

**EITHER SINK OR SWIM:  
GOING BEYOND THE BASIC FIREFIGHTER TRAINING  
FOR FIRE-QUALIFIED ARCHAEOLOGISTS**

MARGARET HANGAN  
HERITAGE PROGRAM MANAGER  
KAIBAB NATIONAL FOREST  
WILLIAMS, ARIZONA

*To work on a wildfire, under the Incident Command System (ICS), it is required that all personnel must attend basic introductory courses to qualify as a Firefighter Type 2 (FFT2) and pass a physical exam and a rigorous pack test to be on the fire line. However, for most fire positions, from hand crews to dozer bosses, this is just the beginning of their training and mentorship into the fire organization and the Incident Management System. For archaeologists and other resources specialists, however, once they have passed the basic FFT2 training and pack tests, they often work as single resources sent out to the most dangerous locations on a fire without the benefit of mentoring or additional training. This paper discusses the issues and dangers surrounding this practice and proposes a few possible ways to address this problem.*

Let me begin this paper by stating that I am not an expert on the ICS, fire organizations, or fire management. What I am is a heritage program manager for the Kaibab National Forest, and a Fire Public Information Officer in training, with just enough fire training and knowledge to be very, very dangerous. That said, the following are my observations and recommendations based on my experiences from actually participating on a variety of fires in California and Arizona, and having to play a supporting role to a very active and dynamic fire organization on the Kaibab National Forest in Arizona (Figure 1).

The minimum requirements for training, experience, physical fitness levels, etc., for participating on wildland and prescribed fire incidents were developed by the National Wildfire Coordinating Group (NWCG) and are enumerated in the National Interagency Incident Management System Wildland Fire Qualification System Guide (PMS 310-1) (National Wildfire Coordinating Group 2009), hereafter referred to as the qualification system guide. “Required training,” according to the qualification system guide, “provides the direct link between training and job performance to provide for responder health and safe operations on wildland fires” (National Wildfire Coordinating Group 2009:9). Without going into too much detail about these standards, the bottom line is that every person who intends to enter into a wildland fire organization or occupy a position under the ICS, from camp manager to a hand crew member, must meet these basic standards by qualifying as an FFT2 and earn the passport, known as a red card, to participate on a wild or prescribed fire. If they plan to fill a fire line position, they also must have a physical exam and pass the pack test at the arduous level. (There have been arguments about this later point, which I will not get into in this paper.) However, for most positions under ICS, especially those on the fire lines, meeting the basic FFT2 is just the beginning of their initiation into the fire organization and its standards. As a general rule, and this does differ depending on the organization, the majority of fire line positions within ICS require additional training beyond the basic FFT2, generally gained through additional classroom activities, simulation exercises, and working with experienced mentors, crew bosses, official trainers, etc., before fire fighters are allowed out on the fire lines. Along with insuring that vital skills are standardized, this additional training also serves to strengthen the bond between job performance and health and safety during a fire incident. One of the few exceptions to this additional training rule, according to the qualification system guide, applies to technical specialists such as



*Figure 1. Kaibab South Zone Archaeologist and fire staff checking on a rock art site during the Ruby Fire.*

archaeologists, hydrologists, biologists, and Resource Advisors. According to the qualification guide system,

Technical Specialists are personnel with specialized skill gained through educational degree programs or industry training of established standards. These personnel may perform the same duties during an incident that they perform in their regular job and may have supplemental training in the Incident Command System in order to utilize their specialized skill in the incident environment [National Wildfire Coordinating Group 2009:24].

What this basically means is that a technical specialist is only required to have a specialized skill, undergo basic FFT2 training, and complete the arduous pack test to be allowed on a fire line. To be fair, it has been my experience that most technical specialists like hydrologists and biologists are brought in to advise the Incident Commander (IC) and planning staff during a long-term incident, and they often play very pivotal roles on a Burn Area Emergency Rehabilitation team. But they generally do not spend much time on the actual fire lines.

Archaeologists, on the other hand, especially on wild and managed fires, also known as unplanned ignitions (a.k.a. managed natural lightning strikes), because of the nature of the resource, are generally out with the fire crews throughout the entire incident. Depending on the topography, region, the

local cultural expressions, and available previous survey, archaeologists are out, often alone, on the fire line or ahead of it during a wildfire or an unplanned ignition, identifying fire-sensitive sites, or they are working with heavy equipment operators, walking in front of the dozers looking for sites. Let me reemphasize that all that is required to do this job is some technical know-how, basic FFT2 training, and passing an arduous pack test.

I know that I am not alone in saying that I have experienced or heard war stories from other archaeologists about arriving at a fire base camp with a newly issued red card and no real fire experience, and being told to basically get out there and “arch it” and don’t forget to check in and out with the division chief. If you’re lucky, there will be other, more experienced archaeologists that you can learn from. But more often than not, you’re the only one, or the other archaeologists are just as inexperienced as you are.

On some of the larger fires, there are often designated Resource Advisors, or READs. This position is “responsible for identifying and evaluating potential impacts and benefits of fire operations on natural and cultural resources” (National Wildfire Coordinating Group 2004:1). If a fire does have a READ, they often act as a coordinator between the various specialists and the IC and/or planning group. Training for this position does not come around very often, and in my experience, more times than not, the first specialist to show up on the fire is expected to assume this position, despite the lack of training.

I could go on, but the bottom line is that, in my opinion, the general lack of hands-on training of fire archaeologists after they earn their red cards is a recipe for disaster. First, inexperienced archaeologists, though technically trained to recognize the archaeology and know the basics of Section 106 or 110 of the NHPA, are in no way qualified to make recommendations regarding the management of archaeological resources during a fire. For example, more often than not an inexperienced fire archaeologist will not understand the benefits of a light burn on a lithic scatter or a pueblo, for example, and may unknowingly put sites in greater danger of damage from a catastrophic wildfire by not allowing fire to cross non-fire-sensitive sites. Secondly, inexperienced fire archaeologists have no business roaming around a fire alone. Even experienced fire fighters are generally not encouraged to roam around a wildfire on their own. How is it okay to allow inexperienced archaeologists to do so? But unfortunately it is done; I know this from my own experience, and frankly it’s only a miracle that we have not lost a archaeologist on a fire yet.

So what can be done about this situation? In my opinion, this problem is going to have to be addressed on multiple levels. First and foremost, all land-managing archaeologists need to be proactive and work with their fire organizations and SHPOs to develop an approach to managing their resources before and during a fire event. For example, on the Kaibab, archaeologists in 1999 developed the first of a series of strategies for managing archaeological resources during a fire event in consultation with the Arizona SHPO and the tribes (Hanson and Farnsworth 1999). Also in consultation with the SHPOs, Region 3 and Region 5 of the Forest Service developed protocols for hazardous fuels removal methods that range from mechanical removal to prescribed burns. Granted, a wildfire in an area with a very heavy fuel load will devastate a site. But the SHPOs are beginning to recognize that moderate to light burning, if managed well, can be a great benefit to the long-term management of most non-fire-sensitive cultural resources.

Land-managing archaeologists can also develop local standards and guidelines for managing cultural resources on their lands during a fire event. Using the guidelines developed by BLM California as a basis, in 2007 the Kaibab created a Wildland Fire Guideline for Archaeologists (Hangan et al. 2007). This document was developed in partnership with the Kaibab Fire Organization, and a copy of it is an appendix in the Kaibab Fire Plan. The idea is that the guideline could be used as a reference guide for the Kaibab fire organization and given to visiting fire archaeologists to brief them on what will be expected of them while working on a fire on the Kaibab. The document includes technical information like the basic level of site documentation and the basic methods of site protection, as well as safety information

such as how to work around heavy equipment. During the FY09 fire season, the Kaibab required all of our visiting fire archaeologists to review the document before heading out to a fire.

Lastly, newly red-carded archaeologists should be mentored by experienced fire archaeologists for a period of time before being allowed to work alone on a fire. In 2009, with seven unplanned ignitions going at once and in need of a lot of help, the Kaibab brought in several newly red-carded archaeologists and paired them with our more experienced local archaeologists. The idea was to give them a safe environment to gain experience and the benefit of working with an experienced mentor, as well as to build a cadre of fire archaeologists in Region 3 that we can rely on to be safe while working on our fires.

The next area of change needs to come at the national level. This would require changing some of the tenets of the well-established fire organization and culture. In essence, fire organization leaders simply do not have the experience or training to manage technical specialists like archaeologists. So they need to start to incorporate fire-experienced technical specialists into their organizations starting at the highest level, to help develop the technical standards and guidelines needed for specialists like archaeologists.

I would also like to see archaeological positions on type I, II, and BAER teams. Generally these teams tend to rely on using local archaeologists when working on a forest, but often the local archaeologists are not red-carded and/or are too busy with their normal workloads to address a wildfire adequately. So you have to bring in outside red-carded archaeologists who may or may not know the local archaeology and may have limited fire experience. This puts an even worse burden on the locals because they have to manage their normal workload and ride herd over the visiting archaeologists. An archaeologist with a type I or II team could act as a liaison between the archaeologists on the fire line, the local archaeologists, and the team IC and planning staff. I believe this is especially critical now that we are seeing some of the most devastating wildfires in history. These fires take a significant amount of time and are highly complex. Thus they generally require a level of commitment and expertise that may or may not be available on a local level.

Finally, along with the increased complexity of wildfires, more and more land-managing agencies are recognizing the ecological benefits of fire and are becoming more comfortable with the concept of reintroducing fire back onto the ecosystem. What this means is that over the past 10 years there has been an increase in the use of tools like prescribed and managed fires, or unplanned ignitions. Moreover, in FY2009 the National Fire Management team rolled out the new Wildland Fire Decision Support System (WFDSS). WFDSS is a shared web-based system for managing information and data for individual fires that streamlines the approach to gathering information to be used for making decisions regarding the management of unplanned ignitions. Along with the WFDSS also comes a change to managing unplanned ignitions, using a more fluid mix of various tactics and tools coupled with varied, staged responses, with the primary object of maintaining a high level of human safety and sensitivity towards resources issues and needs. WFDSS refers to this approach as “managing for resource objectives.” To address this increased complexity of wildfires and the reintroduction of fire onto the landscape, I believe it’s time for land-managing agencies and fire organizations to recognize the need to hire fire archaeologists as full-time staff. I know that some federal and state agencies such as the National Park Service and CALFIRE have already taken these steps. But in my opinion it high time that the other agencies recognize the need and push for the funding. Trying to manage these dynamic and complex fires using local staff is putting an undue burden on the archaeologists and their ability to manage their normal workloads. Also, in the last few years it seems much harder to find red-carded archaeologists willing to take fire assignments for fear of being away from their normal workloads too long. In my opinion, this has resulted in some wildfires and unplanned ignitions being understaffed by archaeologists. This means that archaeologists on fires are being overworked, which is a huge safety issue, and that the cultural resources are even more vulnerable to damage either from the wildfires or, often even worse, the suppression actions.

Let me just sum up by saying that as the amount of and intensity of wildfires continue to increase and land-managing agencies continue to reintroduce fire onto the landscape, there is and will continue to

be an ever-increasing need to have fire-trained archaeologists available to address these events. I believe that the agencies and fire organizations will continue to be very slow to recognize that this trend of putting untrained red-carded archaeologists on fires could very well get an archaeologist killed. Moreover, the trend of fire teams relying on overloaded local archaeologists to manage cultural resources during a wildfire only serves to burn out the local archaeologists and leaves the cultural resources vulnerable. But local or land-managing archaeologists can be very effective in addressing this problem by working with their local fire organizations to develop standards and tools like fire archaeology guidelines to be used on a local level. They should also proactively reach out to the newbie red-carded archaeologists and mentor them and get them the training they need.

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