

REGION LARGE FIRE COST REVIEW GUIDEBOOK

MAY 2007

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Introduction

The general standards that follow are a recap of many of the issues that were discussed in the two training sessions held in San Diego and Boise in the spring of 2007. These standards are taken from the “Generally Accepted Government Auditing Standards” but have been modified to meet the needs of the Forest Service. They are generic and provide the framework for conducting all types of program reviews.

Appendix I is the template that was used last year to conduct the region reviews. It has been updated to include some of the Forest Service specific guidance topics that were also covered in the training sessions such as review teams receiving a DOA from their respective Regional Forester and inter-region peer reviews of draft reports and workpapers. **Appendix II** is the list of people who participated in the training sessions in San Diego and Boise. **Appendix III** is a list of documents evaluated by previous teams during the reviews. Finally, **Appendix IV** is an example of what the reports should include.

The WO is working to update the large fire cost review directives to reflect the modified guidance.

General Standards and Principles

Ethics, Independence and Impairments

This section establishes general standards for conducting a performance audit. These general standards, establish the (1) ethical principles, (2) credibility of the team’s work, (3) independence of the individuals conducting the audit, and (4) exercise of professional judgment in the performance of work and the preparation of related reports.

Ethical Principles

The ethical tone maintained and demonstrated by management and staff is an essential element of a positive ethical environment for the review teams. Conducting audit work in accordance with ethical principles is a matter of personal and organizational responsibility. Ethical principles apply in (1) preserving team member independence, (2) taking on only work that the team is competent to perform, (3) performing high-quality work, and (4) following the applicable standards.

Integrity and objectivity are maintained when teams perform their work and make decisions that are consistent with the broader interest of those relying on the team’s report, including the public.

The ethical principles that guide the work of those who conduct audits include:

- the public interest

- integrity
- objectivity
- proper use of government information, resources, and position; and
- professional behavior

A distinguishing mark of those conducting audits is an acceptance of responsibility to *serve the public interest*. This responsibility is critical when auditing in the government environment.

Making decisions consistent with the public interest of the program or activity under audit is an important part of the *principle of integrity*. In discharging their responsibilities, teams may encounter conflicting pressures from management of the audited entity, various levels of government, and other likely users. Teams may also encounter pressures to violate ethical principles to inappropriately achieve personal or organizational gain. In resolving those conflict and pressures, acting with integrity means that teams place priority on their responsibilities to the public interest.

The *credibility* of auditing in the government sector is based on the team's objectivity in discharging their professional responsibilities. Objectivity includes being independent in appearance when providing audit services, maintaining an attitude of impartiality, having intellectual honesty, and being free of conflicts of interest. Avoiding conflicts that may, in fact or appearance, impair a team member's objectivity in performing the audit is essential to retaining credibility.

Government information, resources, or positions are to be used for official purposes and not inappropriately for the team member's personal gain or in a manner contrary to law or detrimental to the legitimate interests of the audited entity. Misusing the position of an auditor for personal gain violates an auditor's fundamental responsibilities. A teams credibility can be damaged by actions that could be perceived by an objective third party with knowledge of the relevant information as improperly benefiting a team member's personal financial interests or those of an immediate or close family member; a general partner; an organization for which the team member serves as an officer, director, trustee, or employee¹; or an organization with which the team member is negotiating concerning future employment.

Professional behavior includes review teams putting forth an honest effort in performance of their duties in accordance with the relevant technical and professional standards.

Independence

Team members must maintain independence so that their opinions, findings, conclusions, judgments, and recommendations will be impartial and viewed as impartial by objective third parties with knowledge of the relevant information. Teams should avoid situations

¹ For the purposes of large fire cost reviews "organization" means the forest where the incident occurred.

that could lead objective third parties with knowledge of the relevant information to conclude that the team members are not able to maintain independence and thus are not capable of exercising objective and impartial judgment on all issues associated with conducting the audit and reporting on the work.

Personal Impairments

Team members participating on an audit assignment must be free from personal impairments to independence. Personal impairments result from relationships or beliefs that might cause teams to limit the extent of the inquiry, limit disclosure, or weaken or slant audit findings in any way. Teams should notify appropriate officials within their organization if they have any personal impairments. Personal impairments include:

- an immediate or close family member who is an officer or employee of the audited organization (i.e. the national forest where the fire occurred);
- a financial interest that is direct, or is significant/material though indirect, in the audited organization;
- a responsibility for managing an organization or making decisions that could affect operations of the organization being audited; for example, serving in a senior position of the organization being audited;
- concurrent or subsequent performance of an audit by the same individual who maintained the official accounting records when such services involved preparing documents or originating data that may be used as evidence in the audit;
- having preconceived ideas toward individuals, groups, organizations or objectives of a particular program that could bias the audit; and
- seeking employment during the conduct of the audit with the audited organization.

External Impairments

Team members must also be free from external impairments to independence which may restrict the work or interfere with the team's ability to form independent and objective opinions, findings and conclusions. External impairments to independence occur when team members are deterred from acting objectively and exercising professional skepticism by pressures, actual or perceived, from management and employees of the audited organization. Examples of external impairments include:

- external interference or influence that could improperly limit or modify the scope of an audit or threaten to do so;
- external interference with the selection or application of audit procedures or in the selection of transactions to be examined;
- unreasonable restrictions on the time allowed to complete the audit;
- externally imposed restrictions on access to records, government officials, or other individuals needed to conduct the audit;

- authority to overrule or to inappropriately influence the teams judgment as to the appropriate content of the report;
- threat of replacing a team member over a disagreement with the contents of an team's report or conclusions.

Professional Judgment

Team members use professional knowledge, skills, and experience to diligently perform, in good faith and with integrity, the gathering of information and the objective evaluation of the sufficiency and appropriateness of evidence. This is a critical component of audits. Professional judgment and competence are interrelated because judgments made are dependent upon the team's competence.

Professional judgment represents the application of the collective knowledge, skills, and experiences of all the personnel involved with an assignment, as well as the professional judgment of individual team members. In addition to personnel directly involved in the audit, professional judgment may involve collaboration with other stakeholders, outside experts, and management in the organization.

Competence

The staff assigned to perform the audit must collectively possess adequate professional competence for the tasks required. Competence is derived from a blending of education and experience. Competence is not necessarily measured by years of experience because such quantitative measurement may not accurately reflect the kinds of experiences gained by an individual in a given time period.

Performance Audits

Performance audits are defined as engagements that provide assurance or conclusions based on an evaluation of sufficient, appropriate evidence against stated criteria, such as specified requirements, measures, or defined business practices².

Performance audits provide objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.

Audit objectives that focus on economy and efficiency address the costs and resources used to achieve program results. Examples relative to fire reviews include:

² Large Fire Cost Reviews are performance audits. Performance Audits also follow the Generally Accepted Government Auditing Standards (GAGAS). Because the Forest Service is not a professional audit organization, only specific standards that are directly applicable to Large Fire Cost Reviews are considered.

- assessing the extent to which legislative, regulatory, or organizational goals and objectives are being achieved;
- assessing the relative ability of alternative approaches to yield better program performance or eliminate factors that inhibit program effectiveness;
- analyzing the relative cost-effectiveness of a program or activity;
- evaluating whether the audited entity is following sound procurement practices and
- assessing the reliability, validity, or relevance of financial information related to the performance of a program.

Planning

Audit work must be planned to provide reasonable assurance that the evidence is sufficient and appropriate to support the review team's findings and conclusions. This determination is a matter of professional judgment.

The team must establish objectives to determine what the audit is intended to accomplish. The objectives identify the audit subject matter and performance aspects to be included.³

The team must also establish the scope of the review which is the boundary of the audit and is directly tied to the audit objectives. The scope defines the subject matter that will be assessed and reported on, such as a particular program or aspect of a program, the necessary documents or records, the period of time reviewed, and the locations that will be included.

Finally, the team needs to determine the methodology they will use to conduct the review. The methodology describes the nature and extent of the audit procedures for gathering and analyzing evidence to address the objectives.

Obtaining Sufficient and Appropriate Evidence

The teams must obtain sufficient and appropriate evidence to provide a reasonable basis for their findings and conclusions. In assessing sufficiency of evidence, the teams should determine whether enough evidence has been obtained to persuade a knowledgeable person reviewing the evidence that the review *findings are reasonable*.

Sufficiency is a matter of professional judgment. However, the team should keep the following in mind: the greater the audit risk, the greater the quantity and quality of evidence required; stronger evidence may allow less evidence to be used; and having a large volume of evidence does not compensate for a lack of relevance, validity, or reliability. Inter-region peer reviews between large fire cost review teams should take place once a draft report has been written. This will help ensure that appropriate and sufficient evidence has been gathered and the findings are supported by the evidence.

³ The primary objectives of the review are included in the template in Appendix I. Regions are free to add additional objectives, if necessary, to meet their needs.

Appropriateness is the measure of the quality of evidence that encompasses its relevance, validity, and reliability in providing support for the findings and conclusions. Relevance refers to the extent to which the evidence has a logical relationship with, and importance to, the issue being addresses. Validity refers to the extent to which evidence is based on sound reasoning or accurate information. Reliability refers to the consistency of results when information is measured or tested and includes the concepts of being verifiable or supported.

Developing a Finding

A finding must include four elements: criteria, condition, cause and effect.

Criteria represents the laws, regulations, contracts, grant agreements, standards, measures, expectations of what should exist, defined business practices and benchmarks against which performance is compared or evaluated.

Condition is the current situation (what is).

Cause identifies the reason for the condition or the factors responsible for the difference between the situation that exists (condition) and the required or desired state (criteria).

Effect or potential effect is a clear logical link to establish the impact of the difference between the situation that exists (condition) and the required or desired state (criteria).

Documentation

The teams must prepare documentation related to the planning, conducting, and reporting for each review. This documentation should be in sufficient detail that another competent person with experience performing program reviews and having no previous connection to the audit could understand and reach the same conclusions that were reached by the review team.

Reporting

Each region will prepare one report that includes all of the fires over \$5.0M that were reviewed by the team(s). The report will contain five sections: (1) an **executive summary** that provides highlights of the report, (2) a **summary of each fire** in the region being reviewed, (3) **expenditure analysis** (especially for issues observed across fires and, where possible, quantify costs as they relate to tactical and strategic decisions made on the fire), (4) **findings** (to include both best practices as well as areas for improvement) and (5) **recommendations**. It is expected that if there are similar findings and recommendations across fires they will be consolidated into one finding and one recommendation in the final report. (See Appendix IV for a sample report that was compiled from various FY 2006 region reviews.)

Each Region must do at least eight fires over 5.0M (if applicable for the region) and no less than 75% of their total fires over \$5.0M. For example, if a region has 8 fires that meet the threshold they must do all 8 of them; if they have 15 fires that meet the threshold then 11 fires need to be reviewed (75% of 15 fires)⁴.

If extraordinary circumstances arise in a region that would make this number of reviews a severe hardship then the region should contact the WO for further discussion. If a region exceeds the 8 fires and are using the percentage to determine how many fires will be reviewed they need to be very judicious in determining which fires they select. Any fire that was highly politicized, had extraordinary costs, and/or there were any deaths (even though these reviews don't cover that area) should be selected for review.

⁴ Consider these approximations subject to change based on the fire conditions in the field and the political conditions in DC.

Appendix I

Region Cost Containment Review Guidance and Objectives

TEAM COMPOSITION AND AUTHORITY

At a minimum one Line Officer, one Fire Operations Specialist, one Fiscal/Acquisition specialist should be on the team. At least one person on each team must have completed the basic auditing training that was offered in San Diego (February) and Boise (March). Each team will receive its DOA from their respective Regional Forester.

CRITERIA

Each Region must do at least eight fires over 5.0M (if applicable for the region) and no less than 75% of their total fires over \$5.0M. For example, if R5 has 8 fires that meet the threshold they must do all 8 of them; if they have 15 fires that meet the threshold then 11 fires need to be reviewed (75% of 15 fires). If extraordinary circumstances arise in a region that would make this number of reviews a severe hardship then the region should contact the WO for further discussion. If a region exceeds the 8 fires and are using the percentage to determine how many fires will be reviewed they need to be very judicious in determining which fires they select. Any fire that was highly politicized, had extraordinary costs, and/or there were any deaths (even though these reviews don't cover that area) should be selected for review. Regional Foresters have discretion and are encouraged to conduct similar reviews for incidents less than \$5.0 million if circumstances suggest the need for such a review.

INTERVIEWS/SITE VISITS

The team will visit the unit hosting the fire and, using this template as guidance, conduct interviews, take notes, gather documentation, etc. The teams will, at a minimum, interview the Agency Administrator, the Incident Commander, any other IMT members deemed necessary and a community opinion leader such as a mayor or county executive. It is expected that these visits will take approximately three days. In addition, some interviews may be conducted via telephone, if necessary.

REPORTING

At the end of each region's fire season the cost containment team(s) will draft one report that encompasses all fires in their region that exceeded \$5.0 million and submit it to the WO. The report will contain five sections: (1) an executive summary that provides highlights of the report, (2) a summary of each fire in the region being reviewed, (3) expenditure analysis (especially issues observed across fires and quantifying costs as they relate to tactical and strategic decisions made on the fire), (4) findings (to include both best practices as well as areas for improvement) and (5) recommendations. It is expected that if there are similar findings and recommendations across fires they will be consolidated into one finding and one recommendation in the final report. Each region will exchange their draft report and pertinent workpapers with another region for a peer review prior to submitting the final report to the WO.

FOLLOW-UP

Each region will draft a Statement of Action for each of the recommendations made in their respective reports and provide the WO with a copy. The region will assign an appropriate person(s) to each of the recommendations for follow-up action and inform the WO who is assigned. Actions may include full implementation, partial implementation with justification for only partial implementation, or concluding that implementing the recommendation is inappropriate and a statement justifying the reason. Final resolution of each recommendation will occur no later than one year from the date of the original report submitted by the region.

REVIEW OBJECTIVES AND QUESTIONS:

Primary Objective: Determine if resources including funds, equipment and people were used appropriately to identify areas for more effective and efficient future wildfire suppression.

Sub Objectives:

Sufficient and Reliable Information

Do the Line Officers and ICs believe they have all of the necessary information to make timely and prudent decisions? If not, why not?

What information is missing that would help them better manage the fire? If so, where and how did they obtain this information?

Determine if the DOAs contain sufficient direction to provide clear protection and cost containment guidance to the IMTs.

Determine if the LMP and FMP are linked and provide sufficient discussion/direction to inform wildfire suppression strategies including (1) fire history, (2) resource management and fire protection goals, (3) information on wildland urban intermix/interface zones, (4) guidance on appropriate response to wildfires, (5) information on wildfire fuels and (6) cost containment guidance.

Social Factors

What are the socio-political factors driving actions and, therefore, costs at this fire?

Can/Were the socio-political factors satisfied? If so, how? If no, why?

Quantify any costs associated with mitigating these concerns.

Risk Management

To what values did this fire pose a threat?

What was the thought process for identifying and balancing the threat level with acceptable costs?

How did the IMT and the AA quantify the decisions they made to manage the threats?

How was the risk shared between the general public, local, state and federal agencies?

IC/AA – In hindsight, are there any decisions that could have been improved or changed on this fire that will help other decision makers in similar circumstances on future fires.

Tactical Decisions

What specific actions did the IMT and AA take to control costs in the three highest cost areas of personnel, contracts and aircraft?

Specifically, what effect did IMT actions have on overall fire costs? Which actions were within their control and which were dictated by others (AA, politicians, etc.)?

Determine if resource availability, capability or efficiency affected the tactical decisions, size and/or final cost of the fire.

How did AA direction impact overall fire costs?

APPENDIX II

List of 2007 Training Participants

NAME	CONTACT	EXPERTISE
Ginger Brudevold Black	gbrudevold@fs.fed.us 505-842-3352	Team Leader – R3
Ed Singleton	esinglet@nm.blm.gov	Agency Administrator; Fire Operations Team Leader
Sandy Coleman	sandycoleman@fs.fed.us 703-605-4699	WO Financial Mgm't; OIG/GAO Audit Liaison
Diane Taylor	dntaylor@fs.fed.us 678-320-3011	FSCI/IBAI/Acting R8 Incident Business Specialist
Liz Kinney	ekinney@fs.fed.us 208-559-5372	FSCI/IBAI/FEMA guru
James Meredith	jmeredith@fs.fed.us 404-805-6816	FSCI/IBA/Proc/AO
Roberto Martinez	rrmartinez@fs.fed.us 719-274-6302	Agency Administrator/Line Team Leader
Suzi Muir-Bradshaw	smuir@fs.fed.us 303-275-5316	Regional Incident Business Specialist
Billy Zamora	billyfsfire@aol.com	FSC/IBA/Budget
Barbara Knieling	bknieling@fs.fed.us 801-625-5508	Fire Planning/Budget/ Resources
Julie Campbell	jacampbell@fs.fed.us 801-389-3200	IBA/FAA R4
Terry Burgess	ctburgess@fs.fed.us 503-808-2326	Fire Planning/Budget
Bill Breedlove	bbreedlove@fs.fed.us 202-205-0996	Fire Planning/Budget
Geoffrey Bell	gbell@fs.fed.us 970-295-6631	Operations
Jane Haker	jhaker@fs.fed.us 406-329-3331	IBA
Jim Fincher	jfincher@fs.fed.us 907-754-2317	Line Officer
Jun Manalo	jmanalo@fs.fed.us	Accounting/Budget/Property Mgm't/Incident Business
Patty Espinosa	pespinosa@fs.fed.us 925-588-9506 (cell)	Budget/Mgm't Analyst/Cost Apportionment/Cost/FSC (T)
Ron Duvall	rjduvall@fs.fed.us	Admin Officer
Kathy Shelton	klshelton@fs.fed.us	Incident Business Specialist

Tony Tezak	ttezak@fs.fed.us	FMO
Kent Swartzlander	kswartzlander@fs.fed.us	Forest Fire Chief
Mike Tupper	MTupper@blm.gov	Fire and Aviation – IMT
Christopher Frank	Chrisfrank@fs.fed.us	BUYM, Purchasing, LAPC
Deb Hennessy	dhennessy@fs.fed.us	P&AR
	tcordell@fs.fed.us	Budget
Tammy Cordell		
Jan Cutts	jcutts@fs.fed.us	District Ranger
Kate Lahti	klahti@fs.fed.us	Incident Business Specialist
Connie Pallin	cpallin@fs.fed.us	Budget Officer
Henry Hickerson	hhickerson@fs.fed.us	Deputy Forest Sup/Fire Mgm't
Cathy Barbouletos	cbarbouletos@fs.fed.us	Forest Supervisor
Amy Kishpaugh	Amy-Kishpaugh@fws.gov	Budget Analyst
David Burley	dave_burley@nifc.blm.gov	Budget/Cost
Brian Ferebee	bferebee@fs.fed.us	Forest Supervisor
Merrill Saleen	Merrill_saleen@nifc.blm.gov	IC/Fire Operations

APPENDIX III

Potential Region Review Data Collection Documents

Category	Review Objective
ITEMS FROM FOREST:	
FY 2007 F & AM Budget for Forest and Districts	
209 Daily Reports from fire start to full containment	
Land Resource Mgt Plan	
Fire Management Plan	
Forest Business Guidelines	
Fire Chronology from Dispatch – IA Dispatch Logs	
Current Year Severity Requests	
Local Cooperative Agmts.	
Copies of Resource Orders (Aircraft/Equipment/Overhead/Supplies)	
Copies of Buying Team Logs	
Copies of Cache Orders	
FY 2007 AOP	
Maps of National Forest & Local Communities	
Forest Mob Guide	
Forest Aviation Plan	
List of Cooperators and Contact Phone Numbers	
NF & Regional Fire Organizational Charts – showing staffing & structure	
5100-29 Fire Reports	
Fire History 2002-2006 for each national forest if not included in LRMP/FMP	
Fuels Treatments (01-06) History of Fuels Reduction Actions in NF for 5 Years – location specific (NFPORS)	
Fire-use Programs in effect	
Regional Reviews (over 5 million fire)	
BAER Review/Plan	
State/Local/Other Reviews	
ITEMS WITH LFCR TEAM:	
FSM/ 1430 – 5100 FSH 5100	

National Mob Guide/Geographic Area Mob Guide/Red Book	
GAO Guide (yellow book)	
LFCR Training Handouts	
Notebooks/File Folders/3 Ring Binders	
Plastic or Paper Box to Carry Data	
Misc. Office Supplies	
Laptop	
ITEMS FROM INCIDENT	
Delegation of Authority	
WFSAs	
Cost Share Agreements – (State, Local, Tribal, Private etc)	
Daily Incident Action Plans (from day 1 to date)	
IMT Summaries	
Fire Maps by Division (daily)	
Fire Maps (Progression)	
Fire Maps (IA-EA-LF to final)	
Evacuation/Structure Protection Plans	
Copy of ICARS database on CD	
Daily Press Briefings	
Safety Reviews	
Aviation Documentation	
IMT After Action Reviews	
IBA Report	

APPENDIX IV

**THIS IS A SAMPLE REPORT BASED ON
INFORMATION TAKEN FROM VARIOUS 2006
REGION REVIEWS**

**FY 2006
Mississippi Region
Large Fire Cost Review(s)**

August 31, 2006

Team:

George Brown, Title, Unit
Diane Green, Title, Unit
John Grey, Title, Unit
Marci Blue, Title, Unit

Executive Summary

This is the bottom line of the report. If you were meeting with a busy executive or Hill staff and you had three minutes to speak, what would you tell them?

Example:

The Pacific Southwest Region conducted fire cost containment reviews for the 13 fires that exceeded \$5 Million in cost per fire during Fiscal Year 2006. The primary purpose was to verify that practices efficiently utilized resources while not jeopardizing safety and effectiveness of the fire teams. The 13 fires and their estimated cost through September 30, 2006 are as follows:

Fire	Incident Forest	Costs
Team 1		
Hunter	Mendocino	\$12,102,724
Team 2		
Uncle	Klamath	\$14,713,867
Happy Camp Complex	Klamath	\$12,454,341
Bar Complex	Shasta Trinity	\$24,020,346
Pigeon	Shasta Trinity	\$22,163,371
Orleans Complex	Six Rivers	\$16,876,463
Team 3		
Ralston	Tahoe	\$12,954,153
Bassetts	Tahoe	\$ 5,083,806
Team 4		
Horse	Cleveland	\$13,717,399
Sierra	Cleveland	\$ 7,828,598
Millard Complex	San Bernardino	\$12,963,785
Team 5		
Perkins	Los Padres	\$ 6,807,554
Day	Los Padres	\$54,409,859

The Fire Cost Containment Reviews were performed by 5 teams led by a Forest Supervisor and included a fire operations manager and a third member with fiscal expertise.

I would also like to see the total (or estimated total depending on when the review is done) large fire costs for the region. A busy executive doesn't have time or want to add up all of the numbers.

Example:

The Pacific Northwest Region performed cost reviews on 7 large fires that exceeded \$5.0 million. With the exception of Tripod, the reviews were conducted by the same team to

provide consistency in method and content between the reviews. They used the basic template provided in the WO letter of July 18, 2006 and followed the protocol for site visits and interviews. The team focused on those items that resulted in significant cost expenditures or cost savings. There were numerous cost savings measures taken by IMTs that are not specified in this report but are included in the individual incident reports. The teams are generally doing a good job of saving money where they can but the issues captured here for further action are beyond the capability of the team to implement. The following summarizes key points within this report:

- Overall the incidents were managed in a cost-effective and efficient manner. Further advancements in cost efficiency can be most readily found in the alternatives selected and in direction to the IMTs.
- The Wildland Fire Situation Analysis (WFSA) process was followed in accordance with established policy on all incidents. Delegations of Authority were in place with references to effective management and cost containment on all incidents reviewed. There is a finding and recommendation to improve WFSA quality that will have a positive effect on cost.
- Shortages of resources had a significant impact on the implementation of suppression strategies. This added to costs by increasing the amount of time required to implement suppression strategies while fires continued to grow in size. Strategy and tactics need to reflect the level of available resources.
- Individual reviews identify numerous actions taken by IMTs to be more cost efficient and recommendations for improvements. All IMTs produced documentation of cost saving actions they took on assigned incidents. Cost efficiency has become one of the business management norms for IMTs.

What is good about this executive summary is that it succinctly summarizes the key findings. The team did not try to summarize the whole report or provide a laundry list of all of their findings. This combined with the first example that includes cost information would be a good executive summary. Of course, the difficulty is in selecting the 3 - 5 most important points to include in the executive summary.

Fire Summary

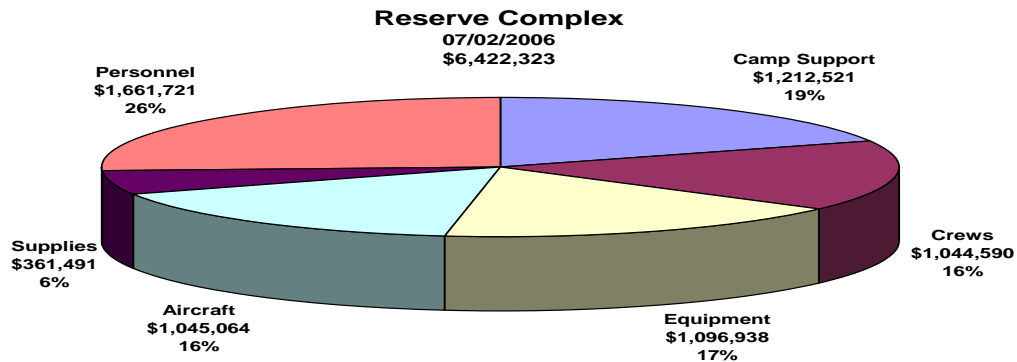
Most of the teams did a great job summarizing their fires. At a minimum, the start date, full containment date, fire cause and any significant weather or other events or circumstances that adversely affected fire suppression should be included. In addition, indicate whether or not a cost share agreement was in place, the type of agreement (acres burned, apportionment, etc.) and, if possible at the time of the review, estimate how much each entity will pay.

Reserve Complex:

New Mexico had been in an extended drought for several years and winter moisture had been minimal. The Gila National Forest had received several wet storms in May, moderating Energy Release Components (ERC) and overall burning conditions. Early prescribed burns were not successful, even helitorch ignitions would not burn.

The Reserve Complex consisted of the Martinez Fire and Wilson Fire which were started by lightning on the afternoon of June 6, 2006. Both fires were initially managed as wildland fire use. Local line officers evaluated the risk charts assuming a “mid-season” fire scenario with a 45-day burn window until a season ending weather event might occur. Both fires burned moderately and by June 14, the Martinez WFU was about 2,500 acres and Wilson WFU was approximately 2,000 acres. Due to increasing burning conditions and the fact that the Martinez WFU was moving southwest toward the Rancho Grande subdivision, the fire was converted to the Martinez II wildland fire and a T-2 IMT was ordered.

The Wilson WFU continued to be managed for resource benefit with no threats to private property or infrastructure. A significant wind event occurred on June 15 which caused both fires to double in size. The complexity analysis was re-evaluated and a T-1 IMT was ordered for the Reserve Complex which included the Martinez II Fire and the Wilson WFU. On June 17 when the IMT assumed command of the Reserve Complex, the two fires had grown to a combined 11,800 acres. Staffing on the Reserve Complex peaked at 795 personnel on June 20, 2006.



Reserve Complex, Gila National Forest, New Mexico
 Cost: \$6,294,965 \$408/acre
 15,436 Acres Burned
 Structures Threatened: 200-550 (6/15-20 per 209s)
 Fire Dates: 6/06-7/01/06
 FUMT/FUMT/Type II/Type I/Area Command/Type II

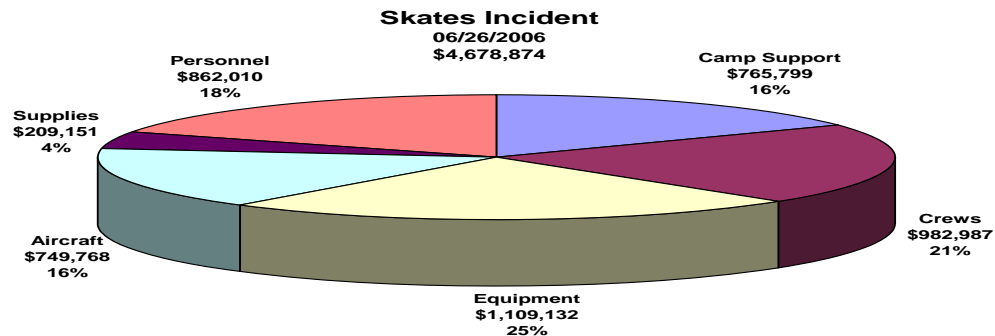
Incident Commanders: A, B, C

Skates Fire:

The Skates Fire was started by lightning on June 2, 2006. The fire was initially managed as wildland fire use. Local line officers evaluated the risk charts assuming a “mid-season” fire scenario with a 45-day burn window until a season ending weather event might occur. The fire was managed by a FUM2, burned moderately, and by June 9, Skates WFU was about 2,900 acres in size. Due to increasing complexity and more active burning conditions, a FUMT assumed command of the Skates WFU on June 11, when it had grown to about 4,000 acres. The Skates WFU was continued to be managed for resource benefit with no threats to private property or infrastructure eminent. A significant wind event hit on June 15 which caused the fire to cross mitigation lines, threatening the Lake Roberts Estates subdivision and forcing evacuations and highway closures.

The complexity analysis was re-evaluated and a T-1 IMT was ordered for the Skates Fire. On June 18 when the Dietrich IMT took over the Skates Fire it had grown to 10,800 acres. On June 20, 2006, the Dietrich T-1 IMT was ordered for the Bear Fire in the northern part of the Gila NF. The complexity analysis was redone and the Skates Fire was about 12,500 acres when the T-2 IMT assumed command on June 21. The Skates Fire was transitioned to a T-3 IMT on June 26, and was contained at 12,582 acres on June 27, 2006.

Staffing on the Skates Fire peaked at 554 personnel on June 18, 2006.



Skates, Gila National Forest, New Mexico

Cost: \$4,519,282+ \$359/acre

12,582 Acres Burned

Structures Threatened: 150-200 (6/15-21 per 209s)

Fire Dates: 6/02-29/06

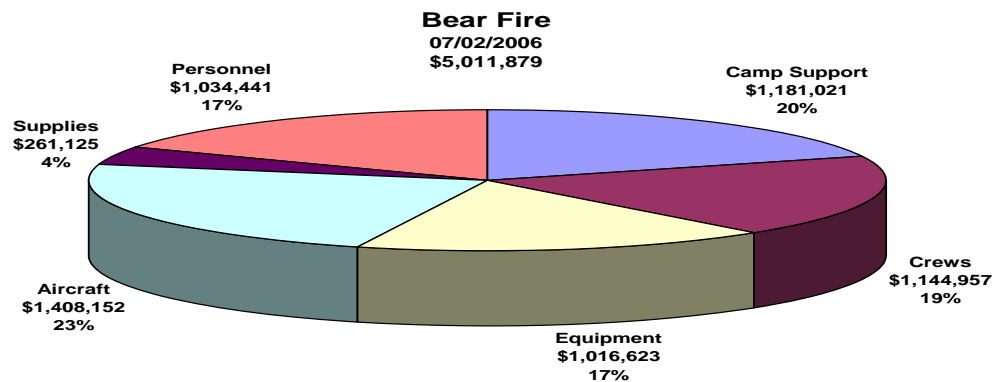
FUMT/FUMT/Type I/Area Command/Type II

Incident Commanders: A, B, C

Bear Fire:

The Bear Fire was human caused and started on June 19, 2006. Drying conditions and a significant wind event on May 15 had left the fuels highly susceptible to ignition. On June 19, when the T- 3 IMT assumed command of the Bear Fire, it was estimated to be 7,000 acres. Extreme fire behavior and rates of spread were observed in the pine re-growth in old harvest blocks. The complexity analysis was re-evaluated and the Bear Fire was about 33,000 acres when the T-1 IMT assumed command on June 21. The Bear Fire was contained at 51,307 acres on June 26, and transitioned to a T-2 IMT on June 29.

Staffing on the Bear Fire peaked at 937 personnel on June 25, 2006.



Bear, Gila National Forest, New Mexico

Cost: \$6,178,848 \$120/acre

51,307 Acres Burned

Structures Threatened: 30-82 (6/19-26 per 209s)

Fire Dates: 6/19-7/04/06

Type I/Area Command/Type II

Incident Commanders:

Black Crater* – This is one of the fires in the Cascade Crest Complex. This fire also started on Monday, 7/23/06 from lightning moving through the area. Although the fire started in the Three Sisters Wilderness on the Deschutes National Forest it soon spread beyond the wilderness boundary and on to NF and private lands. During the course of this incident several subdivisions were evacuated on multiple days. The town of Sisters was threatened and substantial burn-out operations were completed to reduce the risk.

Estimated information through 10/20 shows the fire size as 9,440 acres and a cost of \$8.2 million. There are some costs that belong to other incidents and some of the costs are not discernable from the Cascade Crest Complex. There is a cost share on this incident.

Lake George* – This is one of the fires in the Cascade Crest Complex. This lightning ignited fire started on 8/7/06 within the Mt. Washington Wilderness Area on the Deschutes National Forest. Primary threat was to private land, structures, and the community of Black Butte Ranch. Estimated information through 10/20 has the fire size at 5,550 acres and an estimated cost of \$11.4 million. There are some costs that belong to other, smaller incidents and some of the costs are not discernable from the Cascade Crest Complex. There is no cost share on this incident.

Expenditure Analysis

This section of the report addresses specific costs incurred by the RMA Teams while assigned to the Fire. The costs were tied to both tactical and strategic decisions. This section has recommendation tied directly to the costs identified (see italics).

- Approximately \$800,000.00 was spent on Structure Protection (424 Private structures) through September 7. This amount was derived from the use of ground resources identified in the daily IAPs and records documenting the all associated costs incurred for the potential use of Thermogel.
By ordering a Prevention Team, costs could have been reduced by approximately \$300,000. A minimum of 12 engines for at least one week were devoted to educating the public. A prevention team who specializes in this type of assignment would have cost \$40,000 for two weeks. See FSM 5137 for dealing with structure protection.
- Approximately \$25,000 was spent on nine county resources that were tied to the RMA Team A for team transportation. This included vehicles and ATV's that were not ordered at time of team order.
Conduct a cost analysis to determine if it is cheaper to use rental cars and doubling up verses using county resources that are much more expensive.
- Office Trailer for helibase 26 days at \$1,400 = \$36,400.
Determine need based on Incident Business Handbook Rocky Mountain Supplement. When a cost analysis was completed, the trailer was released.
- ATV's RMA Team A ordered 25 ATV's @ 150.00 per day for a total of \$37,500 (10 days), when RMA Team B arrived they demobed 20 of those for an estimated saving of \$30,000.
The need for and actual use of so many ATV's was poorly documented.
- Lodging for Jackson and Dubois was approximately \$15,000 during RMA Team A's tenure.

- In addition to the National Caterer, other caterer costs were incurred. To date there has been approximately \$60,000 and a possible claim for an additional \$27,000. The RMA Team A was split into two geographic areas (Jackson and Dubois) making it logistically impossible for the National Caterer to cover both areas so a local caterer was hired in Dubois.

Logistics for this fire were unique and confusing. During the phone interview with RMA Team A IC, he informed the LFCRT that his team was split between Jackson and Dubois. Because of the split there was a need for lodging in Jackson. RMA Team A had the national caterer in the Jackson area to support spike camps, and had a local caterer at the ICP in Dubois. Conversations between RMA Team A and the local caterer were poorly documented so there was confusion on length of need for the caterer, therefore a possible claim of \$27,000 may be filed.

Findings

A. Sufficient and Reliable Information:

Do the Line Officers and ICs believe they have all of the necessary information to make timely and prudent decisions? If not, why not?

All weather and fire behavior information was available to all units through the SWCC website. It is up to the Line Officers, staffs, and ICs to gather the information necessary to make timely and prudent decisions for the fires. It was not evident that the information and intelligence that was readily available on the SWCC website was used in the decision process.

All Agency Administrators and District Rangers that contemplate managing a WFU event should attend S-580 Advanced Fire Use Applications, as well as, complete on-the-job training in a shadow assignment with a line officer that is experienced with WFU.

What information is missing that would help them better manage the fire? If so, where and how did they obtain this information?

The FMPs have only a minor reference to cost containment. Current guidance including the Federal Fire & Aviation Operations Action Plan 2006 stresses the importance of wildland fire cost containment and direction should be clearly provided in the Delegation of Authority and WFSA.

B. Social Factors:

What are the socio-political factors driving actions and, therefore, costs at this fire?

Due to the proximity of subdivisions and structures and the potential for the fires to ultimately move into these areas, the Forest Service was compelled to direct the Incident Management Teams to “Protect private structures in surrounding communities and subdivisions.” The delegations further specifies that the State of New Mexico “will pay a percentage of the total suppression cost of the incident based upon a percentage of the final private acreage burned as compared to the total acres burned as identified in the Joint Powers Agreement between the State and Federal Agencies for Wildfire Suppression.”

The WFSA for the Brins Fire states, “the Minimum Suppression Cost Alternative (A) is politically unacceptable to local government and communities” resulting in an approval to expend an additional \$2.4 million largely to protect private property and structures in the Sedona Arizona area.

The direction to protect private structures in surrounding communities and subdivisions resulted in a sizeable commitment of incident actions, resources committed, and costs incurred in those areas that is disproportionate to the acres involved. A cost apportionment agreement that is only based on acres burned, and not on effort and costs incurred, could result in significant cost to the Forest Service to the benefit of state or local governments with private land and property protection responsibility. Even if a fire starts as WFU, this should not deter cost share negotiations.

Can/Were the socio-political factors be satisfied? If so, how? If no, why?

Yes, significant firefighting resources were committed daily to the Structure Protection Group. This included structure assessment, protection, and triage activities. The State and County government were present in an advisory and cooperator status. Unified Command was not invoked on any of the five fires being reviewed. In New Mexico, the public's understanding and support of WFU was enhanced and had a positive outcome because the Forest had been working with communities over a long period of time.

Quantify any costs associated with mitigating these concerns.

Significant costs resulted from the firefighting resources committed each day to the Structure Protection Group. The estimated costs of these resources totaled approximately 6 million dollars for the fires being reviewed.

C. Risk Management:

To what values did this fire pose a threat?

The initial ICS-209 for the Martinez WFU dated June 8 cited a concern to prevent fire spread onto private lands. On June 14, the Martinez WFU was declared a wildland fire and was stated as being direct threat to the Rancho Grande Subdivision. The Wilson Fire was managed under WFU beginning on June 6. The initial 209s for the Wilson WFU

dated June 11 through June 16 stated that critical T&E species habitat, private land and associated structures were threatened.

Among the initial ICS-209s for the Skates WFU dated June 9, cited a concern for smoke management and a need to continue structure assessment in the Lake Roberts area. On June 14, NM State Hwy 15 was closed and the governor visited the area and was briefed on fire operations. The fire was moving toward private property in the Lake Roberts area. On June 15, mandatory evacuations were ordered for the Lake Roberts and Mimbres Valley WUI areas.

Among the initial ICS-209s for the Bear Fire dated June 20, cited a concern for private structures along Willow Creek, the N-Bar Ranch, and the Negrito Work Center. Evacuations and road closures were completed by county officials. The 209s for the Bear Fire stated that critical T&E species habitat was threatened.

Among the initial ICS-209s for the Warm WFU dated June 15, cited a concern to protect the Jacob Lake developed area and private campgrounds and listed a structure protection specialist on the critical needs for the fire. Arizona State Hwy 67 was restricted with pilot car operations in place due to smoke and fire operations. On June 20, Arizona Hwy 89A was closed due to heavy smoke. The 209 for June 23, cites the possible evacuation of the Jacob Lake developed area. On 6/26, the NPS decision to evacuate the North Rim of Grand Canyon NP surprised the District Ranger and fire managers, since the trigger point jointly established for the evacuation had not been reached. T-I IHCs, helicopters, air tankers and SEATs were among the critical resources listed as needed beginning on June 22.

According to the 209's for the Brins Fire, 300 to 661 structures were threatened by the fire. In addition, critical watershed values, scenic values, and T&E species habitat were also threatened by the fire.

What was the thought process for identifying and balancing the threat level with acceptable costs?

The risk to the public and private property was appropriate given the potential of wildland fire use for resource benefits. Agency Administrators for four of the fires selected the least cost alternative; the Agency Administrator for the Brins Fire did not select the least cost alternative because it was politically unacceptable to local government and communities.

How did the IMT and the Agency Administrators (AA) quantify the decisions they made to manage the threats?

Agency Administrators quantified decisions through the WFSAs process.

Fire suppression in a given Geographic Area managed by the same National and Geographic Incident Management Teams tend to replicate management direction, tactical

decisions and similar costs. The costs are predictable and the Agency should change direction to the IMTs in order to change the fire suppression tactics and final cost outcome.

How was the risk shared between the general public, local, state and federal agencies?

The risk was primarily assumed by the Forest Service. The States and County government were present in an advisory and cooperator status. The parties did not enter into a Unified Command.

How would the decisions change if these were appropriated funds for which AA's/IC's were held accountable?

The Forests used the appropriate fire suppression strategy as identified in the WFSA by way of a thorough analysis of risk, probability of success and cost. This process is designed to guide the AA through a comprehensive decision matrix that demonstrates the appropriate alternatives. The ultimate decision that is made is based upon the evaluation of the social, economic, political, resource, and safety objectives set forth in the WFSA. AAs would not change strategies if the monies were appropriated.

D. Tactical Decisions:

What specific actions did the IMT and AA take to control costs in the three highest cost areas of personnel, contracts and aircraft?

The Gila NF ordered and utilized an Area Command Team to assist with the prioritization of the three incidents and allocation of critical firefighting resources. Other than releasing resources when the incidents were finished using them, there were no specific actions taken to reduce costs in the three areas of personnel, contracts and aircraft.

Specifically, what effect did IMT actions have on overall fire costs? Which actions were within their control and which were dictated by others (AA, politicians, etc.)?

The IMT structured and implemented Incident Action Plans to accomplish the objectives that had been provided in direction by the Agency Administrator. Most of the tactical decisions were made by the IMTs.

The IMTs on the five fires reviewed made the decision to order 319 trainees with a resulting cost of \$1.5 million. These actions significantly add to the overall suppression cost with limited returns to the Agency because the trainee positions were not necessarily in shortage categories and/or agency personnel.

How did AA direction impact overall fire costs?

The Agency Administrator provided direction for the IMT to “Protect private structures in surrounding communities and subdivisions.” This direction resulted in a cost of approximately 6 million dollars for the five incidents. Using acres burned for State costs limits potential dollars recovered to the Federal government.

Recommendations

Work with the ASC to develop *fire business management skills* especially Finance Section Chiefs and buying teams. The fire business skill base has reached a crises mode.

Fill *vacant fire positions* at all levels. Gaps in fire program leadership are adversely affecting initial and extended attack capacity, and reduce the Region’s ability to respond to large fire support. Establish a priority to fill key fire leadership positions before next fire season. This is a Region-wide issue.

Minimize use of *non-federal resources* whenever possible. The costs are significantly higher for these resources, particularly for many municipal personnel and equipment. One means of increasing use of federal resources is to staff Agency modules at appropriate levels.

Develop clear, consistent national and regional direction on *cost containment terminology*, particularly as it relates to WFSA preparation and use in decision-making.

Develop and institutionalize a documentation process for teams to use in displaying their decision making process and outcomes.