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

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

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### Succession Classes

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

<table>
<thead>
<tr>
<th>Succession Class</th>
<th>Percent</th>
<th>Dominant Structures</th>
<th>Description</th>
<th>Indicator Species* and Canopy Position</th>
<th>Upper Layer Lifeform</th>
<th>Structure Data (for upper layer lifeform)</th>
<th>Fuel Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class A</strong></td>
<td>15%</td>
<td>Early1 All Structures</td>
<td>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.</td>
<td>RHMI17 Lower</td>
<td>Herbaceous</td>
<td>Cover: 0% - 100%</td>
<td>Tree Size Class: No data</td>
</tr>
<tr>
<td><strong>Class B</strong></td>
<td>10%</td>
<td>Mid1 Closed</td>
<td>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.</td>
<td>TAAS Upper</td>
<td>Tree Regen &lt;5m</td>
<td>Cover: 25% - 100%</td>
<td>Tree Regen: No data</td>
</tr>
</tbody>
</table>

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.*
**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**

<table>
<thead>
<tr>
<th>TAAS</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHMI7</td>
<td>Lower</td>
</tr>
<tr>
<td>MUFI3</td>
<td>Lower</td>
</tr>
<tr>
<td>CLMAJ</td>
<td>Lower</td>
</tr>
</tbody>
</table>

**Upper Layer Lifeform**

- [ ] Herbaceous
- [x] Tree

**Fuel Model** 2

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>0 %</td>
</tr>
<tr>
<td>Height</td>
<td>Tree Regen &lt;5m</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>Large 21-33*DBH</td>
</tr>
</tbody>
</table>

- 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**

| no data |

**Upper Layer Lifeform**

- [ ] Herbaceous
- [ ] Shrub
- [ ] Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>0 %</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
</tr>
</tbody>
</table>

- 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**

| no data |

**Upper Layer Lifeform**

- [ ] Herbaceous
- [ ] Shrub
- [ ] Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>%</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
</tr>
</tbody>
</table>

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

**Disturbances**

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

**Non-Fire Disturbances Modeled**

- [ ] Insects/Disease
- [ ] Wind/Weather/Stress
- [ ] Native Grazing
- [ ] Competition
- [ ] 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

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### 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.

<table>
<thead>
<tr>
<th>Severity</th>
<th>Avg FI</th>
<th>Min FI</th>
<th>Max FI</th>
<th>Probability</th>
<th>Percent of All Fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement</td>
<td>120</td>
<td>0.00833</td>
<td>0.02857</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>75</td>
<td>0.01333</td>
<td>0.02857</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Surface</td>
<td>35</td>
<td>0.02857</td>
<td>0.02857</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>All Fires</td>
<td>20</td>
<td>0.05024</td>
<td>0.05024</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sources of Fire Regime Data

- Literature
- Expert Estimate

### References


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*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.*

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8/11/2008

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