Effective Resource Advising and Suppression Rehabilitation, BAER Teams, Planning, and Assessments

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Wildland fire incidents can place a great deal of stress on park resources as well as resource managers. As time is of the essence in both fire management and post-fire response, preparedness is essential. This paper will outline the major roles of the resource manager from initial attack to burned area rehabilitation, with an emphasis on preparedness.

During fire management activities, whether that management is suppression or wildland fire use (where natural ignitions are allowed to burn under specific conditions for resource benefit), it is essential that resource concerns are communicated to the incident commander. The most common approach is to assign one or more people from the resource management staff to the incident, in the role of resource advisor(s). The resource advisor provides daily input to the incident commander or his/her designee, often the plans chief, in the development of fire suppression strategies and tactics to minimize or mitigate the expected impacts of fire and fire suppression actions upon natural and cultural resources (NWCG 2004). In this role, the resource advisor advises the incident commander of specific resource values at risk (e.g. threatened and endangered species, cultural sites, paleontological sites), communicates the mitigation measures established in the fire management plan and related documents (such as the finding of no significant impact for the environmental assessment and the biological opinion for endangered species), and may also provide critical geospatial data to the incident geographic information systems (GIS) operation to support the resource protection efforts of the incident. The resource advisor also provides input on behalf of the agency administrator (e.g., park superintendent) in the development of the wildland fire implementation plan and/or wildland fire situation analysis. In large or prolonged incidents, multiple resource advisors may be assigned either concurrently or consecutively to assure that both planning and operational requirements are met for the duration of the incident. In such cases, it may be advantageous to assign a lead resource advisor, who primarily participates in planning, and several additional resource advisors of appropriate disciplines to serve in fire operations (e.g., archaeologists assigned to crews constructing line through sensitive areas or wildlife biologists working with crews in critical habitat). To be most effective as fire incident resource advisors, resource management staff should prepare before fire season by obtaining the appropriate training and fire qualifications, establishing contact procedures either through the fire dispatch system or some other way to assure that the local fire management officer and/or incident commanders know how to reach a resource advisor outside of business hours, summarizing key mitigation requirements into short documents that can be handed to an incoming incident commander, and compiling geospatial data to support the resource information needs of the incident while providing for protection of sensitive datasets.

The incident commander is responsible for rehabilitation of suppression impacts according to local standards. It is generally incumbent upon the resource advisor to provide

those standards and work with the incident to assure that rehabilitation is completed appropriately. In order to do this, it is imperative that the resource advisor work with the field observers and GIS unit to assure that all suppression impacts are mapped. Typical suppression rehabilitation tasks include: raking out firelines, grading roads, installing water bars, disguising cut stumps, scattering slash, removing all trash and flagging, and treating heavily used areas (such as incident command posts, staging areas, and base camp) to reduce soil compaction and/or re-establish vegetation. In any case, time is of the essence as the suppression rehabilitation is funded by the suppression account and suppression rehabilitation must be completed within 90 days from date of containment. If rehabilitation requires the use of hand crews, it is essential that the resource advisor work with the incident demobilization unit leader to assure that adequate personnel are available to complete the identified tasks, as it can be difficult to order additional hand crews post-containment for completion of suppression rehabilitation due to competing priorities in the fire ordering system. Resource management staff should prepare before fire season by extracting suppression rehabilitation standards from their fire management plans or establishing those standards if they do not otherwise exist, and assuring that adequate resource management personnel are trained in suppression rehabilitation techniques and available to work with the field crews on suppression rehabilitation treatments.

Emergency stabilization treatments are planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of resources. Emergency stabilization actions must be completed within one year following containment of a wildland fire and the agency administrator (e.g., park superintendent) is responsible for determining the need for and completing emergency stabilization treatments. The assessment of stabilization needs and proposed treatments is documented in a burned area emergency response (BAER) plan within seven days from date of containment. BAER plans are generally written by interdisciplinary BAER teams. There are two standing Department of the Interior national BAER teams and specific call out criteria that must be met for their assignment. In addition, there are some standing regional teams in various agencies, but many BAER plans, particularly for small or less complex incidents, are done by ad hoc teams composed of specialists from that unit and other nearby areas. The determination of how to complete the BAER planning process is generally a discussion between the agency administrator, the resource advisor, and the regional BAER coordinator. In any case, it is important that the local resource management staff be closely involved in the entire BAER planning process as their local knowledge is critical in designing treatments and it is often left to the local staff to implement the BAER treatments after they are approved.

Emergency stabilization treatments and activities must be compatible with approved land management plans for the local unit. In the Department of the Interior, the priorities for emergency stabilization are protection of human life and safety, and protection of property and unique or critical biological/cultural resources. There are specific requirements for what must be contained in the BAER plan and a discrete list of allowable actions found in the Departmental Policy 620 DM 3 (USDI 2004). Watershed assessment and subsequent water-

shed stabilization treatments are often the central focus of emergency stabilization efforts. Burned area reflectance classification maps, a remotely sensed product, provide a good starting point for mapping burn severity, but it is important that such products are ground-truthed and that treatments are designed by experts such as hydrologists, soil scientists, and geologists with knowledge about both local watershed conditions as well as post-fire watershed response. Other expertise usually needed to assess emergency stabilization needs and impacts from proposed treatments include cultural resource specialists/archaeologists, wildlife biologists, vegetation specialists, GIS specialists, environmental compliance specialists, and documentation specialists. To prepare for emergency stabilization needs, the fire management plan can be used to highlight specific values at risk and, in some cases, the associated biological opinion may address emergency stabilization treatments in critical habitat. Additionally, resource management staff may want to compile geospatial data sets for soils, geology, slope, and hydrology, as well as precipitation data, so that the primary information sources are readily available to the watershed experts should the need arise.

Non-emergency burned area rehabilitation (BAR) is also the responsibility of the agency administrator, and is focused on efforts undertaken within three years of containment of a wildland fire to repair or improve fire-damaged lands unlikely to recover naturally to management approved conditions, or to repair or replace minor facilities damaged by fire. The BAR plan is a document that specifies treatments required to implement post-fire rehabilitation policies. This plan may be programmatic and prepared in advance as part of the fire management plan and applicable to clearly defined types of incidents or situations, or prepared by an interdisciplinary team of specialists during or immediately following the containment of a wildland fire. Most typically, the BAR plan is prepared by local resource management staff with some outside help from contractors, regional offices, or staff from other parks. Like burned area emergency response plans, there are specific requirements for what must be contained in the BAR plan and a discrete list of allowable actions found in the Departmental Policy 620 DM 3 (USDI 2004). Typically, BAR plans are completed after BAER plans because they are non-emergency in nature. Additionally, funding for BAR plans is competitive and generally awarded early in the fiscal year based on fires that occurred during the previous fire season, although there is some variation from agency to agency and year to year. BAR treatments must be completed within three years from date of containment. There are also some opportunities to leverage BAR funding with other funding sources, such as joint fire sciences or fee demo, to accomplish treatments or studies that otherwise would not be possible.

In summary, the resource manager has critical responsibilities for fire incidents and their after effects. These specific tasks include: resource advising during the fire management incident, guiding suppression rehabilitation efforts, participating in the burned area emergency response planning effort, leading all or some of the implementation of BAER treatments, participating in the burned area rehabilitation planning effort, and leading all or some of the implementation of BAR treatments. These responsibilities can add a great deal to already full workloads but there are efficiencies to be gained in preparing in advance before a fire incident occurs. Some of the most important preparedness tasks include: getting resource management staff trained as resource advisors, compiling critical geospatial data

and documents (preferably on handy external USB hard drives), establishing a relationship with the regional BAER coordinator, reviewing your fire management plan and participating in annual updates to address resource concerns, as well as working cooperatively with the local fire management officer and incident commanders regarding resource values and fire management concerns.

References

NWCG [National Wildfire Coordinating Group]. 2004. *Resource Advisor's Guide for Wildland Fire.* PMS 313/NFES 1831. On-line at www.nwcg.gov/pms/pubs/pubs.htm.

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