

Fire Regime Condition Class (FRCC) Interagency Handbook Reference Conditions

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PNVG Code: NHDW1

Potential Natural Vegetation Group: Northern Hardwood Forest

Geographic Area: Northern tier of states in the east, including New England, NY, and the northern parts of PA; also a southern extension in the Appalachian Mountains, including NC, TN, VA, and WV, and south to northern GA.

Description: Tall, broadleaf deciduous forest with few evergreen trees occurring on high-elevation, concave landforms and north-facing slopes in high mountain areas. Dominated by sugar maple (*Acer saccharum*), beech (*Fagus grandifolia*), and yellow birch (*Betula allegheniensis*); additional dominants characteristic of southern parts of the range are northern red oak (*Quercus rubra*) and black cherry (*Prunus serotina*). Common associates include pin cherry (*Prunus ??*), buckeye (*Aesculus flava*), striped maple (*A. pennsylvanicum*), red maple (*A. rubrum*), mountain maple (*A. spicatum*), white ash (*Fraxinus americana*), hophornbeam (*Ostrya virginiana*), mountain-ash (*Sorbus americana*), basswood (*Tilia americana*), serviceberry (*Amelanchier arborea*), dogwood (*Cornus alternifolia*), and American elm (*Ulmus americana*).

Fire Regime Description: Fire Regime Group V. Fire disturbances are severe and affect large patch sizes but are very rare, at 300 to 1,000-year intervals. Other disturbances, including windthrow, insect attack, and ice storms, are more important than fire although they may predispose the forest to fire during drought conditions. They are much more frequent than fire but affect a smaller percentage of the stand.

Vegetation Type and Structure

Class*	Percent of Landscape	Description
A: post replacement	5	Young stand characterized by any or all of yellow birch, pin cherry, red maple, ash, and mountain-ash; usually less than 25 yrs old; herbaceous layer present
B: mid-seral closed	25	Intermediate or mixed, uneven-aged stand; canopy characterized by red maple, pin cherry, and white ash, with northern red oak and black cherry in the south; understory contains young sugar maple, beech, and yellow birch; herbaceous layer may be present in canopy openings
E: late- seral closed	70	Mature stand; closed canopy has few openings and is dominated by sugar maple, beech, and yellow birch; understory characterized by young and mature trees of shade-tolerant species; little herbaceous layer
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	1,425	0.0007	30	Replacement fires are severe fires that kill most trees and understory, removing most to all of the canopy and allowing pioneer species to emerge

Non-Replacement Fire	575	0.0017	70	Fires pass through the understory and cambium-kill most smaller trees, leaving some large, well-established trees alive while creating canopy openings. Fires tend to have a mosaic effect, due in part to the re-sprouting or suckering capabilities of several key species, including maple, beech, and oak.
All Fire Frequency*	400	0.0024	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

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PERSONAL COMMUNICATION (if applicable):

Peer Review by Steve Croy, Forest Ecologist, George Washington and Jefferson National Forest, Roanoke, VA, at Shenandoah Nat'l Park, Luray, VA: 21 April, 2004, and by Bill Patterson III, University of Massachusetts Amherst, Amherst, MA, at Milwaukee, WI: 20 July, 2004.

VDDT File Documentation

Assumptions: Native American fire was considered but not determined to be a significant factor.



