DRAFT*

Fire Regime Condition Class (FRCC) Interagency Handbook
Reference Conditions

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PNVG Code: LLPM

Potential Natural Vegetation Group: Mesic longleaf pine/wiregrass

Geographic Area: North Carolina to Alabama, south to central Florida.

Description: Mesic to dry-mesic woodland/savannas on productive soils such as Wagram, Orangeburg, generally dominated by Pinus palustris, sometimes with a minority component of Pinus echinata. Little cover and low density of shrubs or mid-story hardwoods under natural fire regime. Ground cover dense, dominated by Aristida stricta, generally with a diversity of legumes, composites, and other grasses. Canopy trees are patchy in distribution, with regeneration in canopy gaps of ¼ acre or less in size, mid-successional clumps in patches similar size patches, and the oldest trees occurring as isolated individuals. The reference condition classes are aggregates of numerous patches well dispersed over the landscape. Canopy gaps are created by fire mortality, lightning, and wind throw at the scale of individual trees or several trees.

Uncharacteristic vegetation types include even-aged canopy stands in which age structure has been homogenized by logging or clearing, examples where loblolly or slash pine have replaced some or all of the longleaf pine, and examples where the bunch grass-dominated ground cover has been lost due to soil disturbance or past canopy closure.

Fire Regime Description: Frequent surface fires, every 1-3 years, generally burn almost all of the vegetation. Fires are usually low in intensity overall but will occasionally kill young regeneration patches and rarely kill individual older trees.

Vegetation Type and Structure

Class*	Percent of Landscape	Description
A: post replacement	17	Canopy gaps, most single tree to quarter acre size, with pine regeneration up to 15 years old. Native grassy ground cover dominated by Aristida stricta. Tree cover 0 to 50%.
B: mid-seral closed	1	Patches, mostly ¼ acre or less, with canopy pines 15-75 years old, with substantial component of hardwoods or other pine species encroaching in the absence of fire. Hardwood/encroaching pine cover greater than 50%. Canopy pine cover 25-75%.
C: mid- seral open	41	Patches, most ¼ acre or less, with canopy pines 15-75 years old, with little hardwood component due to frequent fire. Grass-dominated ground cover, generally Aristida stricta. Canopy pine cover 25-75%.
D: late- seral open	40	Patches, most ¼ acre or less, with canopy pines 75 or more years old, with little component of hardwoods. Grass-dominated ground cover of Aristida. Canopy pine cover 25-75%.
E: late- seral closed	1	Patches with canopy pines 75 or more years old, with a substantial component of hardwoods or pines other than longleaf in either the overstory or understory. Ground cover

shrubby or sparse. Hardwood/encroaching pine cover greater than 50%.

	Total	100

*Formal codes for classes A-E are: AESP, BMSC, CMSO, DLSO, and ELSC, respectively.

Fire Frequency and Severity

Fire Severity	Fire Frequency (yrs)	Probability	Percent, All Fires	Description
Replacement Fire	120	.008	2%	Most replacement is in class A.
Non-Replacement Fire	2-3	.39	98%	Low intensity surface fires in all classes.
All Fire Frequency*	3	.40	100	

*All Fire Probability = sum of replacement fire and non-replacement fire probabilities. All Fire Frequency = inverse of all fire probability (previous calculation).

References

Brown, James K.; Smith, Jane Kapler, eds. 2000. Wildland fire in ecosystems: effects of fire on flora. Gen. Tech. Rep. RMRS-GTR-42-vol. 2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 257 p.

Schmidt, Kirsten M, Menakis, James P., Hardy, Colin C., Hann, Wendel J., Bunnell, David L. 2002. Development of coarse-scale spatial data for wildland fire and fuel management. Gen. Tech. Rep. RMRS-GTR-87. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 41 p. + CD.

U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, December). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/.

PERSONAL COMMUNICATION (if applicable):

[Discussion of alternative model: The initial group model done together at Tallahassee had a fire probability of 0.5 for the prevailing vegetation. This frequency seems too high, given that the few literature estimates are a bit longer. Christensen says 3-5 years, Wade, et al. (based on Landers) 1-4 years. But 0.5 is more frequent than the midpoint even of the 1-4 year interval. In addition, the presence of vulnerable stages in the life cycle even of longleaf pine, plus the presence of a diverse lepidopteran community that is not resilient to fire, suggests a longer natural fire interval. The modeled tendency of groups E and B to disappear virtually without a trace also seems a bit extreme.

The model gives good percentages of states using a surface fire probability of 0.4. The probability of mosaic fire that would turn closed vegetation into open was increased slightly (.005 to .01). The TSD to go to closed vegetation is higher in this model than in some others – 15-20 years. This seems appropriate.

VDDT File Documentation
Include screen captures (print-screens) from any of the VDDT graphs that were used to develop reference conditions.