

Gunbarrel Fire After Action Review Summary

Shoshone National Forest

September 11, 2009

An After Action Review (AAR) of the Gunbarrel Fire was conducted at the Shoshone National Forest Supervisor's Office on September 11, 2009. Attendance at the AAR included Forest fire managers, line officers, and administrative personnel; representatives from local, state, and federal jurisdictions involved in the incident; and fire management and administrative personnel from the Rocky Mountain Regional Office. The purpose of the AAR was to review the overall management of the incident using the incident objectives as the basis. This summary includes relative background information to add some context and a brief summary of key successes, issues, and lessons learned from the incident. The narrative is followed by a series of tables that display all the incident objectives, identified issues, and recommended actions discussed in the AAR.

Fire statistics

- Started by lightning on July 26, 2008; contained in October and declared out in December
- Acres—68,149
- Total cost—\$11.2 million
- Cost per acre—\$164 (prescribed fire planning and implementation costs for the Shoshone are \$200/acre)

Background

- The Gunbarrel Fire started near the North Fork corridor of the Shoshone River on the Wapiti Ranger District. The corridor is bounded by designated wilderness on the north and south sides. The corridor is a gateway to Yellowstone National Park and attracts about 400,000 visitors each year. Numerous permitted lodges and recreation residences are located in the corridor. Public and private assets are valued at an estimated \$40 million.
- Over the past 20 years there have been several large wildfires that have threatened the North Fork corridor, including the Columbine Fire in 2007.
- In 2002, the Wapiti Ranger District of the Shoshone identified the North Fork corridor of the Shoshone River as a focus area for hazardous fuel reduction treatments because of high visitor use, large stands of insect-killed trees, and a recent increase in large wildland fires in that area. In 2005, the district completed plans to treat 16,562 acres in the North Fork area to mitigate the risks from wildland fire.
- The comprehensive, landscape scale planning effort used a strategic approach, connecting all fire management tools (mechanical treatment, prescribed fire, and wildland fire use management) to a landscape scale. The scheduled treatments provided a buffer to reduce risks to values needing protection when wildland fire occurs.
- At the time of the Gunbarrel Fire, 85 percent of the fuels treatments near the structures in the North Fork corridor were completed.

- Although located on National Forest System lands, the lodges and recreations residences are privately owned. Fire protection for these structures is the responsibility of the Park County Fire Protection #2.
- The Forest completed an amendment (Fire Amendment) to the Forest Plan in June 2008. The Fire Amendment changed the Forest Plan to allow wildland fire to be managed for resource benefits within and outside wilderness. The Fire Amendment also made available the full range of appropriate management response options for managing wildland fire.

Management decisions and objectives

- Shortly after the fire was discovered, it was reported at 100 acres. The decision was made to manage the Gunbarrel Fire as a wildland fire use event. A maximum management area (MMA) of over 416,000 acres was established.
- The Gunbarrel Fire was managed for both protection and resource benefits objectives. The foremost concern was protecting life and property. Fire management response consisted primarily of point protection of highly valued assets and allowing the fire to burn freely in areas where resource benefits could be achieved. Key objectives established by the agency administrator included:
 - ✓ Ensure firefighter and public safety and the protection of life and property inside and outside wilderness.
 - ✓ Protect Forest developments, structures, and utilities in the North Fork corridor and other identified areas that may be threatened.
 - ✓ Ensure safe passage of traffic on U.S. Highway 14. Minimize duration of highway closures.
 - ✓ Allow fire to play its natural role as a process of ecological change.
 - ✓ Operate in a cost efficient manner—strategically and tactically.
- The Gunbarrel Fire escaped the MMA on August 23, 2008 and was declared a wildfire on August 25, 2008. The objective to manage the fire for resource benefits was dropped in accordance with agency policy; however, management strategy and response remained basically the same. Threats to values off the national forest increased because of the escape.
- Agency administrators from Park County Fire Protection District #2, Bureau of Land Management, and Wyoming State Division of Forestry participated in the development of the WFSA and provided delegations of authority in preparation for the fire's leaving the national forest.
- Park County Fire District #2 worked closely with the Forest and the incident management team. The Fire District assumed structure protection responsibilities, including a portion of the costs, while the incident was being managed as a wildland fire use event. Once it was declared a wildfire, the Forest Service assumed all structure protection cost in accordance with the Wyoming State Interagency Fire Agreement.

Key AAR findings

Firefighter Safety

The strategy to ensure firefighter safety was to minimize the exposure to hazardous conditions. Although the fire was being managed for resource benefit objectives, there were situations where there was a need for firefighters to engage in actions to protect structures and keep the fire on the national forest. Aviation resources were used to support these operations and to check and slow the advance of the fire when it was threatening values identified for protection. In general, the strategy was successful. The overall safety record for the incident was very good. There were three minor injuries to firefighters; two SAFECOMs related to helicopter operations were filed.

Despite the successful record, there were still a few instances where firefighters engaged in operations that were not necessary or, upon closer evaluation, not productive. One of the minor injuries was the result of a firefighter being hit by a falling tree while mopping up at night in an area that did not warrant the action.

Probably the most significant area of exposure to risk that needs a closer look was the use of heavy helicopters to check the spread of the fire as it approached the structures. In several instances helicopters were observed operating a considerable distance from the structure and having little effect on the spread of the fire. Reasons for this overuse of the helicopters may be attributed to a general feeling of comfort by firefighters, agency fire managers and administrators, and the public with seeing these resources in action and a belief that helicopters are always effective. Another possible factor contributing to the overuse is that the air attack group supervisors were not regular team members, changed often, and operated out of bases away from the incident base and thus may not have always had a full understanding of the incident objectives.

Reducing exposure to risk is a key element in ensuring firefighter safety. All levels of fire management need to closely evaluate missions in terms of the values being protected, the probability of success and effectiveness of their actions, and the ability to successfully recognize and mitigate the risks. Fire managers on the Forest will closely monitor and evaluate the effectiveness of heavy helicopters on future incidents.

Public safety

One of the biggest concerns on the incident was the hazards associated with the highway traffic in the North Fork corridor. Highway 14 is a major tourist route to Yellowstone Park and the Gunbarrel Fire resulted in an opportunity for many people to view a significant natural event at fairly close distances. Slow and stopped traffic resulted in congestion and at times was intermingled with fire resources along the highway. Law enforcement officials indicated that as long as the highway was open and cars were pulled off the road, there was nothing illegal about stopping to view the fire. State and county law enforcement officials routinely participated in mid-day meetings with the IMT and were available to assist with traffic management issues when requested, but there was a general reluctance to manage the situation to the level or manner the Forest Service preferred. A pilot car system was used and considered an effective way to lead traffic through hazardous areas where fire operations were occurring. Hazard signs were also posted. Although there were no vehicle accidents

attributed to the fire, the Forest felt fortunate there were none and believe more needed to be done to mitigate the risks.

The Forest will continue to work with the Wyoming Department of Transportation and law enforcement officials to develop better protocols for managing future incidents. Part of this effort will include pre-season meetings to work on the issues.

Protection of highly valued assets

Preparing the structures in advance in the North Fork—mechanical treatments and prescribed burning—was crucial to the success of the Gunbarrel Fire. The combination of treatments increased the probability of success for making values to protect survivable without overly extensive and expensive protection efforts. Almost all the mechanical work had been completed around the structures. Thinning and prescribed fire had occurred in a zone of 100-200 feet around the structures. Although desirable, thinning was not feasible at farther distances because of steep terrain. Additional prescribed fires in the terrain above the structures were planned, but had not yet been implemented in most areas. In areas where previous burns had occurred, the change in fuel type was extremely effective in altering fire behavior.

It is important to note that successful defense of the structures still required preparation work in the form of line construction, burnouts, and setup of water handling equipment. For example, once the fire front had passed the Moss Creek and Aspen Creek recreation residences, firefighters had to return quickly to extinguish fires that could have eventually resulted in the loss of some structures if no actions were taken. Fortunately, access times and distances were short, allowing for the quick return to the home sites. Larger buffers (1/4 -1/2 mile) of treated fuels around structures are still preferred and would have resulted in lower costs, less effort, and reduced exposure to hazards.

Resource benefits

Aside from agency policy that differentiates allowable management objectives depending on whether the fire is categorized as a wildland fire use event or a suppression fire, the result of the Gunbarrel Fire was that more than 68,000 acres of resource benefits were achieved at a landscape scale. Amending the Forest Plan was a key factor that gave the agency administrator the decision space to manage the fire for resource benefits and protect highly valued assets using a wide range of management response options.

After escaping the MMA and being converted to a wildfire, the Gunbarrel Fire was managed using the same management strategy of taking the appropriate actions to keep the fire from burning off the national forest and reaching the highly valued assets and resources on adjacent public, state, and private lands. Criteria for determining the appropriate response included being able to mitigate risks and hazards to firefighter safety, probability of success, and the cost being commensurate with the values at risk. Generally, no actions were taken in areas where the fire was no threat to resource values and/or was accomplishing a resource benefit.

Resource protection

The most significant resource protection issue regarding the Gunbarrel Fire was related to the spread of noxious weeds. In one instance, a helibase was moved to private land infested with leafy spurge and the other involved a burnout operation in light fuels along the highway. Cheatgrass was present in the light fuels; follow-up treatments with herbicides will be required to check the spread.

The setup of the helibase in the field with leafy spurge was attributed to a lack of consultation with the resource advisor who, according to Forest resource protection guidelines, was to have been consulted on all support base locations. In the future, inbriefings will emphasize the need to get resource advisor approval for camp and helibase locations. In addition, the Forest will, as much as possible, locate potential off-Forest sites in advance of fire season and have them reviewed by the Forest's invasive plants coordinator.

The situation with the cheatgrass will be handled by better education of incident firefighters on the appropriate tactics and closer involvement by the resource advisor with operations planned in areas susceptible to cheatgrass infestations.

Fire information and education

Overall understanding and acceptance by the public regarding the management of the fire was good. This can be attributed to a combination of factors extending back to when the Forest began public education associated the project planning for the fuel treatments and the recurring threat to the North Fork corridor from wildfires over the past 20 years. In addition, in the spring of 2008 the Forest held a media tour in the North Fork corridor that focused on explaining how the Forest was likely to respond to the next large fire that occurred and why we would respond in such a way. The explanation provided to the media was in line with how the Gunbarrel Fire was managed.

The Forest put more emphasis on using the Internet as a means to communicate fire information than with past incidents and was partially successful. An extensive email list was used and was preferred by many people as the method to receive information. Inciweb was used, but at times was a slow and cumbersome method for distributing information. There is a significant demand for real time information and local blogs became an information source over agency-provided Web sites. Some non-agency information was not accurate. It was evident that segments of the public knew quickly when the latest news release was stale and that the fire's status had changed—information the public wanted.

The Forest will update its media and fire information direction that is provided to teams. The updated direction will emphasize using the Internet as an information source and managing the flow of information that does occur as much as possible, as well refreshing news releases more often.

Cost management

Cost management was emphasized throughout the incident for strategic decisions and for the tactical decisions associated with daily fire operations and logistical support. The agency administrators made use of a log to track key decisions and rationales as well as cost implications of the decisions. The agency administrators thought this tool was

useful and would like to see it put in a small booklet for carrying convenience so they can make notes in a timely manner and enter information into the computer later.

From a strategic decisionmaking standpoint, the incident was very cost effective. A total of \$11.2 million were spent for an average cost of \$164 per acre. This is well below the stratified cost index (SCI) figures provided to the Forest for comparison. The viability and use of the SCI are not well understood by fire mangers and agency administrators at this time. Nor is it understood if the fires used to calculate the SCI are of a nature that make them viable for a comparison for a fire such as the Gunbarrel. A better understanding and explanation of how to use the SCI is needed as well as an evaluation of the validity and usefulness of the index. One comparison the Forest has used is that of the average cost per acre to treat fuels on the Shoshone National Forest using mechanical and prescribed fire methods. The Forest's average cost is approximately \$200 per acre.

Overall, the daily costs associated with tactical operations and logistical support was thought to be accomplished in an efficient manner. However, there are instances where things could have been done in more cost efficient manner. For example, as noted under the safety discussion, heavy helicopters were overused in a few instances. Aviation resources are a significant cost sink and small adjustments in use and philosophy could net tens of thousands of dollars saved.

The Forest hosted five incident management teams over a seven-week period. The teams included two mobilizations with the same fire use team, one type 2 team, one type 1 team, and a type 3 team. All the teams proved to be flexible in expanding and contracting their organizations to fit the operational and logistical support needs of the incident. The type 1 team was ordered in anticipation of forecast weather event that had the potential to push the fire into another watershed and significantly increase the logistical and operational complexities of the fire. There were extensive deliberations regarding the ordering of the type 1 team, as the character of the fire to this point had been the worst-case scenario occurring more than several times with frontal passages.

There were some difficulties with the number of personnel, rental cars, and other logistical support items ordered when the type 1 team was mobilized. Some double ordering occurred that resulted in excess personnel arriving. Once this was discovered, the type 1 team quickly downsized. There were a few other issues with regard to approval of orders as well. In response to these issues, the Forest will formalize procedures for ordering teams and negotiating pre-orders of personnel and other items with the incoming incident commander. The Forest will also develop better written protocols for providing incident financial oversight and coordination between Forest personnel conducting the oversight.

There is a need for better tools to enhance an agency administrator's ability to conduct financial oversight and make determinations if IMTs are being cost efficient. All teams provide a daily estimate of cost, but it does nothing in the way of displaying useful information to make judgments regarding cost efficiency. IMTs and agency administrators would benefit from these tools as means to display and analyze costs to determine areas were they could be more efficient.

Firefighter safety

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>No serious accidents/injuries or loss of life for ground resources</p>	<ul style="list-style-type: none"> • Three minor incidents/injuries with most serious being a shoulder injury from falling tree during mop-up at night. • There were a few instances of using ineffective aggressive suppression tactics that were not needed; however, these were short-term and IMTs were able to better understand the management strategy and make adjustments. 	<ul style="list-style-type: none"> • Quick response to early indicators set the tone for the incident’s safety record • Shoulder injury was a result of crew being more aggressive in a situation where they did not need to be. Teams receptive to input. • Consistent objectives and emphasis from line officers and fire managers. • Due to firefighter/team experience and/or cultural perspective on how to manage this type of fire. • Presence of FUMA on team resulted in quicker understanding by IMTs on using the best strategy and tactics for different situations as outlined in the WFIP. 	<ul style="list-style-type: none"> • Forests need to be diligent about keeping teams/crews tuned into fire use strategies. • Ground resources sometimes unoccupied—need to keep them busy with other projects when possible. • Continue to work on cultural shift to know when to watch and wait and when to be aggressive. • Educate teams/crews about cultural shift from suppression-only tactics to understanding the application of AMR to meet both resource benefit and protection objective. • Spring team meetings are a venue for the discussion. • More oversight from RO operations section to provide RF expectations to IMTs.
<p>No serious accidents/injuries or loss of life for aviation resources</p>	<ul style="list-style-type: none"> • Two SAFECOMs – One was related to helicopter congestion at the dip site and the other was a crack in the tail rotor. 	<ul style="list-style-type: none"> • The dip site congestion was a result of needing a better understanding by the pilots of the ingress and egress procedures for the site. • Tail rotor crack was noticed at the helibase and ship was grounded until repaired. 	<ul style="list-style-type: none"> • Ensure pilots are well briefed and understand dip-site protocols for ingress and egress. • Continue with regular daily and periodic inspections.

Gunbarrel Fire AAR

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
	<ul style="list-style-type: none"> • Too much dependence on aviation in some circumstances resulting in unnecessary risk exposure. 	<ul style="list-style-type: none"> • A general feeling of comfort by IMTs/Forest/public with the presence and use of heavy helicopters and an overestimation of effectiveness of T1 helicopters to slow the movement of the fire in heavy fuels. 	<ul style="list-style-type: none"> • More closely evaluate the effectiveness and situations where T1 helicopters are being used.

Public safety

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Orderly and safe flow highway traffic</p>	<ul style="list-style-type: none"> No serious accidents related to the fire, though many close calls. 	<ul style="list-style-type: none"> Pilot car system worked well. Adequate signing for fire activities. 	<ul style="list-style-type: none"> Use pilot car system. Need to develop a recommended sign package to order from a recommended vendor – RMA cache. Keep signs available locally.
	<ul style="list-style-type: none"> Vehicle were slowing to view the fire and stopping along the road to view the fire resulting in numerous traffic jams and hazardous situations. 	<ul style="list-style-type: none"> WYDOT, sheriff, and highway patrol reluctant to take full control of managing traffic on the road; it was their view that as long as people were pulled off the road onto the shoulder they were within the law. 	<ul style="list-style-type: none"> Traffic management needs better coordination with WYDOT and law enforcement More intense off-season coordination
<p>Ensure safety of people occupying lodges, recreation residences, and developed recreation sites</p>	<ul style="list-style-type: none"> Identified MAPs with established community protection plan for evacs. Public protected, but evacuations were premature in several instances, resulting in economic loss to lodge owners. Area closure. 	<ul style="list-style-type: none"> Part of WFIP. Community protection plan implemented prematurely— perception that fire was closer than it actually was, some miscommunication between operations and sheriff deputy. Did not have air attack at times to provide better assessment of fire location and threat. 	<ul style="list-style-type: none"> Continue to use and refine. Unified command, set up pre-season practices. Refine community protection plans and skills in assessing threats and timeframes. Better identification of geographic features that trigger actions.

Gunbarrel Fire AAR

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Ensure safety backcountry visitors</p>	<ul style="list-style-type: none"> • One close call in Trout Creek where two individuals on horses were camping. They were in an open area east of the established area closure approximately 6 miles from the fire on the afternoon of August 22. After the Fire made its run, they awoke the morning of the 23rd and discovered the fire had burned across the hill from where they were camped. 	<ul style="list-style-type: none"> • Sustained west winds for 18 hours that pushed the fire over six miles and over the top of a significant natural barrier (Jim Mountain). • Wind shift did not occur as forecasted. • Heavy reliance that Jim Mtn. would stop the fire. • Efforts to keep area closure to a minimum to lessen the impact to the public. 	<ul style="list-style-type: none"> • More prescience when determining area closures. • Consider “notice to trail users” instead of complete closure (with caution—people don’t think the way we do). • Err on the side of public safety; evaluate and update closures more frequently especially when fire has moved near closure boundary.

Protection of highly valued assets

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Protect and prevent loss of structures including lodges, residences, and developed recreation sites</p> <p>Protect and prevent loss of private, state, & BLM lands</p>	<ul style="list-style-type: none"> • Lost one FS owned facility (lodge and outbuildings); structures had been assessed and people/equipment were prepared to be flown in to site; however, windy conditions grounded helicopters and prevented this from occurring. • No loss of property and no fire on state or BLM lands, relationships remain positive. 	<ul style="list-style-type: none"> • The structures were in the backcountry and located at the head of the fire. Leaving firefighters at the site to protect the structures was not a safe option due to the expected fire behavior, poor access, and lack of safety zones. • Pre-treatment of fuels around high-valued resources. • Effective implementation of the strategies/tactics. 	<ul style="list-style-type: none"> • Continue to put firefighter safety ahead of resource and property values. • Guard against complacency and the feeling that 125 feet or 100 yards of defensible space renders a structure completely safe. Will use greater space where possible. • Use this incident as an example of importance of defensible space and to build confidence in effectiveness of FS treatments. • Maintain defensible space. • FS presence at lodges to alleviate fears, educate.
<p>Minimize impacts to local tourism</p>	<ul style="list-style-type: none"> • Some impacts from evacuation of lodges; tried to offset losses by housing crews at lodges. 	<ul style="list-style-type: none"> • Individuals making decisions regarding protection of human life tend to err on the side of caution. 	<ul style="list-style-type: none"> • Better evaluation of the location of the fire, fire behavior, preparedness of people to leave, and distance to safety. All the lodges threatened in the North Fork were prepared to leave and people were less than 5 minutes from safety.

Resource benefits

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Allow fire to play its natural role in the ecosystem (wilderness, FRCC improvement, fuels reduction, & wildlife habitat improvement)</p>	<ul style="list-style-type: none"> 68,000 acres of resource benefits <i>at</i> landscape level that will result in long-term beneficial changes in ecosystem health. 	<ul style="list-style-type: none"> Forest plan amendment allowed fire use outside wilderness and allowed flexible management strategies to meet objectives of protection and benefits. Being prepared and a willingness of agency administrators to take risks. 	<ul style="list-style-type: none"> Policies and incident planning procedures need to be updated. Forests need the flexibility to manage for multiple objectives and apply different management responses in different circumstances. Share the successes and lessons learned with others. Incorporate other objectives (FRCC changes, fuels reductions, wildlife habitat improvement) in revised forest plan.

Resource protection

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Follow SHF resource protection guidelines for fire operations and logistical support</p>	<ul style="list-style-type: none"> • Generally, teams willing to follow resource protection measures. 	<ul style="list-style-type: none"> • As part of Fire Management Plan, forest had prepared a set of resource guidelines that were given to the IMT as part of the briefing package. 	<ul style="list-style-type: none"> • Revisit and refine Forest's resource advisor guidelines.
<p>Minimize resource impacts resulting from fire, suppression actions, and logistical support</p>	<ul style="list-style-type: none"> • Helibase relocation not coordinated with Forest and ended up in an area known to have leafy spurge. • Some burnout areas with light fuels along the highway contained cheatgrass or cheatgrass was nearby. The result is a potential increase in the spread of cheatgrass. 	<ul style="list-style-type: none"> • Resource advisor not consulted about site ahead of time. • Teams/crews were in suppression mode and did not correctly assess the fire threat and the potential consequences from burning in the cheatgrass. 	<ul style="list-style-type: none"> • At inbriefing, make sure teams understand the importance of coordinating with the Forest when relocating facilities. • Pre-identify more support locations on and off Forest that are free of noxious weeds. • Better evaluations by firefighters and resource advisors of where burnouts are planned—some places don't need it.

Public affairs

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Timely and accurate information and education</p>	<ul style="list-style-type: none"> Information distributed using public meetings, signboards, personal visits by PIOs and FF, radio and print media. 	<ul style="list-style-type: none"> Local involvement with information efforts—direct role of Forest in making sure information is working well. 	<ul style="list-style-type: none"> Inciweb simulation pre season Inciweb capacity increased
	<ul style="list-style-type: none"> Increase use of Internet including Inciweb, Forest Web sites and a mailing list. Inciweb can be slow and does not keep up with real time information needs. Desire by public for real time information. Increase in blogs providing fire information that was not always accurate. 	<ul style="list-style-type: none"> Use of electronic methods to deliver information. Early recognition that info needed on all outlets. Some IMTs reluctant to release real time updates and relied on 209 postings as most recent information; public new it was not current information. 	<ul style="list-style-type: none"> Improve use of Internet, especially when it comes to providing information that is more current. Inciweb may need a makeover
<p>Public acceptance of how fire was managed</p>	<ul style="list-style-type: none"> Generally, acceptance of how the fire was managed. Relationships maintained, possibly better. Food donation issue; member of local homeowners group was asked not to bring more food donations for firefighters to fire camp. Incident ended up being reported in local newspaper. 	<ul style="list-style-type: none"> Media exposure before the fire. Public involvement in NEPA process for fuels treatments. Message delivery from agency was not well articulated and was misunderstood by member of homeowner association. 	<ul style="list-style-type: none"> Continue with pre-season media tours and releases on fire management and education. Communicate the food policy at inbriefing and graciously accept well-intended gifts.

Cost management strategies

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Develop cost efficient fire management strategies using WFIP, LTIP, and/or WFSA</p> <p>Ensure management actions are commensurate with values at risk</p>	<ul style="list-style-type: none"> Overall, strategies were cost effective; managing fire on the west end posed a dilemma of cost versus benefit. Incident managed in a cost effective way; below Stratified Cost Index (SCI) calculated for Gunbarrel Fire. 	<ul style="list-style-type: none"> Fire amendment provided flexibility. Persistence on the part of Forest managers. Agency oversight, consistent management objectives, and flexible AMR options 	<ul style="list-style-type: none"> Implement successful strategies on future incidents where applicable. SCI may be okay for strategic decisions, but need better tool for day-to-day decisions. SCI needs to be re-evaluated for usefulness as measure of cost efficiency
	<ul style="list-style-type: none"> Cost to manage fire was \$11.2 million or \$164 per acre. 	<ul style="list-style-type: none"> Incident objectives and supporting plans (WFIP,WFSA) clearly articulated what was to be protected. Objectives remained constant throughout incident. 	<ul style="list-style-type: none"> Implement successful strategies on future incidents where applicable.

Cost management tactics

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Forest and IMT practices, skills, and abilities should be effective and cost efficient</p>	<ul style="list-style-type: none"> • Could have done better in transition to T1 team. 	<ul style="list-style-type: none"> • National policy for team configurations. • Local process not well refined. • Team pre-orders. 	<ul style="list-style-type: none"> • Clarification on who oversees the team orders/pre-orders. • Consider doing away with team pre-orders. • Better defined cost management process on Forest.
	<ul style="list-style-type: none"> • Some cost management tactics not well received by the team. 	<ul style="list-style-type: none"> • Missing Forest protocols for managing costs. • Teams do not have good tools to analyze costs and compare alternatives. • Teams do not have good tools to display cost efficiencies and to make comparison to similar incidents. 	<ul style="list-style-type: none"> • Tool for team and Forest to track and display costs would help determine cost efficiency of resources—data exists in ISuite, but need better reports. • Analyze cost factors in team decisions (e.g., is it cost effective to set up a spike camp). • Consistent message to teams/forests about cost management. • Remote guide updates need to incorporate this information relative to the complexity of the incident (e.g., includes a reference budget and define expectations).

Gunbarrel Fire AAR

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Provide oversight of business practices to ensure consistency with incident objectives and agency policies</p>	<ul style="list-style-type: none"> • Overall cost of day-to-operations were generally OK; however, there were a few instances when expenditures could have been avoided and a few situations where appropriate expenditures were denied that should have been allowed. 	<ul style="list-style-type: none"> • No IBA when needed; IBA order did get filled late in the incident • Not clear on the role or effectiveness of the IBA in providing assistance to help the IMTs and Forest be more cost efficient • Change in oversight process by Forest in later part of incident resulted in some inconsistent oversight of ordering and purchasing. 	<ul style="list-style-type: none"> • Need to better understand or define the role and expectations of the IBA position regarding cost management • Culture of ordering everything before the team arrives needs to be examined and changed. • Refine the local process (e.g., involve non-operations people). • Need to get additional information in the business plan relative to specific ordering needs. • Consider eliminating pre-orders. • Include Forest criteria in the local mob guide as well as line officer expectations. • Ordering Unit needs additional clarification and communication on Forest expectations.

Roles and responsibilities

<i>What was planned? (objectives)</i>	<i>What actually happened? (strategic and tactical)</i>	<i>Why did it happen? (results – good and bad)</i>	<i>What can we do next time?</i>
<p>Forest and District - Defined roles and responsibilities that are clear and effective in providing oversight and managing the incident</p>	<ul style="list-style-type: none"> • AO role was not well defined or as integrated as would have been preferred. • Old guidelines were distributed early in the process. • Land Use Agreements were not completed as required. • READ unclear on role in land use agreements. • Property agreements not adequately completed (e.g., inspections). 	<ul style="list-style-type: none"> • Improper notification when switching between teams. • Too many individuals involved in information sharing at times and not a clear understanding of who should be directing Forest support personnel. 	<ul style="list-style-type: none"> • As part of Forest protocol, determine who is responsible for assigning and notifying AO. • Identify either key individuals to share information with or designate times to share information with all involved.
<p>Forest and Regional Office - Defined roles and responsibilities that are clear and effective in providing oversight and managing the incident</p>	<ul style="list-style-type: none"> • Regional office involvement was appreciated and promoted cost efficiency. • At times, several individuals from RO requested same information from Forest (directors, operations branch, fuels and fire use branch, and safety). 	<ul style="list-style-type: none"> • Pre-existing good relationships with Regional Office FAM. • Safety needs to remain independent. • There is overlap in responsibilities and policy between operations and fire use when managing an incident such as Gunbarrel and thus a need for both branches to be engaged. 	<ul style="list-style-type: none"> • Continue to consult with RO. • Consolidate one representative for directors, operations branch, and fire use branch. • Better and consistent use of ftp to post and retrieve information. • Periodic conference call briefings. • With upcoming policy changes, evaluate and consider change in RO organization structure.

Other lessons learned & recommendations

- Need additional READs and information folks at Forest levels
- Cost management strategies – incorporate local folks
- New regional team designs – may have some steep learning curves that will add additional workload for the Forests in communicating expectations. Fire use support groups in development for addressing this concern
- Recycling efforts were more progressive than in the past and consistent throughout the fire
- Take advantage of opportunity for agency administrator trainees
- Increase logistical capabilities from the cache for smaller teams
- Get feedback from the ICs and post to lessons learned Web site