

Item #58 - Fuel Treatments

Purpose: This monitoring item was established to report the treatment of activity and natural fuels and evaluate accomplishments against Forest Plan schedules.

Definitions:

Prescribed Fire: Any wildfire originating from a planned ignition to meet specific objectives identified in a written, approved, prescribed fire plan for which NEPA requirements (where applicable) have been met prior to ignition.

Wildfire: Any unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires.

Note: the term wildland fire use has been dropped per national direction.

Methods: Fuels burned by wildfire and prescribed fire are measured in terms of acres treated and/or positively affected, as defined by site objectives.

Results: Due to the great variability in weather conditions affecting prescribed fires and wildfire occurrence, this monitoring report presents a nine year acreage trends.

Timing of precipitation (time between and duration of events) has a significant influence on fire occurrence, as well as management's ability to use prescribed fire. Other weather elements, notably lightning activity level, temperature (and its relationship to relative humidity) and wind (speed, direction, and duration) also have an important influence on fire occurrence, acres burned, and fire effects. Figure 1 displays acres burned by prescribed fire (both activity fuels related to timber harvest, and planned ignitions such as wildlife habitat improvement burns) compared to lightning-caused fires managed as wildland fire use events. The solid black line displays the trend over the 9-year time period.

The prescribed fire program has shifted emphasis during this monitoring period. Reduction of activity fuel hazards (slash disposal) resulting from timber harvesting has declined, while the treatment of "natural fuels" (created by nature, not man) has substantially increased. In 2000, the National Fire Plan provided new treatment priorities for hazardous fuels programs, emphasizing treatments that reduce fuel build-ups to protect communities from future fires. The Western Governor's 10 Year Comprehensive Fuels Strategy also provides direction which focuses the fuels program on projects in the wildland urban interface. These policy changes have led to a decreased emphasis on use of prescribed fire on the Flathead National Forest, and an increase in mechanical treatments such as thinning. Overall, the 9 year trend in prescribed fire is decreasing, averaging about 2,200 acres annually.

The wildland fire use program has been very active during the 9 year period from 1999 to 2007, averaging 7,700 acres per year. Much of this increase is due to the favorable conditions for fire use over the period; drought conditions leading to dry fuels, combined with numerous lightning fire starts in the Bob Marshall Wilderness Area, under

conditions where managers could safely manage fires for resource benefits. The nine year trend is on the decrease.

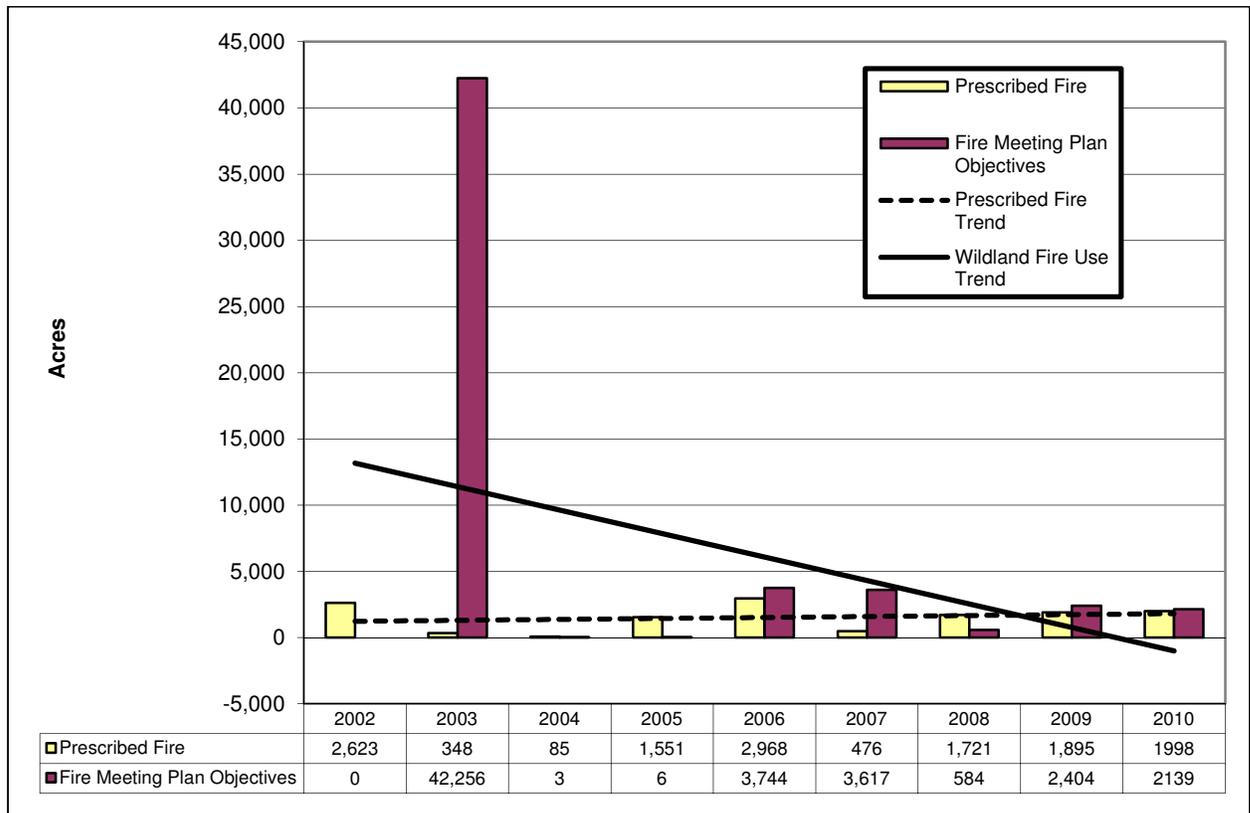


Figure 1: Acres Burned to Meet Management Objectives

Considered together, the total of prescribed fire and wildland fire use represent the total acres where fire is defined as having a beneficial effects, as described in this monitoring item. The nine year average of these two programs combined is about 9,900 acres.

Acres burned by unwanted wildland fire are displayed in Figure 1. Beginning in 1998, the western states, including Montana began experiencing drought conditions. This on-going drought has led to above average levels of insect and disease activity, tree mortality, and increasing fuel buildup across the forest. From 2000 through 2003, record-setting low fuel moistures and prolonged high fire danger were experienced across the forest. This combination of factors set the stage for large number of acres burned. Since 2008, fires seasons have trended back towards more typical numbers of starts and acreages burned.

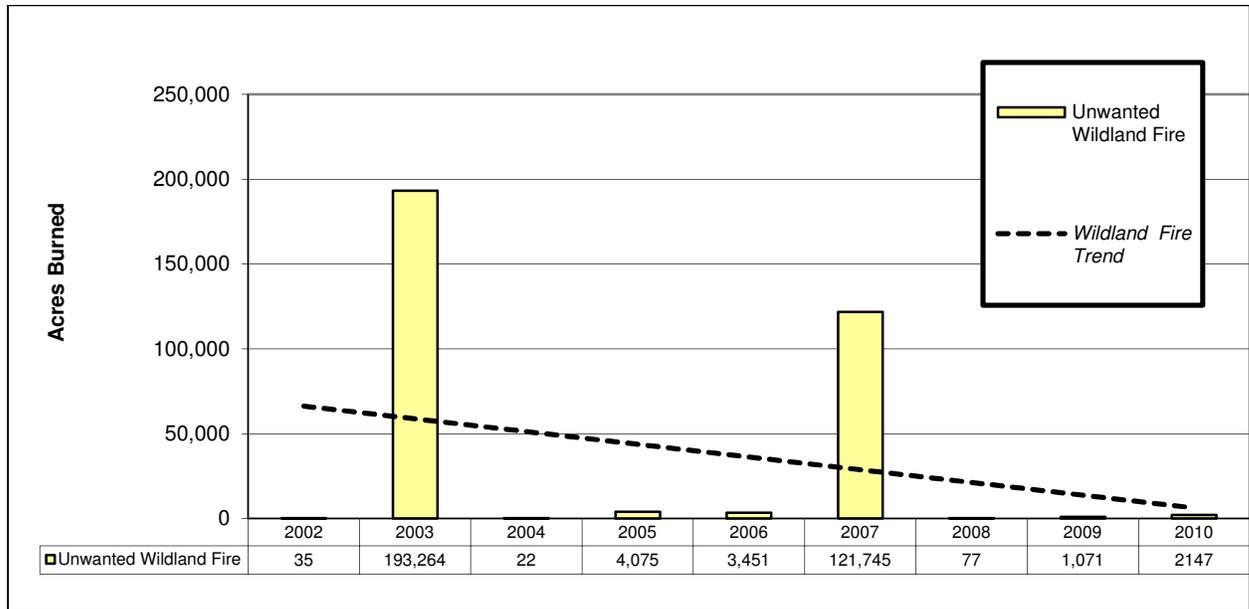


Figure 2: Acres Burned By Unwanted Wildland Fire

An increasing trend in acres of unwanted wildland fire is shown over the 9-year period, due to very active fire seasons in 2000, 2001, 2003, and 2007. The average acres burned over the nine years is 36,200 acres annually, with the last five years experiencing an annual average of 25,100 acres burned. The average number of fires annually also showed in increasing trend, from 91 fires per year in 1998 to 2003, up to an average of 93 fires per year from 2004 to 2007. Statistics for success of initial fire-fighting efforts remain unchanged over the decade, with 98% or more of fires kept to a very small acreage. In the years with large acreages burned, the difference is that a few fires grew very large, usually under the influence of significant winds.

Figure 3 displays the funding allocated to fire-fighting (termed preparedness) and fuels treatment programs, as well as actual cost of fire suppression over the period. Both preparedness and fuels treatment funding have generally increased over the five year period. Annual suppression cost varied widely, based on factors described above. The average over the 9-year period was \$25.7 million, with an increasing trend based largely on the high cost of fighting the 2003 fires.

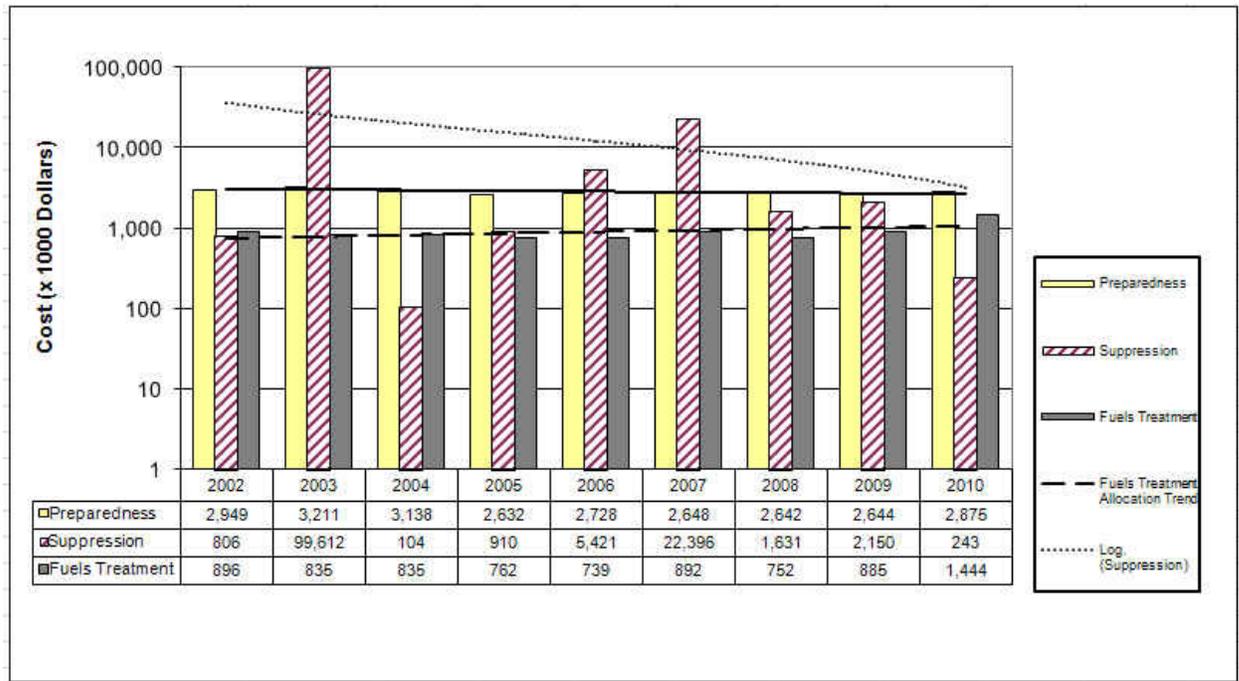


Figure 3: Budget Allocations to Fire preparedness and Fuels Treatment Program and Fire Suppression

Evaluation: The Forest Plan projected an average annual of 6,245 acres of prescribed fire, both planned and unplanned ignitions (Appendix G, page G-3). The average acreage treated with prescribed fire and fire meeting the Forest Plan objectives over the nine year period 2002 to 2010 was 7,602 ac.

The Forest Plan projected an average annual of 91 acres of wildfire (Appendix G, page G-3). Acres of unwanted wildland fire significantly exceeded this average during 7 of the 9 years. The nine-year average for acres burned from 2002 to 2010 was 36,210 acres.

Considered together, the prescribed and wildland fires have averaged about 43,812 acres over the last nine years. This represents fire disturbance on an average of less than 2% of the Flathead National Forest forested lands (excludes water and non-forest acreage) on an annual basis. Fire history analysis shows that, historically, the acreage burned was substantially larger than the current level of disturbance by fire and timber management.

In order to achieve the goal of maintaining sustainable ecological systems, fire will need to be introduced into larger acreages of land than indicated in the Forest Plan. However, there has been an increased public concern regarding air quality, and implementation of the Clean Air Act has restricted the days that wood fiber can legally be burned. As reported in previous 5-year reviews, the combination of increasing fuel loading, increasing public sensitivity to smoke, and limited prescription window for applying prescribed fire has resulted in an increased hazard and decreased productivity of some ecosystems.

Program and fire suppression costs were/were not projected in the Forest Plan

The increasing cost of fire suppression is both a local and national concern. With a rapidly growing local population, people are increasingly making their homes near the National Forest. As a result, more and more fires are being fought in areas where homes and communities are threatened. This contributes to the increasing cost of fighting fires. Current emphasis on aggressive fuels treatment in the wildland urban interface is, in part, a response to these trends.

With the emphasis placed on hazardous fuel reduction in the wildland urban interface under the National Fire Plan, it is likely that unit costs to accomplish all forms of fuel treatment, including mechanical and fire use, will substantially increase as a result of the greater protection requirements placed on higher values-to-be-protected in those areas.

Recommended Actions: Continue to monitor this item.