

*Nature's
Wonders*

Big Cypress Habitat

*Complete environment with a mixture of
tropical and temperate plants from the
Cypress swamp ecosystem*

3D Botanical Models by Ken Gilliland

Big Cypress Habitat

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Introduction

The Big Cypress Habitat is an iconic cypress swamp environment perfect for many of the Songbird ReMix birds, Nature's Wonders creatures and other animal models. As its name suggests, this model set is based upon the Big Cypress National Preserve located in southern Florida. The freshwaters of the Big Cypress Swamp, essential to the health of the neighboring Everglades, support the rich marine estuaries along Florida's southwest coast. Protecting over 729,000 acres of this vast swamp, Big Cypress National Preserve contains a mixture of tropical and temperate plant communities that are home to a diversity of wildlife, including the elusive Florida panther.

How to Care for Your Habitat

Horticultural techniques in Poser

1. Get the planting area ready by installing the product in Poser.
2. Load Poser and go to the Props section. Locate the "Nature's Wonders/Flora/Big Cypress Habitat" folder.
3. Select the base or plant you want to plant by clicking the icon.
4. The plants often look their best when given lots of sunlight (100% or more on the main light is recommended.)

Horticultural techniques in DAZ Studio

1. Get the planting area ready by installing the product in DAZ Studio.
2. Load Studio and go to the "Environments" folder in the DAZ Studio section. Locate the "Nature's Wonders/Flora/Big Cypress Habitat" folder.
3. Select the base or plant you want to plant by clicking the icon.
4. The plants often look their best when given lots of sunlight (100% on the main light is recommended.)

Physical Based Renderers, Subdivision & Memory Concerns

Physical based rendering systems such as Iray, Superfly and Octane do not show displacement in the same way that 3Delight and Firefly do. Physical based renderers require a very high mesh density (heavy subdivision) in order to show displacement while older renderers don't. Unfortunately, achieving good displacement in a physical renderer does require a powerful computer with a lot of memory as well as the patience in waiting on render times.

This model set or its parts can be subdivided using DAZ Studio 4.8+ or Poser 10+. Some branches and/or leaves will become disconnected with subdivision use. The geometry relies on specific locations for branch and leaf connections and if the branch angles are smoothed by subdivision, it may change its physical location. Earlier versions of Poser will subdivide some parts correctly and **some incorrectly** due to the way subdivision is calculated in those versions. You can get around this by bringing the model into a modeling program and subdividing it there and then saving it.

Most maps in this set are 4K (4000 x 4000). The reason for these large maps is to allow close camera positions without pixelating the materials in renders. If memory is an issue, copy the original maps to a back-up location and then resave them at a lower resolution using the same names in the "Runtime : Textures : Notung : BigCypressHabitat" folder.

Expansion and Individual Part Use

This model set includes individual parts that will allow you to expand the existing main model or they can be used with a scene of your choosing. All plant types, fallen branches and rocks, as well as a ground plane, are included as separate parts. In addition, it is possible to change the materials on many of the items in the set.

The Bald Cypress trees have three parts; the tree, needles for the tree and Spanish Moss that hangs on the tree. The needles part was made optional because the Bald Cypress tree, although in the pine tree family is deciduous. The Ghost Orchids and Cardinal Airplant attach themselves to trees so they have SmartProp coding for the Bald Cypress tree model.

The Skydome prop is not included in the Daz Studio Iray version since the Iray renderer has a built-in Skydome. You can however, use the Big Cypress Habitat skydome textures with the Iray skydome. The textures are found in the "Runtime : Textures : Notung : Pond" folder and can be loaded by selecting the Iray environment section in the Render Settings tab.



About the Big Cypress National Preserve & its Biodiversity

From the US National Park Service

Big Cypress National Preserve is located in southwest Florida in some of the most rugged terrain in the state.

Big Cypress history is as varied and colorful as the individuals who carved out a life for themselves in the swamp. For tens of thousands of years, humans have changed, and have been changed by, this place we call the Big Cypress Swamp. First the Calusa, followed by European explorers of the 1500s, then the Miccosukee, Seminole and other settlers to the area. The rugged terrain challenged many early travelers as they established the watery wilderness of the swamp as their home.

The completion of the Tamiami Trail in 1928, allowed for easy travel across the swamp for everyone who could afford a Model-T. The road spurred the first major land boom in south Florida causing development along the Atlantic coastal ridge to the east and eventually along the Gulf Coast to the west. For the most part the swamps in the center of south Florida remained wild.

Big Cypress National Preserve was created in 1974, to protect the water quality, natural resources, and ecological integrity of the Big Cypress Swamp. Plants and animals in the Preserve are protected from unauthorized collection. The preserve encompasses approximately 729,000 acres of a freshwater swamp ecosystem, offering refuge to a wide variety of plants and animals.

Big Cypress National Preserve is home to many mammals, birds, and reptiles unique to Florida's climate. It is easy to view and appreciate Florida's largest reptile, the American alligator, living here in its natural environment. Anhingas, egrets, and herons are found in plentiful numbers feeding, displaying courtship feathers, and nesting in and among the cypress trees. Occasionally, one can witness river otter, bobcats, black bear, and the endangered Florida panther on the Preserve's back roads and trails.

Common Birds:

Common Loon, Pied-billed Grebe, Double-crested cormorant, Anhinga, American Bittern, Least Bittern, Great Blue Heron, Great Egret, Snowy Egret, Little Blue Heron, Tri-colored Heron, Cattle Egret, Green Heron, Black-crowned Night Heron, White Ibis, Wood Stork, Turkey Vulture, Black Vulture, Mottled Duck, Blue-winged Teal, Osprey, Swallow-tailed Kite, Red-shouldered Hawk, American Kestrel, Wild Turkey, Northern Bobwhite, Black Rail, Common Moorhen, Limpkin, Killdeer, Greater Yellowlegs, Common Snipe, Least Tern, Mourning Dove, Common Ground-dove, Eastern Screech

Owl, Barred Owl, Common Nightjar, Chuck-will's Widow, Ruby-throated Hummingbird, Belted Kingfisher, Ivory-billed Woodpecker, Red-cockaded Woodpecker, Red-bellied Woodpecker, Downy Woodpecker, Hairy Woodpecker, Northern Flicker, Pileated Woodpecker, Eastern Phoebe, Great Crested Flycatcher, Eastern Kingbird, Loggerhead Shrike, White-eyed Vireo, Red-eyed Vireo, Blue Jay, American Crow, Purple Martin, Barn Swallow, Tufted Titmouse, Brown-headed Nuthatch, Carolina Wren, House Wren, Blue-gray Gnatcatcher, Eastern Bluebird, American Robin, Gray Catbird, Northern Mockingbird, Brown Thasher, Cedar Waxwing, European Starling, Northern Parula, Black-throated Blue Warbler, Yellow-throated Warbler, Pine Warbler, Palm Warbler, Black-and-white Warbler, American Redstart, Ovenbird, Common Yellowthroat, Northern Cardinal, Eastern Towhee, Savannah Sparrow, Song Sparrow, Red-winged Blackbird, Eastern Meadowlark, Common Grackle, Boat-tailed Grackle and American Goldfinch.

Common Reptiles:

American alligator, American crocodile, Florida Snapping Turtle, Striped mud turtle, Florida mud turtle, Common musk turtle, Peninsula cooter, Florida red-bellied turtle, Florida chicken turtle, Florida box turtle, Gopher tortoise, Florida softshell turtle, Indo-Pacific gecko, Mediterranean gecko, Cosmopolitan house gecko, Green anole, Brown anole, Green iguana, Southeastern five-lined skink, Ground skink, Slender glass lizard, Island glass lizard, Eastern glass lizard, Burmese python, Florida scarlet snake, Everglades racer, Southern ringneck snake, Eastern indigo snake, Corn snake, Yellow rat snake, Everglades rat snake, Eastern mud snake, Eastern hog-nosed snake, Florida kingsnake, Eastern kingsnake, Scarlet kingsnake, Eastern coachwhip, Florida green water snake, Mangrove salt marsh snake, Brown water snake, Rough green snake, Striped crayfish snake, South Florida swamp snake, Florida brown snake, Peninsula ribbon snake, Common garter snake, Eastern coral snake, Dusky pygmy rattlesnake, Eastern diamondback rattlesnake, Florida cottomouth and Brahminy blind snake

Common Amphibians:

Eastern narrow-mouthed toad, Giant toad, Oak toad, Southern toad, Barking treefrog, Cuban treefrog, Florida cricket frog, Green treefrog, Greenhouse frog, Little grass frog, Southern chorus frog, Squirrel treefrog, Pig frog, Southern leopard frog, Everglades dwarf siren, Greater siren, Two-toed amphiuma and Peninsula newt.

Common Mammals:

Florida Panther, black bear, coyote, bobcat, nine-banded armadillo, raccoon, opossum, marsh rabbit, Big Cypress fox squirrel, muskrat, black rat, rice rat, cotton rat and cotton mouse.

Species Name: *Blechnum serrulatum*
Common Name: *Swamp Fern*

Blechnum serrulatum only occurs in Florida and it is one of the most common ferns found throughout much of Florida. Swamp fern lives in damp shady sites at the edges of wetlands and in hammocks.

Plant Family: Blechnaceae
Plant Type: Fern
Height by Width: 1' -4.3' H
Growth Habit: Upright
Deciduous/Evergreen:
Evergreen
Growth Rate: Slow
Sun Exposure: Full to part shade
Soil Preference: Damp
Water Requirements: Wet
Cold Hardy to: 15 degrees F
Flower Season: None
Flower Color: None
Endangered?: Least Concern
Distribution: Florida
Natural Habitat: Damp, moist steam banks and lake lagoon shores



Species Name: *Cephalanthus occidentalis*

Common Name: *Buttonbush*

Buttonbush is a somewhat coarse, deciduous shrub with an open-rounded habit that typically grows 6-12' (infrequently to 20') tall. It is common throughout the South, most frequently occurring in wet open areas, low woods, thickets, swamps, upland sink-hole ponds, river bottomland and stream/pond margins. Tiny, tubular, 5-lobed, fragrant white flowers appear in dense, spherical, long-stalked flower heads (to 1.5" diameter) in early to mid-summer. Long, projecting styles give the flower heads a distinctively pincushion-like appearance. Flower heads are very attractive to bees and butterflies. Flower heads mature into hard spherical ball-like fruits consisting of multiple tiny two-seeded nutlets. Fruiting heads usually persist throughout the winter. Ovate to elliptic glossy bright green leaves (to 6" long) are in pairs or whorls. Leaves emerge late in spring (May).

Plant Family: Rubiaceae

Plant Type: Shrub

Height by Width: 6'-12' H
by 4'-8' W

Growth Habit: Upright

Deciduous/Evergreen:
Deciduous

Growth Rate: Moderate
to slow

Sun Exposure: Full sun to
part shade

Soil Preference: Moist,
humusy soil

Water Requirements:
Regular water to damp

Cold Hardy to: 15 degrees
F

Flower Season: June

Flower Color: White

Endangered?: Least
Concern

Distribution: North
American, Cuba

Natural Habitat: Foothill Woodland, Valley Grassland, Mixed Evergreen Forest,
wetland-riparian



Species Name: *Cladium mariscoides*

Common Name: *Smooth Sawgrass*

A relatively large, coarse perennial sedge with narrow grass-like leaves. The stem is stiff, round, and sometimes reaches a height of 1 m (39 in.). The inflorescence is terminal, or sometimes terminal and lateral, with stiffly ascending branches and numerous spikelets in groups of 3-5. Prefers sunny, wet, sedge-dominated habitats with a substrate of saturated, sedge-derived peat.

Plant Family: Cyperaceae

Plant Type: Grass

Height by Width: to 39" H

Growth Habit: Upright

Deciduous/Evergreen: Evergreen

Growth Rate: Fast

Sun Exposure: Full sun to part shade

Soil Preference: Well-draining

Water Requirements: Medium to Wet

Cold Hardy to: 15 degrees F

Flower Season: None

Flower Color: None

Endangered?: Least Concern

Distribution: Mostly found east of the Mississippi

Natural Habitat: Edges of lakes, swamps, bayous and rivers



Species Name: *Dendrophylax lindenii*
Common Name: *Ghost Orchid*

The leafless Ghost Orchid needs pure water (like rain, distilled or reverse osmosis) to survive. It also needs high humidity and is notoriously difficult to grow out of the wild. It typically grows on the central trunk or large main branches of living trees and tends to attach to a tree at about eye-level or a few feet higher.

Plant Family: Orchidaceae
Plant Type: Perennial
Height by Width: 1' H by 1' W
Growth Habit: Outward
Deciduous/Evergreen: Evergreen
Growth Rate: Very slow
Sun Exposure: Shade
Soil Preference: None (epiphyte)
Water Requirements: Regular water to damp
Cold Hardy to: 50 degrees F
Flower Season: Spring-Summer
Flower Color: White
Endangered?: Endangered
Distribution: Florida, Cuba and the Bahamas
Natural Habitat: Moist, swampy forests



Species Name: *Eleocharis obtusa*

Common Name: *Blunt or Creeping Spikerush*

Each plant produces a single culm or a tuft of culms. Each culm is green, hairless, circular in cross-section (terete), and unbranched. The leaves are reduced to a single sheath at the base of the culm; there are no leaf blades. This sheath is brown and rough-textured; there is often a single tooth along its upper rim. The culm terminates in a small flowerhead about 4-10 mm. long and 3-5 mm. across. This flowerhead is ovoid in shape with a blunt tip that consists of many overlapping scales that are appressed together.

Plant Family: Cyperaceae

Plant Type: Grass

Height by Width: 2-10" H

Growth Habit: Clumping

Deciduous/Evergreen: Evergreen

Growth Rate: Fast

Sun Exposure: Sun to part shade

Soil Preference: Damp

Water Requirements: Regular water to damp

Cold Hardy to: 15 degrees F

Flower Season: Summer

Flower Color: Green/brown

Endangered?: Not threatened

Distribution: Throughout the United States and Canada, except the Rockies

Natural Habitat: Edges of lakes, slow-moving rivers and swamps



Species Name: *Lemna minor*

Common Name: *Common Duckweed*

It is a floating freshwater aquatic plant, with one, two or three leaves each with a single root hanging in the water; as more leaves grow, the plants divide and become separate individuals. The root is 1–2 cm long. The leaves are oval, 1–8 mm long and 0.6–5 mm broad, light green, with three (rarely five) veins, and small air spaces to assist flotation. It propagates mainly by division, and flowers are rarely produced; when produced, they are about 1 mm in diameter, with a cup-shaped membranous scale containing a single ovule and two stamens.

Plant Family: Orchidaceae

Plant Type: Dormant in cold weather

Height by Width: 0.3" H by 0.3" W
(individual leaf)

Growth Habit: Spreading

Deciduous/Evergreen: Evergreen

Growth Rate: Very fast

Sun Exposure: Sun to shade

Soil Preference: None

Water Requirements: Lives in water

Cold Hardy to: 32 degrees F

Flower Season: None

Flower Color: None

Endangered?: Not threatened

Distribution: Native throughout most of
Africa, Asia, Europe and North America

Natural Habitat: Fresh-water ponds and slow-moving streams



Species Name: *Periphyton*
Common Name: *Periphyton*

A complex mixture of algae, cyanobacteria, heterotrophic microbes, and detritus that is attached to submerged surfaces in most aquatic ecosystems. It serves as an important food source for invertebrates, tadpoles, and some fish. It can also absorb contaminants, removing them from the water column and limiting their movement through the environment. The periphyton is also an important indicator of water quality; responses of this community to pollutants can be measured at a variety of scales representing physiological to community-level changes.

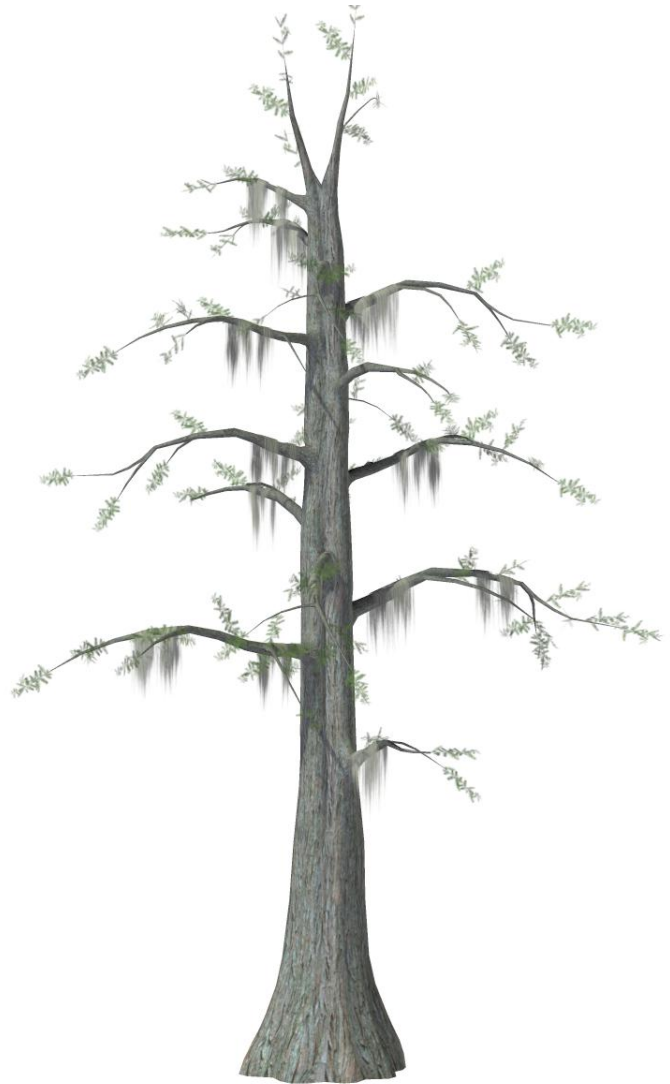
Plant Family: None
Plant Type: None
Height by Width: Varies
Growth Habit: Spreading
Deciduous/Evergreen: Evergreen
Growth Rate: Moderate
Sun Exposure: Sun
Soil Preference: Lives in water and very damp soil
Water Requirements: Damp
Cold Hardy to: 32 degrees F
Flower Season: None
Flower Color: None
Endangered?: Not threatened
Distribution: Found throughout the temperate areas of the world
Natural Habitat: Moist, swampy areas



Species Name: *Taxodium distichum*
Common Name: *Bald Cypress*

Bald cypress is a long-lived, pyramidal conifer. Although it looks like a needled evergreen in summer it is deciduous ("bald" suggests). It is native to southern swamps, bayous and rivers, primarily being found in coastal areas from Maryland to Texas and in the lower Mississippi River valley to as far north as the southeast corner of Missouri. In the deep South, it is a familiar sight growing directly in swampy water often in large strands, with its branches heavily draped with Spanish moss. In cultivation, however, it grows very well in drier, upland soils. Trunks are buttressed (flared or fluted) at the base, and when growing in water, often develop distinctive, knobby root growths ("knees") which protrude above the water surface around the tree.

Plant Family: Cupressaceae
Plant Type: Tree
Height by Width: 50-70' H by 20-45' W
Growth Habit: Upright
Deciduous/Evergreen: Deciduous
Growth Rate: Very Slow
Sun Exposure: Full sun
Soil Preference: Moist, acidic, sandy soils
Water Requirements: Medium to wet
Cold Hardy to: 15 degrees F
Flower Season: non-flowering
Flower Color: none
Endangered?: Least Concern
Distribution: Southeastern United States
Natural Habitat: Swamps, bayous and rivers



Species Name: *Tillandsia fasciculata*
Common Name: *Cardinal Air-plant*

This is the most common air plant (epiphyte), especially on Bald Cypress. Air plants get their nourishment from the air, rain, and minerals leached from the host tree. Inconspicuous flowers in the axils of showy bracts, which are usually red.

Plant Family: Bromeliaceae
Plant Type: Perennial
Height by Width: 2-6' H by 1' W
Growth Habit: Upward
Deciduous/Evergreen: Evergreen
Growth Rate: Moderate
Sun Exposure: Some sun
Soil Preference: None (epiphyte)
Water Requirements: Humid conditions
Cold Hardy to: 50 degrees F
Flower Season: Spring-Summer
Flower Color: Green to red
Endangered?: Not threatened
Distribution: Central America, Mexico, the West Indies, northern South America (Venezuela, Colombia, Suriname, French Guiana northern Brazil), and the southeastern United States (Georgia, Florida)
Natural Habitat: Moist, swampy forests



Species Name: *Tillandsia usneoides*

Common Name: Spanish Moss

Spanish moss is neither a moss nor a lichen. Instead, it is a flowering plant (angiosperm) in the family Bromeliaceae (the bromeliads) which grows hanging from tree branches in full sun through partial shade. It is commonly found on the southern live oak (*Quercus virginiana*) and bald-cypress (*Taxodium distichum*). The plant consists of one or more slender stems bearing alternate thin, curved or curly, heavily scaled leaves, that grow vegetatively in chain-like fashion, forming hanging structures up to 6 m (240 in) in length. The plant has no aerial roots and its brown, green, or yellow flowers are tiny and inconspicuous. It propagates both by seed and vegetatively by fragments that blow on the wind and stick to tree limbs, or are carried by birds as nesting material.

Plant Family: Bromeliaceae
Plant Type: Perennial
Height by Width: up to 240" L
Growth Habit: Draping
Deciduous/Evergreen: Evergreen
Growth Rate: Moderate
Sun Exposure: Some sun
Soil Preference: None (epiphyte)
Water Requirements: Humid conditions
Cold Hardy to: 50 degrees F
Flower Season: Spring-Summer
Flower Color: Brown, green, or yellow
Endangered?: Not threatened
Distribution: Mexico, Bermuda, the Bahamas, Central America, South America and the West Indies as well as being naturalized in Queensland (Australia) and in French Polynesia
Natural Habitat: Moist, swampy forests



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....Flinthawk (my beta tester) and Szark (for his invaluable help with Iray materials settings)

Sources

Wikipedia (<http://www.wikipedia.com>)

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Theodore Payne Foundation for Native California Plants and Wildflowers
(<http://theodorepayne.org/>)



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