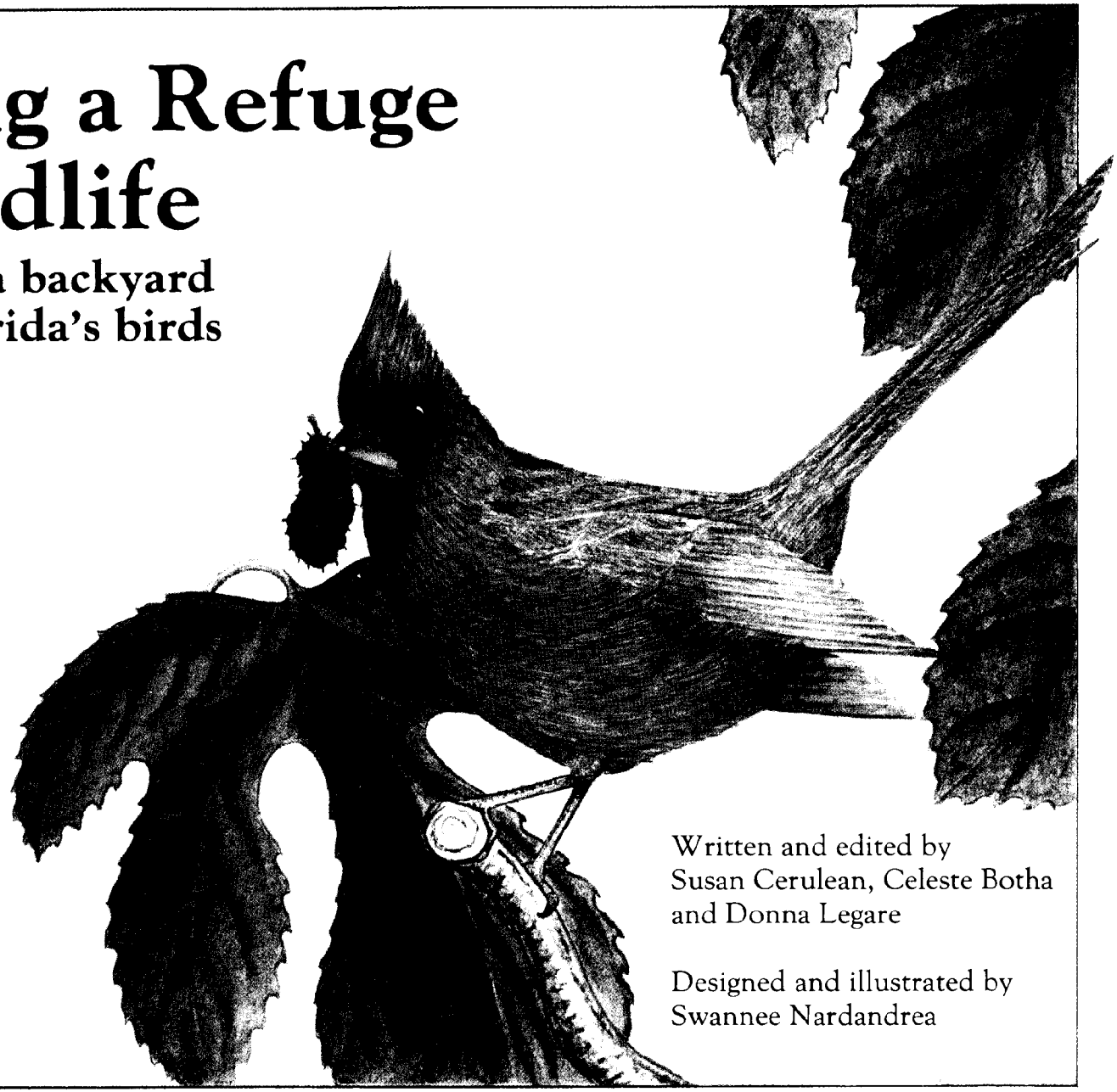
Planting a Refuge for Wildlife

How to create a backyard habitat for Florida's birds and beasts.



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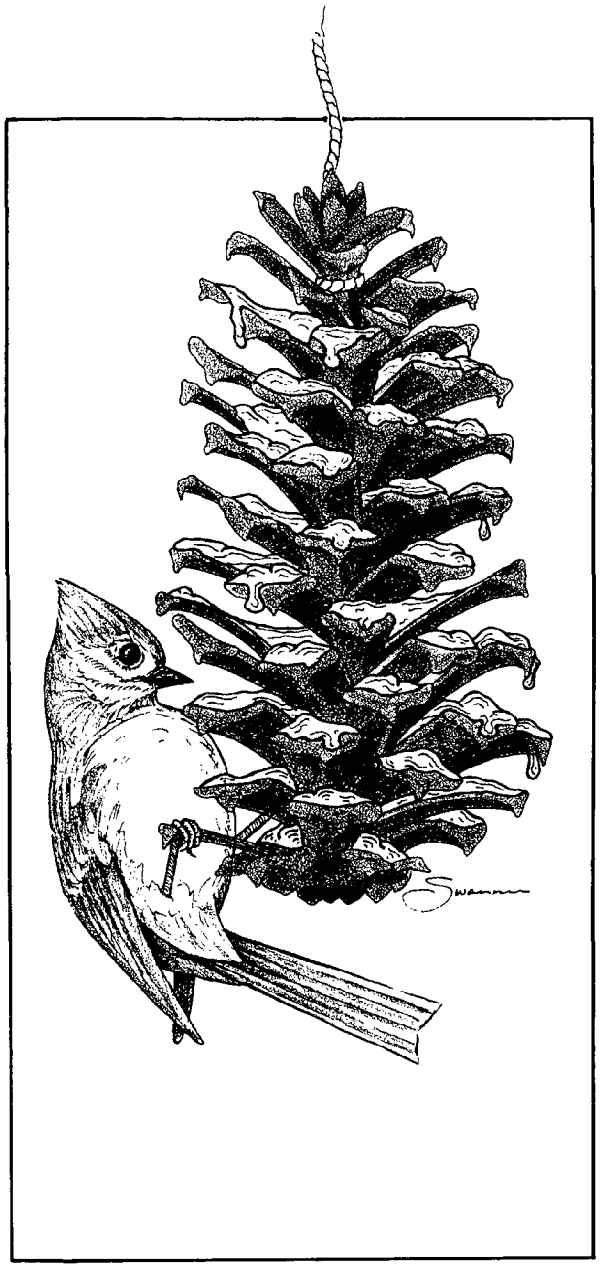

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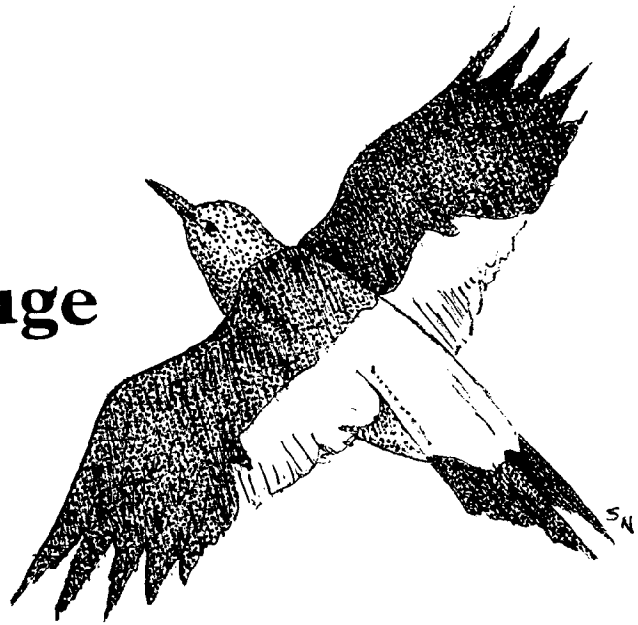


TABLE OF CONTENTS

- Preface 1
- How to use this guide 1
- Introduction 2
- What animals might live in your backyard? 4
- Create a backyard habitat plan 5
- Evaluate your environment 6
- Managing your backyard habitat
  - Modifications and maintenance 7
  - A caution about exotics 8
  - Cavity trees, lawns and soil 9
- Attract the wildlife you want
  - Birds 10
  - Mammals 16
  - Reptiles and amphibians 17
  - Butterflies 18
  - Hummingbirds 19
  - Problem guests 20
- Supplementing your backyard habitat
  - Nest boxes 21
  - Feeding stations 22
  - Water 23
- Native plants for backyard Florida habitats 24
- For further information 33

Feeding stations that provide water and supplemental foods can concentrate birds in your backyard habitat.

Preface

In a recent public opinion poll, 88 percent of all Floridians said it is important to know that wild animals live around their homes. Yet millions of our residents don't realize how closely the health of wildlife populations is tied to the health of their habitats—the living spaces that provide animals with food, water, shelter and cover. This guide suggests specific techniques for creating viable habitats on small properties in Florida. We hope it will help you attract, enjoy and conserve wildlife close to your home.

This guide was produced jointly by the Florida Game and Fresh Water Fish Commission and the United States Department of Agriculture Soil Conservation Service in cooperation with the Palm Beach Soil and Water Conservation District. Native plant information was compiled by Donna Legare, Gary Schultz (The Nature Conservancy), Richard Moyroud (Florida Native Plant Society), Roger Hammer (Castellow Hammock Nature Center) and Sandy Morrill. The landscape design was prepared by Jody Walthall of Native Nurseries in Tallahassee. Many of the techniques for attracting birds in south Florida were suggested by Cynthia Plockelman and Thomas McElroy. David Cook prepared the section on reptiles and amphibians. Victor Heller, Assistant Director, Division of Wildlife, provided initial guidance and support for this project. Dave McElveen contributed valuable advice and suggestions. Many other reviewers volunteered their time and expertise to assure the accuracy of this guide, including Jim Cox, Jeff Gore, John Waters, the Board and staff of the Palm Beach Soil and Water Conservation District, John Vance, Durbin Tabb, Craig Tufts (National Wildlife Federation), Charles Potter (Audubon Society of the Everglades), Judy Gillan, Jeff Priest, Brian Millsap and Bruce Neville.

How to use this guide

In this booklet, you will find proven ways to encourage a broad cross-section of Florida wildlife to visit and live around your home. No matter what your time or financial constraints, you can take some of these simple steps to improve wildlife habitat in your back yard.

The first section outlines what animals you might expect to find in your Florida yard and their basic life requirements. Next you will find a step-by-step overview of how to plan a backyard habitat that takes **your** living requirements into account as well! The manager's checklist on page 7 should be helpful after you have landscaped your property, or if you already have an established landscape. Pages 10-19 describe specific management techniques to help you attract the wildlife you want, including birds, mammals, reptiles, amphibians and butterflies. Solutions for some common wildlife-human conflicts on small properties are discussed on page 20. If you want to supplement your habitat or attract wildlife for close observation, the sections on feeding, housing and providing water for wildlife will interest you. Finally, you will find an extensive listing of the native plants you will want to use to create your backyard habitat. If you seek a more complete discussion of any of these topics, review the resources and publications listed under "For Further Information" (page 33).

As you are planning your backyard wildlife habitat, learn as much as you can about the wildlife species you wish to benefit. Use native plants to attract the animals native to your areas. This will add to your enjoyment and your efforts to conserve Florida wildlife. Learn to identify and eliminate harmful exotic species.

A final word: be patient and realistic in your expectations. Remember that it will take time, often years, to increase the number and kinds of wildlife in your back yard.

Introduction

There are many reasons why birds and other animals appeal so strongly to our affections. The simple truth is—they bring us joy. The exuberant songs of cardinals and mockingbirds, the dazzling display of a painted bunting in our birdbaths or feeders, and the sight of colorful butterflies dancing above a wildflower patch—these are personal pleasures that aren't easily measured.

People need to live close to the natural world—to trees, flowers and animals. When we watch the complexity and diversity of nature, we become more observant and more in tune with important subtleties around us. A monarch butterfly seen in September signals us that the fall migration of many species is beginning. The appearance of a purple martin in February lets us know that spring is close behind.

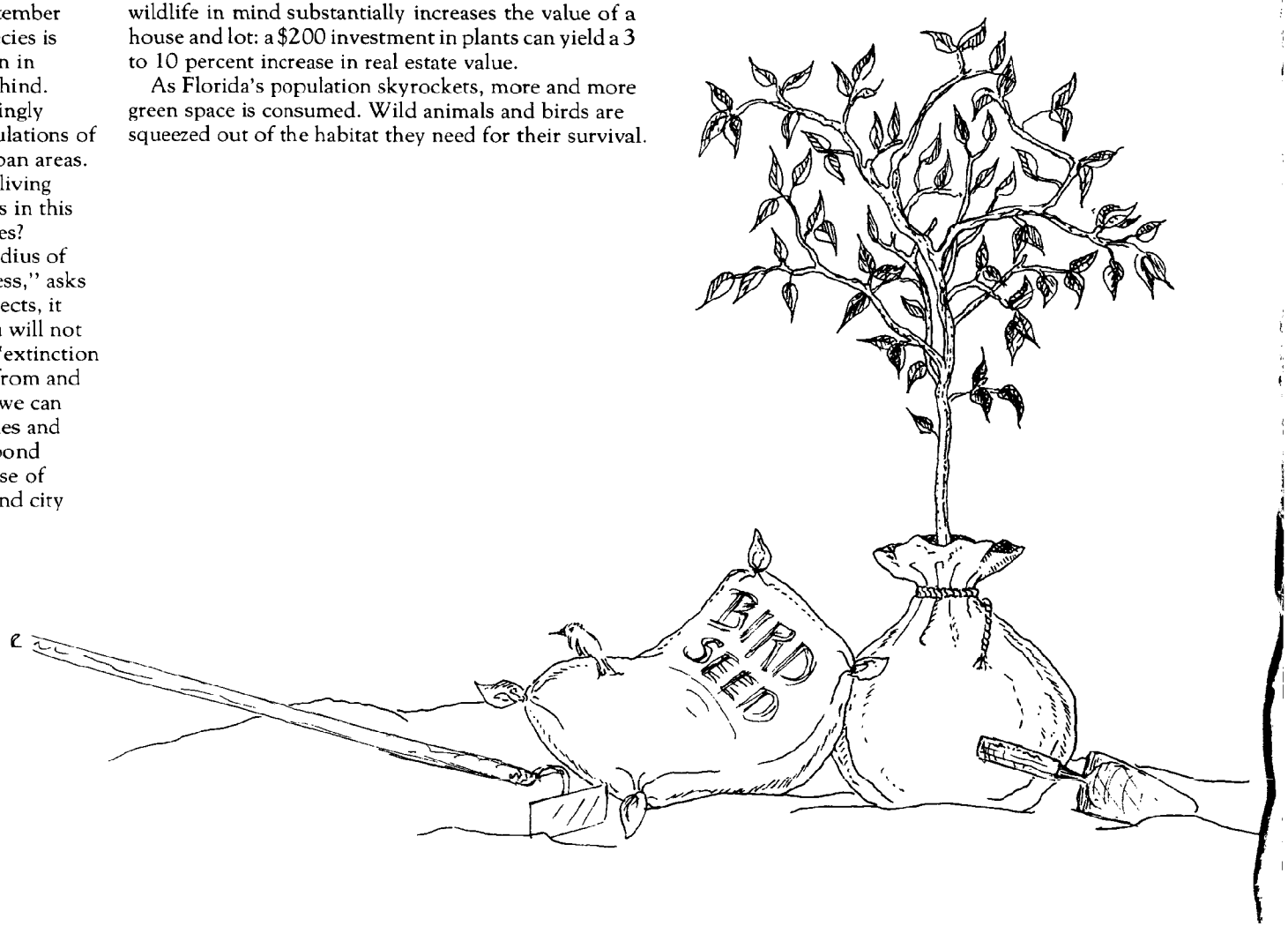
But many Floridians are becoming increasingly isolated from the natural world as local populations of wildlife are displaced from suburban and urban areas. Bulldozers and backhoes are eliminating the living spaces of many of our wild birds and animals in this fast-growing state. What are the consequences? "Suppose a creature dies out within your 'radius of reach'—the area to which you have easy access," asks entomologist Robert M. Pyle. "In some respects, it might as well be gone altogether because you will not be able to see it as you could before." This "extinction of experience" makes people more isolated from and less caring for nature. On the other hand, if we can preserve native wildlife and plants in our cities and suburbs, we can also maintain the essential bond between people and nature that fosters a sense of stewardship for the land and its life far beyond city limits.

Attracting wildlife to your garden by planning and planting for their needs is simple and satisfying. If we make adequate food, water, shelter and space available, we can increase the number and variety of species that visit our yards and improve our chances to observe them more closely.

Plants form the natural architecture that animals need to feed, rest, raise young and hide from predators. The more stable and balanced a plant community you create, the greater the variety of wildlife you'll attract. And you'll find advantages in energy and water savings as well as the natural insect and rodent control your miniature ecosystem will provide. Moreover, the National Wildlife Federation has found that attractive landscaping installed with wildlife in mind substantially increases the value of a house and lot: a $200 investment in plants can yield a 3 to 10 percent increase in real estate value.

As Florida's population skyrockets, more and more green space is consumed. Wild animals and birds are squeezed out of the habitat they need for their survival. There is an ever-increasing need to manage not only the existing forests and large landholdings for wildlife, but also the developed land: the quarter-acre suburban lot, the five-acre townhouse development, the 40 acre subdivision, the small city park, larger county parks and even the roadsides of our highways.

We can begin with the pleasant task of inviting wildlife to our own yards. No matter where you live in Florida, you can make habitat improvements to benefit your wildlife neighbors.



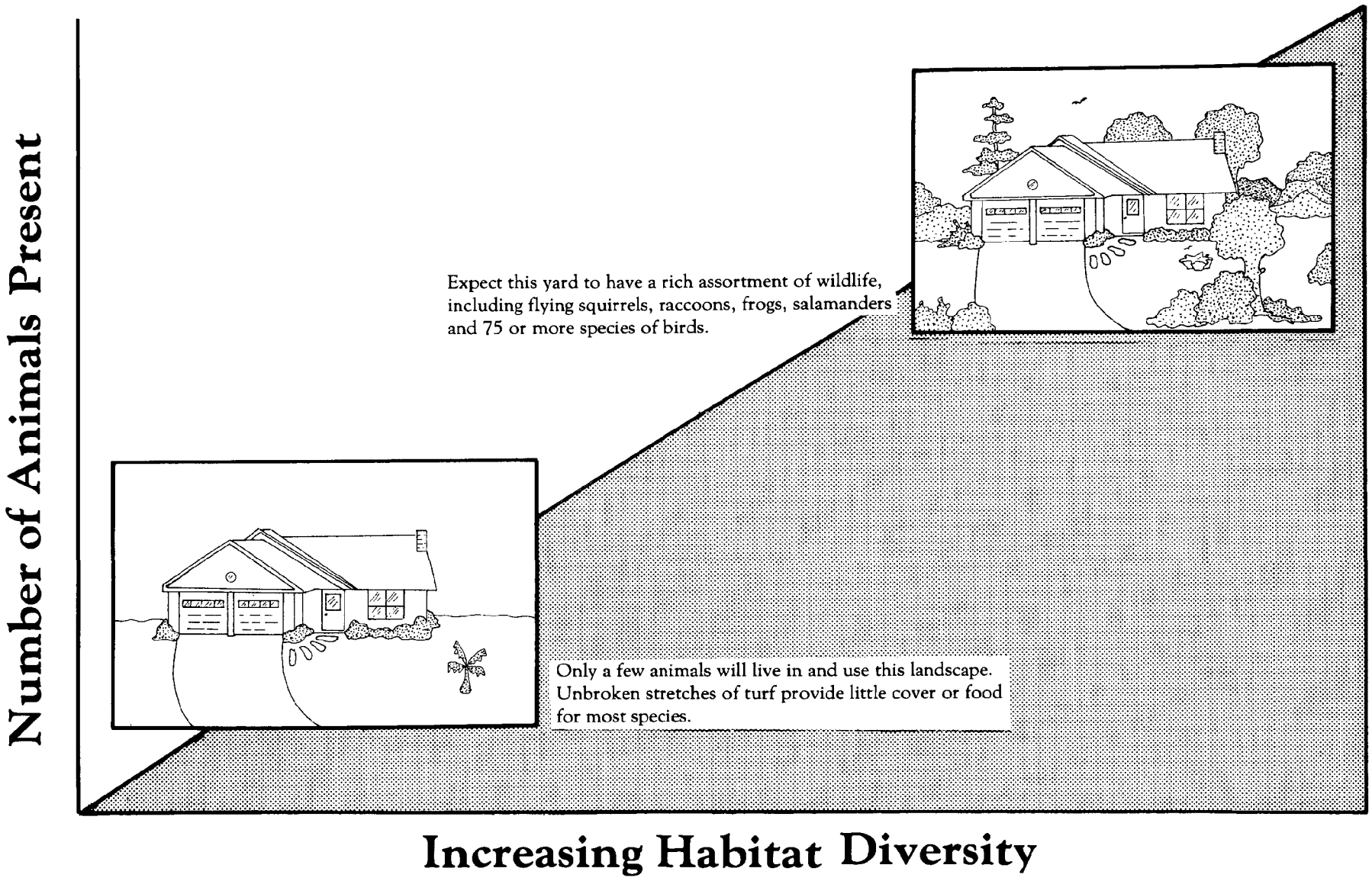


Figure 1. As this graph illustrates, the greater the habitat diversity your property provides, the more types of wildlife will choose to be your neighbors. For the small property owner in Florida, increasing habitat diversity usually means replacing expansive, closely mowed lawns with creative landscaping. Even within a quarter-acre lot, habitats that provide variety in both form and height—lawns, meadows, hedges and shade trees—will attract a larger number and variety of birds than a quarter-acre lot with uniform plantings.

What Animals Might Live in Your Backyard?

More than 1,200 kinds or species of animals live in Florida. In terms of wildlife, we are the third most diverse state in the nation! Of all this bewildering variety, which species can you expect to attract to your own backyard? It all depends on how well the habitat on your property duplicates the natural conditions under which the animals live in the wild.

Some animals, such as raccoons, opossums and mockingbirds, adapt well and live throughout Florida, but others are much more regional in occurrence. White-crowned pigeons and many other semitropical species are restricted to the Florida Keys, for example, and it's unlikely that you will ever find a yellow-breasted chat nesting south of Tallahassee. The tables on pages 10-17 suggest where and when you'll find the most common species of Florida wildlife.

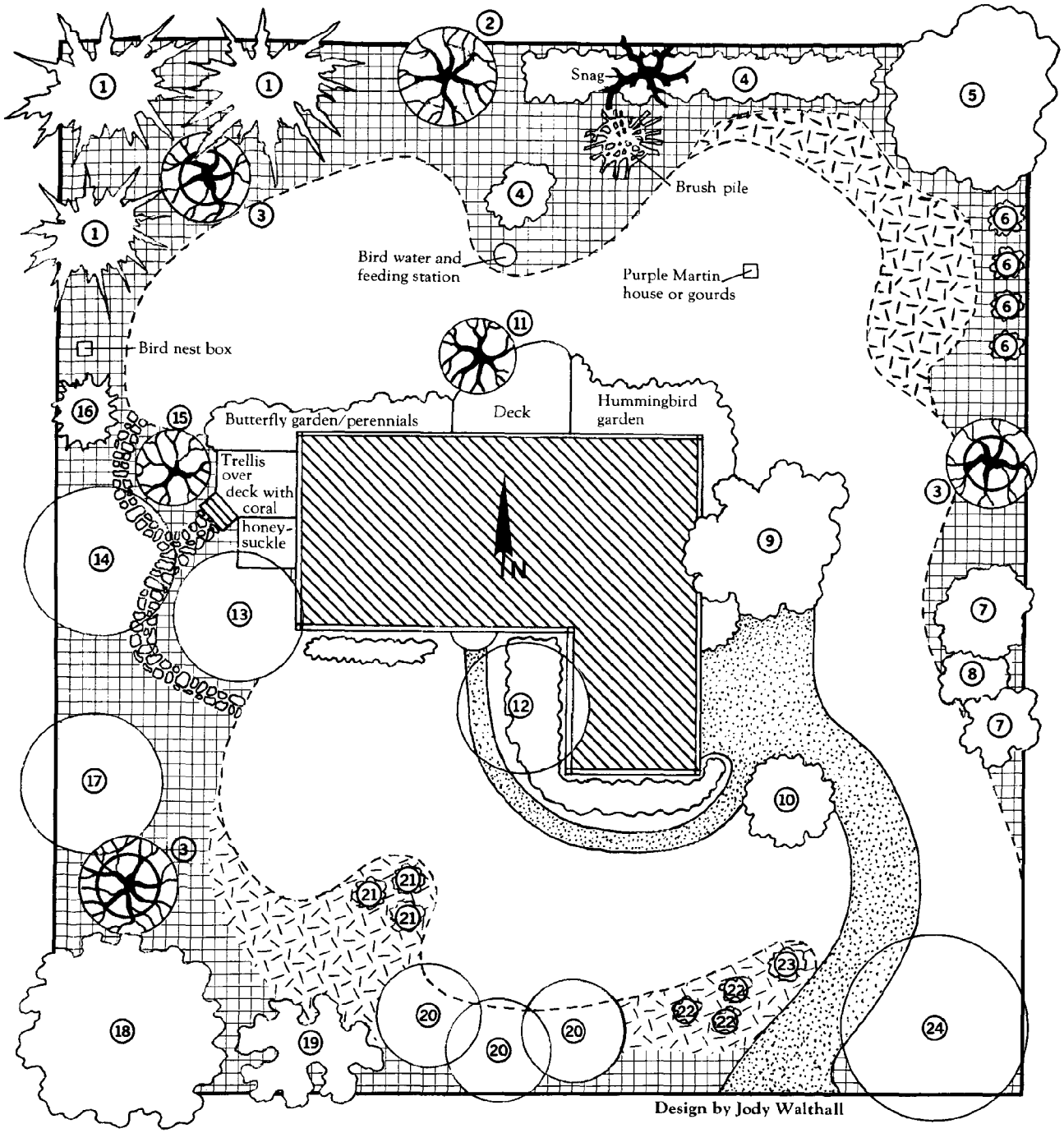
All wild creatures have unique requirements for food, water, cover and space, and they can only live where these needs can be satisfied. Together, these required elements make up an animal's **habitat**. The key to luring wildlife to your property is to provide the four basic components of their habitat: food, especially in its natural form; water to drink and bathe in; cover or shelter to escape from predators, rest and build nests; and space or territory in which to live and raise young. Birds and other animals usually live in the particular habitats or plant communities (pine flatwoods, tropical hardwood hammocks, etc.) that best meet their habitat needs. Most require, or will use, a diversity of habitat types at different times in their daily or seasonal cycles. You will attract the widest variety of wildlife to your land by using native plants to simulate small areas of nearby habitat types. The "edges" where these habitat types meet will probably be the most visited areas in your neighborhood.

A. **Food:** All animals get their energy for survival from plants or other animals. The ideal wildlife management plan uses natural vegetation to supply year-round food—from the earliest summer berries to fruits which persist through winter and spring (such as sweetgum, juniper and holly).

B. **Water:** Fresh water is essential for all wildlife and is often the factor most limiting their presence on small properties. Spring and fall migrants are especially attracted to water during long flights. Frogs and salamanders require standing water to complete parts of their life cycles.

C. **Space:** All animals require a certain amount of space or "elbow room" to mate and rear their young. On a small lot you may be able to support many kinds of breeding birds or other animals, but perhaps only a pair or two of each. An animal's requirement for space may be substantially less if food, water and cover resources are concentrated.

D. **Cover:** Breeding, nesting, hiding, sleeping, feeding and traveling are just a few of the necessary functions in an animal's life which require protective cover or shelter. Often cover plants double as food sources.



Create a Backyard Habitat Plan

A backyard habitat is really just a landscape designed with wildlife in mind. It will be most pleasing and successful when you have managed to combine the quality of wilderness with just enough cultivation to harmonize with your house and the people who inhabit it. Why not design and plan your landscape in an orderly fashion, just as landscape architects do?

This landscape plan includes an extremely high diversity of wildlife-attracting plants. Suggestions are provided for both north and south Florida below. Many other valuable plants are listed on pages 24-32.

	North Florida	South Florida
1.	Pine	Pine
2.	Red Mulberry	Red Mulberry
3.	Flowering Dogwood	Wild Coffee
4.	Wax Myrtle	Cocoplum
5.	Southern Magnolia	Paradise Tree
6.	Blueberry	Blueberry
7.	Viburnum	Stopper
8.	Cherry Laurel	Florida Trema
9.	Red Maple	Coffee Colubrina
10.	American Holly	Geiger Tree
11.	River Birch	Necklace Pod
12.	Fringe Tree	Sea Grape
13.	Red Buckeye	Silver Palm
14.	Black Gum	Black Gum
15.	Hawthorne	Firebush
16.	Red Cedar	Red Cedar
17.	Persimmon	Persimmon
18.	Live Oak	Live Oak
19.	Coral Bean	Coral Bean
20.	Cabbage Palm	Thatch Palm
21.	American Beautyberry	Blolly
22.	Elderberry	Elderberry
23.	Pokeweed	Pokeweed
24.	Sweetgum	Gumbo-limbo

= Lawn

= Leaf litter/ground cover

= Native grasses/meadow area

Evaluate Your Environment

First, walk around your property and make an inventory. Sketch a base map, as the following section describes, then outline a planting plan. Break your plan into a reasonable time schedule. Don't try to do everything at once—decide what you can do each year for the next five or so years. Think about your neighbors, too. Can you persuade them to share or at least tolerate your interest in attracting wildlife?

Step 1: Your base map should indicate your property's dimensions; the area covered by your house and other structures (garage, storage shed, pool, decks, patio, fences, sidewalks and driveway); and the location of underground water pipes and utilities, septic tanks, irrigation lines, sprinkler heads, etc.

Step 2: On your base map, or on a transparent overlay, sketch areas of sun and shade. Notice how these shift during the day and throughout the year.

Also examine your soil. Is it primarily fill dirt, sand, sandy loam, clay, topsoil or other soil types? Sketch any changes that occur within your property boundaries. How about soil moisture? Are there areas of poor drainage or erosion? Is your property affected by salt spray? If so, carefully choose plants for your design that are salt tolerant. For example, buttonwood and sea grape are two plants with high wildlife value that thrive in south Florida coastal environments. They are ideal choices for backyard habitats on properties close to the sea.

Step 3: Give some thought to your family's needs and uses for your property. What about pets? If cats and dogs are a big part of your life, your expectations for wildlife should be lower. Consider space requirements for work, play, entertainment, access and traffic patterns, trash collection, security and privacy. Think realistically about how much and what type of space you will need for each activity. Sketch these areas onto another overlay of your base map.

Step 4: Now list the most abundant trees, shrubs and herbaceous plants already growing in your yard. You may want to note their age, size, health, whether they are exotic or native to your region, their value in energy conservation, and any special maintenance

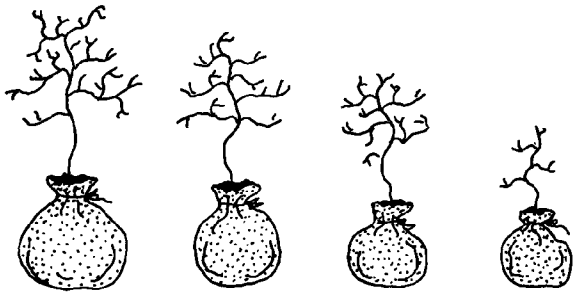
A landscape that is attractive to wildlife is pleasant for people, too.

requirements. Notice how the vegetation in your yard interacts with the physical characteristics of the site to form habitats. For example, even the smallest lot may have a dry sunny lawn growing on construction fill, and a cooler area shaded by a large tree, perhaps with a richer soil. Each existing habitat presents different opportunities and constraints in your overall plan. Take a look at natural plant communities around your area. Observe how plants of different height and form grow near one another. You'll want to use these proven successes as models for your own backyard habitat.

Step 5: Begin a list of the wildlife that visit your property. How well do each of your habitats provide food, water and cover for wildlife? Are there native seed-bearing plants available that produce fruit on a continuous basis? Does your present landscape provide adequate cover and safe travel corridors for small animals and birds? Mammals, especially, require connected shrub and hedgerows or larger wooded areas to move about.

Now that you have studied your property as a wildlife manager might, you are ready to prepare one drawing to guide your landscaping efforts in the years to come. The landscape drawing on page 5 shows one possible plan for a quarter-acre lot. You'll need to customize your property, however, by choosing plants that will thrive in your region of Florida. Decide whether you are planning major landscape alterations or simply modifying a reasonably acceptable backyard habitat.

Don't plan a clipped, artificial garden that will enslave you! With a backyard habitat, you are working with nature and watching natural processes take their courses. Your primary jobs will include pruning and pulling out some plants from time to time to give the garden more room to grow.



If you're working with a bare lot or planning major landscape alterations:

1. Begin by framing your property with a backdrop of native trees. This will maximize wildlife benefits and screen you most effectively from neighboring properties. Plant a variety of species, some evergreen, some deciduous. They will simulate a forest canopy and provide nesting sites, protective cover and food for small mammals and birds. Plant deciduous trees on the west side of your house for summer shade.

2. Create an understory by planting smaller flowering or orchard trees in clusters near the tall trees. Stagger the plants at recommended spacing intervals and avoid planting in lines or rows. When planting shrubby borders, mix several species of varying shape, height and density to create a greater selection of nest sites. Try to choose shrubs that fruit at different times of the year for a continuous food supply. You are introducing more food for butterflies and songbirds!

3. Now surround the smaller trees with masses of shrubs, brambles or ground cover. These will provide protective cover areas for ground-feeding birds and mammals.

4. Install plantings of shrubs and ground covers around the foundation of your home. Look into energy conservation considerations and be careful not to block special views.

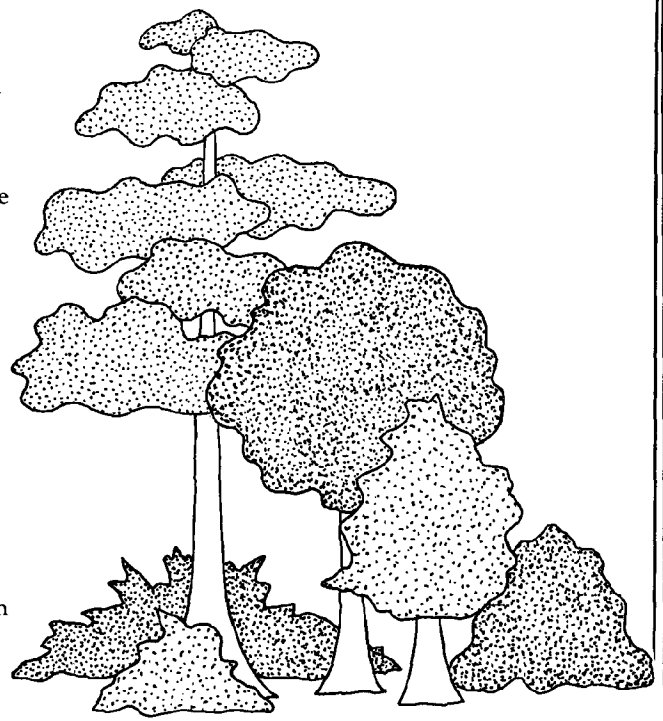
5. Lawns are very labor and energy intensive, but small areas are pleasant for play and circulation. When you identify areas for turfgrass, consider laying sod. Follow site preparation recommendations from your local Cooperative Extension Office for best results.

If you want to modify an existing landscape:

1. Surround your lawn areas with beds of trees and shrubs. Plant small shrubs and ground covers around solitary trees. Design irregular borders for these beds to create more wildlife edge.

2. Mulch your tree and shrub beds with leaf litter, lawn clippings, tree trimmings or chips. Melaleuca mulch is also very effective. They are a rich food source for ground foragers like towhees and thrushes, provide cover for small mammals, reptiles and amphibians, and also enrich your soil. Leave a few patches of bare soil for birds that "dust."

3. If your yard is already filled with exotic plant species, as is often the case in south Florida, proceed slowly. Ideally you should replace these plants with native species. Brazilian pepper (also known as Florida holly), melaleuca and Australian pine should be eliminated as soon as possible (see page 8).



Maintenance ideas for all landscapes:

☐ **Lawn:** Convert some of your open lawn to a "meadow." Mow prudently—just two summer mowings will control tree and shrub invasions in your meadow (check local mowing ordinances). Wildflowers, butterflies and bees can flourish in even a small wild meadow.

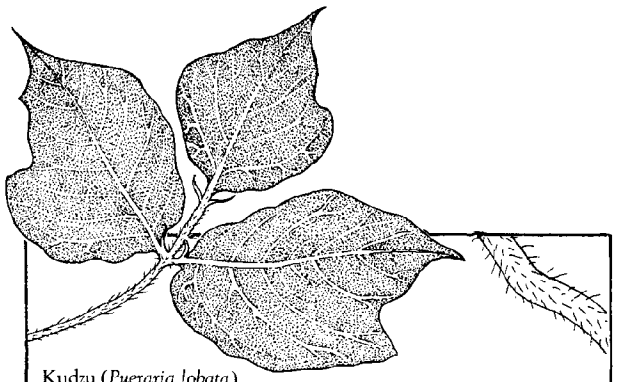
☐ **Hedges:** Select and encourage a variety of plant heights, but maintain a minimum of 3-1/2- to 8-foot high hedges. The best hedges for bird cover and nesting are evergreen with dense or thorny branches. From the viewpoint of a bird or rabbit, blackberries are ideal! Thorny hedges also discourage human intruders, and all dense hedges give you privacy and protection from noisy streets. Remove large tree species that sprout and grow in your hedges.

☐ **Pruning:** Birds prefer unclipped, informal hedges. Remove old growth selectively to assure that the plants don't overcrowd one another. Avoid pruning during the nesting season. Azaleas and other early flowering shrubs that bloom from buds formed during the previous summer should be selectively pruned or cut back every few years.

☐ **Small trees:** Be sure orchard and some flowering trees receive full sun. Check light requirements--dogwoods, for example, prefer light shade. Avoid toxic sprays; instead, choose fruit varieties that will thrive in your area without poisons. Don't prune all the dead wood and be sure to mulch well. Leave tent caterpillar nests in your wild fruit trees—yellow-billed cuckoos can control them for you. If caterpillars really get out of hand, spray carefully with bacillus thuringensis (see a nursery for instructions).

☐ **Large forest trees:** Control seedlings beneath large trees, but leave a few young replacements. Allow one or two selected vines to climb each tree. You may want to mow once a year in your forested area. Maintain standing dead trees and limbs that don't pose a safety hazard to your house or people in your yard.

☐ **Paths:** Add mulched or stonework walkways to your landscape. Paths can make visiting your yard more enjoyable when vegetation is wet with rain or morning dew, and provide a familiar route through your backyard habitat.



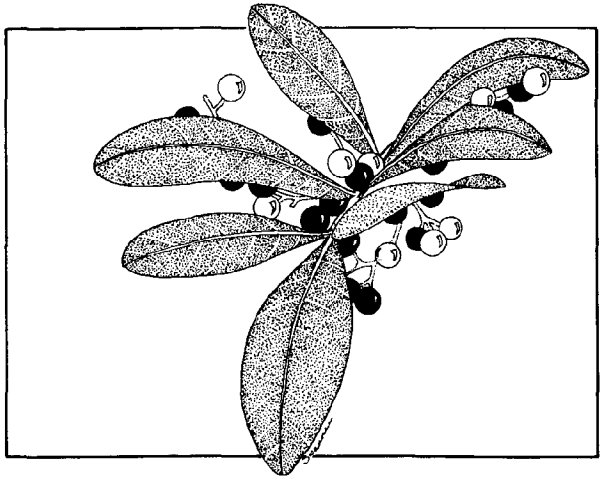
Kudzu (*Pueraria lobata*)

A Caution about Exotics

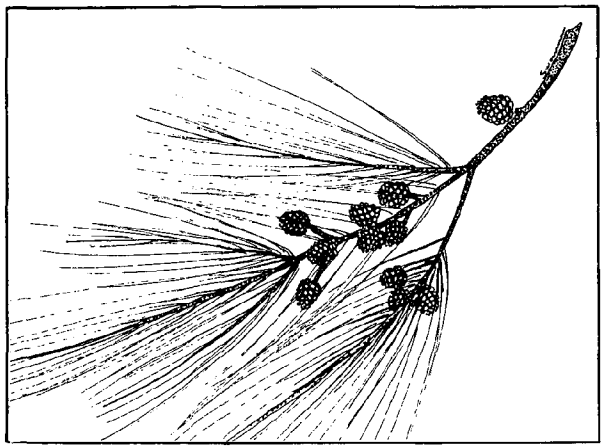
Exotics are foreign plants and animals imported and introduced into a new environment. Most every Florida yard has an exotic hibiscus or azalea. Although these plants won't do wildlife any harm, their benefits aren't as high as those of native species. Many exotics have no natural enemies to suppress their spread, so they tend to upset the balance of nature and crowd out the native species. South Florida's landscape has been visibly and negatively altered by three exotic trees: melaleuca or the paperbark tree (*Melaleuca quinquenervia*), Australian pine (*Casuarina* spp.) and Brazilian pepper, sometimes called Florida holly (*Schinus terebinthifolius*). In north Florida, the worst naturalized exotic is kudzu (*Pueraria lobata*) which can turn a small pine forest into a green "desert" for wildlife in only a few years.

Recommendation:

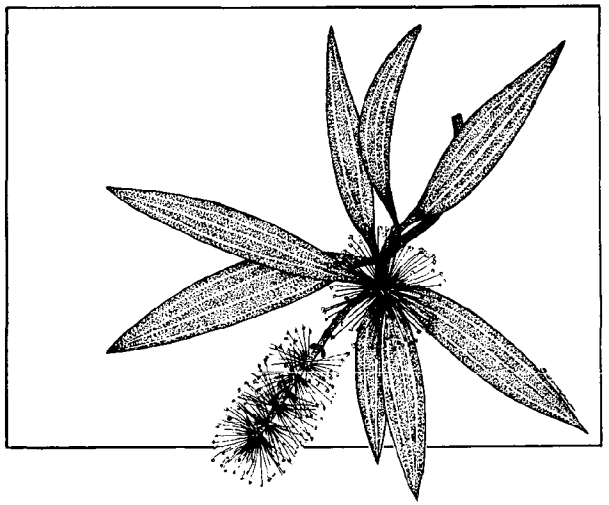
Do your best to eradicate these aggressive invaders everywhere you can!



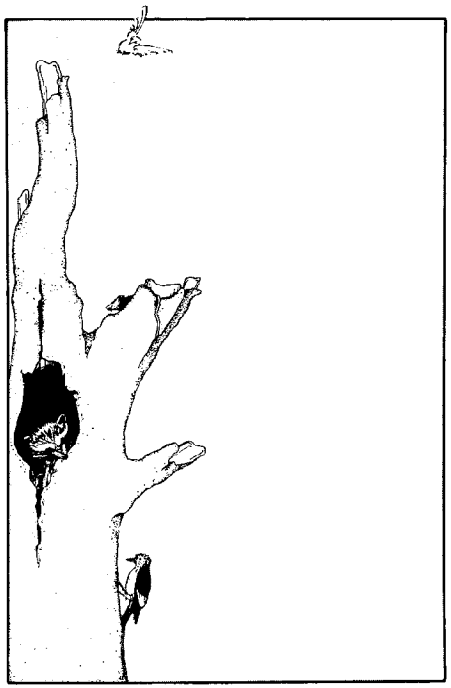
◄**Brazilian pepper:** These fast-growing shrubby trees have long arching branches that eventually form impenetrable thickets. Bright red berries are produced in abundance in the winter months. Crushed leaves have a turpentine odor, and sap can cause skin irritation similar to poison ivy, a close relative. The seeds are widely distributed by robins and other birds, germinate in almost all ecosystems, and smother existing vegetation.



◄**Australian pine:** This is not a true pine. Several different species are planted, persist or have escaped from cultivation. Seeds are produced in small woody fruits; some species spread mainly by root suckers. All are fast-growing and reach great heights. Old branchlets are constantly shed and produce a thick layer of litter under the trees. This litter suppresses all other vegetation by physical smothering and chemical inhibitors that leach from the leaf litter.



◄**Melaleuca:** A large, upright evergreen tree with flaky white bark and dark green leaves which give off a strong aromatic odor when crushed. Flowers cover branch tips in a bottlebrush arrangement, and produce pollen which causes severe allergic reactions in many people. These trees grow quickly and thickly from the tiny seeds released. This tree is the most serious threat to south Florida because it invades all wetlands and surrounding areas, crowding out all other species as it spreads. It is also creating a severe fire hazard in some areas, and has resisted all attempts at control.



Cavity Trees, Lawns and Soil

More than one-third of all forest-dwelling birds and mammals require a hole or cavity in a tree for nesting or shelter. Most cavity-nesting birds are insectivorous, and play an important part in the control of forest insect pests. The scarcity of nesting and roosting cavities seriously limits numbers of woodpeckers, nuthatches, wood ducks, screech owls, bluebirds, flying squirrels and many other desirable backyard dwellers. People are the problem—we harvest mature and dead trees for firewood and remove dead trees and limbs merely to keep our yards neat. Under natural conditions, a woodland recycles everything. It does not become "dirty" and never needs "cleaning"!

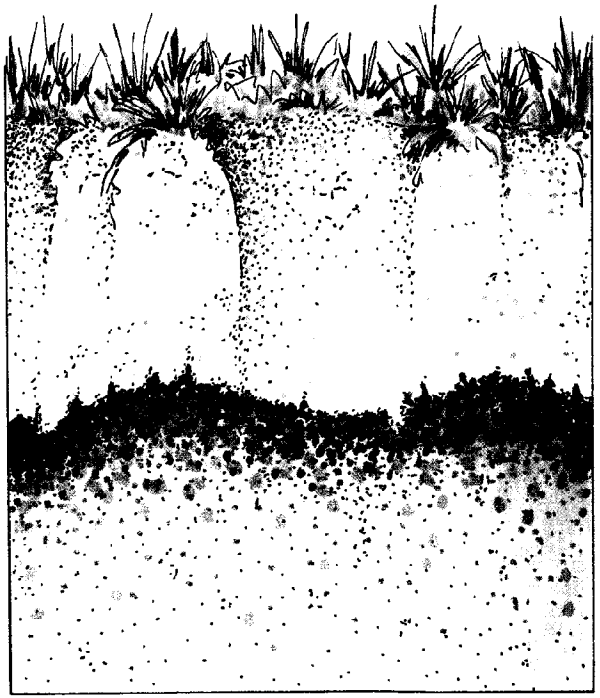
Recommendations: One of the greatest services a landowner can do for wildlife is to leave at least one or two dead trees (snags) standing per quarter-acre lot. If you have few cavity trees on your property, set out home-built nest boxes (page 21) to encourage cavity-nesting birds and mammals. Obviously, snags that present a safety hazard should be removed.

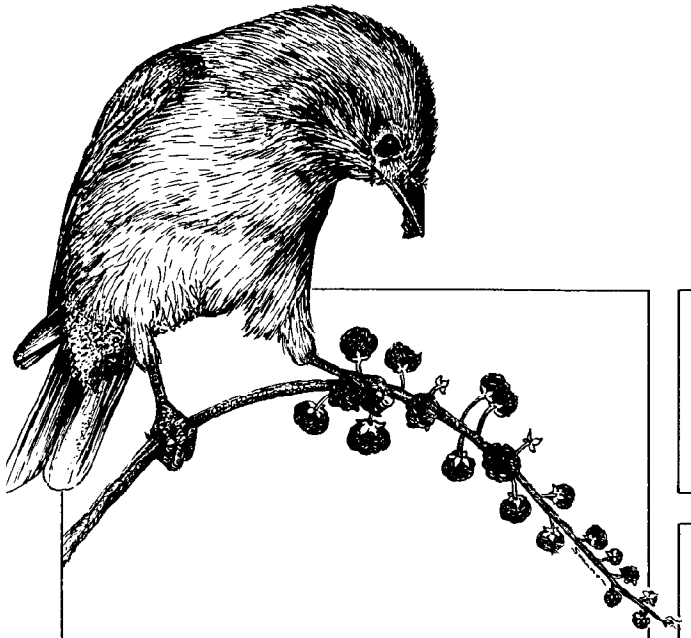
Although a well-kept lawn may provide a grassy snack for a rabbit or a worm for a robin, to qualify as good habitat it must be close to cover and food plants. Most people like to maintain mowed grass for outdoor play and entertaining, but remember, manicured lawns extending from property line to property line will be nearly as devoid of wildlife as asphalt!

Recommendation: Think carefully about which lawn areas you don't use and replace them with beds of trees, shrubs, meadow and natural ground cover for your wildlife neighbors.

Most people have a mental image of what makes a rich soil: it's dark and smells fresh; it's fluffy, not lumpy or loose like beach sand; and moist, not dry or muddy. These qualities are, in fact, ideal for most plants. If you improve your soil to match your mental image, your plants will mostly take care of themselves. Healthy soil will grow healthy plants, and healthy plants will produce lots of food and cover for wildlife.

Recommendation: You have to start with topsoil. If you are trying to garden on soil that was dug out of a pit to fill your lot, you may have to haul in some topsoil before you do anything else. Assuming you have topsoil, the most important thing you can do for your garden is to mulch, which means to spread some type of plant material over your soil. On the poorest fill, and even without the addition of topsoil, mulching begins the process of soil formation and allows a wide range of plantings to flourish. Don't discard leaves or grass clippings if you rake. After they have dried, spread them thickly (at least three inches deep) between your plants and shallowly around their bases. Mulch should not touch tree or shrub trunks directly. Mulching will keep your soil moist, inhibit weeds, and the clippings will eventually break down and enrich your soil.





Birds

This table provides you with specific management techniques to attract the birds you desire to your backyard. Only 63 of the most common species found in Florida yards have been included. Creating high quality habitat for these species will inevitably attract many more.

Florida birds fall into four groups: year-round residents, summer breeders, winter visitors and seasonal migrants. This table lists the geographical part of the state (north - N, south - S) and the time of year you are likely to encounter the bird (year-round - R, summer breeder - SB, winter resident - WR, migrant - M). More detailed occurrence information on all Florida birds is available from the GFC (see "For Further Information").

We have described the birds' desired natural foods and nesting sites so you can be sure your backyard habitat is complete. You will also be able to note whether birds you especially want to attract are likely to use a feeder or a nest box (details on pp. 21-22).

Finally, special management and landscape considerations are listed for each species.

	Cardinal Blue Grosbeak Buntings	Purple Martin	Ruby-throated Hummingbird
Location (NS) and Time of Residence	**Cardinal** N (R), S (R) **Blue Grosbeak** N (SB), S (M) **Indigo and Painted Bunting** N (SB), S (WR)	**Purple Martin** N and S (SB)	**Ruby-throated Hummingbird** N (SB), S (R)
Preferred Natural Food	Mostly seeds of wild and cultivated grasses, some insects. Cardinals eat more than 100 kinds of fruits.	Vast quantities of insects.	Flower nectar, tiny insects and spiders
Preferred Nesting Site	Thickets, vines, dense stands of young saplings, other brushy plants.	Natural cavities, holes and crevices in sides of bluffs or cliffs.	Limb of low tree, often overhanging water.
Will They Use... Feeders?	Yes	No	Yes
Nest Boxes?	No	Yes	No
Special Management and Landscape Preferences	Cardinals prefer mixed gardens with hedges and lawns backed by a variety of trees; have a strong preference for sunflower seeds. Buntings and grosbeaks like brushy pastures and woodland edges; like an exposed perch to sing on; feed on ground; feed on white proso millet at feeders. Buntings are shy and require heavy cover near feeders.	Prefer open meadows and lawns near water. Have learned to nest in gourds and special apartment houses placed in suitable habitat. Don't use pesticides nearby!	Garden with variety of plantings is ideal, including herbaceous flowering borders, running water, and special sugar water feeders (see page 19). Strongly attracted to red tubular flowers like native firebush.

	Eastern Bluebird	Blue Jay	Carolina Wren House Wren	Mockingbird Catbird Brown Thrasher	Carolina Chickadee Tufted Titmouse
Location (NS) and Time of Residence	**Eastern Bluebird** N and S (R)	**Blue Jay** N and S (R)	**Carolina Wren** N and S (R) **House Wren** N and S (WR)	**Mockingbird** N and S (R) **Catbird** N and S (WR) **Brown Thrasher** N and S (R)	**Carolina Chickadee** N (R) **Tufted Titmouse** N (R)
Preferred Natural Food	Primarily insects, some fruits and berries.	Acorns, other nuts and berries, insects, small reptiles and mammals.	Mostly insects.	Insects, grubs, fruits and seeds.	Insects and many plant foods.
Preferred Nesting Site	Natural cavities in trees, old woodpecker holes in trees and fence posts.	Variety of trees 10-30' off the ground.	Cavities, or crotches of trees or shrubs.	Dense, thorny shrubs or vines conceal basket-like nests. Brambles ideal.	Natural cavities and abandoned woodpecker holes.
Will They Use... Feeders?	Rarely	Yes	Yes	Yes	Yes
Nest Boxes?	Yes	No	Yes	No	Yes
Special Management and Landscape Preferences	Prefer orchards, old fields with scattered trees, open, second growth woodlands. Birds are strongly territorial, so place nest boxes 100' apart (detailed plans available from GFC). Commonly use bird-baths. Restricted to rural and agricultural areas in south Florida.	Prefer yards with large numbers of trees, esp. oaks, beeches and pines. Water is a major attractant. Peanuts are especially attractive at feeders.	Like wooded gardens with dense shrub undergrowth. Will nest in almost any cavity around homes; try hanging a gourd under house eaves. Loves peanut butter/suet cakes.	Edge situations provided by gardens excellent for mockingbirds; native berries are important food sources. Catbirds like access to water. Thrashers forage on the ground where leaf litter is plentiful.	Yards with mature deciduous and evergreen trees supported by dense shrub and small tree understory are best. Chickadees prefer to dig own cavities in partly rotted trunks or stumps, esp. pine and birch. Hanging suet feeders and sunflower seeds are especially attractive.

Painted bunting

Barred owl

Northern flicker

	Screech Owl Barred Owl American Kestrel	Woodpeckers	Robin Wood Thrush Rufous-sided Towhee
Location (NS) and Time of Residence	**Screech Owl** N and S (R) **Barred Owl** N and S(R) **American Kestrel** N and S (R)	**Woodpeckers (Red-headed, Red-bellied, Downy, Flicker, Pileated)** N and S (R) **Yellow-bellied Sapsucker** N and S (WR)	**Robin** N and S (WR) **Wood Thrush** N (SB), S (M) **Rufous-sided Towhee** N and S (R)
Preferred Natural Food	Mice and insects.	Major consumers of forest pest insects, grubs and eggs, ants, beetles; and also berries, nuts and seeds.	Forage on ground for insects; also eat fleshy fruits and berries.
Preferred Nesting Site	Cavities.	Cavities in dead or dying trees.	Towhee—on or close to ground under dense shrub cover. Wood thrush—shrub or small tree 6-12' high.
Will They Use... Feeders?	No	Yes	Robin and thrush—rarely. Towhee—yes.
Nest Boxes?	Yes	Yes (except pileated)	No
Special Management and Landscape Preferences	Like gardens with many old trees close to open, unmowed areas for hunting. Prefer cavities in hardwoods and old woodpecker holes in pines. Readily use appropriate nest boxes. Will use water if provided.	Pileated and red-bellied prefer old growth forests with mixed hardwoods. Downy and flicker common in gardens with mix of deciduous and coniferous trees and shrubs, some open ground. Optimum garden for red-headed has lawns and shrub beds, a few large pines and oaks and some dead snags nearby. Maintain snags in your yard for all woodpeckers. Leave stumps and fallen logs as foraging habitat. Will eat suet; red-headed likes bread on platform feeder.	Wooded gardens with densely planted understory. Robins like lawns with scattered trees, berry bushes in winter. Towhees fond of brush piles, prefer to forage under feeders on ground, close to cover. Shaded, ground-level birdbaths or pools with close cover of shrubs excellent.

	Orioles Summer Tanager	Cedar Waxwing	Nuthatches	Doves White-crowned Pigeon	Northern Bobwhite
Location (NS) and Time of Residence	**Orchard Oriole** N (SB), S (M) **Spot-breasted Oriole** S (R) **Northern Oriole** N and S (WR) **Summer Tanager** N and S (SB)	**Cedar Waxwing** N and S (WR)	**White-breasted Nuthatch** N (R) **Brown-headed Nuthatch** N and S (R)	**Mourning and Ground Dove** N and S (R) **White-Crowned Pigeon** S (R)	**Northern Bobwhite** N and S (R)
Preferred Natural Food	Insects, fleshy fruits, esp. berries.	Abundant fleshy fruits on shrubs and trees. Also, buds and flowers of hardwood trees.	Insects, seeds and nuts.	Insects, seeds, nuts and fruits. All except pigeon are ground feeders.	Seeds, acorns, some fruit; some insects and spiders.
Preferred Nesting Site	Oriole—shade, street trees, preferably near water. Tanager—deciduous trees, often oaks.	Not in Florida.	Cavities in dead trees or old woodpecker holes.	Pigeon—often nest in mangroves, usually on offshore islands. Dove—varies, from ground to shrubs, vines, etc.	Ground nest in brushy open grasslands and open pine woods.
Will They Use... Feeders?	Yes	Rarely	Yes	Yes	Yes
Nest Boxes?	No	No	Yes	No	No
Special Management and Landscape Preferences	Prefer high feeding stations with fruit; northern orioles enjoy suet. Attracted to gardens with mixed fruit trees, esp. orchard trees, dogwood, mulberry, tupelos, wild cherry and blackberry. Orioles attracted to fruit at feeders, especially oranges.	Manage your property to include many fruiting natives; roving flocks of waxwings will devour dogwood, holly and red cedar berries in late winter.	Don't cut snags! Many hardwoods and pines are preferred cavity trees. Suet and sunflower seeds are feeder favorites.	Need dense cover of shrubs near open fields or lawns with scattered trees. Provide water on the ground—birds like to bathe daily.	Comes readily to seed on ground. Requires heavy brush for daytime cover. A brush pile (page 16) is ideal.

American goldfinch

Brown-headed nuthatch

White-crowned pigeon

	Finches Pine Siskin	Yellow-billed Cuckoo	Ruby-crowned Kinglet Blue-gray Gnatcatcher
Location (NS) and Time of Residence	**Goldfinch** N and S (WR) **Purple Finch** N (WR) **Pine Siskin** N (WR)	**Yellow-billed Cuckoo** N and S (SB)	**Ruby-crowned Kinglet** N and S (WR) **Blue-gray Gnatcatcher** N and S (R)
Preferred Natural Food	Buds, soft fruits, seeds, insects in summer.	Caterpillars, grasshoppers, other insects.	Tiny insects gleaned from foliage high in trees. Kinglets also eat wax myrtle berries.
Preferred Nesting Site	Not in Florida.	8-12' high in shrubs or on horizontal tree branches.	Gnatcatchers nest on horizontal limbs 25' or higher; use many kinds of trees.
Will They Use... Feeders?	Yes	No	Yes
Nest Boxes?	No	No	No
Special Management and Landscape Preferences	Sweetgum and sycamore fruits are prized winter foods; water is one of best attractants. Most prefer high feeders; goldfinches will feed on the ground. All love sunflower seeds and niger (thistle) seeds.	Best natural controller of tent caterpillars. Generally prefer trees with dense canopies, such as oaks.	Prefer mature, diverse garden with good mix of evergreen and deciduous trees. Occasionally visit small hanging suet feeders. Rarely found in urban south Florida yards.

	Eastern Phoebe Great Crested Flycatcher Eastern and Gray Kingbird	Red-winged Blackbird Common and Boat-tailed Grackle	Warblers	Vireos	Sparrows
Location (NS) and Time of Residence	**Eastern Phoebe** N and S (WR) **Great Crested Flycatcher** N (SB), S (R) **Eastern and Gray Kingbird** N and S (SB)	**Red-winged Blackbird** N and S (R) **Common and Boat-tailed Grackle** N and S (R)	**Warblers:** **Orange-crowned and Yellow-rumped** N and S (WR) **Parula, Pine and Yellowthroat** N and S (mostly R)	**Vireos: Red-eyed** N (SB) **White-eyed** N and S (R) **Yellow-throated** N (SB) **Black-whiskered** N (M), S (SB)	**Sparrows:** **Chipping Sparrow** N and S (R) **Song, White-throated, and other migrant sparrows** N and S (M)
Preferred Natural Food	Mostly catch insects, bees, etc. midair; also eat grasshoppers, ants, some fruits.	Mostly seeds and grains, some insects.	Insects, some seeds.	Insects and spiders, some fleshy berries prior to migration.	Feed on ground, mostly weed and grass seeds, some insects.
Preferred Nesting Site	Often near water; kingbird likes medium shrubs or trees. Great crested—natural cavities. Phoebe—bridges, rafters, eaves	Wetlands or nearby fields, often in cattails.	Large trees, ex. yellowthroat, shrubs near water. Parula uses Spanish moss to construct nest.	All suspend hanging nests in trees from 3-4' off ground (white-eyed) to tree tops (yellow-throated).	Chipping—near ground in dense thickets.
Will They Use... Feeders?	No	Yes	Suet feeders only.	No	Yes
Nest Boxes?	Yes, except kingbird	No	No	No	No
Special Management and Landscape Preferences	Like deciduous and mixed woods, edge situations. Attracted by gardens with streams, pools with small waterfalls, other sources of running water. Favor many wild fruits. Kingbirds need perch with good view. Great crested flycatcher will nest in gourds.	Forage in all types of open habitat during nonbreeding season. Prefer ground feeders, but will use others. Highly attracted to sources of water.	Many resident and migrant warbler species will be attracted to a diverse, richly-planted garden with many canopy layers, including mature trees. Oaks provide good source of caterpillars. A water source will bring in seldom seen species. Yellow-rumped, pine and orange-crowned commonly seen at suet feeder.	Same as warblers. Black-whiskered vireos favor mangroves.	Require mixed garden vegetation with close shrub cover. Will visit ground feeders regularly. Liberally use water if provided.

Mammals

At least half of Florida's 62 terrestrial mammal species might occur in a well-rounded backyard habitat. If you live in an urban or suburban area, mammalian neighbors may include the animals described below. Don't count on attracting larger animals like foxes, bobcats and deer unless extensive areas of suitable habitat adjoin your neighborhood. Mammals cannot fly over poor habitat like birds can, so if your property is surrounded by unsuitable habitat, it may be difficult to attract them to your yard. Also, most mammals are nocturnal and secretive, and they are very dependent upon the cover you provide to protect them from predators. Although most mammals will not be seen as often as birds, they can be just as interesting and beneficial in your backyard habitat.

Raccoons and **opossums** live in all but the most urban Florida habitats as long as they have access to food, water and daytime cover. Sleeping sites and dens include hollow trees, underground burrows, brush piles and even garages or abandoned buildings. These nighttime foragers are opportunists and will eat fleshy fruits, nuts, corn and other grains, small animals and human garbage.

Succulent green plants, woody blackberries and tree bark are the primary food items of **cottontail rabbits.** Rabbits prefer to live in fields of herbaceous plants and grasses punctuated with dense, thorny low-growing hedges for cover. There's no quicker way to increase cottontails than by building protective brush piles.

Flying squirrels and **gray squirrels** are especially abundant in wooded suburbs having mature oaks and hickories, dense understories and a supply of cavity trees. Nuts, seeds, berries, mushrooms and insects make up a squirrel's diet, and they often nest in an abandoned woodpecker hole or a bird nest box. If you notice Spanish moss protruding from your bluebird or chickadee house, you probably have a flying squirrel in residence. Gray squirrels are active during the day, but flying squirrels are nocturnal animals. Both species, if present, are readily attracted by peanut butter spread on a feeding stand.

Florida has a number of native rodents that might visit your backyard. The handsome **cotton mouse** and **old-field mouse** are likely residents, or you may even provide a home for the **eastern woodrat**. No matter which species inhabit your land, you will seldom see them, and will even have to look closely just to see their tunnels, nests and droppings. Nevertheless, they are important members of a backyard food chain, eating large quantities of insects and weed seeds, and in turn, serving as a meal for owls and hawks. Although they occasionally enter old buildings, these native rodents are not disease-carrying nuisances like the introduced house mouse, black rat and Norway rat.

The streamlined **mole** is well-outfitted for life in the meandering underground runways it digs in constant search for food. Moles are primarily insect eaters; damage to bulbs and crop plants usually results from drying of roots as the animal tunnels after earthworms and garden pests. Their contributions to a healthy garden outweigh any incidental damage they create. **Shrews** are tiny voracious predators that consume up to half or more of their weight in insects and invertebrates each day. They patrol small flattened runs in the leaves and organic matter that cover the ground. They are an asset to any garden.

You may be lucky enough to have the insect-eating services of a **bat** or two, particularly if your backyard habitat is near a pond or stream. About ten species of bats frequent Florida's nighttime skies. Most occur in the northern half of the state. All are gentle, harmless and very beneficial insectivores. Some sleep alone in trees or Spanish moss, while others seek an attic or abandoned building for colonial roosting. You might be able to attract them by providing artificial roost boxes (write the Florida Game and Fresh Water Fish Commission to obtain building plans).

Managing for Mammals in Your Yard

*Give special protection to cavity trees on your land. If you have few or none, nest boxes can substitute for natural cavities.

*Plant native trees with edible fruits and nuts, such as mulberry, wild cherry, beech, pine and oak.

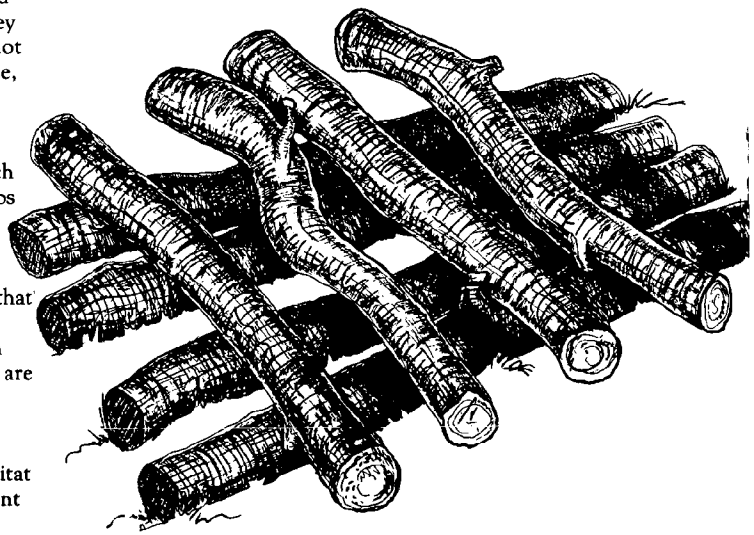
*Protect nearby streams, swamps and marshes from destruction and water pollution.

*Create maximum habitat diversity and edges in your backyard habitat.

*Provide ample low cover to supply protective shelter from predators (including dogs and cats) and the elements.

*If vegetative cover is scarce, build a brush pile.

Bottom half of brush pile construction



Managing for Herps in Your Yard

Most of Florida's reptiles and amphibians are small and secretive and need a little bit of "wildness" in which to hide and find food. You can improve the herp habitat in your yard by doing the following:

*Leave some leaf litter under your trees, shrubs and in the garden.

*Encourage native ground cover, grasses and wildflowers; a finely mowed lawn is attractive to people but not to most herps.

*Leave stumps, rotting logs and stones where possible. Brush piles and wood piles also provide valuable shelters and basking sites.

*Wooden rail or slat fences not only brighten the yard but provide lizards with perches on which to bask, catch insects and set up territories.

*Try to discourage cats from using your yard; they are efficient hunters and frequently destroy herps and other wildlife.

Top half of brush pile construction

◄To build your own brush pile, lay four logs (6 feet long and 4 to 8 inches in diameter) parallel to one another about 8 to 12 inches apart on the ground. Then place four more logs of the same size across and perpendicular to the first four poles. These will keep "tunnels" open under the pile. Next add brush: larger limbs first, then smaller branches, until you've created a structure 4 to 6 feet in height and diameter. Sticks and branches can then be continually added to the top as the pile rots at the bottom, providing food for an abundance of earthworms, enriching the soil and reducing the need for trash collection. If you want a brush pile for birds to use, but not rabbits, pile brush one or two feet off the ground on cement blocks. It will no longer shelter rabbits.

The **slimy salamander**, in its black cloak studded with flecks of white or gold, is a handsome mini-predator of small insects and spiders in leaf litter and beneath rotting logs. Most often seen at night when the ground is wet, its name derives from the viscous slime it produces to thwart its enemies.

The little **squirrel treefrog** is one of the "chameleons" of the frog world, and can change its color from dark brown to lime green. Often ranging far from water, it is a frequent stalker of the insects attracted to your lighted window pane at night. By day, it retreats into a nearby tree or shrub where it may give its nasal, duck-like "waaak" reminiscent of a scolding squirrel.

You should feel honored if the familiar high-domed **box turtle** chooses your yard or garden for its home, because these reptiles may live to be 100 years old! The box turtle is so named because the special hinge on its bottom shell lets it close up into an armored box when faced with danger. This familiar land turtle eats a variety of low-growing plants, fruits, vegetables, mushrooms, insects and worms. It avoids the summer sun and winter cold by digging a small shelter in the leaf litter or underbrush.

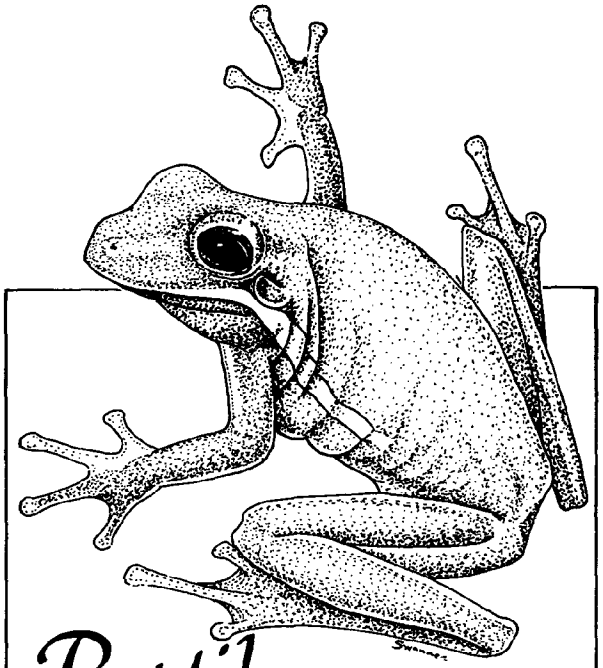
The **green anole**, sometimes called "the American chameleon" due to its ability to change from bright green to dark brown, is one of several lizard species at home around people. Its insect-catching skills provide great free entertainment, as do its social interactions. Males pump out their startling pink throat fan or "dewlap" to advertise their virility and personal territory.

The **southern ringneck** snake, which seldom exceeds 14 inches in length, occasionally turns up in the garden, where it eats slugs, earthworms and other small animals. Brown to slate black with a bright yellow necklace, the ringneck may escape notice until you see its bright yellow belly beset with bold black spots. This and other small snake species may be important predators of destructive insects, and can be encouraged by providing areas of leaf litter and logs or stones for cover.

The common "black snake" of Florida is the **southern black racer**, a slender, shiny black, and very fast serpent that grows to over five feet. The racer eats an astonishing variety of other animals, from insects and frogs to mice, lizards and other snakes. While cruising for its prey, each racer covers a lot of territory; very likely the one you see will be "just passing through."

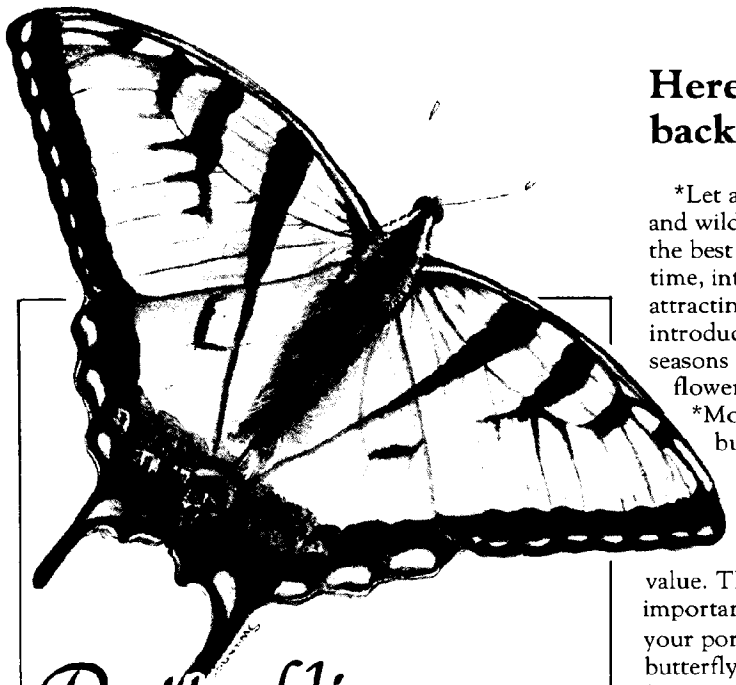
Rat snakes are tremendously variable in color, pattern, and local name (**corn** or "red rat" snake; **gray rat** or "white oak" snake; **yellow rat** or "chicken" snake), but all are superb climbers that prey on destructive rodents. Their presence in your shed or near your house may indicate a plethora of mice.

NOTE: There are only six species of poisonous snakes in Florida (two of which are very rare and found only in extreme north Florida). Learn to recognize these, and any others you see will be safe, valuable additions to your backyard fauna.



Reptiles and Amphibians

Floridians are lucky to share their state with a wide variety of reptiles and amphibians. Thanks to its unique geological history, climate and diverse plant communities, Florida has 127 species of native herptiles or "herps" (from the Greek *herpeton*, meaning "creeping thing"). With so many "creeping" (and hopping, slithering and swimming) critters around, it's no wonder that some may choose to make their home near where you choose to make yours! At left are representatives of the Florida salamanders, frogs, turtles, lizards and snakes you are most likely to run into in your backyard or side garden, plus some hints on how to make them happy. If you are lucky enough to live next to some woods, a stream or a pond, you may see some "herps" not listed here. For pictures and more information about all of these, we recommend **A Field Guide to the Reptiles and Amphibians of Eastern and Central North American** by Roger Conant (Peterson Field Guide Series).



Butterflies

As you create your backyard habitat, don't overlook the nectar-seekers—hummingbirds and butterflies. They are valuable plant pollinators, and delightful to observe as well.

It's easy to attract butterflies to your garden by providing their favorite nectar-producing flowers. But to persuade them to stay all summer, you must also grow those plants that supply food for the insects' larval stage. Female butterflies lay their eggs only on certain plants that will nourish the young caterpillars (larvae) after they hatch. Some caterpillars feed on just one kind of plant, while others may dine on a broad range of related species. Zebra swallowtail larvae, for example, feed only on pawpaw plants, while tiger swallowtails will consume leaves from many broadleaf shrubs and trees, especially willows and tulip poplars.

Here are some ways to create a backyard butterfly habitat:

*Let a few sunny areas in your yard go wild. Grasses and wildflowers native to your region of Florida are the best and most permanent butterfly draws. Over time, introduce seeds of other native butterfly-attracting herbs to these natural food patches. Try to introduce vegetation that has staggered blooming seasons so you can offer a steady progression of flowers throughout the warm months.

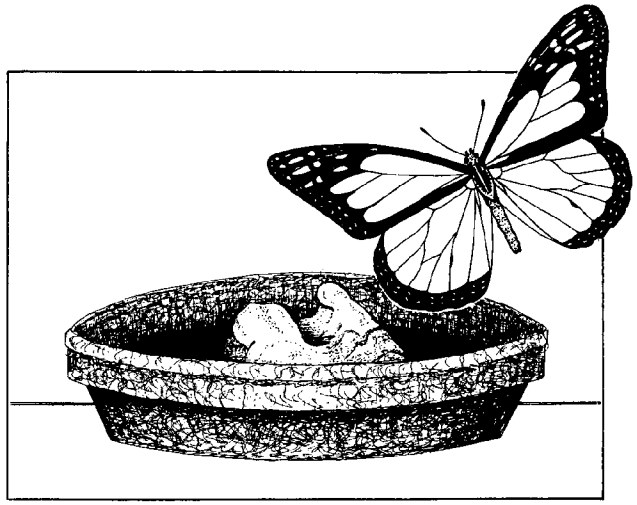
*Mow your meadow areas only at the end of the butterfly season (November in most parts of Florida) to avoid harming larvae.

*As you design your landscape plan, select some of your permanent trees, shrubs and vines specifically for their butterfly food value. This can be as simple as placing a few important shrubs in a sunny spot you can see from your porch or window. Write for a free fact sheet on butterfly gardening from the Nongame Wildlife Program (see page 33) which lists the larval and nectar food plants for each common Florida butterfly.

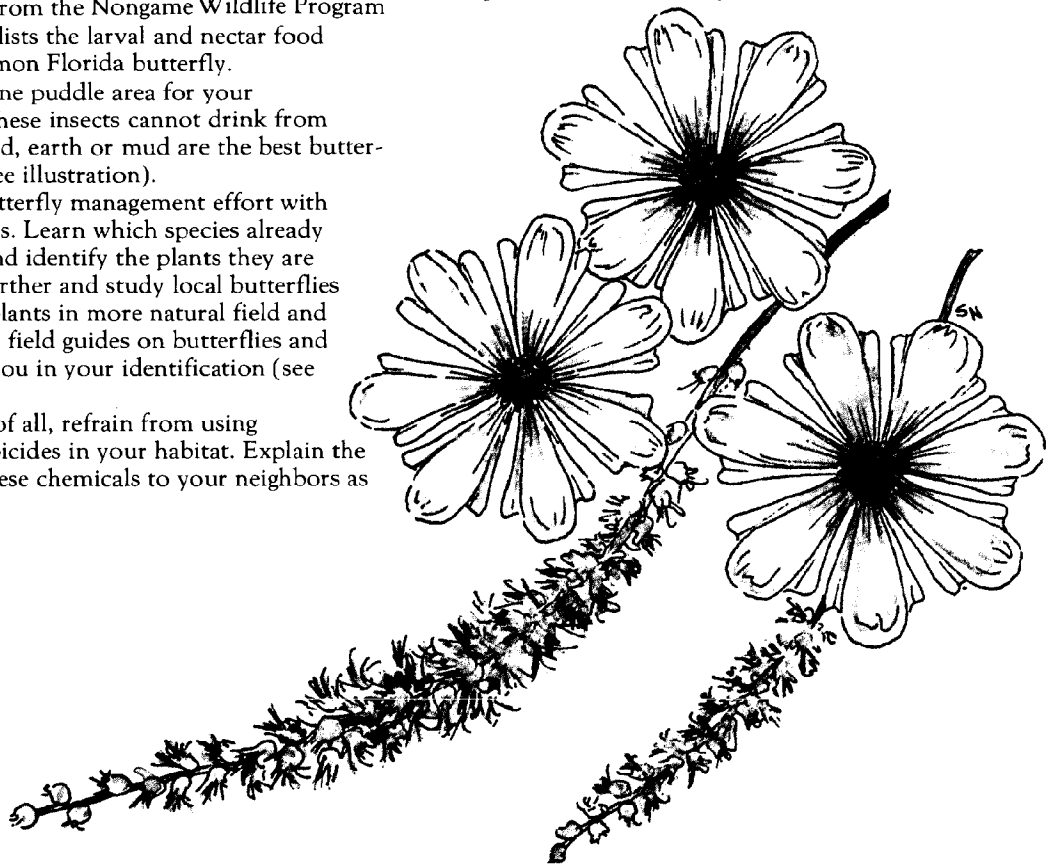
*Provide at least one puddle area for your butterflies, because these insects cannot drink from open water. Wet sand, earth or mud are the best butterfly watering holes (see illustration).

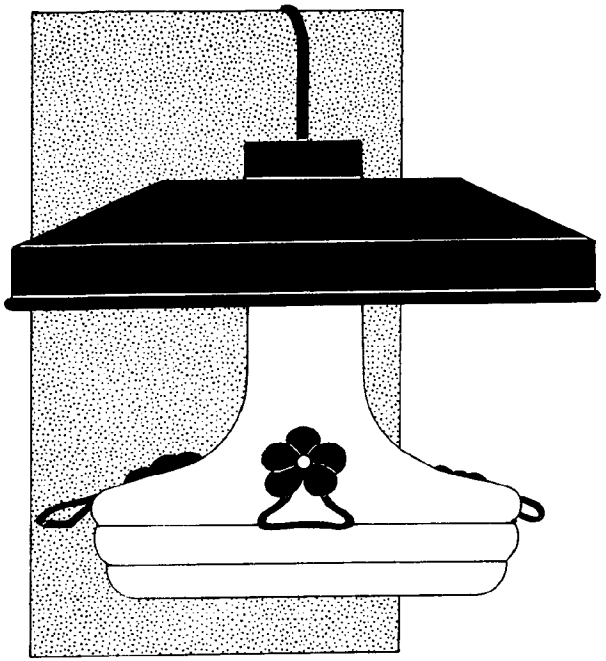
*Enhance your butterfly management effort with personal observations. Learn which species already occur in your area and identify the plants they are visiting. Go a step further and study local butterflies and their preferred plants in more natural field and forest settings. Many field guides on butterflies and local flora can help you in your identification (see page 33).

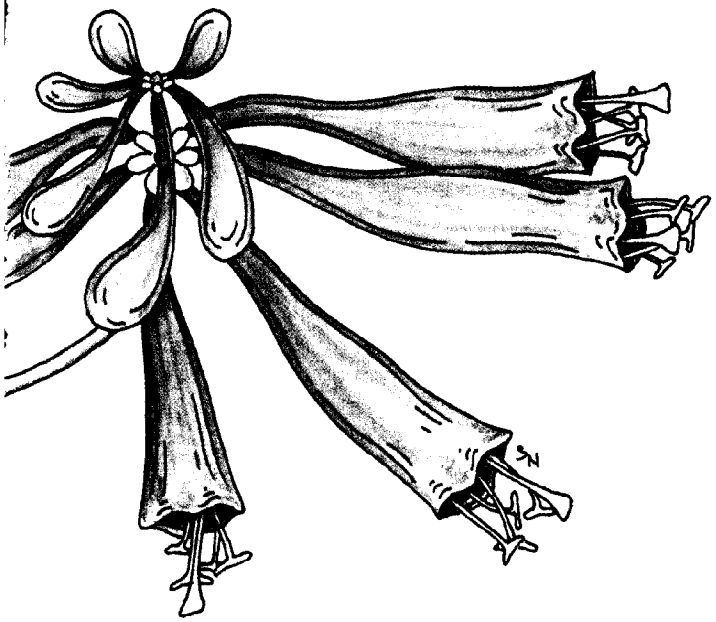
*Most important of all, refrain from using insecticides and herbicides in your habitat. Explain the harmful effects of these chemicals to your neighbors as well.



▲ You can make a watering station for butterflies by adding sand to the saucer of a bird bath to reduce its depth. Add a rock to the center that can act as a resting spot. A large saucer designed to fit beneath clay flower pots will do the same job handsomely.







Artificial feeders: use with caution

The safest, most balanced way to encourage hummingbirds is to provide their favorite nectaring blossoms in sunny habitats. But, as most hummer fans know, sugar-water feeders are usually a sure draw for these birds. If you choose to supplement the birds' natural diet in this way, protect them from hazardous, spoiled solutions by observing the following safety tips:

DO use a feeding solution of four parts water to one part white granulated sugar—no stronger. Bring water to a full boil, dissolve in sugar and promptly cool. Refrigerate unused portions.

DO choose feeders that can be dismantled and thoroughly cleaned to remove bacteria and fungus molds. Scrub with hot water and vinegar (no soap) every four or five days.

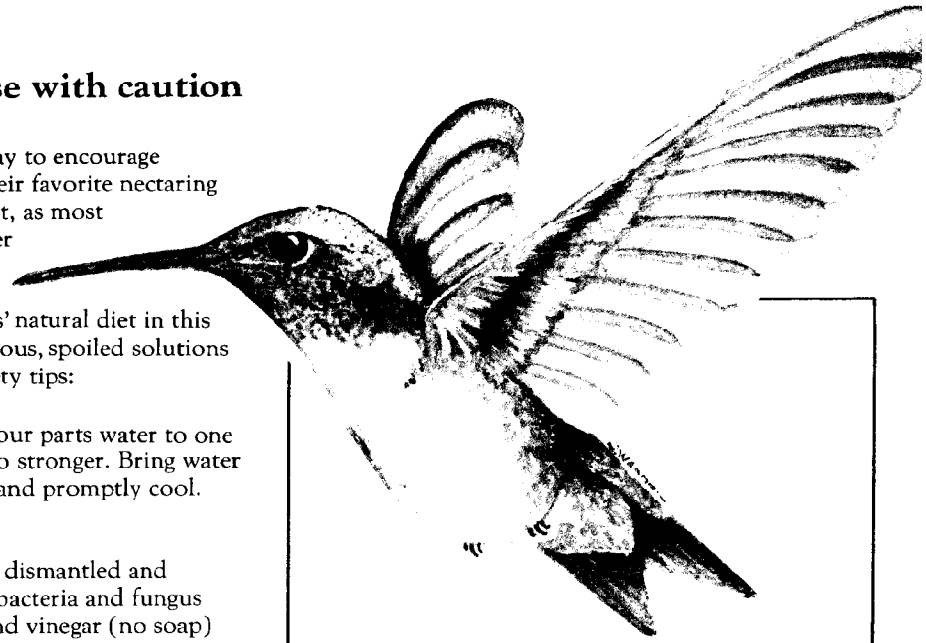
DO NOT use honey. It may contain botulism toxins and fungi fatal to hummingbirds.

DO NOT use red dye or commercial solutions with red coloring. The red plastic feeders will attract the birds just as well.

DO NOT use insect sprays to control bees, wasps or ants on feeders. Vegetable oil applied around the feeder openings and on the suspending wire should discourage these unwanted visitors. Many commercially available feeders come equipped with plastic bee guards.

Hummingbird gardens

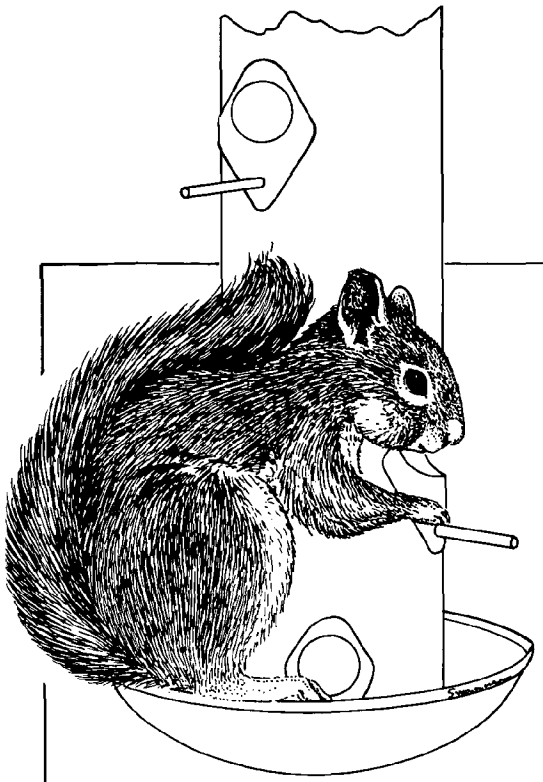
An excellent planting design for a hummingbird garden follows the wildlife landscaping principle of layered vegetation. Build a cascade of plant attractants by securing a trellis to a wall and covering it with trumpet creeper or coral honeysuckle vines. Or consider a red buckeye (north Florida) or geiger tree (south Florida) for height at the back of your hummingbird garden. Add lower shrubs such as coral bean or firebush, and then low flowering annuals and perennials closest to the ground.



Hummingbirds

Ruby-throated hummingbirds, our only nesting hummingbird species, are most attracted to nectar-rich plants having bright red or orange blossoms of tubular shape. You will have to choose your plants carefully—many of the popular, exotic landscape plants are unsuitable for nectar-seekers. Stick with flowering natives, especially trees, shrubs, vines and perennials which will require a minimum of care. Annuals, on the other hand, must be replaced each year. Single-flowered blossoms have more nectar than double ones, so avoid double-flowered and sterile hybrids.

Hummingbirds feed most comfortably from blossoms two feet or higher above the ground. They will also visit hanging potted plants and sugar-water feeders on open patios and porches. Be sure to consider the best viewing opportunities your windows and porches afford as you place your hummingbird garden or plants. Remember, too, that flowering plants nearly always require full sun.



Problem Guests

If you're lucky and you've created a balanced backyard habitat, a complex, interdependent web of living creatures is sharing your property. You've noticed that you can't always pick and choose which insects, birds and other animals move to your yard. And you've found out that living close to wildlife means adapting your behavior to theirs, and outsmarting or excluding them where they create a nuisance you can't live with.

Recommendations:

What about hawks? Most hawks eat mice, grasshoppers, rabbits and birds, including exotic, nuisance house sparrows. There's simply no possibility that they will deplete the songbirds at your feeder, but if you manage your yard to concentrate songbirds at a feeding station, predators will eventually notice and occasionally take an unwary or slow bird. Follow the recommendations on page 22 for feeder placement. Be certain the birds have quick access to shrub or brush pile cover.

Norway or black rats? The best and only really effective way to control rats is to stop feeding them. Don't leave pet food out overnight or stock your platform or ground feeders with more than a day's worth of seed. Use rat-proof containers, such as garbage cans with tightly fitting lids, to store dry foodstuff. Situate brush piles well away from the bases of buildings. Encourage rat snakes!

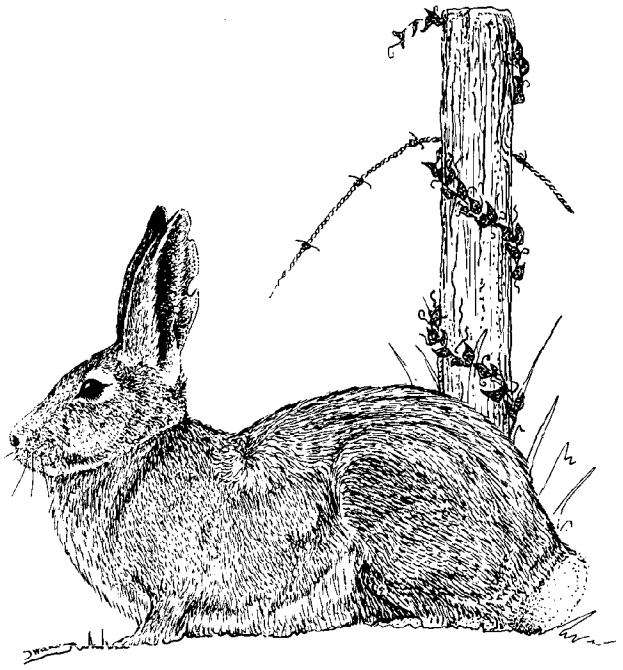
Squirrels at your feeders? Invest in one of the new baffles built for bird feeders. They really work. If you have pole feeders, try greasing the pole with vegetable shortening. It's harmless, biodegradable and hilarious!

Nest box predators? Keep bird nest boxes on poles; clear tall vegetation from base of pole. Sheet metal wrapped around wooden poles will prevent predators from climbing into boxes.

Birds in your berry patch? Try a few strategies. Invest in plastic bird netting. It's the only way to assure yourself a full crop. Plant native attractants, such as wild cherry, elderberry, pokeweed and mulberries, which will dull the birds' appetite for cultivated fruits. Place one or two nest boxes for Carolina wrens near your fruit crops. These insect-eating wrens are very territorial and will harass other birds that venture near their homes.

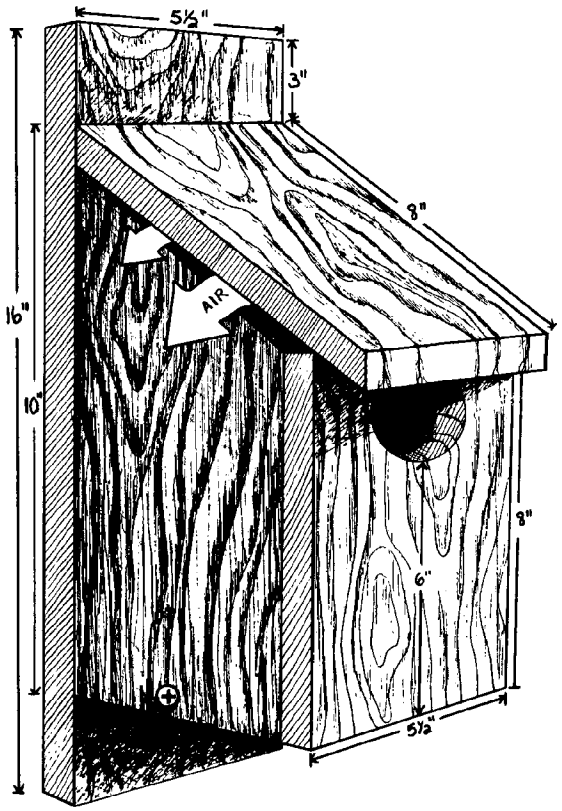
Rabbits, armadillos, raccoons in your garden? The only permanent solution is fencing. Explore electric, poultry wire or woven wire fences. If you elect to install electric fencing, do not use red insulators. They attract and electrocute hummingbirds. Fences are movable, cost relatively little and save a great deal of frustration. Consider chain link fencing if you're willing to absorb a high initial cost, or if the neighborhood dog population is especially troublesome.

Remember, from the standpoint of wildlife, domestic cats and dogs are a major source of mortality. It's unfair to attract birds and other animals to a feeding station if you cannot keep your pets confined. If you have cats in your yard, do not use mixed grain feeds or ground feeding stations. Sunflower or thistle seeds in tube feeders will discourage the especially vulnerable ground feeders, such as doves and quail.



Nest Box Dimensions For Florida Cavity Nesters

Species	Floor of Cavity Inches	Depth of Cavity Inches	Ht. of Entrance Above Fl. Inches	Diam. of Entrance Inches	Ht. Above Ground Feet	Special Notes
Carolina Wren	4 x 4	8	1-6	1¼	6-10	can use shelf, basket or gourd
Bluebird	5 x 5	8	6	1½	5-10	
Crested Flycatcher	6 x 6	10	6	2	8-20	
Purple Martin	6 x 6	6	1-2	2-2¼	10-20	will also use gourd
Wood Duck	10 x 10	24	20	3" high x 4" wide	land: 15-25 water: 5-25	use predator guard
Downy Woodpecker	4 x 4	10	8	1¼	6-20	put 3-4" sawdust in box
Red-bellied or Red-headed Woodpecker	6 x 6	15	9	2	8-20	put 3-4" sawdust in box
Flicker	7 x 7	18	14	2½	8-20	put 3-4" sawdust in box
Tufted Titmouse	4 x 4	8	6	1¼	5-15	
Chickadee	4 x 4	8	6	1⅛	5-15	
Screech Owl	10 x 10	24	20	3" high x 4" wide	10-30	use coping saw to cut hole
Barred and Barn Owl	12 x 12	25-28	12-16	7 x 7 (oval)	10-30	



Think of the delight children and adults both experience when they watch birds building their nests, and the awe they feel when they spot the first fledglings peeking out, then learning to fly! Erecting a properly designed nest box promises not only education and entertainment, but the potential for significant increases in local bird populations.

At least 22 resident Florida birds nest in cavities in trees or branches. Some do their own excavating, but most depend on natural cavities chiseled out and then abandoned by woodpeckers. If you think natural nesting cavities are scarce in your neighborhood, you should supply artificial nest structures.

When buying or building a bird house, make sure it is designed for a specific species—not just for "birds." Commercial boxes are often built more to attract buyers than birds. Keep in mind that each species has preferred nesting requirements (see table). The closer you match these preferences, the more likely it is that your nesting structure will become occupied.

Boxes should be built of 3/4-inch durable woods such as cypress, western cedar or exterior-grade plywood. Use rough-cut grade lumber; it will blend nicely with the natural habitat you are creating and give the birds a foothold when they climb out of the box. Avoid using plastic or metal boxes. They absorb too much heat during our scorching summers and may bake the fledglings. Exceptions to this rule are the anodized aluminum purple martin houses now available. These structures have a relatively large entrance and central ventilating shaft that opens to each compartment and provides sufficient cooling.

A good bird house should:

1. Have ventilation holes under roof overhang.
2. Have drainage holes.
3. Have cleats or be roughened with a wood chisel beneath the entrance hole to help birds climb out.
4. Be built for a definite species; proper entrance size and cavity depth very important.
5. Have roof extending over all sections for maximum protection.

Feeding Stations

Feeding birds is a popular backyard activity in Florida—a 1985 survey revealed that 66 percent of all respondents had fed birds or other wildlife around their homes in the past year. There's certainly no easier place to introduce children and adults alike to the joys of bird-watching than at a backyard feeder. Just offer food under reasonably sanitary conditions, and you needn't worry about ill effects of supplemental feeding on local bird populations.

Let variety be your guide when you set up a bird feeding station. You'll find that each species strongly prefers certain foods and feeding situations.

Seeds are a favorite with many birds because of their high protein and fat content. Studies have shown that the top grain choices for birds are oil, striped and hulled sunflower seeds; fine cracked corn; white proso millet; and niger (thistle) seed. Use separate feeders for different kinds of grain to reduce competition at feeders and prevent grain loss. Avoid most commercial seed mixes. They are usually wasteful, because the birds pick out only the grains they prefer; the rest ends up on the ground and sprouts. You may be able to eliminate some nuisance species if you keep their preferred food items out of your feeders. Milo and hulled oats attract starlings. Wheat is preferred by brown-headed cowbirds and house sparrows. Consult the references on page 33 if you'd like to learn more about individual bird species' feeding preferences.

Try placing several kinds of feeders at various heights and locations in your garden to accommodate the different eating styles of your birds. A varied backyard feeding program might include:

*millet and cracked corn on the ground for doves, towhees, sparrows and quail (unless cats, mice or rats are a problem).

*sunflower seeds, mixed grains and fruit offered on platform or hopper feeders three or four feet off the ground for perching birds like cardinals, finches and grosbeaks.

*a suet feeder suspended or attached to a tree limb. It may attract at least 12 different species of birds on a year-round basis. Raw suet will become rancid quickly, so use the suet cake recipe on this page and place the feeder in a shady location.

Remember to locate your feeders in spots that are easily visible from your house. Be certain that birds have access to thick shrub or tree cover in which to escape predators within 10 to 20 feet of the feeder. However, don't place feeders in the middle of dense shrubbery; these locations can work against the birds and in favor of a stalking cat. Windows can be another hazard to birds frequenting feeders. Bird collisions with windows usually result from confusing scenic reflections and seemingly open passageways. You can cut down on these accidents by hanging a mobile or using stained glass or the silhouette of a hawk to break up reflections on the windows.

REMEMBER, birds will readily visit backyard feeders, even in relatively barren habitat. However, permanent increases in local bird populations will only occur as your landscape (their habitat) grows in richness and diversity.

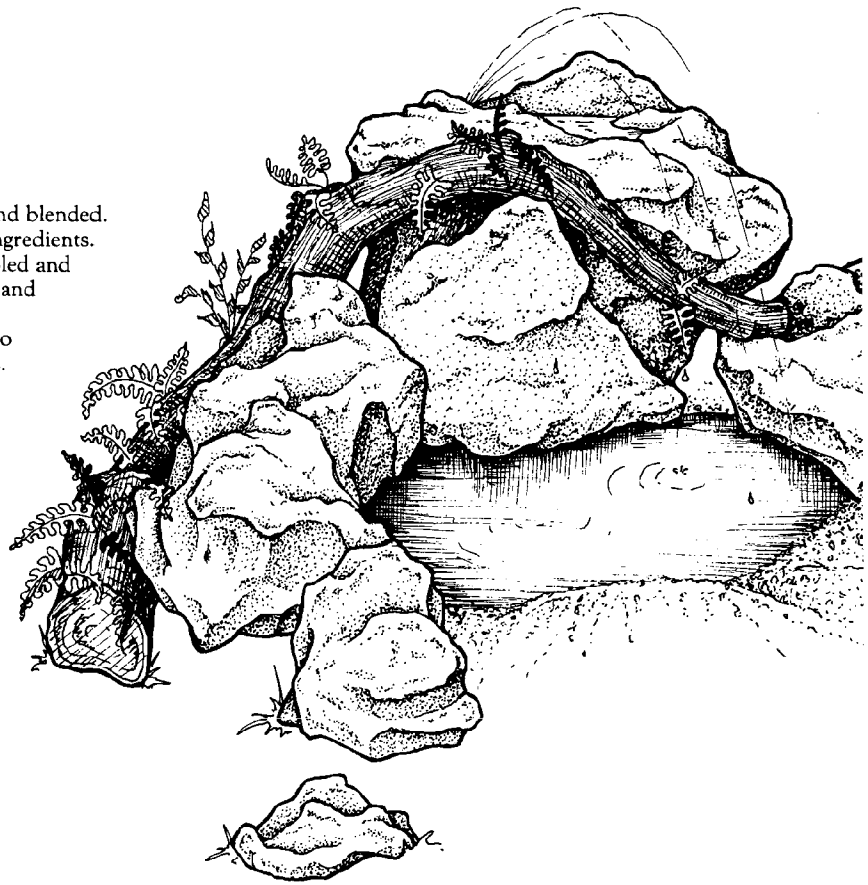
A good bird feeder should:

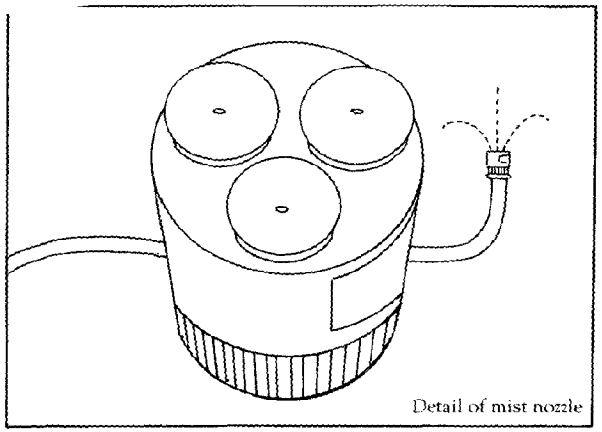
1. Hold enough food for two or three days use.
2. Protect the food from inclement weather because wet grain spoils quickly. Moldy food is unhealthy for birds.
3. Be free from predators. Use pole guards if necessary and locate close to cover.
4. Keep spillage and waste to a minimum.
5. Be easily seen from your favorite observation point near a window, patio or porch.
6. Be maintained year-round.

Recipe for Suet Cake

1 cup ground suet
1 cup smooth peanut butter
2-3 cups yellow corn meal
1/2 cup enriched white or whole wheat flour

(1) Melt suet in saucepan.
(2) Add peanut butter, stirring until melted and blended.
(3) In a separate bowl, mix together the dry ingredients.
(4) When the suet/peanut butter mix has cooled and begins to thicken, add the dry ingredients and blend thoroughly.
(5) Stuff mixture into a pine cone or form into cakes in muffin tins for use in suet feeders.

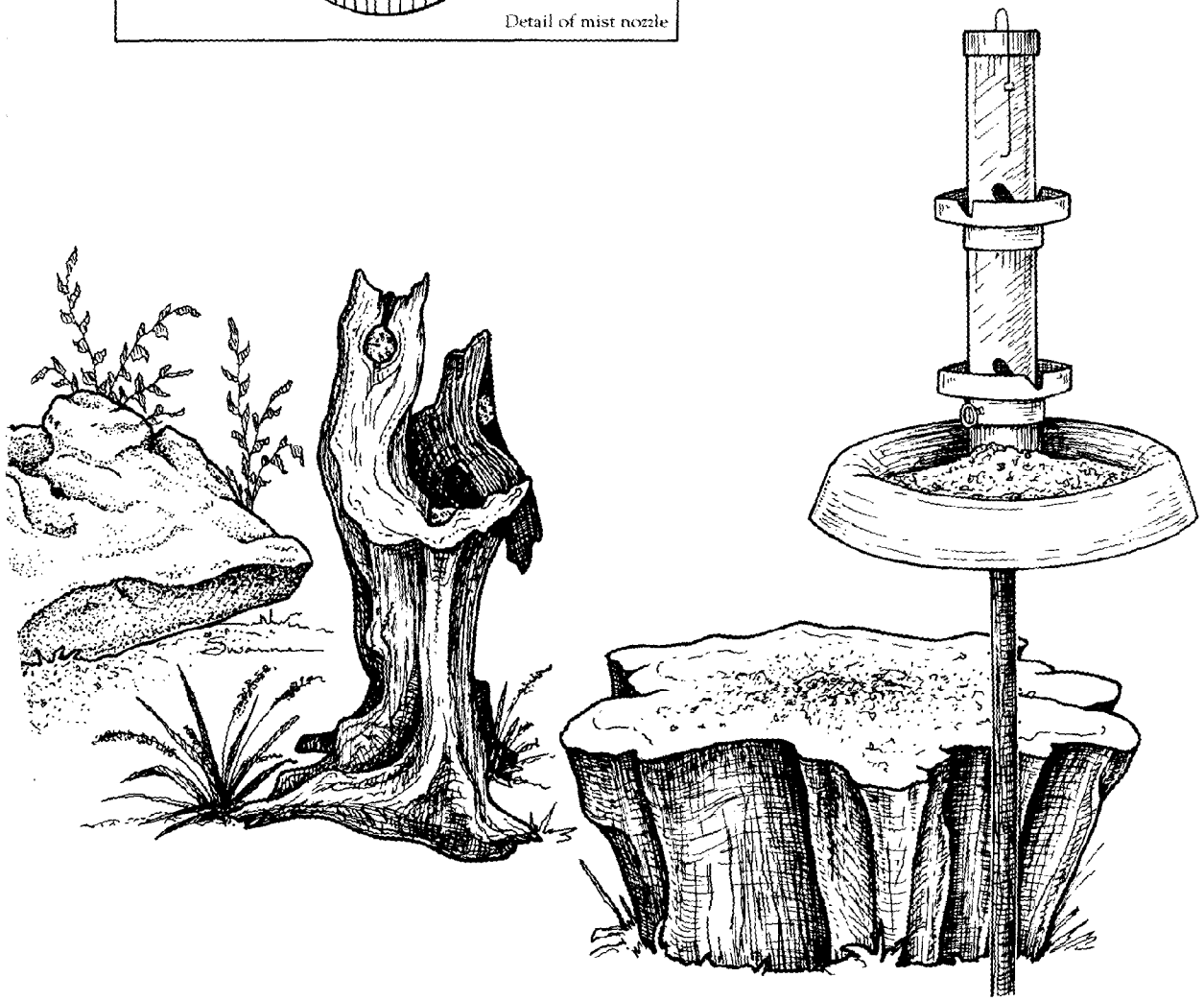




Detail of mist nozzle

Misters

You should time your mister's operation to minimize cost and wasted water. Both migrant and resident birds are most active between sunrise and 10:00 a.m., and again in the later afternoon and early evening. Install a timer at your hose outlet to activate the mister jet only at those times.



Water

A backyard habitat isn't complete withou water for drinking and bathing. In fact, furnishing clean water at the right height with protective cover nearby is one of the most useful methods you can use to attract birds and improve wildlife habitat. A predator-safe birdbath will lure species that seldom visit feeders, especially during spring and fall migrations and the hot summer months.

Many migrant songbirds, including warblers, vireos, and gnatcatchers, normally dwell in the forest canopy. Other backyard residents,including catbirds, thrashers, wrens, towhees and thrushes, haunt secretive thickets to avoid predators and venture away from cover only briefly. In the wild, they drink and bathe in water droplets among leafy branches, and in bromeliad "cups" located close to dense, low shrubbery. As a result, Florida's many lakes and streams, as well as the rockpits and miles of canals that criss-cross south Florida, are virtually useless to most songbirds and small mammals. A few migrants, including robins, will use canal edges, but even they seem to prefer shallow birdbaths.

Almost any flat receptacle that holds water will attract birds. An upside-down garbage can lid is a simple and inexpensive model.

A really successful bird bath:

*is located in a shady, protected spot about 15 feet from shrubbery and is mounted three feet off the ground.

*has a dry edge or "beach" around the perimeter and then a gradual slope to a depth of two to three inches in the center. Birds will not bathe in most commercial bird baths because the sides are too steep.

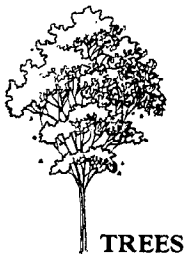
*has a rough bottom for safe footholds.

*has "live" or moving water. Misting or dripping water attracts birds that might otherwise overlook the bath. Thin metal bird baths magnify the sound of falling water droplets which birds find so irresistable. The best design should include a thin jet or mist of water that shoots vertically into overhanging tree branches and then drips back into the bath.

Keep your wildlife water supply both dependable and clean. Unpredictable water sources are rarely visited.

Native Plants for Backyard Florida Habitats

This table lists 55 trees, 28 shrubs and small trees, and seven vines with excellent wildlife value for home landscapes. All are native to Florida. You can identify potential plants for your landscape by checking their preferred temperature zones and soil types. The climate map will help you determine whether you live in north (N), central (C), south (S) or semitropical (SS) Florida. Soil types are broadly classified as wet, poorly drained (W); garden soils with average moisture, i.e., pine flatwoods, mulched urban fill soils (A); and very dry or xeric soils that are rarely or never flooded, usually in full sun situations (D). The table also tells you whether the plant is evergreen (E) or deciduous (D—seasonally drops and regrows its leaves) and when it fruits: summer (S), fall (F), winter (W) or spring (Sp). Season of flowering is marked with an asterisk if important to wildlife. Both common and scientific names are provided to help you purchase exactly what you want from a plant nursery. Use references on page 33 to learn more about individual plant species.



TREES

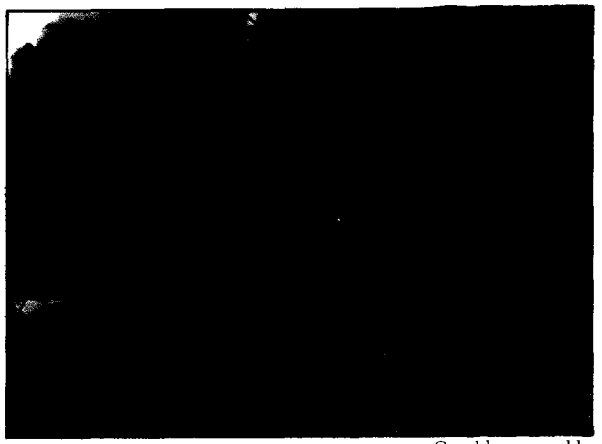
	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
American Beech (*Fagus grandifolia*)	N	D	F	A	Nuts eaten by game birds, mammals, woodpeckers, blue jays, titmice, nuthatches, grackles, cardinals, towhees.
Buttonwood (*Conocarpus erectus*)	C (Barrier islands), S,SS	E	Sp-W	W-A	Excellent cover and nesting plant; can be trimmed into hedge; salt tolerant, wind resistant and tolerates wet areas.
Cedar, Southern Red (*Juniperus silicicola*)	All	E	F-W	All	Good cover and nesting sites; blue fruit attracts tree swallows, cedar waxwings, mockingbirds, yellow-rumped warblers, bluebirds, flickers, yellow-bellied sapsuckers, opossums, armadillos.
Cherry, Black (*Prunus serotina*)	N,C	D	S	A-D	Very important summer food plant; fruit eaten by many bird species and gray squirrels; tent caterpillars which infest tree in spring, eaten by yellow-billed cuckoos.
Cherry Laurel (*Prunus caroliniana*)	All	E	W	A-D	Many bird species feed on this dark fruit at a time when little else is available; can be used as an informal privacy hedge.

	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Coffee Colubrina (*Colubrina arborescens*)	S,SS	E	F-Sp*	A	Fragrant green flowers in fall attract abundant insects, honeybees, wasps, butterflies, diurnal moths, which in turn attract warblers, gnatcatchers, kingbirds, vireos and flycatchers.
Crabapple, Southern (*Malus angustifolia*)	N	D	S	A	Fruit eaten by mockingbirds and other bird species.
Cypress, Bald (*Taxodium distichum*)	All	D	F-W	W-A	Seed cones used by gray squirrels, ducks, sandhill cranes, others; long-lived, pest-free tree.
Cypress, Pond (*T. ascendens*)	All	D	F-W	W-A	
Dogwood, Flowering (*Cornus florida*)	N,C	D	F	A	Bright red fruit very attractive to many species of birds.
Elm, Winged (*Ulmus alata*)	N,C	D	Sp	W-A	Early source of seeds for many songbirds, including finches, sparrows, grosbeaks; fox and gray squirrels and rabbits also utilize elm fruits.
Geiger Tree (*Cordia sebestena*)	S,SS (FL Keys)	E	F-Sp*	A	Bright orange flowers relished by hummingbirds; cold sensitive.
Gum, Black or Tupelo (*Nyssa sylvatica*)	N,C,S	D	F	W-A	Blue fruit eaten by many birds, including woodpeckers, blue jays, bluebirds, cardinals, wood ducks and others; hollows in old trees used by birds and mammals; flowers important for bees.
Gumbo-limbo (*Bursera simaruba*)	C (Barrier islands), S,SS	D	S	A	Clusters of red fruit eaten by mockingbirds and vireos; warblers and flycatchers often seen in canopy.
Hackberry or Sugarberry (*Celtis laevigata*)	All	D	S-F	All	Dark fruit eaten by many birds, including catbirds, mockingbirds, robins, thrashers, towhees, cedar waxwings, flickers; butterfly larvae.
Hawthorn (*Crataegus* spp.)	N,C	D	Sp-S	A	Red or yellow fruit eaten by birds and mammals, including foxes, otters, rabbits; provides good cover and nesting sites; thorny.
Hickory (*Carya* spp.)	N,C,S	D	F	A	Nuts eaten by squirrels, wood ducks, blue jays, woodpeckers and crows.
HOLLIES (*Ilex* spp.)					
American (*Ilex opaca*)	N,C	E	F-W	A	Female plants bear red fruit that persists into the winter; eaten by many species of birds; good cover; yaupon holly is salt tolerant; summer plants important source of pollen for bees.

	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Yaupon (*I. vomitoria*)	N,C,S	E	F-W	All	
Dahoon (*I. cassine*)	All	E	F-W	All	Continued from previous page.
Hornbeam, Blue (*Carpinus caroliniana*)	N,C	D	S-F	W-A	Nuts eaten by squirrels and some birds.
Lancewood (*Nectandra coriacea*)	S,SS	E	F	A	Deep purple fruit especially attractive to wood thrushes and veerys.
Magnolia, Southern (*Magnolia grandiflora*)	N,C,S	E	F	A	Good cover for songbirds; red fruit eaten by woodpeckers, red-eyed vireos and others.
Magnolia, Sweetbay (*M. virginiana*)	N,C,S	E	F	W-A	
Maple, Red (*Acer rubrum*)	All	D	S	A	Winged seeds eaten by some birds and mammals.
Maple, Florida Sugar (*A. barbatum*)	All	D	S	A	
Mastic (*Mastichodendron foetidissimum*)	S,SS	E	Sp-W	A	Yellow fleshy fruit eaten by birds, raccoons, opossums; known as "jungle plum".
Mulberry, Red (*Morus rubra*)	All	D	Sp	W-A	Usually only female plants bear fruit; abundant berries attract woodpeckers (including pileated), kingbirds, great crested flycatchers, blue jays, crows, titmice, mockingbirds, thrashers, grackles, summer tanagers, cedar waxwings, opossums, raccoons, squirrels.
OAKS (*Quercus* spp.)					
Live Oak (*Q. virginiana*)	All	E	F-W	A-D	
White Oak (*Q. alba*)	N	D	F-W	A	Acorns are a primary wildlife food source and have high energy value; eaten by game birds, woodpeckers (especially red-headed), blue jays, raccoons, quail, gray squirrels, flying squirrels, bears; provides good cover and nesting sites, den trees and nesting materials, including lots of Spanish moss; many warbler species may be found in live oaks feeding on insects; live oak is salt tolerant.
Basket Oak (*Q. michauxii*)	N,C	D	F-W	A	
Laurel Oak (*Q. laurifolia*)	N,C,S	E	F-W	W-A	
Myrtle Oak (*Q. myrtifolia*)	N,C,S	E	F-W	A-D	

Southern red cedar

Southern magnolia

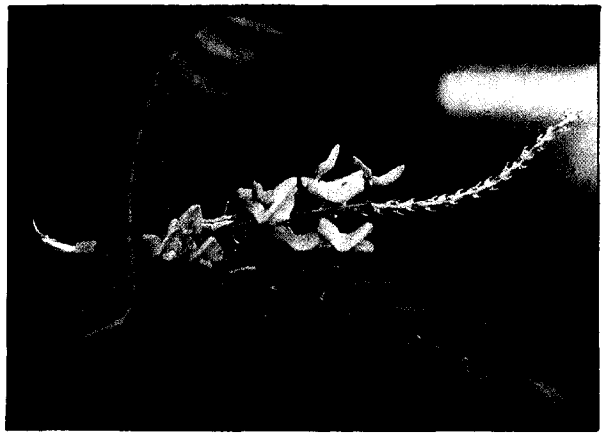


Coral honeysuckle

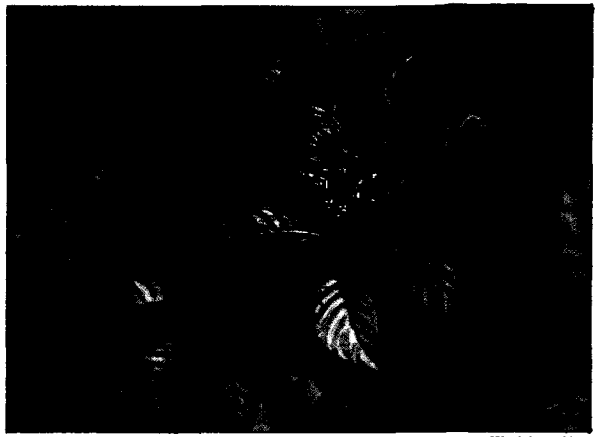
	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Shumard Oak (*Q. shumardii*)	N,C	D	F-W	A	Continued from previous page.
Water Oak (*Q. nigra*)	N,C,S	D	F-W	W-A	
Palm, Cabbage or Sabal (*Sabal palmetto*)	All	E	F S*	All	Our state tree; white flowers attract honeybees and other insects; black fruit eaten by many birds, especially robins, grackles, mockingbirds, thrashers, red-bellied woodpeckers, catbirds, and raccoons; palm thatch used as nest building material; frogs, lizards and insects live in crown where moisture collects; salt tolerant.
Palm, Florida Royal (*Roystonea elata*)	S,SS	E	S	A	Abundant fruits used by many birds.
Palm, Silver (*Coccothrinax argentata*)	S,SS	E	S	A	Large clusters of dark purple fruits eaten by many birds.
Palm, Thatch (*Thrinax radiata*) (*T. morrissii*)	S,SS	E	S	A	Copious white fruits used by songbirds.
Paradise Tree (*Simarouba glauca*)	S,SS	E	Sp	A	Abundant red fruits.
Persimmon (*Diospyros virginiana*)	All	D	F	All	Female plants bear fleshy fruit in the fall and often persist into winter; important food for raccoons, opossums, foxes, skunks and many birds.

	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Pigeon Plum (*Coccoloba diversifolia*)	S,SS	E	F-W	A	Female trees bear dark purple fruit eaten by many birds and other wildlife; fruit is also sold in Bahamian markets; salt tolerant.
PINES (*Pinus* spp.)					
Slash Pine (*P. elliottii*)	All	E	F	All	
Longleaf Pine (*P. palustris*)	N,C,S	E	F	All	Pine seeds are of major importance to wildlife, although the crop of seeds varies considerably from year to year; good cover; seeds eaten by chickadees, blue jays, nuthatches, pine siskins, quail, pine warblers and other birds, as well as fox squirrels and gray squirrels; old growth pines provide good nesting cavities; slash pine is salt tolerant.
Loblolly Pine (*P. taeda*)	N,C	E	F	All	
Spruce Pine (*P. glabra*)	N,C	E	F	A	
Sand Pine (*P. clausa*)	N,C,S	E	F	D	
Sea Grape (*Coccoloba uvifera*)	C (Barrier islands), S,SS	E	S-F (All year, South)	A	Good honey plant; fleshy fruit eaten by raccoons, turtles and various bird species; salt tolerant.
Short-Leaf Fig (*Ficus citrifolia*)	S,SS	E	Sp-W	A	Attracts many fruit-eating and insect-eating birds; cedar waxwings often swarm on it.
Stoppers (*Eugenia* spp.)	S,SS	E	S-F	A	Four species are excellent bird-attracting native landscape trees.
Strangler Fig (*Ficus aurea*)	C (Barrier islands), S,SS	E	Sp-W	All	Attracts swarms of cedar waxwings and many other birds; invasive roots.
Sweetgum (*Liquidambar styraciflua*)	N,C,S	D	F-W	W-A	Seeds in "gum balls" eaten by goldfinches, siskins, wrens, chickadees, titmice, cardinals, quail and purple finches.
Wild Lime (*Zanthoxylum fagara*)	C (Coast), S,SS	E	S	A	Excellent butterfly plant.
Wild Tamarind (*Lysiloma latisiliqua*)	S,SS	E to semi-D	Sp-W Sp-S*	A	Persistent flowers in April, followed by thin, flat, pea-like pods with black seeds; attracts warblers, gnatcatchers, redstarts, flycatchers.
Willow Bustic (*Dipholis salicifolia*)	S,SS	E	S	A-D	Small black fruits used by many species; excellent pioneer tree for poor soils.

Yaupon holly



Necklace pod



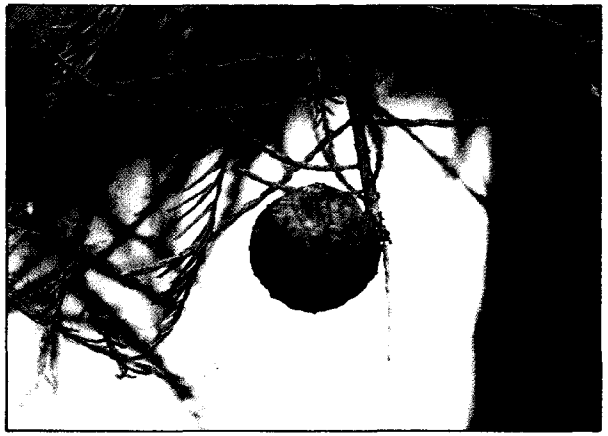
Wild coffee

SHRUBS AND SMALL TREES

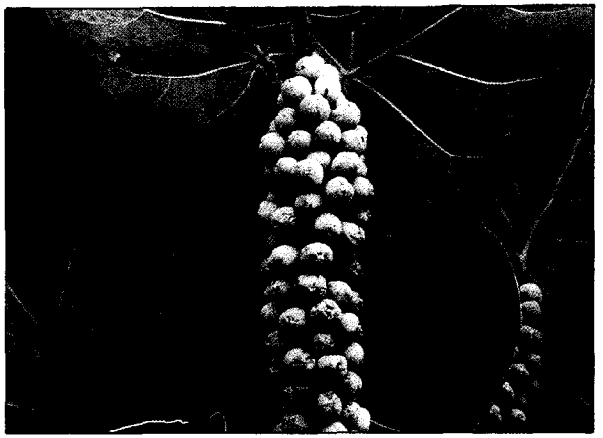
	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
American Beautyberry (*Callicarpa americana*)	All	D	F	All	Bright purple berries eaten by woodpeckers, mockingbirds, cardinals and other bird species.
Bird Pepper (*Capsicum annum*)	S,C (Barrier islands), SS	E (Annual)	Sp-F	A	Bright red peppers highly favored by catbirds and mockingbirds.
Blackberry (*Rubus* spp.)	N,C,S	D	S	All	Berries are one of the most valuable summer foods for wildlife; berries eaten by many bird species and raccoons, squirrels, box turtles; excellent cover for wildlife.
Blolly (*Guapira discolor*)	S,SS	E	S	A	Bright pink fruits prized by songbirds.
Blueberry (*Vaccinium* spp.)	N,C,S	D	S	All	Blueberries are an important summer food source for wildlife; eaten by many bird and mammal species; good for hedgerows.
Buckeye, Red (*Aesculus pavia*)	N,C	D	Sp* F-W	A	Red tubular flowers feed hummingbirds; nutlike fruit eaten by squirrels in fall.
Cactus, Prickly Pear (*Opuntia* spp.)	All	E	S-F	A-D	Persistent fruit eaten by raccoons, gopher tortoises, Florida box turtles, eastern woodrats.
Cocoplum (*Chrysobalanus icaco*)	S,SS	E	S	All	Large fruits edible by humans and wildlife.

	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Coffee, Wild (*Psychotria nervosa*)	C,S,SS	E	S	A	Fleshy red berries widely used by wildlife species.
Coral Bean (*Erythrina herbacea*)	All	D	Sp* F-W	All	Red flowers provide nectar for hummingbirds.
Elderberry (*Sambucus canadensis*)	All	E	S-F (All year)	W-A	Excellent summer source of food for wildlife; deep purple fruit eaten by many bird species.
Firebush (*Hamelia patens*)	S,SS	E	Sp-W*	A	Orange-red tubular flowers throughout year attract hummingbirds and butterflies.
Florida Trema (*Trema micrantha*)	S,SS	E	S	A	Large quantities of small fruits eaten by many birds.
Fringe Tree (*Chionanthus virginicus*)	N,C	D	S-F	W-A	Fruits eaten by many birds and mammals.
Marlberry (*Ardisia escallonioides*)	C(Coast), S,SS	E	Sp-W F-W*	A	Purple fruit eaten by most fruit-eating birds.
Myrsine (*Myrsine floridana*)	C,S,SS	E	Sp-W F-W*	A-W	Good food, cover, and nesting sites for many birds; good hedge plant for barrier islands.
Necklace Pod (*Sophora tomentosa*)	S,SS	E	Sp-W W-Sp*	A	Yellow, pea-like flowers provide nectar for hummingbirds and attract insects, which in turn attract vireos and warblers.
Palmetto, Saw (*Serenoa repens*)	All	E	Sp* S	All	Spring flowers provide nectar for honeybees; fruit eaten by several bird species and raccoons; excellent cover.
Pokeweed (*Phytolacca americana*)	All	D	S-F	All	A weed worth cultivating; dark purple fruit eaten by many songbirds, including bluebirds, cardinals, thrashers, thrushes, waxwings, raccoons, opossums and foxes.
Privet, Florida (*Forestiera segregata*)	C,S,SS	E	Sp* S	A	Spring flowers attract insects during spring migration, and many warblers come to feast on the insects; small dark fruit on plants consumed by a number of species.
Sassafras (*Sassafras albidum*)	N,C	D	S-F	A	Dark blue fruit eaten by kingbirds, crested flycatchers, phoebes, pileated woodpeckers, mockingbirds, thrashers, catbirds and flickers.

Sweetbay magnolia

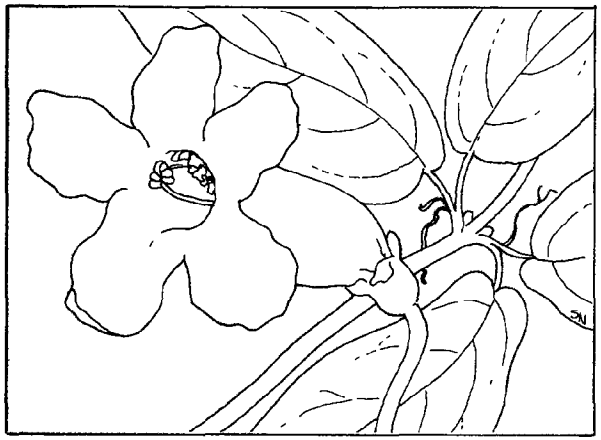


Pond cypress

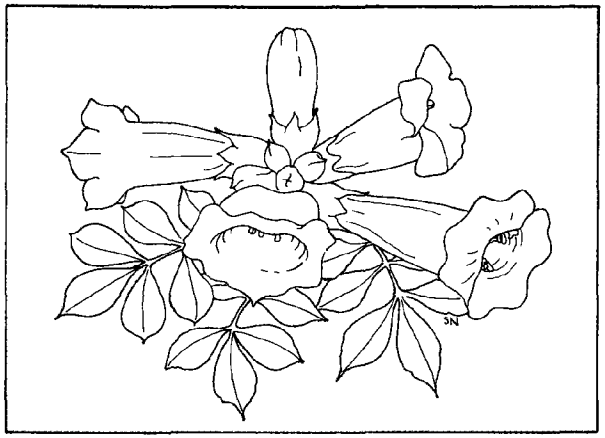


Sea grape

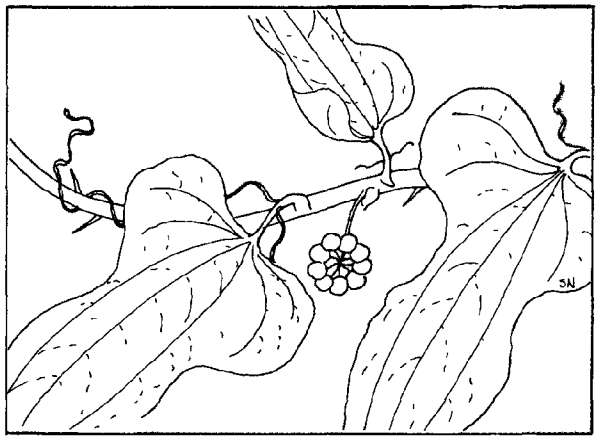
	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Seven-year Apple (*Casasia clusiifolia*)	S,SS	E	S* Sp-W	A	Persistent fragrant white flowers provide nectar for hummingbirds.
Spicewood (*Calyptranthes pallens*)	S,SS	E	F	A	Purple blueberry-like fruit are long-lasting and attract many species of birds.
Sumac, Winged (*Rhus copallina*)	N,C,S	D	F-W	All	Fruit is not preferred but is consumed by songbirds in late winter when little else is available.
Tetrazygia (*Tetrazygia bicolor*)	S,SS	E	S-F	A	Blueberry-sized fruit is favorite of mockingbirds, catbirds, thrushes and thrashers.
Torchwood (*Amyris elemifera*)	S,SS	E	S	A	Valuable larval food plant for Schaus' swallowtail butterfly.
Viburnum (*Viburnum* spp.)	N,C	D	F	W-A	Berries of native viburnums eaten by several bird species.
Wax Myrtle (*Myrica cerifera*)	All	E	F-W	All	Female plants produce small waxy berries; eaten by many species of birds, especially yellow-rumped warblers, white-eyed vireos, ruby-crowned kinglets and quail; flocks of tree swallows will often swarm to feed on berries; excellent hedge plant; salt tolerant.



Geiger



Trumpet Vine



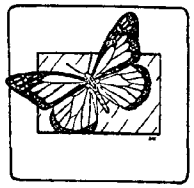
Greenbrier

VINES

	Zone	Evergreen or Deciduous	Season of Fruiting	Soil	Value to Wildlife
Cross Vine (*Bignonia capreolata*)	N,C	Semi-E	S Sp*	A	Yellow-orange flowers provide nectar for hummingbirds
Grape, Muscadine (*Vitis rotundifolia*)	All	D	S	All	Tangles provide good cover, bark is used by some species for nesting, fruit eaten by variety of birds and skunks, foxes, raccoons, rabbits, opossums and squirrels
Greenbrier (*Smilax* spp)	All	E,D	F-W	All	Tangles provide good cover and nest sites, persistent fruit eaten by a number of songbirds and small mammals
Honeysuckle, Coral (*Lonicera sempervirens*)	N,C,S	D Partially E	Sp-S*	A	Red tubular flowers attract hummingbirds, the exotic Japanese honeysuckle also attracts hummers but should not be encouraged due to its invasive quality
Poison Ivy (*Toxicodendron radicans*)	All	D	S-F	All	Though not recommended for planting, it's nice to recognize its value as wildlife food, berries are eaten by many species of birds
Trumpet Vine (*Campsis radicans*)	N,C,S	D	Sp-S*	A	Orange flowers provide nectar for hummingbirds
Virginia Creeper (*Parthenocissus quinquefolia*)	All	D	S-F	All	Small dark berries eaten by mockingbirds, robins, bluebirds, thrashers and others

***Indicates season when flowers are**

Photo credits (by page number):



Donna Legare: 1, 4A, 27C
Barry Mansell: 4B
Greg Brock/DNR: 4C
Ray Plockelman: 4D, 12C
Florida Park Service/DNR: 6
Pine Jog Environmental Center: 12A
Mark Robson: 12B
Peter May: 14A
John H. Kaufmann: 14B
Reed Bowman/National Audubon Society: 14C
Dana C. Bryan: 27A
USDA Soil Conservation Service: 29A
Richrad Moyroud: 27B, 29BC, 31B
Steve Farnsworth: 31A
Tim McCabe/USDA Soil Conservation Service: 31C

FOR FURTHER INFORMATION

Governmental agencies:

The Florida Game and Fresh Water Fish Commission, the USDA Soil Conservation Service, the Cooperative Extension Service and many other federal, state and local agencies can offer invaluable assistance to the backyard naturalist. The Florida Division of Forestry and many local Soil and Water Conservation Districts can provide you with tree seedlings at a very low cost.

Nurseries:

Florida now has more than 40 native plant nurseries. Most are listed in a new directory published by the Association of Florida Native Nurseries, Inc., which is available for a $1.00 postage and handling fee from the Florida Native Plant Society, 1133 West Morse Boulevard, Suite 201, Winter Park, Florida 32789. Many other nurseries also offer native plants and can provide excellent advice on selecting and planting vegetation for your growing conditions.

Habitat Program:

The National Wildlife Federation's Backyard Wildlife Habitat Program offers homeowners a chance to certify their yards as official NWF habitat if their property meets criteria for food, cover, water and other features. NWF offers a variety of helpful publications, including a "Gardening with Wildlife Kit" (National Wildlife Federation, 1412-16th Street N.W., Washington, D.C. 20036-2266).

Helpful References

Here are a few of the best references available to help you with your backyard habitat.

☐ NATIVE PLANTS

1. **Growing Native: Native Plants for Landscape Use in Coastal South Florida.** Richard Workman. Sanibel-Captiva Conservation Foundation, Inc., Sanibel, FL, 1980.
2. **Native Florida Plants for Home Landscaping.** R.J. Black and D.F. Hamilton. Florida Cooperative Extension Service, Gainesville, FL, 1984.
3. **Trees of Northern Florida.** Herman Kurz and Robert K. Godfrey. Regency Press, Gainesville, FL, 1962.
4. **A Flora of Tropical Florida.** R.W. Long and O. Lakela. Banyon Press, Miami, FL, 1978.

☐ NATURAL LANDSCAPING

1. **Landscaping With Wildflowers and Native Plants.** William Wilson. Ortho Books, San Francisco, CA, 1984.
2. **Nature's Design.** Carol A. Smyser. Rodale Press, Emmaus, Pennsylvania, PA, 1982.

☐ ATTRACTING WILDLIFE

1. **How to Attract Birds.** Michael McKinley. Ortho Books, San Francisco, CA, 1983.
2. **Wildlife in Your Garden.** Gene Logsden. Rodale Press, Emmaus, Pennsylvania, PA, 1983.
3. **The Audubon Society Guide to Attracting Birds.** Stephen Kress. Charles Scribner's Sons, New York, NY, 1985.
4. **The Butterfly Garden.** Mathew Tekulsky. Harvard Common Press, Boston, MA, 1985.
5. **The New Handbook for Attracting Birds.** T.P. McElroy. W.W. Norton and Company, New York, NY, 1985.
6. **American Wildlife and Plants: A Guide to Wildlife Food Habitats.** A.C. Martin, H.S. Zim and A.L. Nelson. Dover Publications, New York, NY, 1951.

☐ BIRDS

1. **Birds of North America.** C.S. Robbins, B. Bruun and H.S. Zim. Golden Press, New York, NY, 1966.
2. **A Field Guide to Birds.** R.T. Peterson. Houghton Mifflin Company, Boston, MA, 1980.

☐ MAMMALS

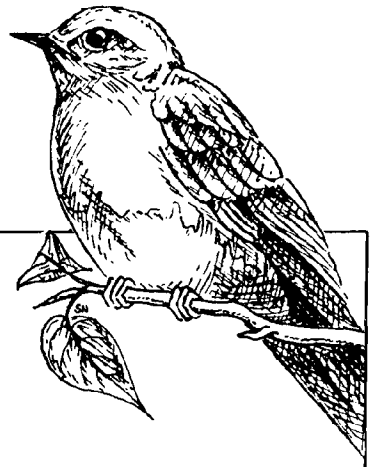
1. **The Audubon Society Field Guide to North American Mammals.** J.O. Whitaker. Alfred A. Knopf, New York, NY, 1980.
2. **A Field Guide to the Mammals.** W.H. Burt and R.P. Grossenheider. Houghton Mifflin, Boston, MA, 1976.

☐ REPTILES AND AMPHIBIANS

1. **Handbook of Reptiles and Amphibians of Florida, Part One: The Snakes.** R.E. Ashton and P.S. Ashton. Windward Publishing, Inc., Miami, FL, 1981.
2. **Handbook of Reptiles and Amphibians of Florida, Part Two: Lizards, Turtles and Crocodilians.** Windward Publishing, Inc., Miami, FL, 1985.
3. **A Field Guide to the Reptiles and Amphibians of Eastern and Central North America.** Roger Conant. Houghton Mifflin, Boston, MA, 1975.
4. **The Audubon Society Field Guide to North American Reptiles and Amphibians.** J.L. Behler and F.W. King. Alfred A. Knopf, New York, NY, 1979.

☐ BUTTERFLIES

1. **A Field Guide to the Butterflies of North America.** Alexander Klots. Houghton Mifflin, Boston, MA, 1951.
2. **The Audubon Society Handbook for Butterfly Watchers.** R.M. Pyle. Charles Scribners' Sons, New York, NY, 1984.

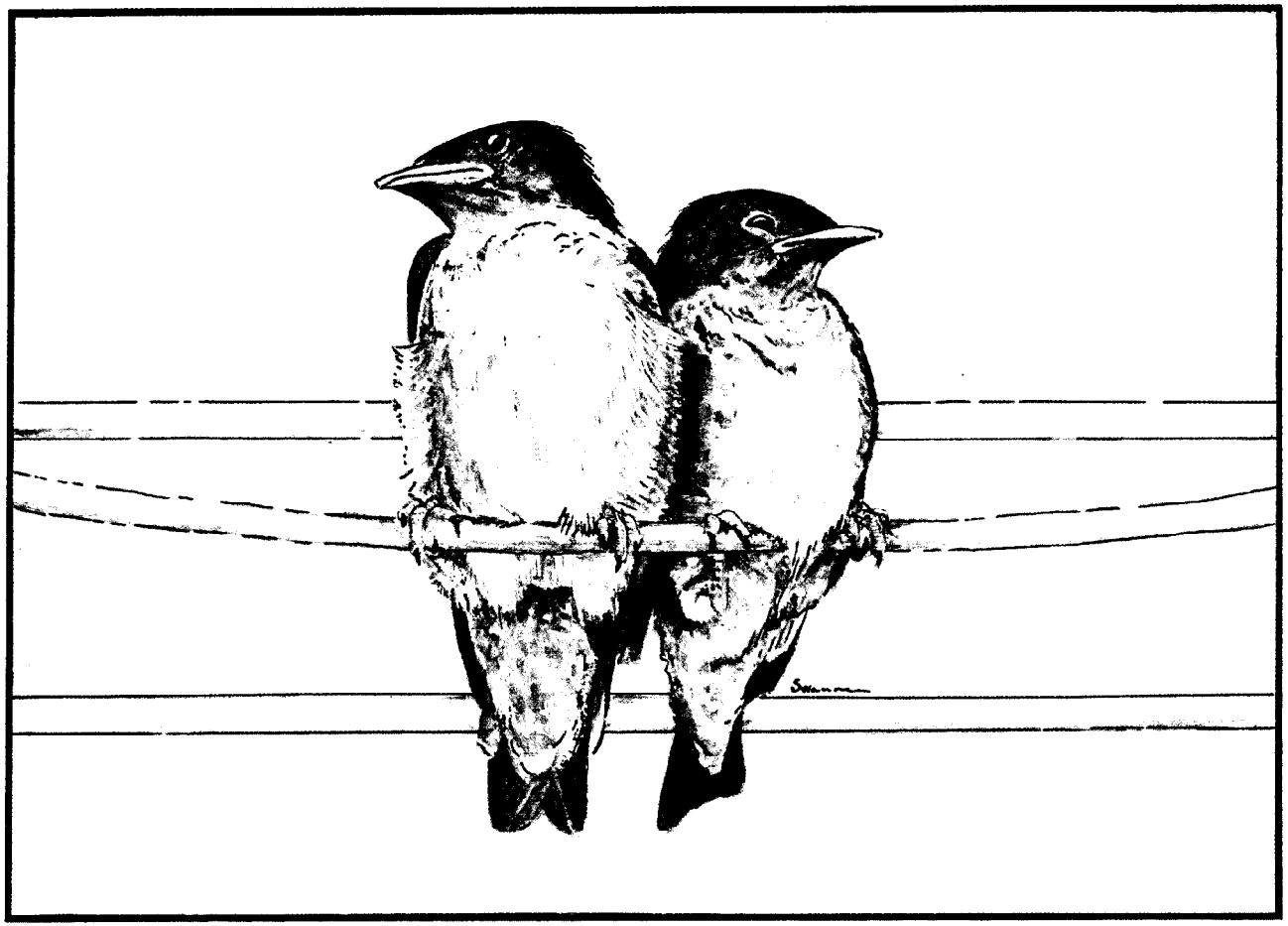


The Florida Game and Fresh Water Fish Commission's Nongame Wildlife Program was created by the 1984 Florida Legislature to conserve and manage the full range of wildlife in our state. The goals of the program are (1) to maintain and restore the richness and natural diversity of Florida's nongame wildlife and (2) to establish an integrated and coordinated approach to the management, appreciation and conservation of nongame wildlife.

You can help contribute to this effort when you annually renew your Florida vehicle registration by adding an extra dollar to the cost of your license tag. That dollar will be deposited into the Nongame Wildlife Trust Fund to help ensure that future Floridians enjoy the same diversity of wildlife that we enjoy today.

If you would like to learn more about the Nongame Wildlife Program, write to:

Nongame Wildlife Program
Florida Game and Fresh Water Fish Commission
620 South Meridian Street
Tallahassee, Florida 32301

This guide to planting for wildlife was produced at an annual cost of $25,590.77, or $0.73 per copy, to inform Floridians how to create backyard habitats for wildlife. **86/7 NG12**

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