

****11/4/03 DRAFT****

**Fire Regime Condition Class (FRCC) Interagency Handbook
Reference Conditions**

Modeler: Wendel Hann

Date: 7/22/03

PNVG Code: PGRA2

Potential Natural Vegetation Group: Northern Plains Grassland With Trees

Geographic Area: Northern Plains

Description: Gentle to rolling savannah conifer (< 5% tree cover) herbaceous dominated (<5% shrub cover) uplands and some breaklands that have inclusions of rocky areas and ridges that have scattered young to mature trees and sagebrush protected from fire by rocks and sparse grass fuels. These areas as well as the savannah conifer cover provide a tree and shrub seed source for encroachment into herbaceous dominated areas in the absence of fire. Typical patch sizes for the uplands range from 100-500 acres with breakland inclusions of 25-50 acres. Typical fire regime landscapes correlate with watersheds ranging from 5000 acres in complex terrain to 25,000 acres in gentle terrain.

Fire Regime Description: Frequent mixed regime – Fire Regime Group III - 10 year average frequency for all fires; 55% replacement fires that maintain herbaceous dominated classes A, B, and C or replace B, C, D, or E to produce A; 45% mosaic fires that parallel alternate succession of B or C to D or maintain D in D. ***SHOULDN'T THE FIRE REGIME BE "I?"**

Vegetation Type and Structure

Class	Percent of Landscape	Description
A: post replacement	8	Within 0-3 years postfire – contains resprouting western wheatgrass, blue grama, and other northern plains cool and warm season midgrasses with some grass seedling establishment in moist years; many post-fire adapted forbs; scattered resprouting shrubs such as silver sage, serviceberry, chokecherry and buckbrush < 5% cover
B: mid-development closed	35	Young and vigorous green needlegrass, western wheatgrass, blue grama, and other cool and warm season midgrasses and intermingled forbs with canopy cover > 35%; scattered individuals or small patches of sagebrush and other shrubs < 5% cover; typically on flat to gentle terrain with productive

		soils that have low cobble and gravel content; in moist years tree and sagebrush seeds dispersed from young to mature trees and sagebrush on adjacent rocky areas or ridges can get established as seedlings, particularly if correlated with a short period of high intensity grazing or post-fire; however, these seedlings are typically killed by fire at the next return interval
C: mid- open	15	Western wheatgrass, blue grama, and other cool and warm season midgrasses and scattered forbs with canopy cover < 35%; scattered individuals or small patches of sagebrush and other shrubs < 5% cover; typically on steeper slopes and less productive soils than class B with higher content of cobbles and gravels; tree and sagebrush seedlings can get established from seed sources on adjacent rocky areas and ridges, but typically die as a result of drought or the next fire return interval
D: late- open	40	Grass-tree savannah with < 5% canopy mid to large tree ponderosa pine or pole to mid size juniper typically in rocky areas protected from fire scattered across relatively large patches of mature green needlegrass, western wheatgrass, blue grama, and other cool and warm season midgrasses; scattered patches of sagebrush and other shrubs < 5% cover
E: late- closed	2	Dense, but small patches of ponderosa pine or juniper pole, sapling, and seedlings with < 5% total cover of the whole area located in areas skipped by fire as a result of lack of fine fuels (large ungulate grazing pattern, low productive soils, rocky areas) or random fire weather patterns
	Total	100

Fire Frequency and Severity			
Fire Frequency-Severity	Modeled Probability	Pct, All Fires	Description
Replacement Fire	.055	55	Primarily consuming grass or shrub-grass upper layer
Non-Replacement Fire	.045	45	Mosaic maintenance fires in D
All Fire Frequency*	.10	100	10 year mean fire interval from

*Sum of replacement fire and non-replacement fire probabilities.

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.

Kuchler, A. W. 1964. Manual to accompany the map of potential natural vegetation of the conterminous United States. American Geographical Society. Spec. Publ. No. 36. Lib. Congress Cat. Card Num. 64-15417. 156 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/> 7/22/03.

PERSONAL COMMUNICATION:

Larry Rau – Miles City BLM

Kenny Rich – Rancher in Missouri Breaks

MODELER FIELD REVIEWS:

Hann – Missouri Breaks 2002, Rosebud to Jordan 2003, Dakotas/Montana-Wyoming border country 2003

VDDT Results: *NEEDS GRAPH OF SUCC CLASSES



