

# Converting a Traditional Landscape to a Functional 'Bioscape'



## *Biosphere*

Tens of thousands of acres have been cleared and developed in our urban and suburban communities resulting in the destruction and removal of habitat for many native wildlife species. The impact to our unique Florida plants and wildlife is irreversible and it is clear we need to revitalize our '**Bioscape**'. Traditional residential landscape design has done little to restore habitat. For decades, the same palette of plant species, most exotic to Florida and not effective as native wildlife forage, has been planted in our communities and does little to replenish our rapidly disappearing "REAL" Florida native landscape.

Introduction of plants that have become invasive in natural areas has caused further decline of habitat. Exotic landscapes and turf areas often require extensive use of insecticides, fertilizers, herbicides, and fungicides as well as excessive watering, adding more damage to the environment and our natural drinking water aquifer.

A well planned '**Bioscape**' will restore habitat that can be utilized by many species that tolerate close proximity to humans if they have basic needs provided: food, cover, water and nesting areas. These species include butterflies and other beneficial insects, pollinators, birds, small mammals and reptiles and amphibians. The interested homeowner will soon find the '**Bioscape**' taking on a whole new perspective, changing from sterile, decorative greenery to functional, productive and beautiful surroundings that not only attract and produce many native wildlife species but also require far less maintenance, toxic insecticides, fertilizers and water.

### **The Bioscape Landscape Plan**

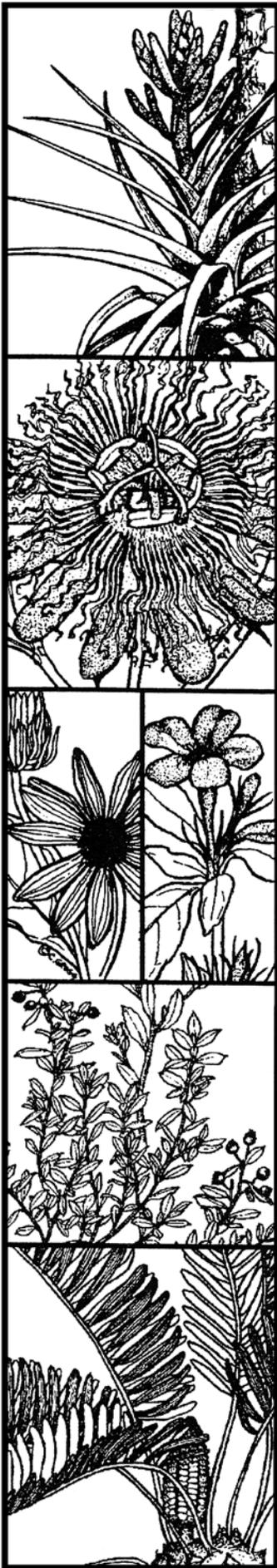
Basic parameters of the '**Bioscape**' design should comprise as many diverse plant species as possible in keeping with an orderly plan with well-defined beds and pathways. The plan will require minimal maintenance to ensure that the Bioscape blends with the surrounding neighborhood. (See the 'Biosphere Buzz' newsletter article in the September 2006 issue, 'Go Native Without Making the Neighbors Go Ballistic' available on our website (BiosphereNursery.com).

Start your project with a drawing that indicates the location, quantity and species of plants you want to use. A list of plants to choose from is included here that have habitat-for-wildlife value and have been proven to be non-invasive. Use native plants or cultivars of native plants as much as possible, choosing recommended non-natives for added color in your landscape.

After you have decided on the areas in your yard for replanting, getting rid of the lawn grass is the first step. The easiest way is to spray the herbicide Roundup® on the grass, following instructions on the container and using proper protection. Two weeks later, spray it again. Wait one week, and then begin putting in your new plants, right through the dead sod, which will actually provide some nutrients and mulch to your new plants. If you do this in small stages, killing the grass in small plots and then planting new material, your entire yard will not look like a moonscape, and it will be easier on your back and your pocketbook. Remember to avoid using Roundup around any existing trees that you want to keep. Remove the sod under them by hand, all the way out to the drip line, taking care to minimize damage to the roots close to the surface.

*Your BIOSCAPE will become an integral part of your day-to-day life ! It will not only let you observe the fascinating wildlife that is attracted to it, it will provide you with privacy, quietness, cooler temperatures, and cleaner air.*

*- Plant it well and enjoy it daily -*



### **Invasive Plants**

All invasive trees or plants should be removed, even if they are pretty and you like them! Birds carry their seeds great distances, where they infest natural areas and cause irreparable damage. These include camphor trees, chinaberry, Mexican petunia, tallow ("popcorn") trees, golden rain trees and Brazilian Pepper, among others.

### **Wildlife Enhancement Features**

Bioscaping is trying to return some semblance of naturalness to your yard for the benefit of wildlife. It also should include a place for you to relax and enjoy it.

A well-planned '**Bioscape**' should include several features: drinking water is a must. Put out a raised birdbath as well as in a low, shallow container on the ground. If you can, add some kind of running or dripping water -- a soothing and beautiful feature for you and an attraction for wildlife.

The plants you choose should supply fruits or nectar or seeds for birds and butterflies. Plant a selection that provides blooms all year long for nectaring. A butterfly area needs plants that are food for caterpillars as well. And you must learn to enjoy seeing chewed leaves if you want to see butterflies. No poisons in your Bioscape! And it may be that some of your butterflies and caterpillars will feed the birds.

Hang a bird feeder, too, in view of your kitchen window, and keep it clean and filled.

Thick hedges provide cover for animals to hide and rest in. Plan your area so shrubs and trees will give wildlife protection from their natural predators.

Some birds will nest in the shrubs and trees. A Carolina wren might even nest in the shoe you left in the carport, but some require hollow cavities. Assuming you have no dead trees with holes in them, you can hang well-designed and well-made bird houses to help them out. What a joy to hear a Screech-owl trill in the night, calling from your bird box!

Perennial beds are a must. Perennials are plants that live for two or more years. Plant them densely with varieties that will provide blooms all year long. Mulch them heavily to prevent weed growth and conserve water. Collect your own oak leaves or pine needles or even your own grass clippings for mulch (or pick-up the bags of leaves your neighbors leave out for yard-waste pickup)! Never buy cypress mulch; it is not a by-product; cutting cypress trees for mulch devastates natural areas. When it's time for seeds to fall, clear the mulch from an area to help the seeds find some bare soil to germinate in.

Consider adding vines, some of which bloom with colorful flowers. Provide a free-standing trellis for it, or train it to a fence, a simple arbor, or something elaborate. Save an area for annuals. Add some garden art. Be sure to have some outdoor living space -- a small bench, or a hammock, or some outdoor furniture -- where you can relax and enjoy your functioning Bioscape.

*bioscape (bio-scap) n.v.*

*Landscaping designed to improve habitat, conserve water, decrease maintenance and use of fertilizers, pesticides and other chemicals.*

# Plant List

The following recommended plant species are grouped by functional categories.

## KEY

N= Native BF = Frugivorous Bird BN = Butterfly Nectar H = Hummingbirds BL = Butterfly Larval

### Trees With High Habit Value:

Bottlebrush BN/H	( <i>Callistemon lanceolatus</i> )	Persimmon N/BF	( <i>Diospyros virginiana</i> )
Chinese Mulberry BF	( <i>Morus chinensis</i> )	Red Mulberry N/BF	( <i>Morus rubra</i> )
Dahoon Holly N/BF	( <i>Ilex cassine</i> )	Spinach Tree BN	( <i>Cnidocolus spp.</i> )
Flatwoods Plum N/BF	( <i>Prunus umbellata</i> )	Swamp Dogwood BL/BN/BF	( <i>Cornus foemina</i> )
Hackberry N/BL/BF	( <i>Celtis laevigata</i> )	Tree Sunflower BF/BN	( <i>Tithonia diversifolia</i> )
Hercules Club N/BL	( <i>Zanthoxylum clava-herculis</i> )	Yaupon Holly N/BF	( <i>Ilex vomitoria</i> )
Oaks (all) N/BF/BL	( <i>Quercus spp.</i> )	Yellow Haw N/BL/BF	( <i>Creteagus flava</i> )
Southern Red Cedar N/BF	( <i>Juniperus silicicola var. silicicola</i> )		

### Shrubs With High Habitat Value:

Asters (all) N/BF/BN	( <i>Symphyotrichum spp.</i> )	Paw Paw N/BL	( <i>Asimina spp.</i> )
African Blue Basil BN	( <i>Ocimum spp.</i> )	Sennas (all) BL	( <i>Senna sp.</i> )
Beautyberry N/BF	( <i>Callicarpa americana</i> )	Silverthorn BF	( <i>Eleagnus pungens</i> )
Bird Pepper N/BF	( <i>Capsicum annum</i> )	Simpson's Stopper N/BF	( <i>Myrcianthes fragrans</i> )
Buddleja (all) BN	( <i>Buddleja sp.</i> )	Spicebush N/BL	( <i>Lindera benzoin</i> )
Dwarf Powderpuff H/BN	( <i>Calliandra emarginata</i> )	Turks Cap H/BN	( <i>Malvaviscus</i> ) sp.)
Firebush N/H/BF	( <i>Hamelia patens</i> )	Walter's Viburnum N/BF	( <i>Viburnum obovatum</i> )
Florida Privet N/BF	( <i>Forestiera segregata</i> )	Wax Myrtle N/BL/BF	( <i>Myrica cerifera</i> )
Lions Mane BN	( <i>Leonotis leonurus</i> )	Wild Coffee N/BN/BF	( <i>Psychotria nervosa</i> )
Mandarin Hat H/BN	( <i>Holmskioldia sanguinea</i> )	Wild Lime N/BL	( <i>Zanthoxylum fagara</i> )

### Plants For Seasonal Color:

Cleome BN	( <i>Cleome spinosa</i> )	Mexican Tarragon BN	( <i>Tagetes lucida</i> )
Cornflower BN	( <i>Centaurea sp.</i> )	Pineland Heliotrope N/BN	( <i>Heliotropium polyphyllum</i> )
Gaura N/BN	( <i>Gaura spp.</i> )	Pineland Pennyroyal N/BN	( <i>Piloblephis regida</i> )
Ironweed N/BN	( <i>Vernonia spp.</i> )	Rosinweed N/BN	( <i>Silphium sp.</i> )
Liatris N/BN	( <i>Liatris spp.</i> )	Snapdragons BN/BL	( <i>Antirrhinum sp.</i> )

### Habitat Plants For Deep Shade:

Mona Lavender BN	( <i>Plectranthus 'Mona Lav.'</i> )	Cardinal's Guard BN	( <i>Pachystachys coccinea</i> )
Cat's Whiskers BN	( <i>Orthosiphon stamineus</i> )	Giant Yellow Shrimp BN	( <i>Barleria micans</i> )
Red Shrimp BN	( <i>Justicia brandegeana</i> )	Wild Coffee BN/BF	( <i>Psychotria nervosa</i> )
Red Firespike H/BN	( <i>Odontenema cuspidata</i> )	Lavender Firespike H/BN	( <i>Odontenema sp.</i> )

### Plants For Informal Cottage Garden -- Tier 1: 1'- 2' Height:

Bulbine BN	( <i>Bulbine frutescens</i> )	Penstemon N/BN/H	( <i>Penstemom spp.</i> )
Cornflower BN	( <i>Centaurea sp.</i> )	Perennial Peanut BL	( <i>Arachis glabra</i> )
Cosmos-Dwarf Yellow BN	( <i>Cosmos suphuseus</i> )	Plains Coreopsis BN	( <i>Coreopsis tinctoria</i> )
Dianthus BN/H	( <i>Dianthus barbatus</i> )	Rue BL	( <i>Ruta graveolens</i> )

## Plant List Continued

Gold Mound Lantana BN	( <i>Lantana spp.</i> )	Snapdragons BL/BN	( <i>Antirrhinum sp.</i> )
Lanceleaf Coreopsis N/BN	( <i>Coreopsis lanceolata</i> )	Stoke's Aster N/BN	( <i>Stokesia leavis</i> )
Mexican Heather BN	( <i>Cuphea hyssipifolia</i> )	Verbena BN	( <i>Verbena spp.</i> )
Native Petunia N/BL/BN	( <i>Ruellia caroliniana.</i> )	Yarrow BN	( <i>Achillea millefolium</i> )
Parsley BL	( <i>Petroselinium spp.</i> )		

### Tier 2: 2'- 3' Height:

Black-Eyed Susan N/BN	( <i>Rudbeckia hirta</i> )	Mexican Sunflower BN	( <i>Tithonia rotundifolia</i> )
Blue Porterweed N/BN	( <i>Stachytarpheta spp.</i> )	Purple Coneflower N/BN	( <i>Echinacea purpurea</i> )
Cosmos (Pink) BN	( <i>Cosmos bipinnatus</i> )	Salvia "Hot Lips" BN/H	( <i>Salvia microphylla</i> )
Dill BL	( <i>Anethum sp.</i> )	Salvia "Mystic Spires" BN/H	( <i>Salvia x 'Mystic Spires'</i> )
Dune Sunflower N/BN	( <i>Helianthis debilis</i> )	Salvia Pineapple BN	( <i>Salvia elegans</i> )
Fennel BL	( <i>Foeniculum unlgare</i> )	Scarlet Sage N/BN/H	( <i>Salvia coccinea</i> )
Gaillardia N/BN	( <i>Gaillardia pulchella</i> )	Scarlet Milkweed BL/BN/H	( <i>Asclepias currasavica</i> )
Gloxinia Bolivian Sunset BN	( <i>Gloxinia sylvatica</i> )	Scorpions Tail N/BN	( <i>Heliotropum angiospermum</i> )
Goldenrod (Chapmans, Seaside) N	( <i>Solidago spp.</i> )	Zinnia BN	( <i>Zinnia elegans</i> )

### Tier 3: 3'-4' Height:

Jatropha BN/H	( <i>Jatropha integerrima</i> )	Russelia BN/H	( <i>Russelia sarmentosa</i> )
Dotted Horsemint	( <i>Monarda Citriodola</i> ) BN	Salvia (Belize, Black & Blue) BN/H	( <i>Salvia guaranitica</i> )
Purple Porterweeds BN	( <i>Stachytarphata spp.</i> )	Salvia Faye Chapel BN/H	( <i>Salvia vanhoutteii</i> )
Red Pentas BN	( <i>Pentas lanceolata</i> )	Salvia Indigo Spires BN/H	( <i>Salvia x 'Indigo Spires'</i> )
Red Shrimp Plant BN/H	( <i>Justicia brandegeana</i> )	Swamp Milkweed N/BL/BN	( <i>Asclepias incarnata</i> )

### Tier 4: 4'-6'

Buddleja BN	( <i>Buddleja davidii</i> )	Cuphea Candy Corn BN/H	( <i>Cuphea micropetala</i> )
Cape Honeysuckle BN	( <i>Tecomaria spp.</i> )	Giant Milkweed BL	( <i>Caryopteris spp.</i> )
Compton's Salvia BN	( <i>Salvia guaranitica 'Compton's'</i> )	Forsythia Salvia BN	( <i>Salvia madrensis</i> )
Coral Porterweed BN	( <i>Stachytarpheta mutabilis</i> )		

### Habitat Vines For Trellises or Arbors:

Coral Honeysuckle N/BN/H	( <i>Lonicera sempervirens</i> )	*Passionvines BL	( <i>Passiflora spp.</i> )
Mexican Flame Vine BN	( <i>Senecio confusus</i> )	Pipevines BL	( <i>Aristolochia spp.</i> )

- Not all passionvines are utilized by butterflies -- check the list for larval forms.

