

Fire

Analysis Area

The analysis area for the fire sustainability topic is the NFS lands of the IPNF and KNF. For the purposes of this document, each Forest's conditions and trends are evaluated separately.

Conditions and Trends

The AMS and AMS Technical Report described the fire risk revision topic and the analyses that would be conducted to address this topic. Since the AMS, this topic has evolved into management of fire rather than “fire risk.” Therefore, fire as a disturbance process is discussed in the vegetation section, while the discussion in this section focuses on the conditions and trends for fire management on the Forests.

Vegetation Condition and Fire

The Forests have completed an assessment of fire regime condition class (FRCC). The Fire Regime Condition Class (FRCC) is an expression of the departure of the current condition from the historical fire regime. It is an interagency, standardized tool for determining the degree of departure from reference conditions for vegetation, fuels and disturbance regimes (Reference conditions are defined as the composition of landscape vegetation and disturbance attributes that, to the best of our collective expert knowledge, can sustain current native ecological systems and reduce future hazards to native diversity – reference conditions should reflect characteristics that can be restored. These conditions are the baseline for determining departure from the natural or historical range.) Appendix E describes the process used in developing FRCC for the Forests. The vegetation section of this chapter describes conditions of vegetation and management to improve FRCC.

Low departure (FRCC 1) describes fire regimes and vegetation-fuel conditions considered to be within the reference condition range of variability, while moderate and high departures (FRCCs 2 and 3) characterize conditions outside of this reference condition range (Hann and Bunnell 2001; Hardy and others 2001; Schmidt and others 2002). The FRCC for the Proposed Land Management Plan revision was developed at a strategic, landscape level. The resultant coverage is consistent with national direction on the development and application of FRCC. Moreover, FRCC can be applied to all wildland vegetation and fuel conditions or to wildland fire situations.

As part of the FRCC assessment, fire regimes were classified and delineated for the each Forest. A fire regime represents the periodicity and pattern of naturally occurring fires in a particular area or vegetative type, described in terms of frequency, biological severity, and aerial extent (Anderson 1982). Coarse-scale definitions for natural fire regimes were developed by Hardy and others (2001) and Schmidt and others (2002) and interpreted for fire and fuels management by Hann and Bunnell (2001). The five natural fire regimes are classified based on the average number of years between fires (fire frequency or Mean Fire Interval) combined with the severity of the fire (the amount of vegetation replacement) and its effects on the dominant overstory vegetation. These five natural fire regimes are as follows:

- I 0- to 35-year frequency and low (surface fires most common) to mixed severity (less than 75 percent of the dominant overstory vegetation replaced);

- II 0- to 35-year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);
- III 35- to 100+ -year frequency and mixed severity (less than 75 percent of the dominant overstory vegetation replaced);
- IV 35- to 100+ -year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);
- V 200+ -year frequency and high (stand replacement) severity.

Table F-1, below, displays acres by fire regime for each forest.

Table F-1 Acres and Percent National Forest System Land by Fire Regime

Fire Regime	IPNF		KNF	
	Acres	Percent	Acres	Percent
I	220,600	9	295,800	13
II	0	0	400	<1
III	567,900	23	646,300	29
IV	752,200	31	823,900	37
V	907,100	37	447,400	20

Based on direction outlined in the Healthy Forest Restoration Act (HFRA), the Proposed Land Management Plan emphasizes maintaining or improving the FRCC in fire regimes I, II, and III as high priority for fuels reduction work: These warmer and drier sites are generally closer to population centers than fire regimes IV and V.

Wildland Fire

The AMS Technical Report described the amount of fire that has occurred on the KIPZ over the last 100 years. Historically, fire has played a significant role in ecosystem processes for all vegetation on the IPNF and KNF. Historical fire levels for the Forests were probably similar to the levels that occurred in the Interior Columbia Basin, which was three percent of the area in an “average” fire year and up to six percent of the area in an “active” fire year (Barrett et al. 1997). Based on wildfire and prescribed fire records for the last ten years, the IPNF has averaged less than three percent of its area and the KNF approximately five percent.

As a result of forest direction, wildland fire use for resource benefit has not been utilized on either Forest for at least the past 15 years. Consequently, this lead to 100 percent suppression attempts on all wildland fires, and since 1970, over 95 percent of all fires have been suppressed at initial attack.

Under the Proposed Land Management Plan, wildland fire use is generally suitable in most management areas. The only management areas (MA) where wildland fire use is not suitable is Research Natural Areas (RNA - MA4a), experimental forests (MA 4b), and primary recreation areas (MA7). Wildland fire use for resource benefit will be dependent on Fire Management Plans and Wildland Fire Use Plans. When, where, and how wildland fire use for resource benefit will be used will be outlined in the annual Fire Management Plan and Wildland Fire Use Plan for each Forest. Even though generally suitable for use in most MAs, wildland fires for resource benefit will initially undergo much greater assessment and evaluation via the Fire Management Plans than wildland fires receiving other suppression responses. The appropriate management response

to specific wildland fires will be determined through evaluation of public and firefighter safety, fire behavior, values at risk, potential suppression damage, and the availability of fire management resources.

Based on current forest and climate conditions, it is unlikely that the number of acres burned will significantly increase. The Proposed Land Management Plan increases the amount of land where wildland fire use is generally suitable, which may result in a limited number of additional acres burned. Regardless of an area's suitability, wildland fire use occurs under established constraints of condition, place, and time. Under the Plan, it is estimated that wildland fire use could result in the containment of slightly fewer fires at initial attack.

Prescribed Burning

The Forests have used prescribed burning as a tool to treat fuels, improve habitat, and reduce wildland fire risk for the past several decades. During the last 10 years, the IPNF has used prescribed burning on 62,000 acres and the KNF 80,000 acres.

Under the Proposed Land Management Plan, prescribed burning is generally suitable in all but one management area, the RNA (MA4a). Within designated or proposed wilderness or wildlands, the objective of prescribed fire is restoration of specific vegetative conditions that will mimic historic disturbance intensities and frequencies. The use of prescribed fire is anticipated to increase from current levels over the life of the Plan. The number of acres burned in any one year will depend on climatic conditions that influence both fuel moistures and air exchange, which has the potential to affect air quality.

Literature Cited

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