Rapid Assessment Reference Condition Model

The Rapid Assessment is a component of the LANDFIRE project. Reference condition models for the Rapid Assessment were created through a series of expert workshops and a peer-review process in 2004-2005. For more information, please visit www.landfire.gov. Please direct questions to helpdesk@landfire.gov.

Potential Natural Vegetation Group (PNVG):

R9PCSA   **Pond Cypress Savanna**

General Information

Contributors *(additional contributors may be listed under "Model Evolution and Comments")*

Modelers	Reviewers
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Vegetation Type

Grassland

Dominant Species*

TAAS
RHMI7
MUFI3
CLMAJ

General Model Sources

☐ Literature
☐ Local Data
☑ Expert Estimate

LANDFIRE Mapping Zones

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Rapid Assessment Model Zones

☐ California	☐ Pacific Northwest
☐ Great Basin	☐ South Central
☐ Great Lakes	☑ Southeast
☐ Northeast	☐ S. Appalachians
☐ Northern Plains	☐ Southwest
☐ N-Cent.Rockies	

Geographic Range

Pond cypress savannah occurs in southwest Florida, mainly in the Big Cypress area, Big Cypress National Preserve.

Biophysical Site Description

Pond cypress savannah occurs as often stunted stands of Taxodium ascendens growing on shallow sands or marl soils above limestone bedrock (Flohrschutz 1978).

Vegetation Description

This PNVG is a wet grassland savannah with scattered pond cypress (Taxodium ascendens). The understory is dominated by graminoids including beak rush (Rhynchospora microcarpa), sedges (Cyperus spp.), muhly grass (Muhlenbergia filipes), and sawgrass (Cladium jamaicense) (NatureServe, 2005). Vegetation density and diversity are low (Ewel, 1990).

Disturbance Description

The herbaceous graminoid and pond cypress canopy is kept sparse by very low nutrient availability and extreme water level fluctuations. Fires are associated with drought in winter, these droughts occur in association with the El Nino/la nina ENSO, on 7 or 15 year cycles. (David Brownlie, pers com., 2005). In the absence of fire for long periods, hardwood encroachment can occur.

Adjacency or Identification Concerns

This is similar to SW Florida wet prairie, which does not have pond cypress trees. This PNVG is equivalent to CES411.290 South Florida Dwarf Cypress Savanna (NatureServe, 2005).

Scale Description

Sources of Scale Data ☑ Literature ☐ Local Data ☐ Expert Estimate

Pond cypress savanna occurs primarily in the Big Cypress region of south Florida. Information describing

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the size of this system was difficult to find. Pond cypress savanna occurs within a matrix of cypress strands, cypress domes, prairie, and pine communities, most contained within Big Cypress National Preserve. Muss et. al. indicated there is approximately 295,100 ha. of cypress within Big Cypress National Preserve, and half of that is open stands of small cypress growing in seasonally flooded grasslands known as cypress prairie.

No information on the scale of disturbances within pond cypress savanna was identified

Issues/Problems

This 3 box model can be brought up to date with the addition of two more boxes to accommodate Melaleuca quinquenervia forests, closed and open.

Model Evolution and Comments

Suggested reviewers Cecil Frost, and somebody from Big Cypress NP.

There was one anonymous reviewer of this model. The reviewer suggested adding a replacement fire disturbance to Class A. No other changes or additions were suggested.

Succession Classes

Succession classes are the equivalent of "Vegetation Fuel Classes" as defined in the Interagency FRCC Guidebook (www.frcc.gov).

Class A   15%

Early1 All Structures

Description

Class A is a pond cypress savanna where medium to high intensity fire in combination with winter ENSO (El Nino/la nina) related drought has killed pond cypress trees.

Indicator Species* and Canopy Position

RHMI7	Lower
MUFI3	Lower
CLMAJ	Lower

Upper Layer Lifeform
- ☑ Herbaceous
- ☐ Shrub
- ☐ Tree

Fuel Model 2

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	100 %
Height	Herb Short <0.5m	Herb Tall > 1m
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

Class B   10%

Mid1 Closed

Description

Class B is characterized by a pond cypress savanna where a lack of fire has led to hardwood encroachment in the understory, and a decline in the herbaceous graminoid groundcover.

Indicator Species* and Canopy Position

TAAS	Upper
ACRU	Lower
SACA5	Lower
COER2	Lower

Upper Layer Lifeform
- ☐ Herbaceous
- ☐ Shrub
- ☑ Tree

Fuel Model 5

Structure Data (for upper layer lifeform)

	Min	Max
Cover	25 %	100 %
Height	Tree Regen <5m	Tree Medium 10-24m
Tree Size Class	Large 21-33"DBH	

☐ Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

Class C   75 %

Mid1 Open
Description
Class C is a pond cypress savanna in which low intensity fire in combination with winter ENSO (El Nino/la nina) related drought has maintained an open pond cypress savanna with a low density, low diversity herbaceous graminoid groundcover.

Indicator Species* and Canopy Position

TAAS	Upper
RHMI7	Lower
MUFI3	Lower
CLMAJ	Lower

Upper Layer Lifeform
☐ Herbaceous
☐ Shrub
☑ Tree

Fuel Model 2

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	25 %
Height	Tree Regen <5m	Tree Medium 10-24m
Tree Size Class	Large 21-33"DBH	

☐ Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

Class D   0 %

Late1 All Structures
Description

Indicator Species* and Canopy Position

Upper Layer Lifeform
☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	0 %
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

Class E   0 %

Late1 All Structures
Description

Indicator Species* and Canopy Position

Upper Layer Lifeform
☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	%	%
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

Disturbances

Non-Fire Disturbances Modeled

☐ Insects/Disease
☐ Wind/Weather/Stress
☐ Native Grazing
☐ Competition
☐ Other:
☐ Other:

Fire Regime Group: 1
I: 0-35 year frequency, low and mixed severity
II: 0-35 year frequency, replacement severity
III: 35-200 year frequency, low and mixed severity
IV: 35-200 year frequency, replacement severity
V: 200+ year frequency, replacement severity

Historical Fire Size (acres)

Avg: 1200

Min: 10
Max: 10000

Fire Intervals (FI):
Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inverse of fire interval in years and is used in reference condition modeling. Percent of all fires is the percent of all fires in that severity class. All values are estimates and not precise.

Sources of Fire Regime Data

☑ Literature
☐ Local Data
☑ Expert Estimate

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
Replacement	120			0.00833	17
Mixed	75			0.01333	27
Surface	35			0.02857	57
All Fires	20			0.05024	

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