

DRAFT

Fire Regime Condition Class (FRCC) Interagency Handbook Reference Conditions

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PNVG Code: AVAP

Potential Natural Vegetation Group: Appalachian Oak Forest – Virginia Pine variant – Xeric Pine-Oak Eastern

Geographic Area: Southern Appalachians

Description: Potential natural vegetation group common to the Southern Appalachians, typically occupying xeric to dry sites at elevations generally below 3500 feet on ridge tops, western, south and southwestern aspects. Occasionally Virginia pine is also found dry-mesic sites as a pioneering vegetation. Overstory Virginia pine dominate with up to 70% species specific. Other overstory components vary with moisture regimes but could include several other pine species, red and white oaks, other hardwoods and/or eastern red cedar. Many stands are strongly even-aged and density-dependent based on age. Virginia pine is an aggressive invader following disturbance and might be considered uncharacteristic vegetation on some sites. The frequency of its occurrence in the Southern Appalachian forested landscapes today is undoubtedly greater than in pre-settlement times. Its niche appears best fitted to xeric sites on thin soils (e.g. “necklace” stands adjacent to bluff lines in the Cumberlands and Appalachians). Virginia pine is increasing at risk of mortality to disturbance agents as it matures. Older trees are particularly susceptible to pine beetle attacks due to slow radial growth and relatively high growing densities on often poor sites. Older trees are also more prone to windthrow. Few stands reach 100 years of age with most stands “breaking up” at 50 to 75 years of age.

Succession: Succession to hardwoods (including eastern red cedar) can occur in the absence of low-intensity periodic fire. Higher intensity, more frequent fire can shift composition toward more fire-tolerant pine species and/or eliminate Virginia pine.

Fire Regime Description: Fire Regime I, mixed severity, 2-10 year fire return interval. Fires in younger stands are often stand replacement. Mixed fires occur, but open stands do not persist due to windthrow of any residual standing trees.

Model Assumptions: No mid or late-seral open classes are modeled because of windthrow phenomena. High mortality rates create landscapes with very little late-seral.

Vegetation Type and Structure

Class*	Percent of Landscape	Description
A: post replacement	30	Dense reproduction 5 to 15 feet in height. Sparse understory of woody and herbaceous species. Pioneering most successfully on shallow soils and where mineral soil is exposed. Openings vary in size depending on type of disturbance. Windthrow of adjacent canopy trees is common adding substantially to original opening size over time. Fires occurring in this class are nearly always stand-replacing, <10% tree canopy cover
B: mid-seral closed	60	Mid-seral with closed canopy, Virginia pine with some oak and other hardwoods in overstories and some herbaceous understory development. Fires occurring in this class are mixed severity with

mortality dependent on fire intensity and seasonality, >35% canopy cover (crown closure estimate)

C:

D:

E: late-seral closed

10 Late-seral, closed canopy pine-oak dominated overstory community. Some herbaceous cover and woody shrubs occurring in gaps from overstory mortality. Multiple age classes possible due to gap-phase regeneration and gap enlargement from blow-downs. Fires occurring in this class are mixed severity, > 35% canopy cover

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	106	.0094	22	Fires killing most trees
Non-Replacement Fire	30	.0333	78	Primarily surface fire in all classes. Some mixed fire.
All Fire Frequency*	23	.0427	100	

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

References

U.S. Department of Agriculture, Forest Service, Southern Forest Research Station, Southern Forest Resource Assessment, [Online]. Available: <http://www.srs.fs.fed.us/sustain>

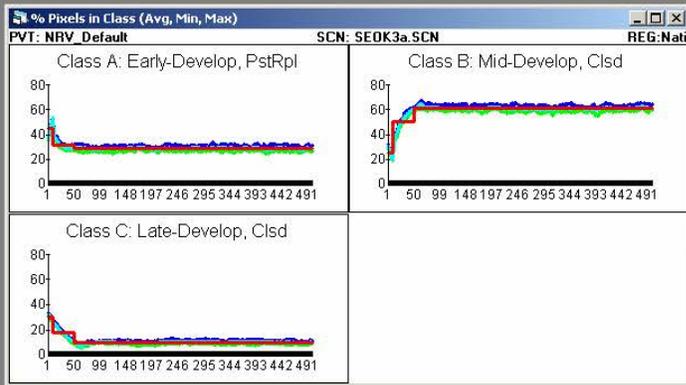
Brown, James K.; Smith, Jane Kapler, eds. 2000. Wildland fire in ecosystems: effects of fire on flora. Gen. Tech. Rep. RMRS-GTR-42-vol. 2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 257 p.

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/>.

VDDT File Documentation

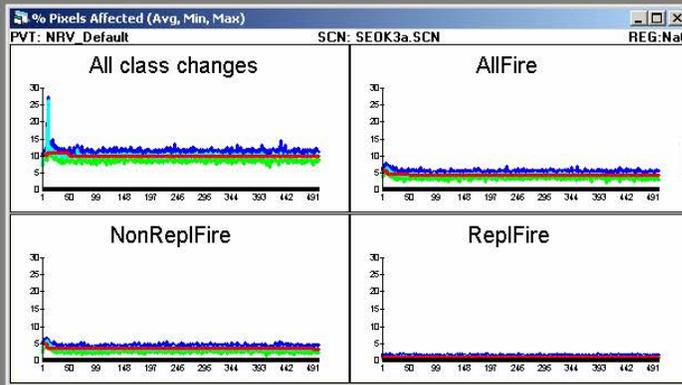
Include screen captures (print-screens) from any of the VDDT graphs that were used to develop reference conditions.



Status
PVT: NRV_Default
SCN: SEOK3a.SCN
REG: Nati
PRJ:
Unmodified

Successions...

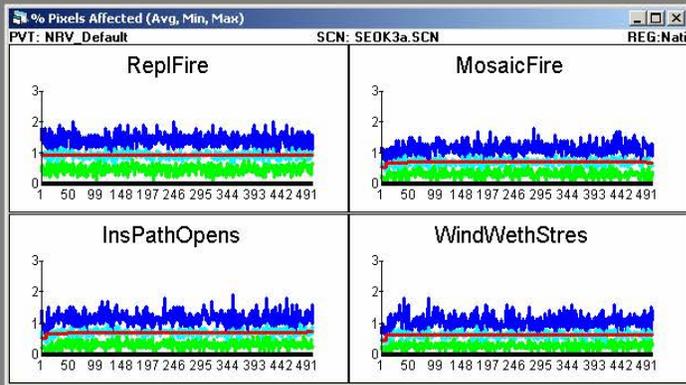
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