

**Vegetation Classification System for
South Florida National Parks
(Revised March 1997)**

Based on a review of several vegetation classification schemes developed by researchers of Everglades National Park and Big Cypress National Preserve, including a classification scheme devised by Craighead (1971), the following Vegetation Classification System was developed by the South Florida Natural Resources Center, Everglades National Park (ENP), the Center for Remote Sensing and Mapping Science (CRMS) at the University of Georgia, Big Cypress National Preserve (BICY) and the South Florida Water Management District (SFWMD) for use in mapping the vegetation of Everglades National Park, Big Cypress National Preserve, Biscayne National Park (BISC) and the SFWMD Water Conservation Areas.

Major Vegetation Types

- I. Forest
- II. Scrub
- III. Savanna
- IV. Prairies and Marshes
- V. Shrublands
- VI. Exotics
- VII. Additional Categories
- VIII. Special Modifiers

Under these major vegetation types are hierarchically arranged Plant Communities (classes) which are defined by typical dominant species. The species listed under these classes and subclasses were derived from South Florida Research Center Reports (1980-1983) for Everglades and Big Cypress National Parks, Craighead (1971), and Davis and Ogden (1994). The communities used in this classification system were selected from among those compiled in a summary report of all plant communities outlined by Craighead (1971) as well as those reported in vegetation studies published by the South Florida Natural Resources Center from 1980 to 1983.

Major Vegetation Types and Associated Plant Communities

I.	FOREST ¹	F
A.	Mangrove Forest	FM
1.	Red (<i>Rhizophora mangle</i>) Mangrove	FMr
2.	Black (<i>Avicennia germinans</i>) Mangrove	FMa
3.	White (<i>Laguncularia racemosa</i>) Mangrove	FMI
4.	Mixed mangrove ²	FMx
B.	Buttonwood (<i>Conocarpus erectus</i>) Forest ³	FB
C.	Subtropical Hardwood Forest ⁴	FT
D.	Oak-Sabal Forest ⁵	FO
E.	Paurotis Palm (<i>Acoelorrhaphes wrightii</i>) Forest	FP
F.	Cabbage Palm (<i>Sabal palmetto</i>) Forest	FC
G.	Swamp Forest	FS
1.	Mixed Hardwood Swamp Forest ⁶	FSh
2.	Cypress Strands ⁷	FSc
a.	Cypress Domes/Heads ⁸	FSd
3.	Cypress-Mixed Hardwoods ⁹	FSx
4.	Mixed Hardwoods, Cypress and Pine ¹⁰	FSa
5.	Cypress-Pines ¹¹	FSCpi

¹ High-density stands of trees with heights over 5 meters.

² Specific mixtures of mangrove species, when identified, will be distinguished as subgroups.

³ *Conocarpus erectus* with variable mixtures of subtropical hardwoods.

⁴ *Lysiloma latissiliquum*, *Quercus virginiana*, *Bursera simaruba*, *Mastichodendron foetidissimum*, *Swietenia mahagoni*, among others.

⁵ *Quercus laurifolia*, *Q. virginiana*, *Sabal palmetto*.

⁶ *Quercus virginiana*, *Q. laurifolia*, *Acer rubrum*, *Sabal palmetto*, *Fraxinus caroliniana*.

⁷ *Taxodium ascendens*, *T. distichum*; cypress domes are treated as a subgroup.

⁸ *Taxodium ascendens*, *T. distichum*; cypress growing in a depression such that trees in the center are tallest and give the characteristic dome shape. Delineated domes may contain a fringe of short cypress (less than 5 m).

⁹ *Taxodium ascendens* and *T. distichum* with variable mixtures of subtropical and temperate hardwoods; predominantly in BICY.

¹⁰ Mixture of various subtropical hardwoods with *T. distichum* with occasional *P. elliotii* var. *densa*.

¹¹ *T. distichum* with *P. elliotii* and a mixed hardwood scrub understory.

6.	Bayhead ¹²	FSb
II.	SCRUB ¹³	S
A.	Mangrove Scrub ¹⁴	SM
1.	Red (<i>Rhizophora mangle</i>)	SMr
2.	Black (<i>Avicennia germinans</i>)	SMa
3.	White (<i>Laguncularia racemosa</i>)	SMl
4.	Mixed scrub ¹⁵	SMx
B.	Buttonwood (<i>Conocarpus erectus</i>) Scrub	SC
C.	Saw Palmetto (<i>Serenoa repens</i>) Scrub	SP
D.	Hardwood Scrub ¹⁶	SH
E.	Bay-Hardwood Scrub ¹⁷	SS
III.	SAVANNA ¹⁸	SV
A.	Pine (<i>Pinus elliottii</i> var. <i>densa</i>) Savanna	SVPI
1.	Slash pine mixed with palms ¹⁹	SVx
2.	Slash pine with hardwoods ²⁰	SVPIh
3.	Slash pine with cypress ²¹	SVPIc

¹² *Magnolia virginiana*, *Annona glabra*, *Chrysobalanus icaco*, *Persea borbonia*, *Ilex cassine*, *Metopium toxiferum*, among others.

¹³ Low-density areas of trees and shrubs with heights under 5 meters.

¹⁴ The vegetation matrix in which the scrub occurs should be noted, e.g., within *Eleocharis marsh*.

¹⁵ Sparse and high-density subgroups/modifiers can be distinguished.

¹⁶ Includes species such as *Metopium toxiferum*, *Persea borbonia*, *Myrica cerifera*, *Ilex cassine*, *Magnolia virginiana*, *Myrsine floridana*, *Conocarpus erectus* and others.

¹⁷ Mixed association of bayhead swamp species, hardwood scrub and buttonwood scrub species such as *Myrica cerifera*, *Chrysobalanus icaco*, leather fern (*Acrostichum danaeifolium*), *Conocarpus erectus* and *Cladium jamaicense*. Minor species include *Metopium toxiferum*, *Ilex cassine*, *Persea borbonia* and *Cephalanthus occidentalis*. Occurs in the transition zone between saline and fresh environments. This is a provisional class being considered for addition to the classification system.

¹⁸ Low-density (open canopy) trees in a matrix of graminoids.

¹⁹ *Pinus elliottii* var. *densa*, *Serenoa repens*, *Sabal palmetto*; typical of BICY.

²⁰ *Pinus elliottii* var. *densa*, *Rhus copallina*, *Guettarda scabra*, *Bumelia salicifolia*, *Tetrazygia bicolor*, *Dodonea viscosa*, among others; typical of EVER.

²¹ *Pinus elliottii* var. *densa* dominant with *Taxodium distichum* interspersed.

B.	Cypress (<i>Taxodium distichum</i> and <i>T. ascends</i>) Savanna	SVC
1.	Dwarf cypress ²²	SVCd
2.	Cypress with pine ²³	SVCpi
C.	Palm (<i>Sabal palmetto</i>) Savanna	SVPM
IV.	PRAIRIES AND MARSHES	P
A.	Graminoid Prairie/Marsh ²⁴	PG
1.	Black rush (<i>Juncus roemerianus</i>)	PGj
2.	Sawgrass (<i>Cladium jamaicense</i>) ²⁵	PGc
3.	Muhly grass (<i>Muhlenbergia filipes</i>)	PGm
4.	Cordgrass (<i>Spartina</i> spp.)	PGs
5.	Spike rush (<i>Eleocharis cellulosa</i>)	PGe
6.	Common reed (<i>Phragmites</i> spp.)	PGp
7.	Maidencane (<i>Panicum hemitomon</i>)	PGm
8.	Mixed graminoids ²⁶	PGx
B.	Non-graminoid Emergent Marsh ²⁷	PE
1.	Broadleaf Emergents	PEb
2.	Floating/Floating Attached Emergents	PEf
C.	Cattail (<i>Typha</i> spp.) Marsh	PC
D.	Halophytic Herbaceous Prairie	PH
1.	Graminoid ²⁸	PHg
2.	Succulent ²⁹	PHs

²² Typical of EVER; all other cypress savanna is assumed 'tall cypress' (typical of BICY).

²³ *Taxodium distichum* and *T. ascends* dominant with mixed *Pinus elliottii* var. *densa*.

²⁴ Contains grasses, sedges and rushes. The extent of periphyton cover is expressed as a modifier for all appropriate subclasses.

²⁵ The modifier 't' is used to distinguish tall sawgrass, e.g., PGct.

²⁶ Specific mixtures of graminoids, when identified, will be distinguished as subgroups.

²⁷ *Pontederia lanceolata*, *Sagittaria* spp., *Nymphaea odorata*, *Typha* spp., with *Ludwigia repens* and *Utricularia* spp. as possible submergents.

²⁸ *Distichlis spicata* (saltgrass), *Sporobolus* spp. (smutgrass) and *Monanthocloe littoralis* (keys grass).

²⁹ Very salt tolerant species such as *Batis maritima* (saltwort), *Salicornia* spp. (glasswort) and *Sesuvium* spp. (sea purslane).

E.	Prairie with Scattered Pines ³⁰	PPI
V.	SHRUBLANDS	SB
A.	Willow (<i>Salix caroliniana</i>)	SBs
B.	Pop Ash (<i>Fraxinus caroliniana</i>)	SBf
C.	Wax myrtle (<i>Myrica cerifera</i>)	SBm
D.	Groundsel bush (<i>Baccharis</i> spp.)	SBb
E.	Buttonbush (<i>Cephalanthus occidentalis</i>)	SBc
F.	Primrose (<i>Ludwigia</i> spp.)	SBl
G.	Cocoplum (<i>Chryobalanus icaco</i>)	SBy
VI.	EXOTICS ³¹	E
A.	Cajeput (<i>Melaleuca quinquenervia</i>)	EM
B.	Australian Pine (<i>Casuarina</i> spp.)	EC
C.	Lather Leaf (<i>Colubrina asiatica</i>)	EO
D.	Brazilian Pepper (<i>Schinus terebinthifolius</i>)	ES
E.	Shoebutton Ardisia (<i>Ardisia elliptica</i>)	EA
F.	Tropical Soda Apple (<i>Solanum viarum</i>)	EL
G.	Java Plum (<i>Syzygium cumini</i>)	EJ
VII.	ADDITIONAL CATEGORIES	
A.	Open Water	W
B.	Beaches	BCH
C.	Mud	MUD
D.	Cultural Areal Features	
1.	Structures and Cultivated Lawns	HI
a.	Pumping Stations	HIp
2.	Major Roads (greater than 30 m wide)	RD
3.	Major Canals (greater than 30 m wide)	C
4.	ORV Trails	ORV
E.	Cultural Linear Features	
1.	Secondary roads (less than 30 m)	(Dash)
2.	Secondary canals (less than 30 m)	(Dash-Dot)
3.	ORV trails (less than 15 m wide)	(brown)

³⁰ Sparsely distributed *Pinus elliottii* var. *densa* in a matrix of graminoids, at the pinelands-glades ecotone.

³¹ For sparse to low-density stands, modifiers are used to indicate (1) the vegetation matrix in which the exotic occurs, and (2) the original vegetation replaced by the exotic, when applicable.

- a. Primary
- b. Secondary
- c. Tertiary

F. Spoil Areas

SA

1. Artificial Deer Islands

SAd

VIII. SPECIAL MODIFIERS

A. Hurricane Damage Classes

- 1. Low to medium (0% to 50% damage) - 1
- 2. High (51% to 75% damage) - 2
- 3. Extreme (> 75% damage) - 3

B. Low Density (Scattered Individuals) - 4

C. Human Influence - 5

- 1. Abandoned agriculture - 6
- 2. Altered drainage - 7
- 3. High density ORV trails - 8

D. Periphyton - 9

E. Treatment Damage (e.g., herbicide treatment) -10

F. Other Damage (e.g., freeze damage) -11

G. Ponds -12

H. Exposed Rock (i.e., pinnacle rock) -13

I. Used by the SFWMD to denote vegetation associated with tree islands. -14

References

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