

# THE LEARNING CURVE

## LESSONS LEARNED AND EFFECTIVE PRACTICES FROM THE 2006 AAR ROLLUPS April 2008 – 12<sup>TH</sup> EDITION

### OPERATIONS

#### *Water Conservation with Dust Palliative*

Extreme drought coupled with the right soil conditions can make dust a problem for operations. Typically, the solution is to spray roadways with water tenders, but this draws resources away from other fire operations that could use their support. In some drought stricken areas, concern for environmental impact and competition for water resources can make water use impractical.

#### ***Lessons Learned:***

One team recommends the application of a dust palliative—calcium chloride—instead of spraying with water tenders. The calcium chloride not only keeps the dust down, but it can be cost effective as well. According to their calculation in 2006, they saved between \$10,000 and \$35,000 for each five day period where a dust palliative was used instead of water. In addition to the cost savings, the team was pleased to have helped to conserve local water resources and to have helped to free up water tenders for other uses on the fire.

### PLANNING

#### *Using Local Felling Groups and Contractors*

Incident Management Teams (IMT) with crews working and driving in areas with burned snags and fire weakened trees can benefit from hiring professional tree fallers as contractors to improve incident safety.

#### ***Lesson Learned:***

One IMT assigned to a fire complex in the Pacific Northwest found that the primary road systems used for both fire crew access and holding line were lined with a large number of snags, with many of the roads at mid-slope on steep grades.



*Photo Courtesy of Central OR IMT*

The hazards along these roads only increased after burnout operations increased the number of burned snags and fire weakened trees. Yet, fire operations personnel involved in holding and burning still needed to travel along these roads. Removing the snags as quickly as possible was imperative for maintaining safe ingress and egress for the crews.

Two person faller modules were provided by the Northwest Timber Fallers Association. The team reported that the fallers' training, qualifications, experience and professionalism allowed them to move quickly into these hazardous areas and to begin removing the hazardous snags and trees. Fallers without this high level of experience and fire qualifications may not have been comfortable in this situation and may not have been able to provide such a quick response. The team reported that overall, the contractor's experience and professionalism significantly contributed to improved safety on the incident. On another fire, an IMT appreciated the help of members of the local district who created a chain saw felling group to mitigate hazardous trees in the fire area. They reported that the assistance with removing hazardous snags and weakened trees also contributed greatly to improve safety on their incident.

## **LOGISTICS**

### ***Using Spike Camps Decreases Safety Problems***

Sometimes the Base Camp is located a great distance from the fire, which means long travel times to and from the fire. But as one IC put it, "slips, trips, and driving are our worst hazards." Thus, if crews are driving and hiking each day between the Base Camp and the fire, this increases their exposure to footing and vehicle accidents. Or if crews are being transported by aircraft, this reduces aircraft availability for suppression operations.

#### ***Lessons Learned:***

Instead of traveling back and forth between Base Camp and the fire, some IMTs set up spike camps closer to the fire. On a fire in Utah in 2006 crews were spiked for 5-7 days. According to the IC, this reduced the amount of aircraft dedicated to transportation and allowed those limited resources to be utilized for logistical and tactical support. The team concluded that this saved approximately 30,000 miles and 700 hours in driving time for the crews. In this particular case, the crews also felt



*Photo Courtesy of WA IMT 2*

that it provided for better sleeping and working conditions. Another IMT reported that crews really like being in a spike camp, which can be good for morale. Additionally, spiking EMTs along with the crews ensures that these resources are close at hand when needed.

Establishing spike camps does require extra lead time for Operations to obtain needed support and it creates extra work for Logistics to support them. This requires the Command and General staff to get up extra early to travel to spike camps for morning briefings. One team recommends ordering satellite phones to avoid having to rely solely on radios for communications.

On the other hand, establishing spike camps may not be a good idea when logistics and other support resources are already stretched thin. According to one team, a long drive to spike camp along with a lack of qualified Base Camp Managers, Supply Unit Leaders, and other Logistics positions on their fire ultimately hampered their ability to support the effort.

### ***Streamlining Spike Camp Deliveries***

Teams may create multiple spike camps on large fires when divisions and branches are a long way from the Base Camp. However, multiple spike camps and multiple sling sites can cause mix ups in deliveries, resulting in supplies being delivered to the wrong spike camps.



Photo courtesy of Julie Smith

#### ***Lesson Learned:***

Some Logistics sections came up with the idea to color code all spike camps and sling sites. For example, supplies for the blue spike camp are loaded into blue slings and delivered to the blue site only. One IC reported that color coding at the supply unit allows for easy identification by the helitack crews when loading slings and avoids supply delivery to the wrong sling sites and spike camps. Similarly, another IMT using multiple helispots to support line operations created a numbering system to track and prioritize sling loads for particular helispots.

While assigned to a fire in the Boundary Waters Canoe Area Wilderness, one IMT hired a local outfitter to prepare food boxes for the crews who had been spiked in multiple locations. According to the crew, these food boxes contained all the food and cooking supplies needed to sustain the crews while in spike camp. The IMT also found that the cost of the boxes was comparable to prices charged by the national caterer. The IMT did note that the food boxes took 24 to 48 hours to prepare, so it was important for them to develop schedules and planning at least a week ahead. As a precaution, contingency packs were constructed that guaranteed sufficient food for spiked crews and overhead.

## ***Coyote Camp Deliveries During Red Flag Conditions***

When assigned to a fire not accessible by vehicle, Logistic sections often use air resources for transport of crews and supplies. However, what is an IMT to do when red flag conditions ground all air support? One team assigned to an Arizona fire faced precisely this situation, which sent Logistics back to square one.

### ***Lessons Learned:***

The IMT reported that this was a very difficult logistical incident. Since the fire was not accessible by vehicles, six Type 1 hand crews and two Type 2 hand crews were staged on the line in moving coyote camps throughout the incident. Initially,



Photo Courtesy of South Platte RD

this required extensive helicopter use for crew transport; and supplies, including bedding, red packs, food, and water. Helicopters delivered an estimated 12,000 pounds of cargo to the line. Additionally, sling loads of garbage needed to be removed often by helicopter to keep from attracting bears. However, on the second day of the incident, red flag conditions grounded air support all day. The IMT developed an alternate plan using a Forest Service packer and pack string to deliver all supplies during that day. Nearly a ton of cargo was ultimately delivered by pack string. In the end, the team noted that the overall lesson learned on this fire was to always have a workable contingency plan.

## ***Logistical Challenges in the Boundary***

### ***Water Canoe Area Wilderness***

Fighting fires in the Boundary Waters Canoe Area Wilderness (BWCAW) makes for unique operational challenges. These challenges are rivaled only by the logistical challenges of transporting resources and supplies to these fires. Challenges include obtaining enough watercraft to provide for effective fireline transportation for crews and then backhauling equipment and supplies once the incident is over. Air support is possible, but the IMT may also face the constraint of needing to minimize the number of helispots.

### ***Lessons Learned:***

One IMT mobilized to the BWCAW was faced with a shortage of Type 2 helicopters along with the need to



Photo Courtesy of Superior NF

minimize the number of helispots. This left fireline transportation to be accomplished entirely by water craft. However, in the early phases of the fire, it was difficult to obtain enough watercraft to provide effective fireline transportation for crews. The IMT contracted with local outfitters to provide canoes for delivering crews to strategically placed drop points close to the fireline. Later, power boats and Beaver float planes were used as well.

A second IMT decided to transport crews across a lake to a local restaurant for meals. In that case, while the Ground Support unit was located at the Incident Base which was approximately a 1 1/2 hour boat ride down the lake, the team placed a Logistics Section Chief at the north end of the lake to coordinate the transport of crews at mealtime. The IMT flew hot cans from the incident base by helicopter to spike camps and boated most other necessary supplies and equipment to support the firefighting efforts.

A third IMT faced logistical challenges in backhauling equipment and supplies at the end of an assignment. They contracted with a local outfitter who used canoes to assist with the extraction of equipment.

### ***Successful Approach to Recognizing a Potential MRSA Infection***

Some kinds of Staph Infections resistant to typical antibiotics are becoming increasingly common among the general population. According to the Center for Disease Control, Methicillin-resistant Staphylococcus Aureus (MRSA) typically begins with a rash-like skin infection but can lead to life-threatening conditions such as pneumonia or infections of the blood stream. Because MRSA is transmitted via skin-to-skin contact, tends to be associated with crowded living conditions and can spread by contact with contaminated items and surfaces, it may become a significant health risk for wildland firefighters.

#### ***Lesson Learned:***

During 2006, one IMT suspected possible MRSA infections among crew members immediately after assuming command of an incident. Recognizing that potential MRSA infections were far beyond the capacity of the IMT Medical Unit, the IMT summoned an outside physician to fire camp to take charge of the medical aspects of the situation. Additionally, the team involved the Interagency Resource Representative for the involved crews as well as the Crew Representatives in all meetings and discussions. The IC believes that taking such an inclusive, as opposed to an exclusive, approach was the key to success in dealing with the incident.



Photo Courtesy of CDC