

Efficiency Through Interagency Planning¹

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Abstract

Current information is presented detailing the interagency fire management planning efforts between the Bureau of Land Management's Grand Junction District and the USDA Forest Service's White River National Forest. The project is based on interdisciplinary input from an interagency pool of resource specialists and line officers. Landscape scale plans are displayed by using geographic information systems. Planning outputs are then used by various parts of the organization, including pre-planned suppression resource assignments used by incident dispatchers; a range of appropriate management responses available to initial attack incident commanders; identification and display of areas for priority fuels management expenditures; use of wildland fire to meet resource management objectives under prescriptive guidelines; linking fire management implementation and management direction in land/resource management plans; and input to out-year program planning development in an interagency framework via the National Fire Management Analysis process.

This paper provides an overview of interagency fire management planning efforts between the Bureau of Land Management's (BLM) Grand Junction District and the USDA Forest Service's (USFS) White River National Forest in western Colorado. These units administer in excess of 4.5 million acres of public land roughly situated parallel to the headwaters of the Colorado River and extending west of the Continental Divide to the Utah border.

The affected area is occupied by vegetative cover types stratified by an elevational gradient from 4,000' to 14,000' mean above sea level. Cover types include high desert grass and shrub communities, pinyon-juniper, and mixed brush species at lower elevations. Mid-elevation communities include Douglas-fir and ponderosa pine as well as mixed brush species. Upper elevations include aspen and lodgepole pine as seral or climax species as well as Engelmann spruce and sub-alpine fir that occupy higher elevational sites below timberline.

Before European settlement in the mid-1800's, wildland fire was primarily attributable to lightning, although some anecdotal accounts indicate that Native-Americans used fire to move game. European settlers introduced fire on a larger scale than their Native-American predecessors through land clearing, livestock grazing, and logging operations. These human-caused fires occurred in large part at lower elevations with fire spread upslope into timber cover types. Current vegetation in areas where mining activity was concentrated around the turn of the century show signs of large scale fires attributable to human-caused ignitions.

Current stand conditions can be characterized as mature to over-mature. A complex set of factors including climate, fire occurrence, insect and disease outbreaks, and human influence over the past 150 years have contributed to this situation. Prior agency fire policy that emphasized aggressive fire suppression undoubtedly influenced current vegetative conditions but to a lesser extent than other lower elevational areas where fire was a more frequent visitor on the landscape.

Relationship to Land/Resource Management Plans

All lands within the planning area were categorized on the basis of fire's historic role in the ecosystem and present/projected values at risk. Five categories of

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management response were developed to describe the desired role of fire within the planning area.

Category A consists of the management response that wildland fire in any form is not desired; fire has never played a significant role in the function of the ecosystem; or because of human development and/or habitation, it can no longer be tolerated without significant economic loss and social impact. All forms of wildland fire will be actively suppressed. Prescribed fire is limited in application for the sole purpose of reducing an immediate threat to firefighter and public health and safety. Unit costs for prescribed fire are prohibitive in many cases and are less efficient than other treatment methodologies such as mechanical treatment.

The management response of category B focuses on fire playing a natural but limited role in the function of the ecosystem. This response is based on resource concerns and potentially high economic impacts that may result from unplanned ignitions. Considerable constraints and mitigation are required to avoid unacceptable results. Fire suppression actions are generally aggressive. Fuels treatment and hazard reduction have priority over other forms of prescribed fire projects. Prescribed fire unit costs are high and require stringent contingency planning and monitoring.

Category C focuses on fire as a desirable component of the ecosystem. Minimal mitigation requirements and constraints are applied relating to ecological and resource management concerns. Firefighter health and safety considerations are used in determining the appropriate suppression strategy or strategies to be applied. Prescribed fire would be expected to help attain or maintain desired resource and ecological conditions. Planned ignitions focusing on hazard reduction are a lower priority than those described in category B. Unit costs and complexity for prescribed fire projects are low to moderate.

Category D consists of fire as an integral part of the ecosystem. Unplanned ignitions may be managed for designated areas where an approved Wildland Fire Implementation Plan (WFIP) provides for this form of management strategy. Minimal mitigation and ecological constraints apply. Use of planned ignitions to maintain desired resource and ecological conditions is appropriate. Prescribed fire for hazardous fuel reduction is not a priority except where an immediate threat to public health and safety exists.

Category E focuses on non-jurisdictional lands, such as in-holdings and adjacent private lands outside jurisdictional boundaries, as generally subject to an aggressive suppression response from responsible agencies. Hazardous fuels treatment projects may be undertaken on Federal lands in support of treatments on adjacent private lands in applicable cover types. Large contiguous areas that typically do not support wildland fire or the spread of fire to adjacent areas are included.

Wildland Fire Use (WFU)

A key objective of the planning effort was to identify wilderness and non-wilderness lands where unplanned ignitions may be managed to attain or maintain desired ecological conditions under prescriptive guidelines.

Designated Wilderness Areas (managed by the USFS) and Wilderness Study Areas (managed by the BLM) have been prioritized for development of WFIP's. These areas offer the best chance for management of unplanned ignitions on a significant scale, which will help in attaining resource management objectives. Surrounding non-wilderness lands have been incorporated into these planning areas on the basis of topography, local weather, and the historic role of wildland fire.

Incorporating these lands is designed to address the inherent limitations of managing unplanned ignitions located in close proximity to, but outside of, wilderness boundaries, as well as those ignitions that have a high probability of spreading outside the wilderness because of local topography and expected fire

behavior. The ability to use prescribed fire to "armor plate" portions of the perimeter of these planning areas is not constrained by the limitation of administratively designed boundaries that in many cases are located at midslope or other locations not conducive to management of a wildland fire incident.

The designation of an area for wildland fire use does not imply uniform application of the concept over all affected lands. Areas subject to infrequent large-scale wind-driven crown fire events may have limited applicability for management of an early season ignition because of the proximity of adjacent private lands. Conversely, use of planned ignitions to achieve age class diversity in timber cover types may be a useful tool to accomplish resource management objectives over the long term while addressing public safety and protection of improvements on adjacent non-jurisdictional lands.

Appropriate Management Response

The use of information on the historic role of fire in the ecosystem, current and pending land and resource management objectives, public and resource specialist input, fire behavior predictions, and agency fire management policy has resulted in designating a range of appropriate suppression response(s) for management of wildfires on affected public lands.

The hazard, risk, and value components of the Colorado Statewide Fire Assessment were used as the initial fire management inputs in the land management revision process at the unit level. Refinements to this geographic information system (GIS) data layer were developed by resource specialists and fire managers on the basis of local knowledge and resource management direction.

Interdisciplinary input was developed on an interagency basis to allow resource specialists to better integrate their input and to develop compromises where appropriate. As a result, potential problems of diametrically opposed agency-specific resource management objectives were avoided. In general, the BLM is responsible for management of public lands at lower elevations while the USFS is responsible to manage lands at higher elevations.

Clearly, using a contain or confine strategy downslope of an area where a control strategy is desired would be incompatible and subject to unequivocal failure in implementation. For instance, an incompatible situation would consist of an area of decadent sage and mixed brush situated downslope from an area proposed for treatment via a timber sale. Managing an unplanned ignition downslope of a high value resource using a less aggressive suppression response would meet the management objectives of one agency, but not the other.

The same principle was applied on a watershed basis or landscape scale where in general, the boundaries of category D should not be located downslope or directly upwind of lands designated as category A.

Interagency initial attack resources are responsible for the initial size-up and determination of fire cause for all wildland fire starts. Upon determination that the incident is a human-caused start, prompt and aggressive suppression action is undertaken to control the fire. When the fire is lightning caused, the fire manager and line officer discuss the range of available alternatives and direct suppression resources to implement the appropriate management response.

Pre-planned Suppression Response

Interagency dispatchers and unit fire managers continuously work to refine pre-planned suppression responses on a daily basis by considering baseline direction developed in response to resource management direction and the combination of key factors that may influence the probability of the success in implementing the designated response on a short term basis.

In high desert, grass-mixed shrub fuel types designated as category C, use of a low cost, less aggressive suppression strategy such as contain or confine may be appropriate to meet resource objectives, minimize suppression costs and

associated resource value loss. Initial attack resources may include an air attack and one or more engine crews but typically would not involve an airtanker, smokejumpers, or helitack.

Through daily discussions, the status of local resource allocation, number of fire starts, current and expected weather conditions, and associated fire behavior are addressed and used to amend pre-planned suppression responses as appropriate to the short term situation.

Out-Year Program Planning

Contributing to the accomplishment of resource management objectives through the use of planned and unplanned ignitions is in part based on the future desired condition of vegetation components as identified by interdisciplinary resource specialists. The ability to accomplish this level of resource outputs through planned ignitions relies on the availability of adequate staffing and funding through agency specific budget processes.

Both permanent staffing in fuels management as well as the availability of personnel for ignition, holding, and contingency resources are closely tied to the National Fire Management Analysis (NFMAS) process. Use of suppression resources to accomplish these management objectives on an interagency basis provides a significantly larger pool of resources than relying on the staffing available exclusively through either the Forest or District by itself.

Recent agency direction to use interagency resources without regard to reimbursement on a project or fiscal year basis provides more expertise and organizational depth to undertake a larger program than traditionally implemented on an agency-specific basis. Use of interagency resources on a closest forces basis has resulted in a significant improvement in providing timely and cost-efficient suppression actions as well. At the local level, this has been implemented by using several methods, including dispatch of the closest suppression resource regardless of agency affiliation; interagency staffing of engine crews and helitack; and interagency functional management and oversight in supervising personnel, planning suppression strategies, and preparation of required documentation, including Wildland Fire Situation Analysis (WFSA), incoming incident management team briefing packages, and fire behavior analysis.

Summary

In the examples cited above, both the BLM and USFS were better able to develop effective land and fire management plans by working together on a broad landscape basis across jurisdictions. The pooling of personnel and technical skills has yielded both implementation plans and organizational efficiency to better meet the changing goals and objectives of fire management in the 21st century.