Fire Disturbance in northern Idaho
Need for prescribed fire

Manage 2.63 Million acres (fed) in northern Idaho

Busy fire seasons could burn up to 150,000 ac/ year

Last 10 years we've burned 62,000

3 yr period, 102-125 incidents with acreages 132-431 ac

Historical fire levels for the Forests were probably similar to the levels that occurred in the Interior Columbia Basin, which was 3 percent of the area in an "average" fire year and up to 6 percent of the area in an "active" fire year (Barrett et al. 1997). Based on wildfire and prescribed fire records for the last 10 years, the IPNF have averaged approximately 3 percent of its area. The IPNF 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 have used prescribed burning on approximately 62,000 acres. Over a 3 year period (2007 to 2009) the number of wildfires per year that occurred on the IPNF ranged from 102 to 125 and the number of acres that burned annually from those fires varied from 132 to 431 acres (USDA Forest Service 2010).

Fires Seasons in the Northern Rockies

With the aid of the cool phase of the Pacific decadal oscillation and resultant cool and moist regional climate from 1940 to 1980, the Forest Service was very successful in suppressing wildfires. For the period from 1970 to 2010, over 97 percent of all the fires were less than 10 acres in size, mostly due to fire suppression.

Small fires in the recent past

Hot, dry summers are making fire seasons longer

The influence of climate change on the occurrence and types of wildfires in the future is documented in the KIPZ Climate Change Report (USDA Forest Service 2010b). The report concludes climate changes are likely to increase the frequency of large fire years in the Northern Rockies and that fire seasons will be longer. Double or triple acreages!

Fire ecology in northern Idaho

The dominant, historical fire regime that occurred within forested vegetation on the IPNF can be characterized as a variable or mixed-severity fire regime (Brown and Smith 2000, Kilgore 1981, Zack and Morgan 1994). This type of fire regime commonly had a moderately short fire return interval for nonlethal or mixed-severity fires, with lethal crown fires occurring less often.

Mixed severity fire regime 30-200 yrs plus

Most fire disturbance from lightning fires, 10 to 50K acre fires.

Major fire years occur most commonly during regional summer droughts. Lightning storms and wind contribute to the likelihood of a major fire year. During major fire years, stand-replacing fires were commonly on the order of tens of thousands of acres, with some individual fire patches 50,000 acres or larger (Pyne 1982, Zack and Morgan 1994).

Mean fire return intervals typically ranged from 55 to 85 years, depending upon landscape location. On very moist sites they may have been significantly less common, while on drier sites return intervals were 25 years or less (Smith and Fischer 1997, Zack and Morgan 1994).

Moist sites 85 yf FRI, dry sites 25 yr FRI

Changing landscape

The presence of the WUI areas affects all fire management decisions in those interface areas. While a wide range of fire management strategies are available to implement, these options are usually narrowed down in these zones due to concerns that fires may move from federal to private lands

Currently, approximately 34 percent of the lands on the IPNF are within this WUI area

Changing landscape

The FRAGSTATS analysis concluded that overall, there has been a homogenization and simplification of landscape patterns for forest structure. Landscapes have increasingly become dominated by large patches of medium size trees and there is less variability in internal structure or composition of these medium size patches. Meanwhile, the patches of the smallest and largest size classes are fragmented into smaller patches with more edge and less interior area.

Stage is set

As the fuels and forest structures have homogenized over the landscapes, the potential for large, high-intensity wildfires has increased, and climate change effects will likely exasperate this trend (USDA Forest Service 2010b). Research has shown that the spread of wildfires and the potential for large fire growth across a landscape can be limited by reducing fuel continuity (Ager et al. 2010, Collins et al. 2008, Finney and Cohen 2003, Finney 2007, Hessburg et al. 2007 Safford et al. 2009, Stephens et al. 2009). In addition, large landscapes (e.g., wilderness areas) where wildfires have been allowed to burn can develop fuel heterogeneity; therefore, future fires could be limited in size relative to other landscapes that have more homogeneity in fuel conditions (Bollenbacher 2010, Collins et al. 2008, Rollins et al. 2002, and van Wagtendonk 2004). In addition, patterns of old burns can delay and detour the spread of new fires.

Need for disturbance agents

In the absence of fire or active management, most of the changes in species composition over time would be in the opposite direction from what is desired. In general, the desired trend is to obtain more forests dominated by early seral, shade-intolerant species (e.g., western larch, ponderosa pine, white pine, and white bark pine), yet without either active management (harvest and/or prescribe burning) or wildfires, the current trend of the forest becoming more and more dominated by shade-tolerant, mid-to late-seral tree species (e.g., Douglas-fir, grand fir, western hemlock, cedar, and subalpine fir) will continue. If more wildfire were to actually occur than was simulated in the models, then it is likely that it would improve the trajectory more towards the desired dominance groups.

Want more WL, PP, WP

Without disturbance = more DF, GF, WH, WC, SAF

Wildfire, Rx, and harvesting reverses that trend

Need for disturbance agents

Need for Change: In order to restore and maintain the fire-adapted ecosystems on the Forest, there is a need to expand the use of fire (both planned as well as natural, unplanned ignitions) as a management tool.

A substantial amount of acreage on the IPNF is fairly remote in terms of road access. In many of these areas, it can be difficult or undesirable to use mechanical treatments to manage the vegetation in order to help achieve the desired forest conditions. Therefore, in these areas, it is especially important to consider the use of natural, unplanned ignitions when and where it is appropriate.

IPNF target 10,500 acres moving to 14,500 acres
POD target 21,000 acres moving to 29,000 acres