ENH1160

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IFAS Extension

Community Butterfly*Scaping*: How to Move Beyond Butterfly Gardening to Create a Large-Scale Butterfly Habitat[1]

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Introduction

Butterfly gardening and watching continue to grow in popularity nationwide as more and more people plant butterfly-attracting plants in their yards. Community Butterfly*Scaping* is a broader concept that embraces Florida-Friendly Landscaping™ practices within communities and seeks to connect people with their landscaped and natural surroundings.

In Community Butterfly*Scaping*, the vegetation in common areas, stormwater management systems, undeveloped areas, and yards works together to form large-scale habitats attractive to butterflies, pollinators, birds, and other local wildlife. These habitats are known as Community Butterfly*Scapes*. Figure 1 is an artist's rendering of a Community Butterfly*Scape*. Butterfly gardens or other existing landscaped or natural elements can be components of Community Butterfly*Scapes*.

Community Butterfly*scapes* encompass all butterfly-attracting vegetation—from canopy trees to smaller trees, shrubs, perennials, grasses, groundcovers, and pond vegetation. Such vegetation provides forage (pollen and nectar), larval host resources, shelter, pollinator nesting sites, and other

Figure 1. Community Butterfly*Scaping* expands the concept of butterfly gardening through community-wide preservation and planting of butterfly host vegetation. (Illustration: Gail Hansen)

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essential elements necessary for butterfly growth and reproduction.

Community Butterfly*Scapes* also can be practical landscapes that potentially lower maintenance costs through reduced mowing and minimal or no irrigation, fertilizers, and pesticides.

Finally, developers and community associations alike may want to consider a Community Butterfly*Scaping* theme under the umbrella of Florida-Friendly Landscaping™ principles. Such landscapes can be marketing tools for communities that aim to conserve and protect water quality as they serve the goals of Florida-Friendly Landscaping™.

Preserve Existing Vegetation

Many butterflies occur naturally in communities and neighborhoods. Both established communities and those planned for development can enhance habitat for Community Butterfly*Scapes* simply by preserving or planting trees, shrubs, grasses, and groundcovers that provide food sources, shelter, and habitat for butterflies.

Host and Nectar Plants

Nectar plants provide food resources for adult butterflies. Host plants are plants on which adult butterflies lay their eggs and on which developing larvae feed.

While butterflies need both host and nectar plants to complete their life cycles, an emphasis on host plants encourages butterflies to breed within given areas. Each kind of butterfly uses a limited range of host plants, but many host plants also provide nectar.

While some of the "wilder" plant species discussed in this publication could be difficult to find at nurseries, many of them may already exist in the community. See the "Additional Resources" section of this publication for more information.

Florida-Friendly Landscaping™ Principles and Community Butterfly*Scaping*

Community Butterfly*Scaping* incorporates all nine principles of Florida-Friendly Landscaping™: right plant, right place; water efficiently; fertilize appropriately; mulch; attract wildlife; control yard pests responsibly; recycle; reduce stormwater runoff; and protect the waterfront. These principles are designed to help protect Florida's natural resources by encouraging landscapes that require minimal to no supplemental water, fertilizers, and pesticides. For more information, visit http://fyn.ifas.ufl.edu/. Each Florida-Friendly principle can incorporate a way to attract butterflies, adding interest to the landscape while helping protect Florida's resources.

Florida-Friendly Landscaping™ Principle #1: Right Plant, Right Place

Butterfly host plants span a variety of habitats, soil, and moisture conditions, making for a rich, diverse mosaic across a Community Butterfly*Scape*. Knowing the preferred conditions in which the plants grow is the key to success in any landscape.

Whether native or non-native, butterfly-attracting plants placed in the right spot thrive and require minimal to no supplemental water, fertilizer, and pesticide. One way to help ensure the soil and moisture conditions fit the plant's needs in the community is to have the soil tested. UF/IFAS Extension offices can provide soil sample bags and instructions on how to submit samples for testing.

Any plant can be Florida-Friendly if it matches site conditions and isn't an exotic, invasive plant. For a reference list of plants and their requirements, visit: http://fyn.ifas.ufl.edu/materials/list.pdf.

Common areas

Common areas include areas within town centers, around clubhouses, along sidewalks, in medians, and along main roads. Table 1 lists host trees, shrubs, perennials, and grasses suitable for common areas. Plantings in common areas set the

Table 1. Suggestions for host plants and associated butterflies for common grounds

Trees and butterflies	Shrubs, perennials, grasses, and butterflies
Indigobush – Silverspotted skipper and southern dogface	Asters – Pearl crescent
Elm – Question mark (North Florida)	Blue plumbago – Cassius blue (peninsular Florida)
Hickory – Banded hairstreak (North Florida)	Bay cedar – Martial scrub-hairstreak, mallow scrub-hairstreak (South Florida)
Jamaica dogwood – Fulvous hairstreak, hammock skipper (South Florida)	Common sweetleaf – King's hairstreak (North Florida)
Oaks – Some hairstreaks and skippers	Coontie – Atala hairstreak (South Florida)
Sassafras – Spicebush swallowtail (North Florida)	Deerberry – Redspotted purple (North Florida)
Sparkleberry – Striped hairstreak (North Florida)	Herbs (parsley, dill, and fennel) – Black swallowtail
Sugarberry – American snout, hackberry emperor, tawny emperor, question mark	Partridge pea – Cloudless sulphur, gray hairstreak, ceraunus blue
Sweetbay magnolia – Tiger swallowtail (South Florida)	Passionflower – Gulf fritillary, zebra heliconian, variegated fritillary
Redbud – Henry's elfin (Panhandle)	Pawpaw – Zebra swallowtail
Red cedar – Sweadner's juniper hairstreak (North Florida)	Rue – Black swallowtail and giant swallowtail
Wild cherry and tulip tree – Tiger swallowtail (North Florida)	Sennas – Sulphurs
Wild lime – Giant swallowtail	Wax myrtle – Redbanded hairstreak
Wild cherry – Redspotted purple (North Florida)	Eastern gamagrass or fakahatchee grass – Byssus skipper

Note: Unless noted, plants listed are suitable statewide. North Florida roughly means the Panhandle to Central Florida. South Florida roughly means from Central Florida to South Florida. For specific zones, see UF/IFAS document, *Butterfly Gardening in Florida*, http://edis.ifas.ufl.edu/UW057.

tone for the community. Residential yards often mirror vegetation in these areas.

Accent and specimen trees can be butterfly hosts, as can colorful shrubs, perennials, native grasses commonly used in landscaping, and groundcovers (see Table 3).

Yards

Butterfly*Scaping* emphasizes the planting of nectar sources in residential yards to attract nearby butterflies when there is a concentration of host plants within the community. Table 2 details nectar sources.

Florida-Friendly Landscaping™ Principle #2: Water Efficiently

All plants, both native and non-native, need irrigation to become established. Florida-Friendly plants thrive on minimal irrigation. Established groundcovers that can be mowed and low-growing shrubs that attract butterflies can reduce maintenance. If planted in the right place, most need little to no irrigation and minimal mowing.

Groundcovers

Butterfly-attracting groundcovers can be used in concert with turf, alone as monocultures, or mixed to create a wildflower meadow. Such groundcovers can be used in yards, on roadside slopes, in medians, in dry retention areas, and along pond edges. Table 3 provides suggestions for host groundcovers.

Test the growth and appearance of groundcovers in a patch first to see how they perform. In the more northerly, cooler parts of Florida, groundcovers become dormant. If desired, cover them with a thin layer of mulch during colder months to enhance aesthetics. Groundcovers rebound with warmer temperatures and spring showers.

Table 2. Nectar plants and suitability for North and South Florida

Nectar plants	Scientific name	South Florida	North Florida
Indigobush	*Amorpha fruticosa*	x	x
Beach sunflower	*Helianthus deblis*	x	x
Blackeyed Susan	*Rudbeckia hirta*		x
Blue porterweed	*Stachytarpheta jamaicensis*	x	x
Buddleia	*Buddleja davidii*		x
Bush seaside oxeye daisy	*Borrichia frutescens*	x	
Butterfly weed	*Asclepias tuberosa*		x
Buttonbush	*Cephalanthus occidentalis*	x	x
Button eryngo	*Eryngium yuccifolium*	x	x
Climbing aster	*Symphyotrichum carolinianum*		x
Coastal vervain	*Glandularia maritima*	x	
Coral bean	*Erythrina herbacea*	x	x
Coreopsis	*Coreopsis* spp.	x	x
Curacioa bush	*Cordia globosa*	x	
Cutleaf coneflower	*Rudbeckia laciniata*		x
Duranta	*Duranta erecta*	x	x
Echinacea	*Echinacea purpurea*		x
False tamarind	*Lysiloma latisiliquum*	x	
Fiddlewood	*Citharexylum spinosum*	x	
Firebush	*Hamelia patens*	x	x
Firespike	*Odontonema stictum*	x	x
Florida flame azalea	*Rhododendron austrinum*		x
Gaillardia	*Gaillardia pulchella*	x	x
Garberia	*Garberia heterophylla*		x
Garlic chives	*Allium tubersum*	x	x
Giant ironweed	*Vernonia gigantea*	x	x
Glossy abelia	*Abelia* x *grandiflora*		x
Joe pye weed	*Eupatorium fistulosum*		x
Mexican sunflower	*Tithonia rotundifolia*	x	x
New Jersey tea	*Ceanothus americanus*		x
Pentas	*Pentas lanceolata*	x	x
Plumbago	*Plumbago auriculata*	x	x
Rattlesnakemaster	*Eryngium aquaticum*		x
Redbud	*Cercis canadensis*		x
Rose vervain	*Glandularia canadensis*		x
Saw palmetto	*Serenoa repens*	x	x
Scarlet hibiscus	*Hibiscus coccineus*	x	x
Seaside goldenrod	*Solidago sempervirens*		x
Snow squarestem	*Melanthera nivea*	x	x
Sparkleberry	*Vaccinium arboretum*		x
Spotted beebalm	*Monarda punctata*	x	x
Stokes aster	*Stokesia laevis*		x
Swamp sunflower	*Helianthus angustifolius*		x
Sweet almond bush	*Aloysia virgata*	x	x
Tropical sage	*Salvia coccinea*	x	x
Vitex	*Vitex agnus castus*	x	x

Table 2. Nectar plants and suitability for North and South Florida

Nectar plants	Scientific name	South Florida	North Florida
White swamp milkweed	*Asclepias perennis*		x
Wild azalea	*Rhododendron canescens*		x
Wild coffee	*Psychotria nervosa*	x	
Wild sage lantana involucrate	*Lantana involucrata*	x	
Zinnia	*Zinnia elegans*	x	x

Table 3. Host groundcovers and associated butterflies

Groundcover	Moisture	Flower	Butterflies	Comments and tips
Fogfruit	Moist to dry, sunny areas	Small, white	Phaon crescent, common buckeye, white peacock (South Florida)	Excellent nectar source, grows denser with moisture, easy to propagate from cutting, rebounds after mowing, try as hanging plant
Passionflower	Dry to moist	Large, purple	Gulf fritillary, variegated fritillary, zebra heliconian	Lush, showy vine that creeps along the ground
Fanpetals	Dry to moist	Small, yellow	Tropical checkered-skipper, and white checkered-skipper	Mow occasionally to keep low, but let flower in between; becomes shrub if not mowed.
Spanish needles	Dry to moist	Small, white	Dainty sulphur	Excellent nectar source. Allow to bloom, but mow to maintain at around 12 in. to prevent undesirable, weedy appearance; becomes shrub if not mowed.
Sunshine mimosa	Dry to moist, sandy	Pink, fluffy	Little yellow	Good nectar source
Twinflower	Dry	Medium bluish/purplish	Common buckeye	Good nectar source, fills in, rebounds after winter

Note: Unless noted, plants listed are suitable statewide. North Florida roughly means the Panhandle to Central Florida. South Florida roughly means from Central Florida to South Florida. For specific zones, see UF/IFAS document, *Butterfly Gardening in Florida*, http://edis.ifas.ufl.edu/UW057.

Florida-Friendly Landscaping™ Principle #3: Fertilize Appropriately

If growing the butterfly plants in the right place based on their water requirements and nutritional needs, little or no fertilizer may be necessary after establishment. Always use slow-release nitrogen when fertilizing and never apply fertilizer within 10 ft of a water body.

Florida-Friendly Landscaping™ Principle #4: Mulch

Mulch gives off radiant heat, providing a platform for basking butterflies to warm their bodies before flight.

Maintaining a 3-in. layer of mulch helps retain soil moisture, prevents erosion, suppresses growth of unwanted plants, and accents the landscape. In

Community Butterfly*Scapes*, mulch provides continuity to the appearance of the landscape when establishing groundcovers. Use naturally occurring mulches, such as leaves, compost, or recycled mulch. The Florida-Friendly Landscaping™ Program does not recommend use of cypress mulch, as its origins may be difficult to determine. Don't allow mulch to touch the foundation of the house; this keeps moisture to a minimum and deters termites.

Florida-Friendly Landscaping™ Principle #5: Attract Wildlife

Community Butterfly*Scaping* offers the community a way to preserve and enhance habitat to help offset habitat loss in the state. Butterflies often are considered a flagship of environmental health, and they invite people to investigate and connect with their natural surroundings.

Florida-Friendly Landscaping™ Principle #6: Control Yard Pests Responsibly

Only a few plants are eaten to the ground by butterfly larvae, such as milkweed, passionflower, parsley, dill, and fennel. However, these plants often rebound several times before they must be replaced. In other cases, especially with trees, most shrubs, and grasses, feeding damage is barely noticeable, and it encourages healthy, new plant growth.

When Community Butterfly*Scaping*, it's important to differentiate between common landscape insect pests and butterfly larvae. Since Community Butterfly*Scaping* provides habitat for butterflies, proper management of insecticides is essential. By implementing integrated pest management (IPM), residents and landscapers learn to identify pests, scout for them, and use soft pesticides—such as oils, soaps, and botanicals—to spot treat pests only when necessary.

Indiscriminate use of insecticides can harm people, pets, beneficial organisms, and the environment. Routine, scheduled spraying is not an IPM practice nor is it compatible with Community Butterfly*Scaping*. For more information about IPM, visit http://ipm.ifas.ufl.edu/index.shtml.

Florida-Friendly Landscaping™ Principle #7: Recycle

Compost yard waste, vegetative waste from common areas, and vegetable scraps from the kitchen to use in the Community Butterfly*Scape*. Compost attracts butterflies because it is nutrient rich. Male butterflies sip on moist earth and sand, gathering salts and proteins that they pass to females during mating. Females use these nutrients to support egg production. Muddy or moist spots attract "puddling" males that use their proboscis (tongue) to acquire the nutrients. Compost enriches puddling areas.

Locate puddling patches near high-traffic areas so people can enjoy this fascinating butterfly behavior. Frame the patches of bare earth with rocks or landscape timbers for accents.

Florida-Friendly Landscaping™ Principle #8: Reduce Stormwater Runoff

Increasing porous surfaces, planting trees to intercept rainfall, creating rain gardens, and vegetating swales, dry retention areas, roadsides, and undeveloped areas all help reduce stormwater runoff. Less stormwater means less chance nutrients will reach water bodies.

Trees

Preserving and planting trees to create a canopy that intercepts rainfall (Seitz and Escobedo 2008) and increasing porous surfaces with Community Butterfly*Scape* plantings are great ways for developers, builders, and existing communities to fulfill one of the prime goals of Florida-Friendly Landscaping™: Reduce and clean up stormwater.

Trees, such as sassafras (which hosts spicebush swallowtail), wild cherry (which hosts tiger swallowtail), and willow (which hosts viceroy) are often cleared. Wild cherry and willow produce nectar that attracts many kinds of butterflies. Table 4 lists these and other host trees.

Table 4. Host trees, their ranges, and associated butterflies in Florida

Trees	Associated butterflies	Tree ranges in Florida
Indigobush	Silverspotted skipper, southern dogface	Throughout
Bay cedar	Martial scrub-hairstreak (South Florida), mallow scrub-hairstreak (South Florida)	Coastal, Central to South Florida
Bayleaf capertree	Florida White (South Florida) and occasionally great southern white	Coastal, Central Florida to Keys
Cabbage palm	Monk skipper (Peninsular Florida)	Throughout
Dahoon holly	Henry's elfin (North Florida)	Throughout
Elm	Question mark, mourning cloak (Panhandle)	Throughout to Palm Beach County
False tamarind	Orange sulphur, cassius blue (Peninsular Florida)	South Florida
Green ash	Tiger swallowtail	North Florida
Hickory	Banded hairstreak (North Florida)	North Florida
Jamaica dogwood	Fulvous hairstreak (South Florida), hammock skipper (South Florida)	South Florida
Oaks	Duskywings, oak hairstreak, white M hairstreak	Throughout
Pawpaw	Zebra swallowtail	Throughout
Redbud	Henry's elfin (North Florida)	North Florida
Red cedar	Sweadner's juniper hairstreak (North Florida)	North to Central Florida
Sassafras	Spicebush swallowtail (North Florida)	North Florida
Sennas	Sulphurs	Throughout
Sourwood	Summer spring azure (North Florida)	Panhandle
Sparkleberry	Striped hairstreak (North Florida)	North Florida
Strangler fig	Ruddy daggerwing (South Florida)	South Florida
Sugarberry	American snout, hackberry emperor, tawny emperor, question mark	Throughout
Sweet bay	Tiger swallowtail	South Florida
Tulip tree	Tiger swallowtail	North Florida
Wild cherry	Tiger swallowtail, redspotted (North Florida)	North Florida
Wild lime	Giant swallowtail	South Florida
Willow	Viceroy, mourning cloak (Panhandle)	Throughout
Wisteria	Longtailed skipper	North Florida

Note: North Florida roughly means the Panhandle to Central Florida. South Florida roughly means from Central Florida to South Florida. For specific zones, see UF/IFAS document, *Butterfly Gardening in Florida*, http://edis.ifas.ufl.edu/UW057. Mistletoe, host for great purple hairstreak (North Florida), grows on oaks. Figures 2 and 3 show the butterfly and its host plant.

Figure 2. Great purple hairstreak. (Photo: Kathy Malone)

Figure 3. Mistletoe, a native plant, is parasitic in oak trees. Mistletoe is the host for the great purple hairstreak, which ranges from North Central Florida through the Panhandle. (Photo: Kathy Malone)

Rain gardens

Consider installing a rain garden as part of the Community Butterfly*Scape*. Rain gardens, which are natural or manmade depressions that collect stormwater, are landscaped with plants that tolerate dry to wet extremes. Table 5 contains a list of host and nectar plants that survive such extremes. For general information on rain gardens, see the *Florida Yards and Neighborhoods Handbook* at http://fyn.ifas.ufl.edu/materials/handbook.pdf.

Swales

Swales, which are roadside depressions, absorb nutrients from runoff. Low-growing plants used in the rain garden also are suitable in swales as long as they do not compromise stormwater function.

Dry retention areas

Dry retention areas are shallow, sculpted basins within developments that capture excess stormwater, but which usually stay dry much of the year. Generally, they are many acres in size and, often, they are maintained. They present a fantastic opportunity to convert them into a Community Butterfly*Scaping* element.

Placing butterfly host vegetation in such areas—especially low-growing vegetation that can be mowed occasionally—could lower a community association's maintenance bill through reduced maintenance. Possibilities include a wildflower meadow, but make sure the meadow includes a diversity of host plants. Examples are passionflower, fogfruit, plants listed in Table 5, and other naturally occurring species as listed in Table 7. Again, an important concept of Community Butterfly*Scaping* is to recognize host plants that already exist and

Table 5. Rain garden host and nectar plants and associated butterflies

Host and nectar plants	Flowers	Butterflies
Asters	Pinkish, lavender	Pearl crescent
Fogfruit	Small, white	Phaon crescent, common buckeye, white peacock (South Florida)
Swamp milkweed	Small, white	Monarch
Water hemlock (poisonous to humans)	Umbrella-shaped clusters of small, cream flowers	Black swallowtail
Willow	Small, white clusters	Viceroy, mourning cloak (Panhandle)
Host plants	**Flowers**	**Butterflies**
Dahoon holly	Small, white	Henry's elfin (North Florida)
Eastern gamagrass		Byssus skipper
False nettle	Small, green	Red admiral
Green ash (tree, North Florida)	Small, green	Tiger swallowtail
Sweet bay (tree, South Florida)	Large, white	Tiger swallowtail
Wax myrtle	Very small	Redbanded hairstreak
Wild canna	Large, yellow	Brazilian skipper
Wild lime (tree, North Central and South Florida)	Very small	Giant swallowtail
Nectar plants	**Flowers**	
Cardinalflower	Small, red, elongated	
Itea	Small, white, cluster on stalk	
Blazing star	Small, lavender to pink, cluster on stalk	
Mistflower	Small, light bluish/purplish, clusters	
Pickerelweed	Small, purple, cluster on stalk	
Swamp hibiscus	Large, red	
Swamp sunflower	Yellow	

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incorporate them into the Community Butterfly*Scape*. Accents of hosts trees and shrubs can be added as well.

Consider a cascade of layered vegetation—from trees, to smaller trees, to shrubs, and finally groundcovers. Vertical layers attract wildlife by fostering protection, creating a niche for birds and other wildlife and adding diversity to the landscape.

Take care to keep dry retention areas functional with respect to the role they play in stormwater management. Be sure to check with local and regional regulatory agencies and look into community association restrictions when landscaping a dry retention area.

Tips for landscaping dry retention areas

Side slopes – Bunchgrasses and groundcovers. Accent with butterfly host trees.

First (top) layer – Trees and small trees. Be cognizant of residents' views when selecting plants. However, dry retention areas are at lower elevations, so even tall trees may be acceptable.

Second layer – Shrubs and grasses. To add interest and diversity, add grasses as a visual break between the second and third layers and as a visual tie-in to the side slopes.

Third (bottom) layer – Groundcovers and wildflower seed mixes. Make sure to plant seed mixes appropriate for the locality and grown locally or in Florida. Create nature trails through wildflowers and shrubs by mowing pathways.

Figures 4 and 5 show an example of a tree that can be used in North Florida to attract and host the uncommon Sweadner's juniper hairstreak. Plant red cedar in groups or rows, keep the lower limbs intact, and do not place mulch under the trees. The tree's lower limbs, along with fallen needles, are necessary for the life cycle of the hairstreak (Pence 2005).

Table 6 lists suggestions for host plants for each layer of plantings in dry retention areas.

Figure 4. Red cedar (Photo: Kathy Malone)

Figure 5. Sweadner's juniper hairstreak (Photo: Kathy Malone)

Nonlandscaped roadsides and undeveloped areas

In communities with nonlandscaped roadsides and undeveloped areas, host plant seeds may lay dormant and sprout when conditions are right. Table 7 lists a number of these. Additional undeveloped areas include conservation buffers, easements, wetland jurisdictions, dry retention areas and detention ponds, recreational trails and pathways,

Table 6. Example host plants and associated butterflies for dry retention areas

Layer One: Trees, small trees, and butterflies	**Layer Two: Shrubs, grasses, and butterflies**	**Layer Three: Groundcovers, wildflowers, and butterflies**
North and South Florida	North and South Florida	North and South Florida
Indigobush – Silverspotted skipper, southern dogface	Milkweed – Monarch, queen, soldier (South Florida)	Eastern gamagrass – Various skippers
Citrus (cultivated and wild) –Giant swallowtail	Partridge pea – Cloudless sulphur, gray hairstreak, ceraunus blue	Sunshine mimosa or powderpuff – Little yellow
Sugarberry – American snout, tawny emperor, hackberry emperor, question mark	Saw Palmetto – Monk skipper, palmetto skipper	Fogfruit – Phaon crescent, common buckeye
Wild lime – Giant swallowtail		White clover – Orange sulphur, southern dogface
		Lopsided Indiangrass – Various skippers
		Twinflower – Common buckeye
		Pawpaw – Zebra swallowtail
North Florida	North Florida	North Florida
Redbud – Henry's elfin	Deerberry – Redspotted purple	
Red cedar – Sweadner's juniper hairstreak		
Sassafras – Spicebush swallowtail		
Sourwood (Panhandle) –Summer spring azure		
South Florida	South Florida	South Florida
Bayleaf capertree – Florida white and occasionally great southern white	Coontie – Atala hairstreak	Fogfruit – White peacock, phaon crescent, common buckeye
Cabbage palm – Monk skipper		
Jamaica dogwood – Fulvous hairstreak, hammock skipper		
Strangler fig – Ruddy daggerwing		
Sweetbay magnolia – Tiger swallowtail		

wildlife corridors, and vacant lots. Protecting the integrity of these areas with vegetative cover helps filter and reduce stormwater runoff.

By designating areas that are not mowed frequently, residents can see which of the more obscure, weedy host wildflowers draw in butterflies. With a Community Butterfly*Scape* as the context, plants that might otherwise be unwanted or overlooked have a purpose. It may be surprising and rewarding to see which plants emerge in these areas of interest and the butterflies that find them.

Figure 6. American lady larva in a cudweed flower head (Photo: Kathy Malone)

Table 7. Example host plants and associated butterflies for undeveloped and roadside areas

Plant	Butterflies
Asters	Pearl crescent
Beggarticks and peas	Various duskywing and cloudywing skippers
Black medick	Orange sulphur (North Florida)
Cudweed	American lady
Fanpetals	Tropical checkered-skipper and white checkered-skipper
Hercules club	Giant swallowtail
Indigo	Ceraunus blue
Milkpea	Gray hairstreak and various skippers, including zarucco duskywing
Milkweeds	Monarch, queen, soldier (South Florida)
Pencilflower, shyleaf, and sticky jointvetch	Barred yellow
Purple thistle	Little metalmark
Ticktrefoil (*Desmodium* spp.)	Longtailed skipper
Virginia peppergrass	Checkered white, great southern white (Central and South Florida and coastal areas)
White clover	Eastern tailed-blue (North Florida and Panhandle)
White sweetclover	Orange sulphur (North Florida)

Many undeveloped areas have cudweed or fogfruit growing in them. Figures 6, 7, 8, and 9 show these host plants and their associated butterflies. Larvae of the American lady shelter themselves in the puffy blooms of cudweed. Search for larvae in the flower heads in the springtime.

Figure 7. American lady (Photo: Kathy Malone)

How to propagate fogfruit

To propagate fogfruit, find a succulent, healthy stem with several leaves. Near the bottom of the stem, trim at least two leaves at the leaf nodes. Place the exposed nodes in wet, rich soil or water. The nodes will form roots. Water daily for at least a week until the plant no longer wilts between waterings. While fogfruit can grow almost anywhere, from beach dunes to pond edges, it makes a lush, dense groundcover under moist, rich conditions. It hosts the phaon crescent, white peacock (South Florida), and common buckeye.

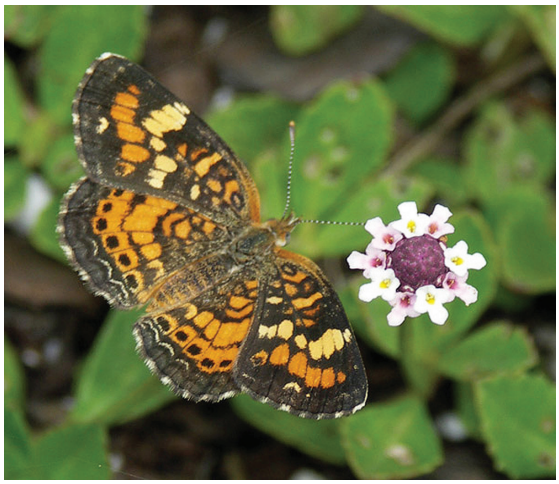

Figure 8. Fogfruit with phaon crescent (Photo: Kathy Malone)

Figure 9. Carpet of fogfruit (Photo: Kathy Malone)

Florida-Friendly Landscaping™ Principle #9: Protect the Waterfront

Plantings of groundcovers, grasses, shrubs, and trees accent ponds and enrich the landscape. Florida-Friendly Landscaping™ principles recommend a no-maintenance, 10-ft buffer of vegetation around ponds to help protect water quality. Such vegetation cleanses stormwater before it enters the water body. In addition, landscaping ordinances that require a buffer may come into effect in the next several years as local governments adopt Florida-Friendly ordinances.

Consider transforming stormwater ponds into visually pleasing and Florida-Friendly aesthetic landscapes with plantings that also attract butterflies. Groundcovers, such as fogfruit (which hosts three butterfly species and is a fantastic nectar source for many butterflies), are low growing. Low-growing vegetation helps maintain views of the water. Fogfruit can be a great no-mow alternative at the water's edge.

Check with state and local water resource regulatory agencies and look into community association restrictions before landscaping a pond.

*Including a pond buffer in the Community Butterfly*Scape

Use emergent plants around the pond's edge, then groundcovers, shrubs, and trees landward. Focus on host plants, but add a few nectar plants to enrich the diversity of the pond's edge and enhance visual appeal. Buttonbush is an excellent nectar source for large and small butterflies. Figure 10 is an artist's rendering of a cross section of a planted pond edge. Table 8 lists host plants for each section.

Besides pond edge plantings, look into an emerging new technology that helps cleanse ponds—floating vegetation mats anchored to the pond bottom. The mats can be an element of the Community Butterfly*Scape* by using water-loving host and nectar plants.

While a variety of plants are available at some nurseries, a number of the plants may already exist by the community pond. One of the concepts of Community Butterfly*Scaping* is to preserve existing, noninvasive host vegetation, and then plan around it.

Condominiums and other coastal communities are in a unique location to attract two beautiful coastal butterflies—the martial scrub-hairstreak and the mangrove skipper. Figures 11 and 12 show the bay cedar—the host plant for the martial scrub-hairstreak—and the butterfly.

The martial scrub-hairstreak is of concern due to loss of habitat for bay cedar which is found in coastal South Florida from Sarasota and Martin counties south through the Florida Keys. Bay cedar grows in sand dunes by the beach and slightly inland, and on barrier islands in South Florida. Residents of coastal communities have a singular opportunity to plant the versatile bay cedar in an effort to help conserve the butterfly. Bay cedar also hosts the mallow scrub-hairstreak.

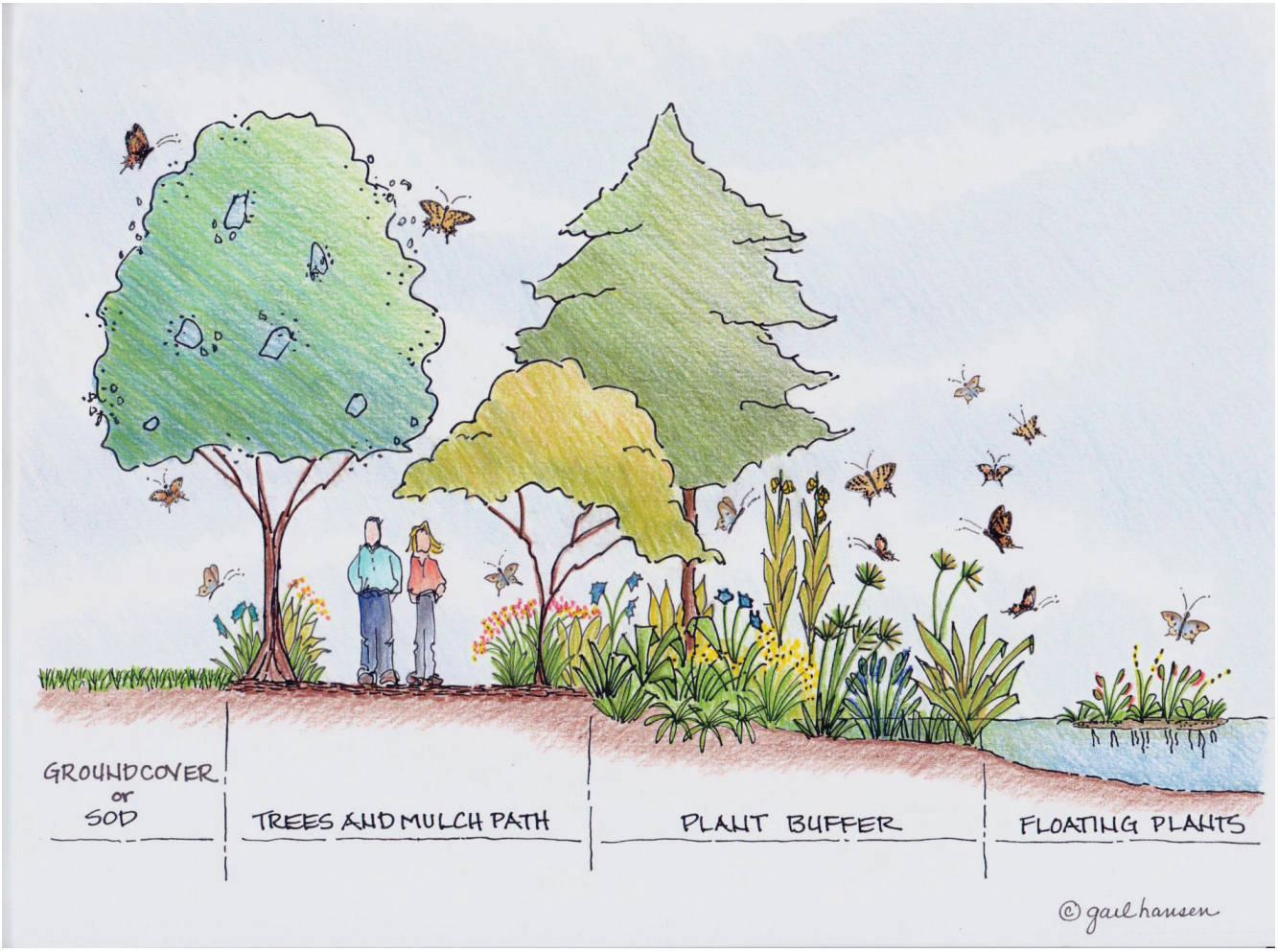

Figure 10. Example of planted pond cross section and suggested plantings with associated butterflies (Illustration: Gail Hansen)

Figure 11. Bay cedar branch (Photo: Kathy Malone)

Figure 12. Martial scrub-hairstreak (Photo: Kathy Malone)

Bay cedar can be used as a hedge, as it responds well to clipping, or as a specimen or border plant in beach locations. It also can be planted in a container or used as a screen when planted in a row with trunks five to six feet apart (Gilman 2007). Bay cedar is a good nectar source. Lantana, Spanish needles, and fogfruit also make great nectar sources for a variety of butterflies.

Red mangrove is the host for the mangrove skipper. Homeowners who have red mangrove near their coastal communities in peninsular Florida should consider attracting the mangrove skipper with nectar sources such as Spanish needles, citrus, and bougainvillea. Black mangrove is the host for the mangrove buckeye.

Table 8. Example pond host vegetation and butterflies

Host vegetation	Butterflies
Groundcover or sod	
Fogfruit	Phaon crescent, common buckeye, white peacock (South Florida)
Passionflower (vine)	Gulf fritillary, zebra heliconian
Pellitory (Peninsular Florida)	Red admiral
Native grasses	Skippers
Trees	
Indigobush	Silverspotted skipper, southern dogface
Cabbage palm	Monk skipper (Peninsular Florida)
Dahoon holly	Henry's elfin (North Florida)
Elm	Question mark
Green ash	Tiger swallowtail (North Florida)
Sugarberry	American snout, tawny emperor, hackberry emperor, question mark
Sweet bay	Tiger swallowtail (South Florida)
Willow	Viceroy
Plant buffer	
False nettle	Red admiral
Partridge pea	Cloudless sulphur, ceraunus blue, gray hairstreak
Swamp milkweed	Monarch, queen
Switchcane	Southern pearly-eye, several skippers
Wax myrtle	Redbanded hairstreak
Pond edge	
Alligator-flag (South Florida)	Brazilian skipper
Mock bishopweed	Black swallowtail
Sedges and sawgrass	Various skippers
Waterhyssop	White peacock (South Florida)
Yellow canna	Brazilian skipper
Pond mats	
Yellow canna and alligator-flag	Brazilian skipper
*Mock bishopweed	Black swallowtail
*Fogfruit	Phaon crescent, common buckeye, white peacock (South Florida)
*False nettle or pellitory	Red admiral
Nectar: *Bur marigold, *cardinalflower, and pickerelweed	

*Undergoing trials.
Note: North Florida roughly means the Panhandle to Central Florida. South Florida roughly means from Central Florida to South Florida. For specific zones, see UF/IFAS document, *Butterfly Gardening in Florida*, http://edis.ifas.ufl.edu/UW057.

Additional Components for Community Butterfly*Scapes*: Butterfly Bouquets and Green Walls

Butterfly bouquets

Various butterfly-attracting plants do well as potted plants. A "butterfly bouquet" is simply a combination of larval host trees and plants, with nectar accents, planted in hanging baskets and containers to attract butterflies. A display of butterfly bouquets along a town center's sidewalk presents an educational opportunity and gives passersby a delightful way to see the butterfly life cycle up close. Figure 13 depicts an artist's rendering of such a thoroughfare. Depending on the types of plants used, the display may need to be replaced annually.

Figure 14 provides an example of plants that could attract at least six different species of butterflies. It contains two hosts (passionflower and fogfruit) and three nectar sources (goldenrod, eupatorium, and firebush). Passionflower hosts the Gulf fritillary, zebra heliconian, and variegated fritillary; fogfruit hosts the phaon crescent, white peacock, and common buckeye.

Another example of a butterfly bouquet might contain colorful pentas, passionflower, fogfruit, and herbs—such as parsley, dill, fennel, and an ornamental herb known as rue. This makes a functional and attractive butterfly bouquet with host plants for eight butterfly species: Gulf fritillary, zebra heliconian (Florida's state butterfly), variegated fritillary, black swallowtail, giant swallowtail, phaon crescent, common buckeye, and white peacock (South Florida). Place a small sign in the container that mentions the bouquets are part of the Community Butterfly*Scape* and identify the plants and butterflies that use them. Table 9 contains additional examples of plant combinations.

Figure 13. Butterfly bouquets: Larval host trees and plants, with nectar accents, in hanging baskets and containers add interest along the sidewalk of a town center. (Illustration: Gail Hansen)

Figure 14. Example butterfly bouquet (Photo: Eric Zamora/Florida Museum)

Table 9. Possible butterfly bouquet combinations

Plants	
Blue plumbago	Cassius blue
Coontie	Atala hairstreak
Partridge pea	Cloudless sulphur, gray hairstreak, ceraunus blue
Carolina wild petunia	Common buckeye
Passionflower	Gulf fritillary, zebra heliconian, variegated fritillary
Fogfruit	Phaon crescent, common buckeye, white peacock (South Florida)
Twinflower	Common buckeye
Carolina wild petunia	Common buckeye
Sunshine mimosa	Little yellow
Bay cedar	Martial scrub-hairstreak (South Florida), mallow scrub-hairstreak (South Florida)
Blue plumbago	Cassius blue (Peninsular Florida)
Passionflower	Gulf fritillary, zebra heliconian, variegated fritillary

Green walls

By planting host plants in vertical green walls—upright garden structures that contain soil and sometimes watering systems for plants—communities can attract butterflies and feature their host plants in a unique way. Figure 15 is an example of a green wall.

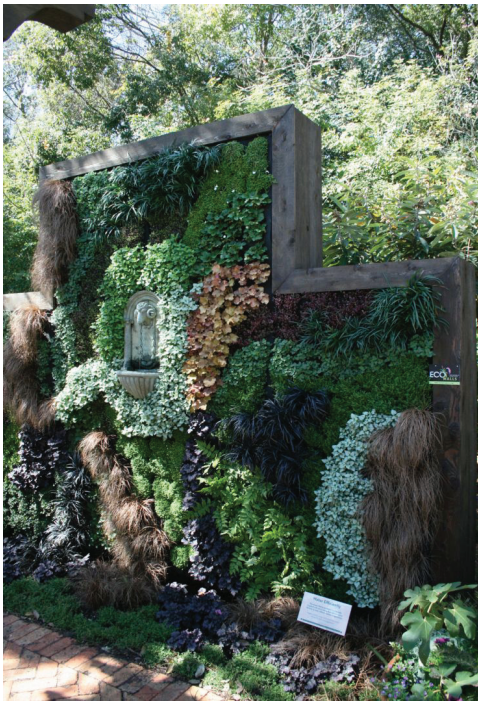

Figure 15. Example of a green wall presented at EPCOT (Photo: Tom Wichman)

Conclusion

How to Get Started with Community Butterfly*Scaping*

A few specimen trees and shrubs and patches of host groundcovers are great ways to start Community Butterfly*Scapes*. Small changes really make big differences, so don't feel overwhelmed. While a mass of particular host plants provides abundant food for larvae, butterflies are able to find individual host plants on which to lay eggs. Try designating one area of the community or one section of pond edge as a pilot project. See how it goes, then expand from there.

Community Butterfly*Scaping* presents opportunities for developers, community associations, and homeowners to increase awareness of butterflies among community residents, provide critical wildlife habitat, beautify existing areas, and protect natural resources by incorporating Florida-Friendly Landscaping™. Table 10 shows how Community Butterfly*Scaping* relates to Florida-Friendly Landscaping™.

Developers, community associations, and homeowners can seek recognition for Florida-Friendly Landscapes, of which Community Butterfly*Scapes* can be a part, through the Florida-Friendly Landscaping™ Program. For more information about the program, visit http://fyn.ifas.ufl.edu/professionals/services.htm.

Further, developers and community associations can adopt all or part of the *Model Florida-Friendly Landscaping™ Covenants, Conditions, and Restrictions* (CCRs) prepared by the Department of Environmental Protection and the UF/IFAS Florida-Friendly Landscaping™ Program. For the model CCRs, visit http://fyn.ifas.ufl.edu/community_association_kit.htm.

These model CCRs include considerations for long-term maintenance of Florida-Friendly Landscapes. By following maintenance practices outlined in the manual, *Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries,* developments and communities can help conserve water and protect water resources. For the manual, visit http://fyn.ifas.ufl.edu/professionals/GI-BMP_publications.htm.

Developers

Developers can identify and preserve butterfly host vegetation, enhance common grounds with butterfly-attracting host plants, create areas of interest on undeveloped lands, market their communities as Community Butterfly*Scapes*, and provide educational opportunities.

Opportunities to put Community Butterfly*Scaping* components to use include vegetative buffers; street rights-of-way with street trees; easements; dry retention areas and detention ponds; conservation set-asides and wildlife areas; wetland jurisdiction areas; wildlife corridors; recreational areas, such as trails and pathways; and vegetative screens. Existing host plants can be preserved, and new host plants can be added.

Table 10. The nine principles of Florida-Friendly Landscaping™ and the relationship of Community Butterfly*Scaping* components

Florida-Friendly Landscaping™ principle	Community Butterfly*Scaping*
Right plant, right place	*Preserved vegetation grows where it is normally found. *Plants that match site conditions require less maintenance.
Water efficiently	*Use of butterfly host groundcovers and other host vegetation may require minimal or no irrigation and minimal mowing.
Fertilize appropriately	*Slow-release fertilizer is best. *Use slow release, if needed, with butterfly-host groundcovers.
Mulch	*Mulch attracts basking butterflies. *Mulch conserves moisture and creates an aesthetically pleasing look of unity in the landscape.
Attract wildlife	*Community Butterfly*Scaping* enhances habitat for pollinators. *Community Butterfly*Scaping* invites people to relax and connect with their natural surroundings.
Manage yard pests responsibly	*Responsible pest management encourages the identification of insects. *Routine, scheduled spraying is not compatible with Community Butterfly*Scaping.*
Recycle yard waste	*Recycled compost can be used as a butterfly attractor for puddling areas (open patches where male butterflies imbibe salts and proteins needed for reproduction).
Reduce stormwater runoff	*Host trees (and any trees) intercept rainwater and reduce stormwater volume. *Rain gardens can capture water from downspouts and low areas. *Swales, dry retention areas, roadsides, and undeveloped areas can become areas of interest with appropriate host plants.
Protect the waterfront	*Pond buffers can consist of many different kinds of host plants.

Note: Long-term maintenance of a Florida-Friendly Landscape is crucial to keeping such a landscape truly Florida-Friendly. Consider how a Community Butterfly*Scape* can keep irrigation, fertilizer, and pesticide inputs to a minimum while offering a marketable, engaging, and aesthetically pleasing landscape.

Community associations

Community associations can establish community butterfly gardens, landscape common grounds with butterfly host plants, create amenities out of stormwater systems and pond buffers, and provide education to residents about Community Butterfly*Scaping* and butterfly gardening.

Homeowners

Homeowners can participate in Community Butterfly*Scaping* by planting nectar or butterfly gardens—with hosts and nectar—in their yards. Homeowners also can set aside part of their property as a meadow, to mow occasionally.

Table 11 is a summary list of the common host plants for the butterflies discussed in this publication.

Table 11. Common host plants for butterflies

Common name	Scientific name	Butterfly
Aster	*Symphyotrichum* spp.	Pearl crescent
Indigobush	*Amorpha fruiticosa*	Southern dogface, silverspotted skipper
Bay cedar	*Suriana maritima*	Martial scrub-hairstreak (South Florida), mallow scrub-hairstreak (South Florida)
Bayleaf capertree	*Capparis flexuosa*	Florida white (South Florida) and occasionally great southern white
Black medick	*Medicago lupulina*	Orange sulphur (North Florida)
Blue plumbago	*Plumbago auriculata*	Cassius blue
Butterfly weed	*Asclepias tuberosa*	Monarch, queen
Cabbage palm	*Sabal palmetto*	Monk skipper (Peninsular Florida)
Carolina wild petunia	*Ruellia caroliniensis*	Common buckeye
Citrus	*Citrus* spp. (native and cultivated)	Giant swallowtail
Clover	*Trifolium* spp.	Eastern tailed-blue (North Florida)
Common sweetleaf	*Symplocos tinctoria*	King's hairstreak (North Florida)
Coontie	*Zamia pumila*	Atala hairstreak (South Florida)
Cudweed	*Gnaphalium obtusifolium*	American lady
Dahoon holly	*Ilex cassine*	Henry's elfin (North Florida)
Deerberry	*Vaccinium stamineum*	Redspotted purple (North Florida)
Eastern gamagrass (also called fakahatchee grass)	*Tripsacum dactyloides*	Byssus skipper
Elm	*Ulmus* spp.	Question mark
False nettle	*Boehmeria cylindrica*	Red admiral
False tamarind	*Lysiloma latisiliquum*	Cassius blue (Peninsular Florida), large orange sulphur (South Florida), mimosa yellow (South Florida)
Fanpetals	*Sida* spp.	Tropical checkered-skipper and white checkered-skipper
Fogfruit or matchstick plant	*Phyla nodiflora*	Phaon crescent, common buckeye, white peacock (South Florida)
Green ash	*Fraxinus pennsylvanica*	Tiger swallowtail (North Florida)
Herbs (parsley, dill, and fennel)	*Umbelliferae* spp.	Black swallowtail
Hercules club	*Zanthoxylum clava-herculis*	Giant swallowtail
Hickory	*Carya* spp.	Banded hairstreak (North Florida)
Indigo	*Indigofera* spp.	Ceraunus blue
Jamaica dogwood	*Piscidia piscipula*	Hammock skipper (South Florida), fulvous hairstreak (South Florida)
Lopsided Indiangrass	*Sorghastrum secundum*	Various skippers
Milkpea	*Galactia* spp.	Gray hairstreak and various skippers, including zarucco duskywing
Milkweed	*Asclepias perennis, A. incarnata, A. longifolia, A. humistrata, A. tuberosa*	Monarch, queen, soldier (South Florida)
Oaks	*Quercus* spp.	Southern oak hairstreak, white M hairstreak, various duskywings
Partridge pea	*Chamaechrista fasciculata*	Cloudless sulphur, gray hairstreak, ceraunus blue

Table 11. Common host plants for butterflies

Common name	Scientific name	Butterfly
Passionflower	*Passiflora incarnata, P. suberosa, P. lutea*	Gulf fritillary, zebra heliconian, variegated fritillary
Pawpaw	*Asimina* spp.	Zebra swallowtail
Pencilflower	*Stylosanthes biflora*	Barred yellow
Powderpuff	*Mimosa strigillosa*	Little yellow
Purple thistle	*Cirsium horridulum*	Little metalmark
Redbay	*Persea borbonia*	Palamedes swallowtail
Red cedar	*Juniperus virginiana*	Sweadner's juniper hairstreak (North Florida)
Redbud	*Cercis canadensis*	Henry's elfin (North Florida)
Rue	*Ruta graveolens*	Black swallowtail, giant swallowtail
Sassafras	*Sassafras albidum*	Spicebush swallowtail (North Florida)
Saw palmetto	*Serenoa repens*	Monk skipper (Peninsular Florida), palmetto skipper
Sennas	*Senna* spp.	Sulphurs
Shyleaf	*Aeschynomene americana*	Barred yellow
Sourwood	*Oxydendrum arboreum*	Summer spring azure (North Florida)
Spanish needles	*Bidens alba*	Dainty sulphur
Sparkleberry	*Vaccinium arboreum*	Striped hairstreak (North Florida)
Sticky jointvetch	*Aeschynomene viscidula*	Barred yellow
Strangler fig	*Ficus aurea*	Ruddy daggerwing (South Florida)
Sugarberry	*Celtis laevigata*	American snout, tawny emperor, hackberry emperor, question mark
Sweetbay magnolia	*Magnolia virginiana*	Tiger swallowtail (South Florida)
Ticktrefoil	*Desmodium* spp.	Gray hairstreak and various skippers, including longtailed skipper and cloudywings
Tulip tree	*Liriodendron tulipifera*	Tiger swallowtail (North Florida)
Twinflower	*Dyschoriste oblongifolia*	Common buckeye
Virginia peppergrass	*Lepidium virginicum*	Great southern white, checkered white
Water hemlock	*Umbelliferae* spp.	Black swallowtail
Wax myrtle	*Myrica cerifera*	Redbanded hairstreak
White clover	*Trifolium repens*	Eastern tailed-blue (North Florida)
White swamp milkweed	*Asclepias perennis*	Monarch, queen
White sweetclover	*Melilotus albus*	Orange sulphur
Wild canna	*Cannas* spp.	Brazilian skipper
Wild cherry	*Prunus serotina*	Tiger swallowtail Redspotted purple (North Florida)
Wild lime	*Zanthoxylum fagara*	Giant swallowtail
Willow	*Salix* spp.	Viceroy
Wisteria	*Wisteria frutescens*	Longtailed and silverspotted skippers

Note: For photos of the butterflies and to make a field identification sheet, go to www.flmnh.ufl.edu/WINGS and click on "Everything Butterfly."

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Additional Resources

To locate native host and nectar plants, consult the Association of Florida Native Nurseries or the Florida Wildflower Foundation.

Association for Native Nurseries. http://www.afnn.org/find-plants.

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