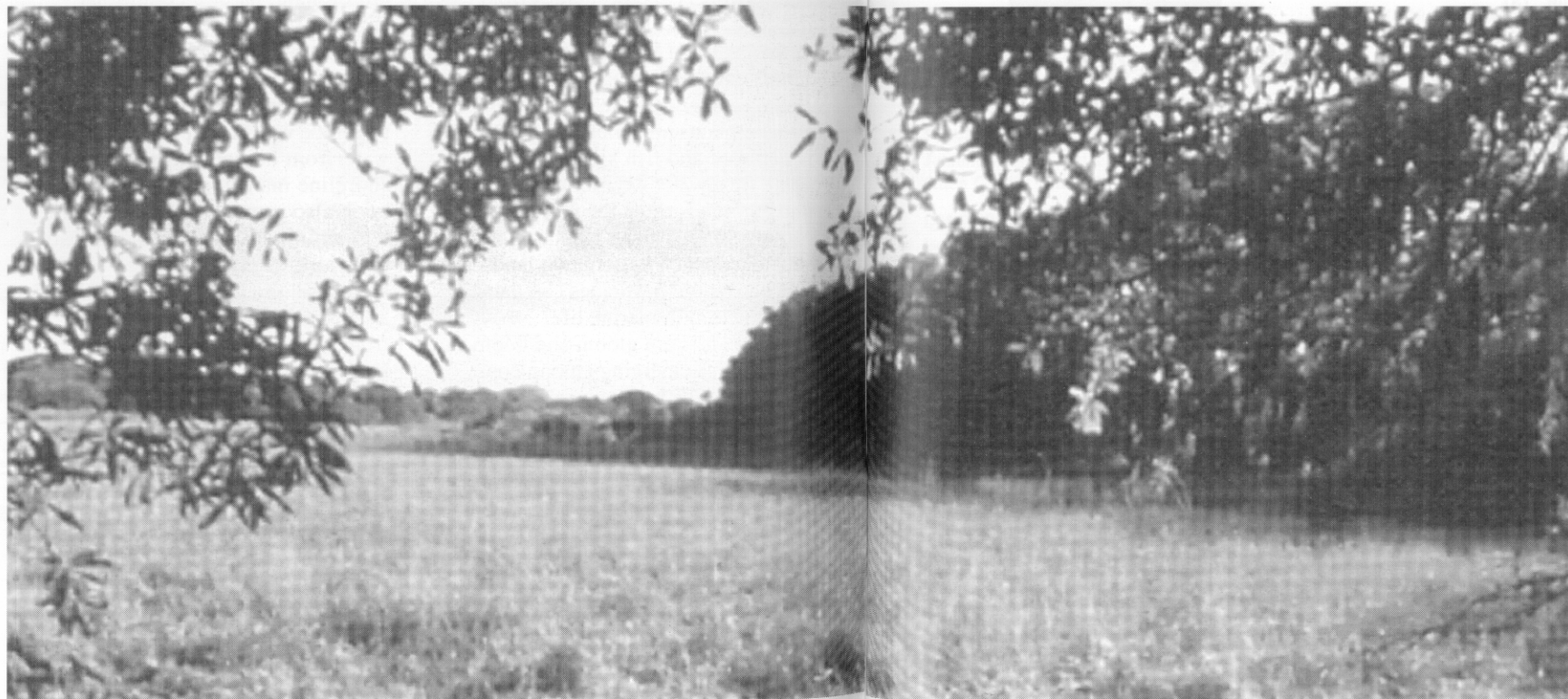
The Florida Yards & Neighborhoods Program was developed to address serious problems of pollution and disappearing habitats by enlisting homeowners in the battle to save our waterways. The program provides special educational

and outreach activities in the community to help residents reduce pollution and enhance their environment by improving home and landscape management.

Florida Yards & Neighborhoods is a partnership of concerned citizens, members of the landscape industry, the University of Florida's Cooperative Extension Service, the National Estuary Programs, Florida Sea Grant College Program and numerous environmental agencies.

The Florida Department of Environmental Protection, the U.S. Environmental Protection Agency, the USDA Natural Resources Conservation Service and local governments also support the program.

Our yards and neighborhoods are pathways to our waterways. The decisions we make—from developing a homesite to improving and maintaining our property—will determine the future of our treasured water resources.



◀ Millions of people living in Florida are attracted to the serene beauty of Florida's natural habitats.

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Acknowledgements

PUBLISHED Spring 1996 BY:
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Mary Beth Pechiney, Gerard Pickhardt, Nancy Rechcigl, Gail Reeder, Carolyn Reichard, Virginia Sanders, Fred Santana, Elmer Sauer, Mike Scheinkman, Doris Schember, Don Short, Gary Simone, Rawley Silver, Hudson Slay, Allen Smajstrla, Marjorie L. Smith, Stuart Smith, Chris Steinwachs, Jake Stowers, Evelyn Swimmer, Jon Thaxton, David Tomasko, Greg Vine, Sue Wait, Susan Walker, Corky Weimern, Leah Wilcox, John T. Woeste, Judy Yates, and Raymond Zerba.


DESIGN AND TYPESETTING BY:
ArtType Publishing Inc., 2055 Wood Street,
Suite 104, Sarasota, Florida 34237

SPECIAL THANKS TO:
Michelle W. Jensen; and Frank and Emily Buskirk for the use of their Florida Yards in photographs.

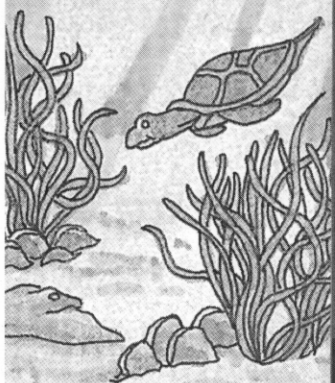
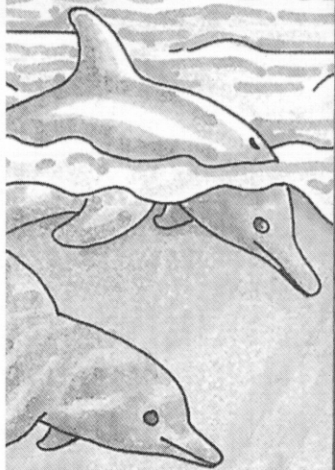
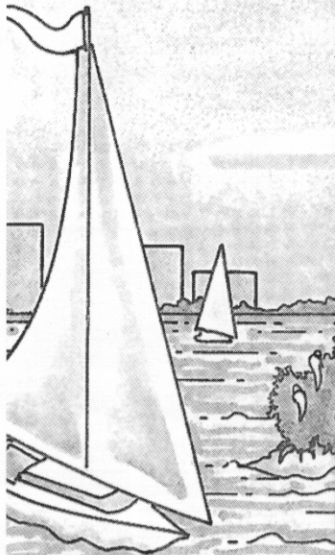
PHOTOGRAPHS AND ILLUSTRATIONS:
Beth Bailey, Bill B. Boothe, Allen Garner, Chris Fusca, Swanee Nardandrea, Virginia Sanders, Vern Sawyer, Laurel E. Schiller, Selby Gardens, Heidi Smith, Hilton Snowdon, Terry Stepka, Tom Wright, and the County Cooperative Extension Services of the Institute of Food and Agricultural Sciences, University of Florida.

IN COOPERATION WITH:
The Florida Department of Environmental Protection
Florida Sea Grant College Program
United States Environmental Protection Agency
Indian River Lagoon National Estuary Program
Southwest Florida Water Management District
St. Johns River Water Management District
South Florida Water Management District

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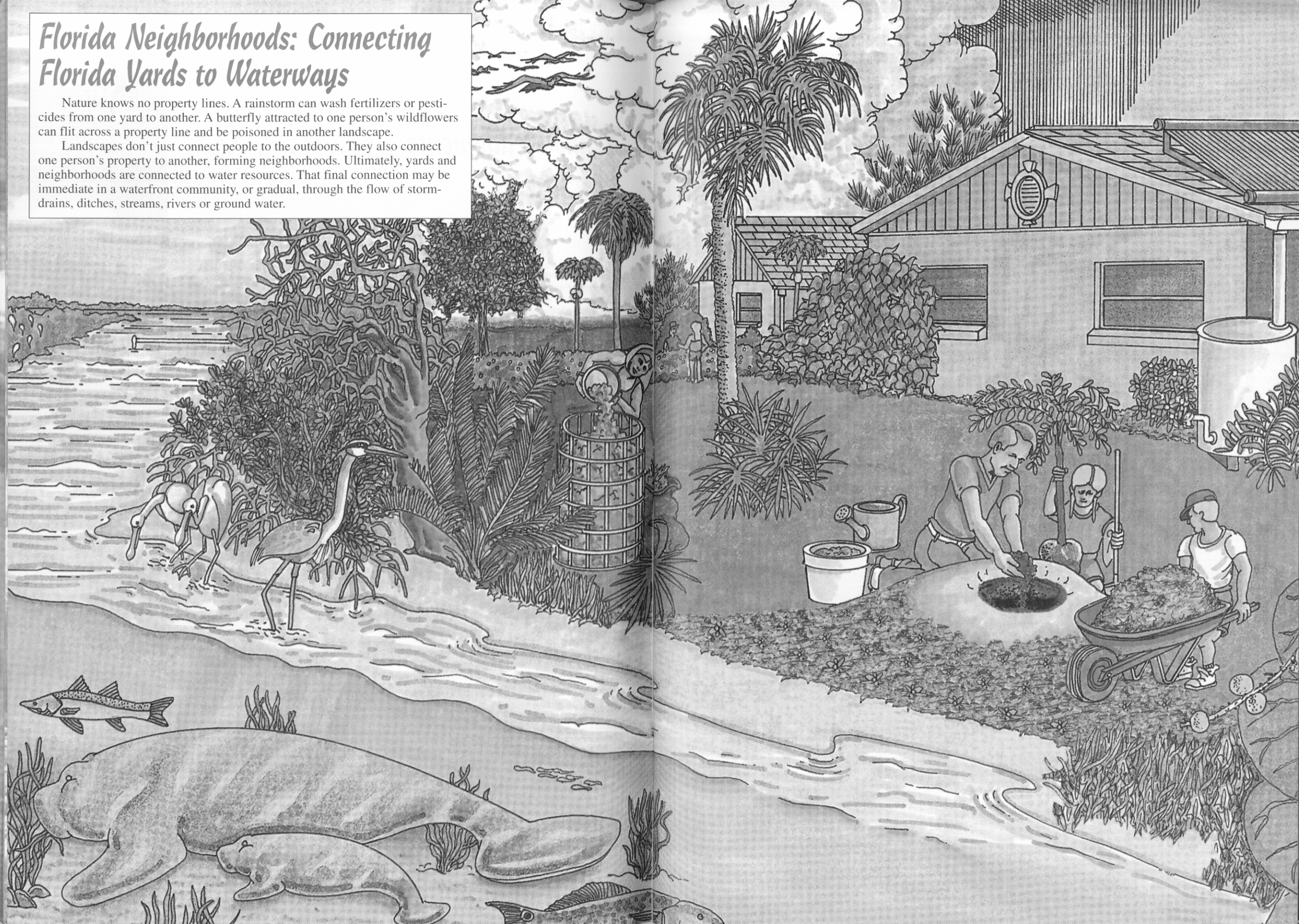
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Florida Neighborhoods: Connecting Florida Yards to Waterways

Nature knows no property lines. A rainstorm can wash fertilizers or pesticides from one yard to another. A butterfly attracted to one person's wildflowers can flit across a property line and be poisoned in another landscape.

Landscapes don't just connect people to the outdoors. They also connect one person's property to another, forming neighborhoods. Ultimately, yards and neighborhoods are connected to water resources. That final connection may be immediate in a waterfront community, or gradual, through the flow of storm-drains, ditches, streams, rivers or ground water.



Nature's Florida Yards

A snapshot of natural landscapes of Florida

Following are examples of typical plant communities of the Sunshine State. Look around your neighborhood or in nearby parks to see if any signs of these natural landscapes remain. Can your own landscape replace a piece of what's been lost?



◀ Sandy Coasts

Shorebirds comb the beach at dusk. Sea oats sway on sand dunes covered with beach sunflower, railroad vine and golden creeper.



Coastal Ridges ▶

Seagrape, cedar and gumbo limbo trees shade a shell mound deposited centuries ago by native Floridians. Under the tree canopy are rich, green leaves of wild coffee and marlberry.



◀ High, Dry Scrubs

A family of scrub jays flies from myrtle oak to sand pine. Leaves of sand live oak litter the ground, hiding a cottontail rabbit from the hungry stare of a red-tailed hawk circling above.

Pine Flatwoods ▶

A gopher tortoise emerges from a sandy burrow surrounded by palmettos and slash pines. A pileated woodpecker knocks at the gray bark of a lightning-scorched snag. Rosy plumes of muhly grass rise from a patch of prairie.



◀ Freshwater Wetlands

Purple blooms of pickerel weed and yellow canna lily dot the shallow waters of a marsh. Feathery boughs of Carolina willow flutter in the breeze as Florida ducks, wood storks and sandhill cranes seek a morning meal.



Shady Hammocks ▶

Migrating finches dart after insects in the understory of live oaks draped with Spanish moss. Fuchsia sprays of beauty berry cascade at the base of cabbage palms whose fans mingle with the oak canopy.



◀ Estuary Shorelines

Tides wash against the roots and trunks of red, black and white mangroves where brown pelicans nest. Tidal marshes lined with cordgrass teem with small fish which flee the stalking herons. On a sandy rise, sea oxeye daisies bloom in profusion.

2nd. Street North

Creating Your Florida Yard

Well-planned design is the first step toward a Florida-friendly landscape.

What is a Florida Yard? It is an approach which recognizes that the home landscape is part of larger, natural systems. Creating a Florida Yard doesn't necessarily mean creating a "wild" looking yard, but it does mean creating a landscape that is an asset to nature, instead of a liability. A Florida Yard can also save time, energy and money because it doesn't need intensive maintenance.

For decades, the image of Florida landscaping has been portrayed by picture postcards of lavish resorts and tropical gardens. However, the picture of a natural Florida is quite different. This is a sub-tropical zone of diverse plant communities: coastal ridges, pine flatwoods and shady hammocks, to name a few.

Unfortunately, the state's original, rich diversity has been replaced with standardized yards that bear little resemblance to native Florida.

Expanses of manicured lawns are now the dominant landscapes in most of our communities.

A beautiful, Florida-friendly yard begins with good landscape design decisions based on your needs and desires—and a healthy environment.

Whether you're designing on a shoestring or hiring a professional landscape architect, understanding a few

basic concepts can help you make environmentally appropriate decisions and avoid trouble later.

In this section, you'll find tips on the major factors involved in landscape design. Soils, design considerations, plant selection and placement, and other topics are covered.

Plan First, Plant Last

The secret to being satisfied with your landscape design is to follow a logical planning process. Don't start by going to a nursery and picking out a few plants that strike your fancy.

Instead, first review the following steps to guide your landscaping journey. If you follow them, there's a good chance you'll end up where you want to be.

1 Decide why you want to landscape. In a Florida Yard, landscaping protects and enhances the environment by reducing harmful runoff and providing wildlife habitat. These concepts should be considered at each step of the landscaping process. Other considerations include aesthetics, food production, climate control and resale value.

2 Determine how you will use your property. Perhaps you need a play area for children or like to give outdoor parties. Maybe you want to have a vegetable garden or enjoy a waterfront view. Maybe you don't want to spend much time at all in your yard; you just want to enjoy looking

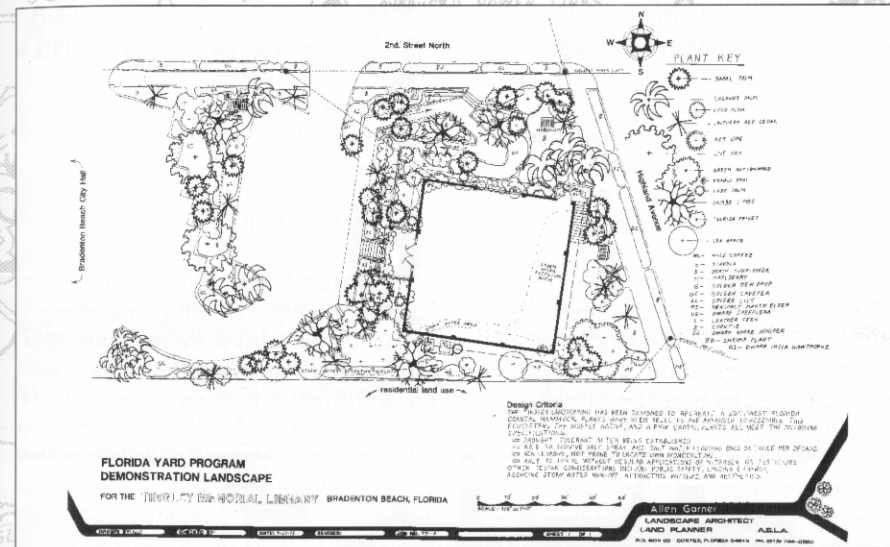
at it without time-consuming or costly maintenance.

3 Analyze the existing site or landscape and consider your limitations. Know your soil type and pH. Examine drainage patterns and structural limitations like power lines and underground utilities. Consider which existing plants to retain and list factors that will affect selection of new plants. Does your site require plants that are tolerant of cold, full sun, shade, drought, occasional flooding or salt spray? Also, look at surrounding properties in regard to vistas and drainage. This is a good time to find out if a neighbor will share property lines to enhance plantings for privacy or wildlife.

4 Prepare a land-use plan. A pencil, ruler and graph paper are handy tools for this step. A photocopy of the survey completed for your mortgage also is helpful. Sketch where various activities will take place. Consider functional relationships, such as

placing turf areas, vegetable gardens or other specialty gardens away from the waterfront. This will reduce the potential for stormwater pollution as those areas are maintained. Is there a particular vista from the house you want to enhance with plants that attract birds or butterflies?

5 Add the landscape plan to the land-use sketch. Review the plant selection factors listed in Step 3, and determine the types of plants you want in different locations. Don't worry about specific plant identification yet. Draw where you want trees, shrubs, ground covers or flowering plants. Remember to keep plants at least four feet from buildings to allow for growth and to make house maintenance easier. To aid in selecting particular species, note the ultimate plant height you want in various areas and where you particularly wish to attract birds or butterflies. Group plants according to their water needs so irrigation can be applied more efficiently and plants will be healthier.



PLANT KEY

- SABAL PALM
- COCONUT PALM
- COCO PLUM
- SOUTHERN RED CED
- KEY LIME
- LIVE OAK
- GREEN BUTTWOOD
- FRANGI PANI
- LADY PALM
- GUMBO LIMBO
- FLORIDA PRIVET
- SEA GRAPE
- WC - WILD COFFEE
- S - SCAVOLA
- B - BEACH SUNFLOWER
- M - MARLBERRY
- G - GOLDEN DEW DRO
- GC - GOLDEN CREEPER
- SL - SPIDER LILY
- ME - SEACOAST MARSH
- DS - DWARF SHEFFLERA
- L - LEATHER FERN
- Z - COONTIE
- DJ - DWARF SHORE JUN
- BG - SHRIMP PLANT
- RI - DWARF

The secret to being satisfied with your landscape design is to follow a logical planning process.

6 Incorporate the irrigation plan, if one is required. In-ground irrigation systems are not necessary in every landscape, particularly if drought-resistant plants are used. However, while plants are becoming established in the yard, a watering system is convenient. At this stage, research your irrigation needs and determine which type of system, if any, will be installed. Then add the irrigation plan to your landscape design plan.



◀ *The Tingley Library's attractive landscaping is inviting to visitors using the Bradenton Beach facility.*

7 Select plants and other landscape materials. Now you're ready to select plants. Remember to consider maintenance requirements, the limitations of your site and wildlife value when selecting plants. Try to write the common and scientific (genus and species) name into your plan; common names are less specific and can cause confusion when it's time to buy plants. Also at this stage, consider other landscape materials that will be used for walkways, mulch or borders.

8 Implement. Grab your checkbook, buy quality plants, don your gloves and sharpen your shovel. Keep in mind that proper planting techniques are important in establishing healthy plants.

9 Maintain. Maintenance includes proper irrigating, fertilizing, composting, pruning, mowing, mulching and using the least toxic methods of pest control. The more thorough you are with steps 1-8, the less you will

have to worry about maintenance. Remember, it is possible to maintain established landscapes with minimal pesticides, fertilizers or supplemental irrigation.

10 Enjoy! Photograph the evolution of your Florida Yard and share pictures with the Florida Yards & Neighborhoods Program in your county. Let us learn from your experience and share your knowledge with others. "Before" and "after" shots with captions are especially useful.

More About Soil

Soils in Florida are mostly sands. Typical soils allow rapid, downward movement of water and many nutrients. Thus, they dry out quickly and are not compatible with plants having high water and nutritional requirements. Sandy soils are more likely to allow leaching of chemicals into ground water and waterways.

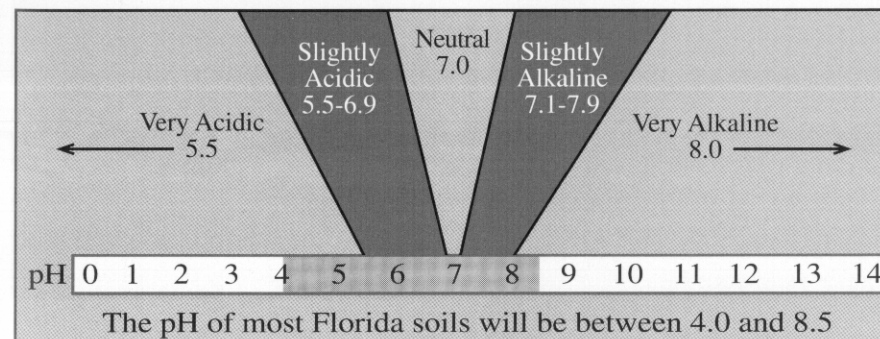
The simplest way to avoid these problems in the landscape is to use only plants that are compatible with the site. If you want a vegetable or flower garden be prepared to modify or amend the soil. In that case, frequently add organic matter, such as compost, to the planting or shrubbery bed. This will retain moisture, provide nutrients and attract beneficial organisms like earthworms.

It is helpful to have your soil's pH (acidity/alkalinity) tested. Sandy coastal areas are usually alkaline (high pH), and inland areas are usually acidic (low pH). However, many lots contain fill soil from other areas, so site-specific pH testing is a good idea. Knowing your soil's pH will help you make better use of plant reference guides, which often provide this information along with other requirements of the

plants listed. Many plants will tolerate a wide pH range, but will do best when planted in the right soil.

When soil pH is high because of naturally-occurring lime (like limestone, marl or sea shells), there is no practical way of lowering the soil pH. There simply is too much lime present to neutralize. The same is often true near new masonry buildings where excessive waste concrete and mortar fell on the soil during construction. Under those circumstances, you should select plants which are tolerant of high pH conditions to avoid continuing plant nutritional problems. In general, slightly acidic soils don't need to be modified because most landscape plants will tolerate these conditions. Contact the Cooperative Extension Service for information on soil testing services in your area.

When planning your landscape, be aware that different areas on the same property may have vastly different soils because of imported fill. Another variable factor in your soils may be the presence of a sub-layer of hardpan, rock, or shell. This is one reason to examine your soil to a depth of about 18 inches before making final plant selections.



More About Plant Selection

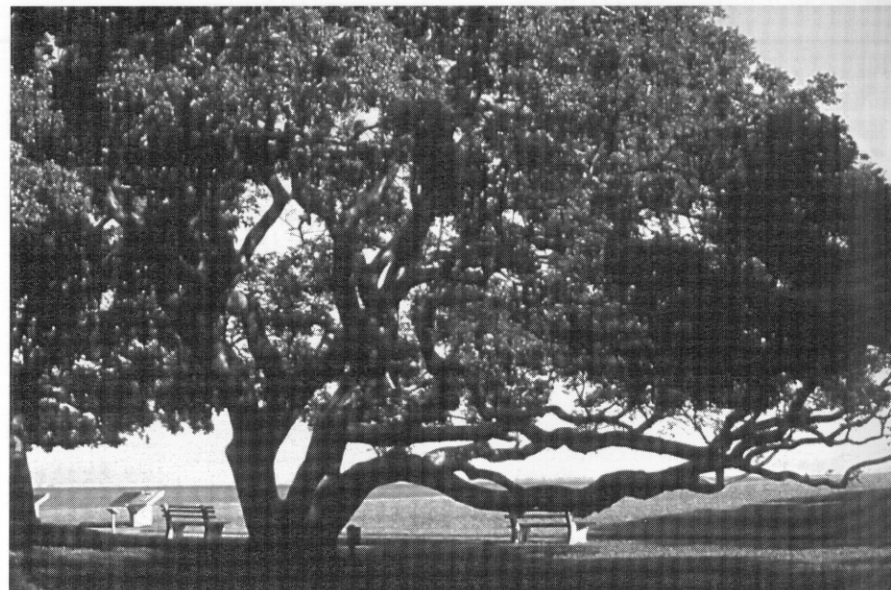
Plant selection is undoubtedly the fun part of landscaping. Florida's climate supports countless varieties of plants, and many are grown by local plant nurseries. If you follow the design checklist provided earlier in this section, you'll be well prepared to make the best plant choices.

The plants you select determine the wildlife value of your yard, the level of maintenance that will be required, how much money you'll be spending on water or electricity to run a pump, and how much fertilizer or pesticide may be required. Plant selection also will determine how long

your landscape will last. For example, fast-growing plants often have a shorter life-span than slower-growing species.



▶
Sabal Palm
(*Sabal palmetto*),
Florida's
State Tree



▲ *Gumbo Limbo Tree* (*Bursera simaruba*)

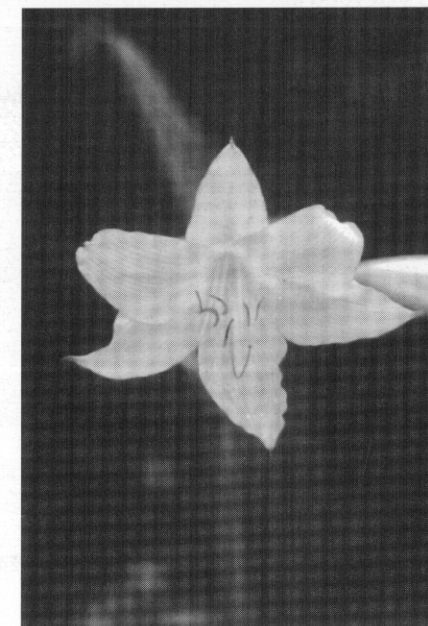


Wild Poinsettia (*Euphorbia heterophylla*) ▲

Here are some guidelines for selecting your Florida Yard plants:

- ☞ Plants already on your property, particularly native plants, may be well-suited to the site and should be retained. Avoid disturbing the root zone (at least to the drip line) of these plants, or driving over it with heavy vehicles. Saving existing plants reduces costs and leaves valuable wildlife habitat undisturbed. For those building a new home, retaining existing plants also limits erosion by reducing the amount of clearing required.
- ☞ Select from a plant palette that includes suitable native plants. Once native plants are established in the right location, most require little, if any, supplemental water, fertilizers or pesticides.
- ☞ If you don't want to continue irrigating after plants become established, select drought-resistant plants that are right for your soil.

Crinum Lily (*Crinum americanum*) ▼



Plant selection guidelines (continued):

- ☞ Consider wildlife. Providing native flowering and fruiting plants can bring birds and butterflies into your yard and your view. Florida is a stopover for many migrating and wintering butterflies and birds.
- ☞ Limit the number of plants that require high water and maintenance, and place them where they'll have the most visual impact.
- ☞ Don't plant, invasive species. The State of Florida prohibits planting of Brazilian pepper, Australian pine and melaleuca (cajeput or punk tree). These plants should be removed from your yard, if possible. They crowd out native plants and are seriously threatening Florida's ecosystems and wildlife. Several other plants commonly used in landscaping are starting to take over parts of Florida. A few examples are wedelia (a ground cover), carrotwood tree,



Scarlet Milkweed (*Asclepias curassavica*) ▲

Java plum and Chinese tallow. A list of plants to avoid in your area may be available through the Cooperative Extension Service. Also, contact your local government planning department to find out which plants are restricted by landscaping codes.

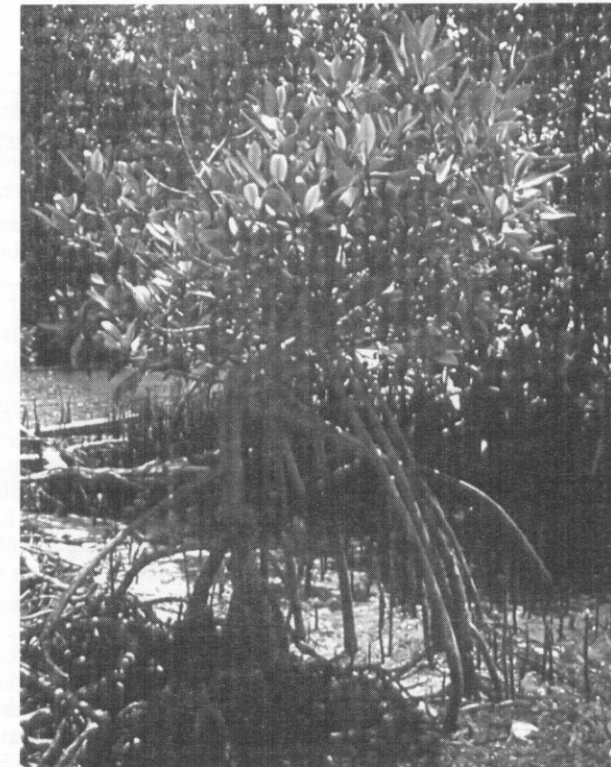
- ☞ Aim for diversity. Strive to create a mosaic of trees, shrubs, ground covers, native grasses and wildflowers. Monocultures, which are large expanses of the same species of plant, are prone to disease and insect infestation and do not provide the same benefits to wildlife as a diverse plant community.



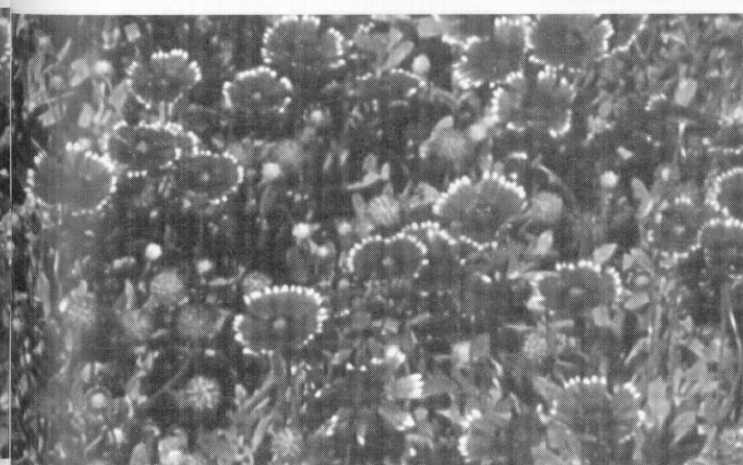
- ☞ Turf areas should be functional and designed for easy maintenance. Where grass doesn't thrive or is not needed, consider replacing it. Good alternatives are ground covers or landscaped beds including the mosaic of plants described above. Ground covers can be especially useful in shady areas where turf may not thrive. Fertilizing, watering, mowing and pesticide use will be reduced.

longer to fill in your landscape picture, but they'll last longer and create less work.

Red Mangrove (*Rhizophora mangle*) ▼



- ☞ Don't be fooled by the quick-fix appeal of fast-growing plants. Such plants require more pruning, resulting in more yard waste. Lush, green shoots also attract pests. Slower-growing plants may take



◀ Blanket Flower (*Gaillardia pulchella*)

Matching Plants to Your Yard

Determine site characteristics

Remember that these may vary throughout your yard:

Soil

- sand
- loam
- clay
- alkaline pH
- acidic pH
- compacted
- well-drained
- poorly drained

Light

- full sun
- partial sun
- shade

Temperature

- exposed to freezes
- exposed to extreme heat

Structural Limitation

- power lines
- underground utilities
- septic tank
- roof overhangs
- paved surfaces

Other

- exposed to salt spray or salty well water
- exposed to strong wind
- exposed to wet/dry seasonal extremes

Consider characteristics that reduce maintenance and prevent pollution:

- drought-resistant
- pest-resistant
- native
- non-invasive
- slow-growing
- wind resistant
- thrives without supplemental fertilizing

Select plants with wildlife-attracting characteristics:

- berries
- seeds
- nuts
- acorns
- fleshy fruits
- butterfly plants: nectar and larval food
- red tubular flowers for hummingbirds

Also consider the following characteristics:

- provides shade
- human food source
- deciduous
- evergreen
- screening for privacy
- attractive flowers or foliage

Consult with expert sources listed below to develop a plant list for your site based on these characteristics:

- Cooperative Extension Service
- Florida Native Plant Society
- Division of Forestry
- Water Management District
- Garden Center or Plant Nursery
- USDA Natural Resources Conservation Service
- Landscape Maintenance Professional
- Libraries

What is Xeriscape™?

Xeriscape emphasizes water conservation through local landscaping techniques. The principles of Xeriscape are: soil analysis, appropriate planning and design, efficient irrigation, practical turf areas, careful plant selection, mulching and appropriate maintenance. These principles are encompassed by Florida Yards & Neighborhoods, with additional considerations of wildlife habitat, reducing stormwater runoff and enhancing shorelines. For information on Xeriscape, contact your Water Management District or the Cooperative Extension Service.

Searching for Natives

Some Florida native plants may be tough to find at your local garden center, but demand is growing so the supply will follow. In the meantime, here are some tips on finding native plants that may be suited to your yard.

- ☞ Visit parks and preserves to view native plants in their natural setting. Undisturbed acreage near your home may serve the same purpose. See what grows well in your area. Take photographs to show to knowledgeable people for later plant identification, or carry a good field guide that includes color photos. Some counties feature Florida Yards and Neighborhoods Demonstration Landscapes.
- ☞ Visit the library and book stores, particularly those at botanical gardens, to find good reference books on Florida native plants.
- ☞ Attend meetings and field trips organized by the Florida Native Plant Society or other horticultural organizations. Members often swap plants and seeds, as well as knowledge on what grows best in your area.
- ☞ When buying your plants, provide a list with *scientific names*, specifying the size of plant you want. Be sure to request an estimate before placing the order and inspect the plants for vigor and signs of disease or pests before paying.
- ☞ If plants you seek are not available through local garden centers, visit plant nurseries that specialize in Florida native plants. For information on locations near

you, contact the Association of Florida Native Nurseries.

- ☞ Consider hiring a landscape architect or contractor who is knowledgeable about native plants to survey your yard and landscape plan and make suggestions. This may be a wise investment, particularly if you are planning major changes.

Florida Yard Tip



Don't know where to start? Plant trees. Reestablishing a tree canopy is a great way to begin your Florida Yard. Trees not only provide shade and wildlife habitat, but they also help reduce stormwater runoff. According to one estimate, a 50-percent tree canopy can reduce runoff by 25 percent. Trees also help remove pollutants from the air and replace carbon dioxide with purified oxygen. In addition, it is estimated that tree shade on the west side of a home can reduce air conditioning costs by 50 percent.

If those reasons don't suffice, consider that trees significantly increase the value of a home and lot. The related increase in resale value far outweighs the initial cost of the trees. Some sources for advice on tree selection and planting include: Cooperative Extension Service, Florida Division of Forestry, Florida Native Plant Society, Florida Yards & Neighborhoods Program, and Global Re-LEAF.

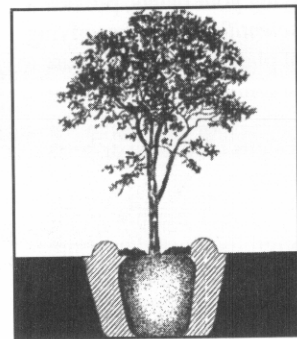
Proper Planting

Here are basic instructions for installing new plants:

- ☞ Dig the planting hole the same depth as the root ball and two to three times wider.
- ☞ Water the plant, then carefully remove the plant from the pot. If the plant is field grown, the root ball may be wrapped in burlap or plastic-reinforced material. Untie or cut the material and remove it if possible or lay it back into the hole, making sure to bury the wrapping completely.
- ☞ If the plant is root-bound, with lots of roots wrapped around the outside of the root ball, *gently* loosen the root ball to aid the roots in spreading or cut the outside layer of roots on the sides and bottom to stimulate new root development. Better yet, buy plants that are not root-bound.
- ☞ Do not add material such as fertilizer, peat moss or top soil to the planting hole. Research has shown this not to be of benefit. However, amending the entire bed is beneficial.
- ☞ Place the plant in the hole so the top of the root ball is even with the soil surface. When filling the hole with soil, be sure to fill any air pockets around the root ball. Do not spread soil on top of the root ball. On some sites, a raised planting bed may be beneficial to deal with rock, hardpan or drainage problems.
- ☞ Water thoroughly after planting.

- ☞ Add a three-to-four-inch layer of mulch (preferably recycled mulch) around the plant to retain moisture and discourage weeds. Do not pile mulch against the plant stem or tree trunk.
- ☞ During the establishment phase, which varies from a few months for most one-gallon size plants to several years for large trees, even drought-resistant plants require consistent moisture. Here is a sample watering schedule for establishing a one-gallon size plant with average water requirements:
 - Week 1: Water daily.
 - Week 2-3: Every two days.
 - Week 4-6: Twice per week.
 - Week 7-12: Once per week.

Once established, most plants require about 1/2-inch to 3/4-inch of water per week. Less frequent irrigation may be required in winter when plants are dormant. Use a rain gauge to track rainfall in your yard. If rainfall is not adequate, water according to the plants needs.



◀ Following proper planting techniques will help your new plants thrive.

More About Attracting Wildlife

Florida has the third most diverse wildlife population of any state in the nation. But rapid growth of human populations is replacing native wildlife habitat with urban development. As our communities expand, we lament the loss of birds and other wildlife, yet our own yards are partly to blame.

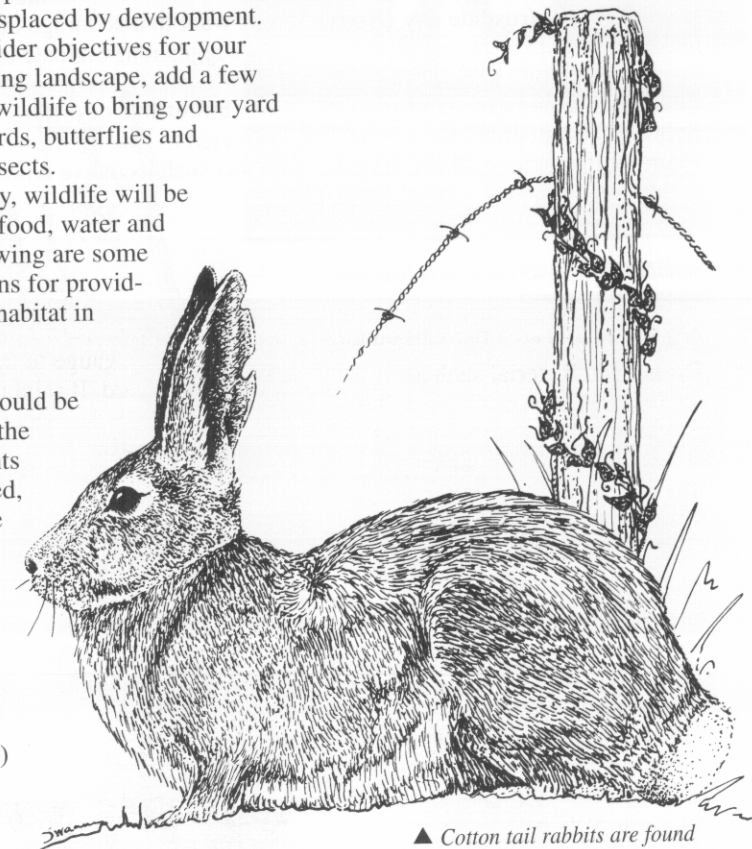
A Florida Yard provides habitat for desirable plants *and* animals that have been displaced by development. As you consider objectives for your new or existing landscape, add a few features for wildlife to bring your yard alive with birds, butterflies and beneficial insects.

Basically, wildlife will be attracted by food, water and cover. Following are some considerations for providing wildlife habitat in your yard:

Food should be provided in the form of plants that bear seed, fruit, foliage or flowers that you are willing to have eaten by birds, larval butterflies (caterpillars) or adult butterflies.

Berries, fleshy fruits, nuts and acorns are treats for wildlife.

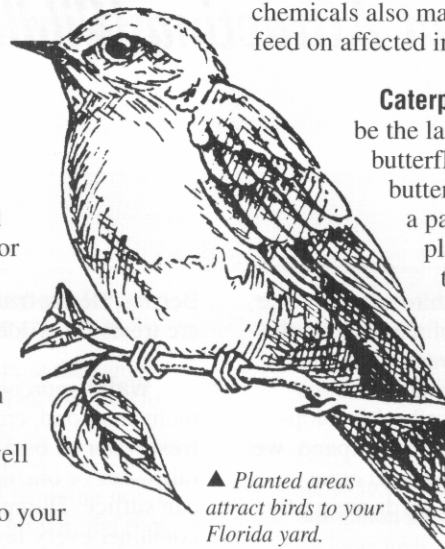
Water sources in your yard may include a pond, creek or other body of freshwater. A bird bath that captures rainwater or one that you replenish can suffice. Dump and clean the container every few days and refill it to prevent mosquito breeding



▲ Cotton tail rabbits are found throughout the sunshine state.

and bacterial contamination.

Birds are attracted to planted areas that include a tree canopy, smaller understory trees and shrubs, and grasses or flowers, particularly those that are allowed to go to seed on occasion. Meadow grasses can be especially attractive to wildlife, as well as adding a graceful and unique feature to your landscape.



▲ Planted areas attract birds to your Florida yard.

chemicals also may poison birds that feed on affected insects.

Caterpillars on plants may be the larval form of butterflies. Each species of butterfly lays its eggs on a particular species of plant. For example, the queen butterfly lays its eggs on milkweed. If caterpillars are stripping a plant of leaves, take a sample of the offending insect to the Cooperative Extension Service for identification. If

you want to discourage the insect, ask for suggestions on least-toxic controls.

Warning: Pets that are allowed to harass wildlife will frustrate any efforts you make toward attracting wildlife.

Pesticides used in the landscape will reduce insect populations, an important food source for birds. Some

Butterflies of different species are attracted to specific flowering nectar plants such as native wildflowers,

▼ Caterpillars are the larval form of butterflies.



shrubs and vines. The Cooperative Extension Service and Florida Native Plant Society can provide information on which butterflies are found in your area and which plants they use.

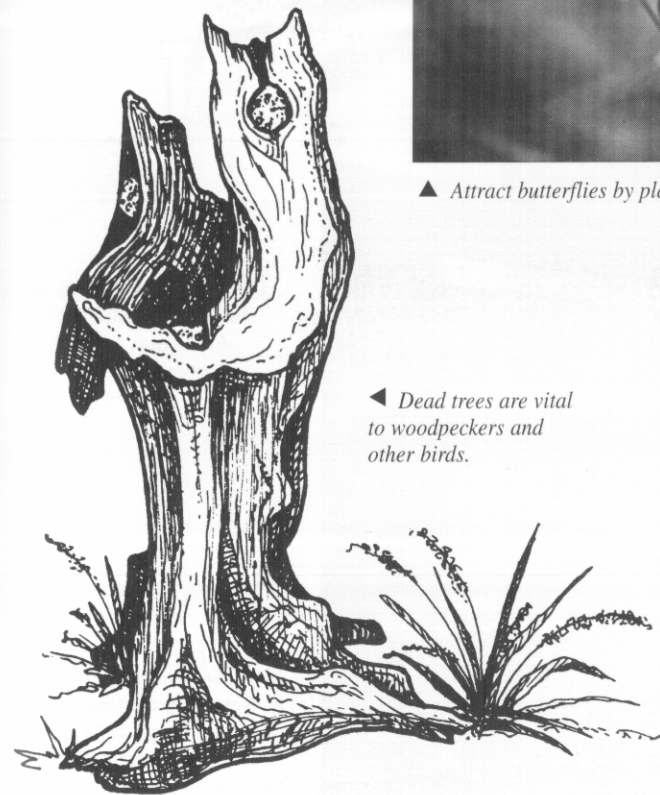
Snags, or dead trees, can be left in place if they don't threaten structures or parking areas. Birds use the snags for perches, sources of insects for food and nesting.

Literature from the Urban Wildlife Program of the Cooperative Extension Service can aid in your plans. The pamphlets list scores of plants and their wildlife-attracting characteristics, plus they describe which birds, butterflies or mammals use various plants. In some

counties, you can apply for your yard to be certified as a Florida Wildlife Habitat.



▲ Attract butterflies by planting nectar-rich flowers.



◀ Dead trees are vital to woodpeckers and other birds.

More About Preventing Runoff

Here's a basic concept of a Florida Yard. Rain that falls in your yard should *soak into* your yard. After all, rainfall is an excellent source of water for your landscape, and reducing runoff will help protect waterways. Retaining rainfall long enough for it to percolate through the soil is particularly challenging in neighborhoods built before the late 1970s, when

stormwater treatment ponds were not required. Please consider a few practical tips for reducing the amount of rainfall that runs off your yard.

Downspouts

If the roof of your home has rain gutters, make sure the downspouts are not aimed toward a paved surface. Turn downspouts into areas with



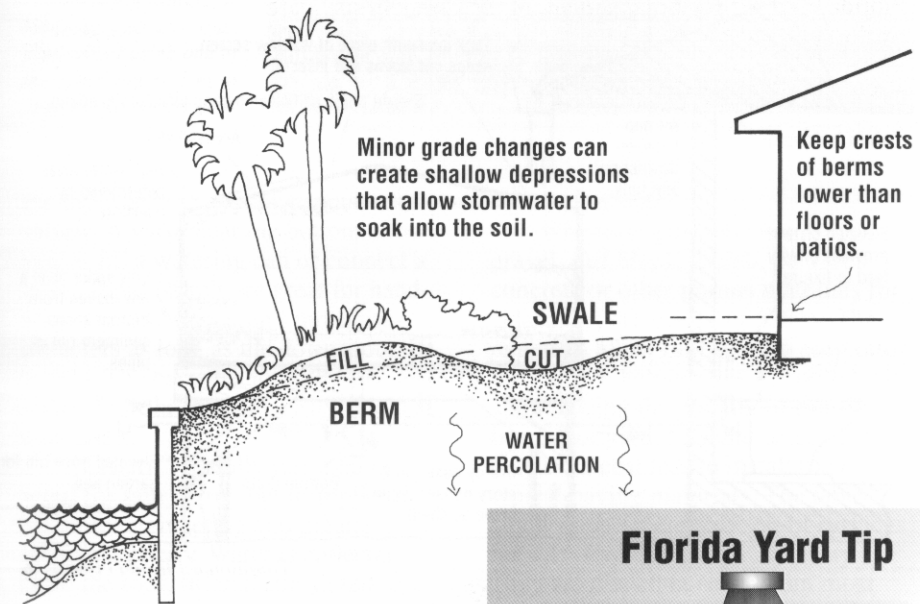
◀ Rain gutters connected to large concrete cisterns can collect and hold thousands of gallons of rainwater that can be used for irrigation or flushing toilets.

plantings that will make better use of rainfall than letting it run down the driveway and into a storm drain. Be sure to choose plants for these areas that can adapt to having more water, and be sure water doesn't pool next to buildings.

Earth Shaping

Swales (small dips in the ground) and berms (raised earthen areas) can

help divert runoff that is rushing from your yard. A bit of earth shaping can also be an attractive design element in your landscape. A berm-and-swale combination might be especially appropriate if your waterfront yard has a seawall. That, in combination with a maintenance-free zone of native plants, can make your yard more aquatically friendly. Minor alterations to the lay of the land won't require permits or



▲ Berms and swales can help detain and percolate runoff that rushes into streets, storm drains and waterways.

Florida Yard Tip

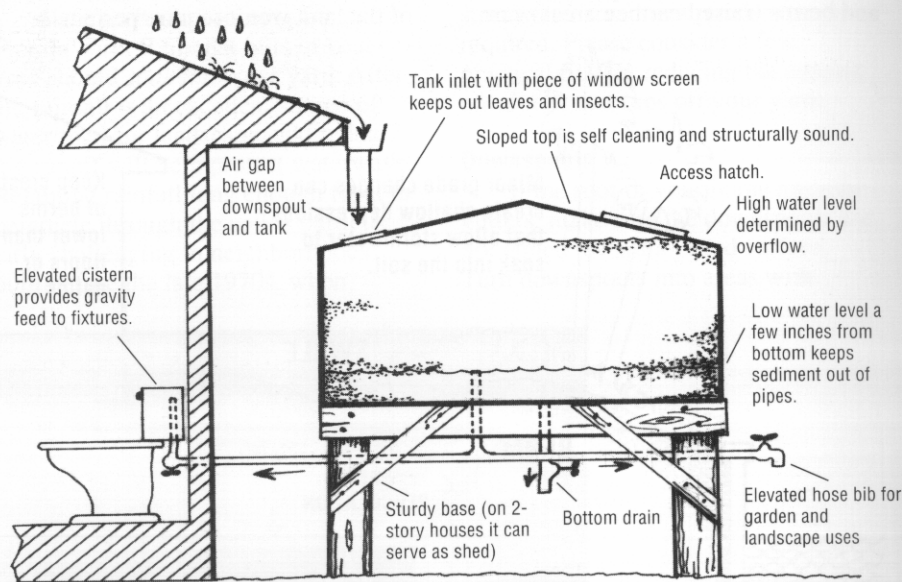


Many homeowners are concerned that allowing rainwater to stand in their yards will provide a breeding site for mosquitoes. This need not be an issue if the water is gone within three days. If an area of your landscape tends to flood for short periods and is damaging certain plants, consider changing the plants to species more tolerant of wet/dry extremes. You may have an opportunity to create a seasonal wetland, which is a type of freshwater wetland that has been lost to a significant extent in parts of the region. Consult the Cooperative Extension Service or local government stormwater management department for plant selection advice.

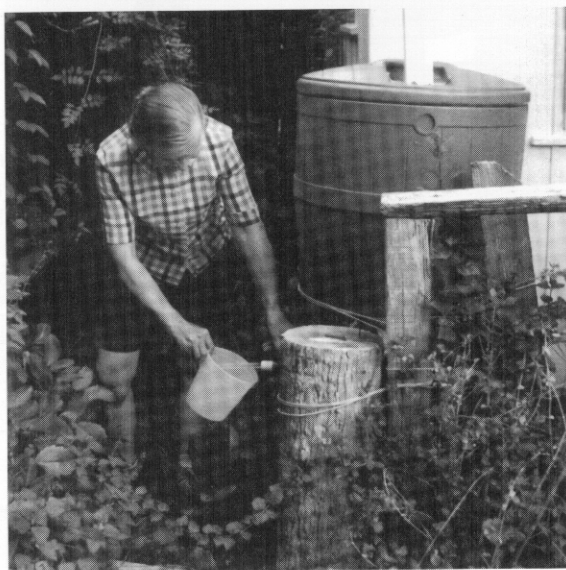
engineers, but any major earth work should have the professional touch and will require regulatory review. Some cities and counties have natural resource departments that can provide advice on earth shaping. The USDA Natural Resources Conservation Service and local Soil and Water Conservation Districts also may provide assistance.

Rain Barrels and Cisterns

These ancient “technologies” are making a comeback as water shortages and environmental ethics lead homeowners to use rain that falls on their property. Large, plastic rain barrels are now available at home and garden stores. The barrel looks much like a garbage can, but has a hole in



Traditional Florida cistern. ▲



◀ Cisterns also can be made from large plastic barrels. Rainwater runs off the roof into the cistern from the downspout.

Porous Concrete

Washed Shell



Recycled Mulch

When installing or repaving your driveway, think about using one of the many alternatives to impervious concrete. ▶

the top where a roof downspout can fit snugly. A valve near the bottom allows you to fill a watering can or connect a hose. These barrels are great for hand-watering, and they aren't mosquito-attractors as long as the downspout fits tightly. The barrel is not unsightly, and a four-foot shrub could easily shield it from view.

“Cistern” is really just a fancy word for rain barrel, but it implies a bit more engineering and greater storage capacity. Water is collected from the roof, filtered and stored in a container made of concrete, metal, wood, fiberglass or plastic. Water travels from the cistern upon demand by either gravity feed or pump action.

Porous Surfaces

Whenever possible, use bricks, gravel, turf block, mulch, pervious concrete or other porous materials for sidewalks, driveways or patios. These materials allow rainwater to seep into the ground, helping to filter pollutants and reducing the amount of runoff from your yard. In some cases, they may even cost less to install than typical paving materials. The table below shows a comparison of surfaces for a 15-foot by 30-foot driveway. They are placed in order from most porous to least porous:

Materials	Cost	Comments
Recycled mulch	\$.16-.40/sq.ft.	Requires occasional replenishing. Cypress mulch not recommended because harvest degrades wetlands.
Washed shell	\$.30/sq.ft.	Eventually compacts and hardens. Needs periodic additions. May alter soil pH.
Gravel	\$1.33/sq.ft.	
Pervious concrete	\$2.50/sq.ft.	
Shell rock (limestone)	\$.94/sq.ft.	Hardens. Prone to erosion. May alter soil pH.
DOT-approved shell	\$.25/sq.ft.	May alter soil pH.
Concrete	\$1.50/sq.ft.	
Asphalt	\$1.17/sq.ft.	