United States
Department of
Agriculture

Forest Service

FS-903

April 2008

Fire and Aviation Management Fiscal Year 2007 in Review

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Letter From the Director

The greatest accomplishment of fiscal year 2007 was being safe and successful. Human safety is, and always will be, our first priority as we strive to protect and manage the public lands entrusted to us. I am thankful every day that in 2007 we have not had to mourn the loss of any Forest Service firefighters on the fireline. We in the Fire and Aviation Management program have faced many challenges this year and made measurable accomplishments. We are strategically preparing for the years to come.

Fire and Aviation Management is at a crossroads. Critical analyses of the program's function and purpose over the past 10 years has led to the creation of various documents and policies, review of management areas, and the integration of fire with ecosystem management. As the agency looks forward to the next decade, Fire and Aviation Management must significantly increase efficiency, manage organizational structure, and lead the charge to improve land conditions.

We are continually challenged by the growth of communities into previous wildland areas—80 percent of our population lives in urban environments. As the Chief has pointed out, these residents need to understand the connection of natural resources to their homes and communities, as well as the effects of climate change, the importance of protecting water resources, and the necessity for maintaining healthy forests. Fires are a natural part of forested landscapes, but each year wildfires come earlier and last longer. Fires burn hotter and bigger; they have become more damaging and dangerous to people and property.

As wildfires and their associated risks increase, controlling the cost of fighting wildland fire continues to be one of our greatest challenges. Gone are the days of "throwing everything but the kitchen sink" at each and every fire. We are making the transition from "overwhelming mass" applied to every fire to using the doctrinal approach of speed, agility, and focus. Make no mistake, I am not suggesting that overwhelming mass will cease to be an objective for some fires, but I am suggesting that a variety of wildland and prescribed fire will benefit from the application of a doctrine that considers speed, agility, and focus.

To accomplish this transition we, along with our interagency partners, have adopted management efficiencies focused on wildfires, which were categorized into the areas of Leadership, Operations, and Management. These management efficiencies were practiced with some great success during the 2007 fire season—realizing a savings of approximately $200 million. This practice, coupled with the doctrinal approach to wildland firefighting, will enable us to create an organization guided by well-stated doctrinal principles that represent the reality of the work, the environment, and our mission.

Finally, the basis for our accomplishment is anchored in people. Partnerships among Federal, State, tribal, and local firefighting agencies continue to expand and improve the efficiency and effectiveness of wildland fire management across agencies and boundaries. We need to incessantly build a strong, well-trained workforce that can teach others; think and react to the future in a professional, trustworthy manner; and always act with integrity.

As public servants, we are accountable to those who trust we will do our jobs and do them prudently, professionally, and effectively, in collaboration with our other Federal, State, tribal, and local partners. This publication is intended to be a reflection of the year past—a report card of sorts, which details some of the challenges we have faced and some of our accomplishments and successes. It is centered on certain themes—the goals identified in our National Fire and Aviation Strategic Plan, which tie back to the Forest Service Strategic Plan. Those goals include technology and science; protection of life, property, natural, and cultural resources; hazardous fuels and restoration; community assistance; effective communications; and promoting workforce capacity and diversity. We recognize that our future is decided with people and that having strategic goals and a doctrinal approach to managing wildland fire is vital. We will continue to work toward those goals.

The challenges are many, but with our talented, dedicated employees and the support of our partners, we will continue to progress. I look forward to working together to meet the challenges in the years ahead.

Tom Harbour, Director

Contents

Part I. 2007 Fire Season Discussion

Agency suppression expenditures have increased in recent years due to the effects of the wildland-urban interface (WUI) and climatic and ecological changes. As a result, protection of life, property, and natural resources from wildland fire has become more complex, demanding, and expensive.

In fiscal year (FY) 2007, the Forest Service, U.S. Department of Agriculture, continued implementing an aggressive hazardous fuels reduction program, accelerated the use of risk-informed management, initiated operational efficiencies, and adopted rigorous management controls. More specifically, these actions included the following:

- Focusing on hazardous fuels treatments in WUI areas and in fire-adapted ecosystems that present the greatest opportunity for restoration.
- Accelerating development and deployment of decision tools similar to the Wildland Fire Decision Support System (WFDSS) to support risk-informed incident management.
- Implementing operational efficiencies, such as managing national and critical resources for maximum flexibility and expanding the use of exclusive-use aviation contracts.
- Executing management controls akin to the establishment of the Inter-Deputy Group, the Chief's principal representative, and the line officer certification process for incident management and to the enhancement of fiscal monitoring and oversight.

Fire and Aviation Management (FAM) has worked aggressively with other agency programs and cooperators to implement these strategies and manage suppression expenditures. These actions resulted in significantly lower suppression expenditures than would have occurred under previously implemented strategies.

Fire Crews, Boise National Forest, Idaho

Fire Suppression Expenditure Forecast

FAM uses a model developed by the Rocky Mountain Research Station (RMRS) to forecast fiscal year fire suppression expenditures. The model, which has been used since FY 1998, relies on Predictive Services' forecasts and on historical and current year-to-date expenditures to estimate future expenditures. A 2005 analysis indicated this respective model does extremely well in forecasting suppression expenditures. The FY 2007 August forecast indicated a range of Forest Service expenditures from $1.4 to $1.75 billion with a median forecast of $1.57 billion.

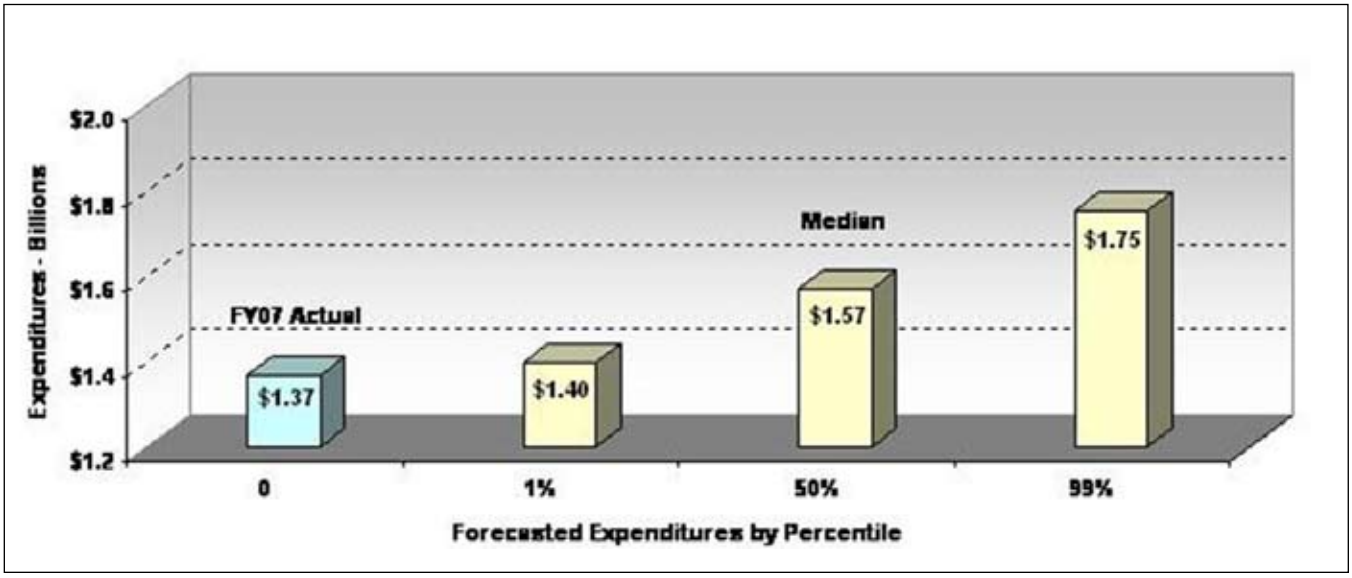
The Forest Service expended $1.37 billion at the conclusion of FY 2007—below the 1 percent probability forecast of $1.4 billion and $200 million below the median forecast of $1.57 billion, achieving the agency's projected $200 million of savings in FY 2007. The savings were realized as a direct result of the agency's aggressive implementation of risk-informed management, operational efficiencies, and management controls.

FY 2007 Wildland Fire Management Appropriation Highlights

In February 2007, the President signed the Revised Continuing Appropriations Resolution, 2007 (P.L. 110-5), which included funding for the Forest Service through September 30, 2007. The full-year Continuing Resolution sustained all requirements, authorities, conditions, limitations, and other provisions of the FY 2006 Appropriations Act, with the exception of emergency funding. The Act also stripped all earmarks from the bill and report language.

The full-year Continuing Resolution included specific amounts for Wildland Fire Management, plus an additional amount for pay-costs—the total Wildland Fire Management appropriation was approximately $1.82 billion. In May 2007, an Emergency Supplemental via Public Law 110-28 authorized $370 million for Fire Suppression, bringing the total FY 2007 appropriated Wildland Fire Management funds to $2.19 billion. Several other notable changes occurred from FY 2006.

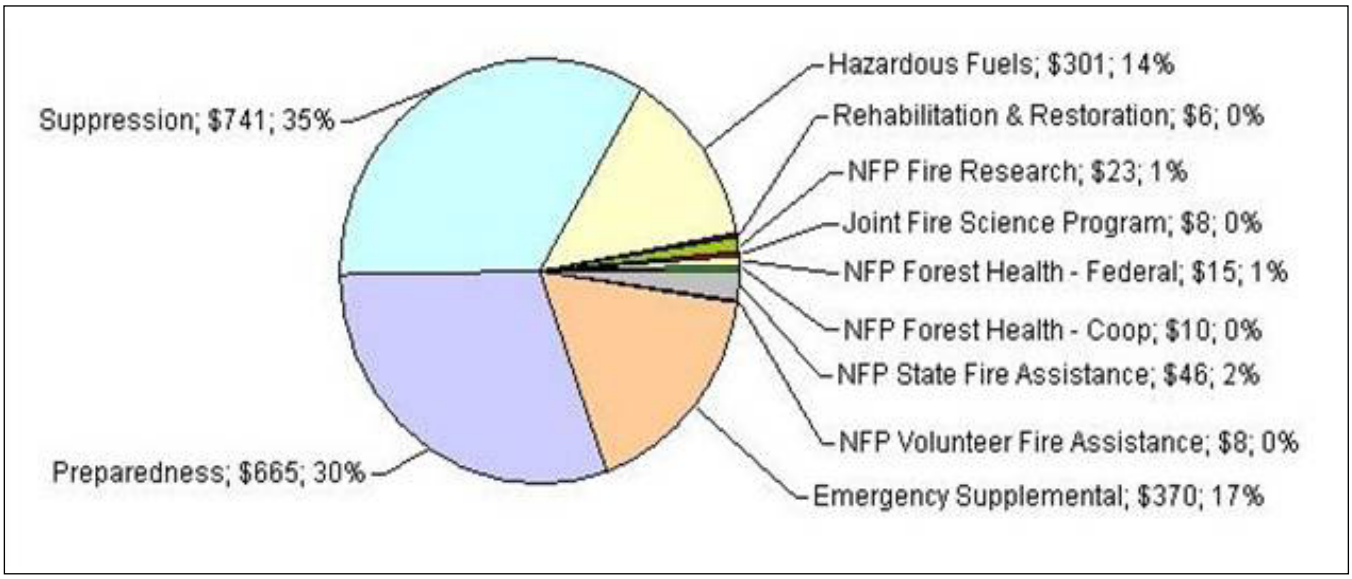
- Total funds for Preparedness increased by $5 million. Regional allocations increased $29 million to ensure readiness capability was commensurate with congressional intent.



- Funds for Hazardous Fuels increased by $21 million. Regional allocations increased $14 million. These numbers do not reflect funds from other programs or appropriations. The agency also initiated use of a newly developed risk-based allocation process.
- Total funds for Suppression Operations increased by $51 million. This increase was based on the inflation-adjusted, 10-year moving average of suppression expenditures. An Agency Severity fund limitation of $35 million was established; it included regional limitations.
- The remaining funds for all other Wildland Fire Management accounts remained relatively constant.

Wildland Fire Management represented 42.1 percent of the Forest Service's discretionary budget in FY 2007—a significant portion and a 1.4 percent increase over FY 2006. The agency expended $1.374 billion on fire suppression in FY 2007, necessitating a $100 million transfer of funds from other program areas.

FAM aggressively pursued budget-planning strategies to enhance efficiency and cost effectiveness through risk-informed allocation of preparedness resources (Fire Program Analysis), alternative methods of funding suppression activities (Fire Partitioning), risk-informed prioritization of hazardous fuels treatments (Ecosystem Management Decision Support), and prioritization of funds to States (State and Private Forestry Re-Design).



Part II. Major Accomplishments

FY 2007 started where 2006 left off, with a volatile, active fire season in southern California that extended well into the winter months. Predictive Services forecasted significant wildland fire potential throughout the 2007 season. The following critical conditions influenced the wildland fire outlook:

- Drought conditions expanded and intensified across large portions of the West and Southeast.
- Low snowpack, warmer-than-normal forecasted temperatures, and earlier snowmelt over most of the West were likely to dry out timber fuels and cause an early onset of fire season in some areas.
- An abundance of new and carryover fine fuels were expected to green up and cure early, leading to an active, prolonged grassland fire season.
- A hotter-than-normal summer was projected for the West.

Little Goose Fire, Bighorn National Forest, Wyoming

These projections were realized early in the season when, by the end of June 2007, drought and high temperatures resulted in wildfires burning more than 1.1 million acres in the southern area of the United States and more than 161,000 acres in the eastern area of the United States and Canada. Preparedness Level 5 was declared on July 19, 2007, with 61 active large fires burning across 9 geographic zones.

For the 2007 fire season, the Forest Service secured firefighting forces comparable to those available during the 2006 season and added two interagency National Incident Management Organization (NIMO) teams ready to respond to wildland fire incidents.

Escalating fire suppression costs continued to be a concern because, in general, the wildland fire seasons in recent years have lasted longer and acreage figures have grown. In FY 2007, the Wildland Fire Management Appropriation represented 42.1 percent of the agency's discretionary budget—a 1.4 percent increase over the FY 2006 budget.

Over the past several years, various studies and assessments dedicated to fire suppression costs have been conducted. As a result of these reviews, several hundred recommendations were made. FAM has taken those recommendations seriously and, this year, has aggressively pursued cost efficiency and management strategies to enhance the efficiency and cost effectiveness of fighting fire. Management efficiencies adopted included cost control measures focused on leadership, operations, and aviation and general management practices. Implementing these management efficiencies proved effective during the 2007 season; their components and successes are discussed in further detail throughout this report.

The Successes

Throughout the season, incident managers adopted risk-informed strategies to manage wildfires within the context of the geographic and national situation. They implemented long-term plans with established primary protection objectives, strategies, and tactics to achieve those objectives in an efficient, effective manner within the limits dictated by individual fires. The Forest Service realized great successes in the areas of aviation efficiencies and contracting, hazardous fuels treatments (exceeding 3 million acres treated this year across boundaries), partnership accomplishments, international cooperation, and input into the National Response Plan (NRP). Those endeavors are detailed in the sections that follow. As always, collaboration is expected. Other Federal, State, local, and tribal, partners continue to be an integral, vital part of the Forest Service success in meeting the expectations of Congress and those of the American people.

Management Controls and Efficiencies

Management efficiencies are the cost control measures focused on leadership, operations, aviation, and general management practices. FAM developed these efficiencies after independent, outside sources and other Federal regulatory agencies conducted numerous reviews and evaluations centered on fire suppression and large fire costs. FAM integrated more than 300 recommendations generated from these reviews into the management efficiencies. A number of the suggestions were implemented in 2007 with good success; others will be implemented over the long term. When fully implemented, they will serve to ensure the following:

- Clear, concise understanding of Appropriate Management Response (AMR) or choosing the best suppression strategy for the resources and values at risk (policy transition to risk-informed management).
- Expanded knowledge, skills, and abilities for agency administrators responsible for managing large or nationally significant fires (line officer certification).
- Increased oversight from regional offices and the Washington Office on incidents of national significance (Chief's Principal Representative).

Domke Lake Complex, Okanogan-Wenatchee National Forest, Washington

- Increased support of the agency administrator in developing and implementing decisions (fire suppression decision support).
- Use of severity funds within limits (severity authorization limitations).
- Monitored expenditures and oversight on total cost of each incident.
- More centralized management of critical, high-demand resources, such as Type 1 firefighting crews, helicopters, and heavy air tankers, to achieve more flexibility (national shared resources).
- Revision of the current aviation strategy to ensure the safe, financially prudent use of firefighting aircraft (aviation resource cost management).

This segment of the report will strive to describe each of the management efficiencies implemented in 2007 and some of the success experienced by each.

Stratified Cost Index—Performance Measure for Large Fire Suppression Costs

Due to growing fire suppression costs and the lack of a quantifiable performance measure for suppression expenditures, congressional appropriation language in 2005 directed the Forest Service, in collaboration with the Department of the Interior (DOI), to develop an interim performance measure for suppression expenditures and to begin reporting on this measure in FY 2006.

The interim performance measure called for by Congress was a stratified cost index (SCI), originally specified in the appropriation language as cost per acre/energy release component. After discussions among the Forest Service, DOI representatives, and economists at the RMRS, the Forest Service decided that the SCI would assess a variety of factors influencing suppression expenditures, rather than focus solely on energy release component.

Built using data over the past 10 years of nearly 2,000 large (greater than 300 acres) Forest Service wildfires, the SCI calculates the expected suppression cost of a large fire considering each specific fire's characteristics. The cost calculated by SCI is subsequently compared to actual suppression expenditures.

SCI was incorporated into the WFDSS process during the 2007 fire season. Problems were encountered when SCI considered complexes (or multiple fires), because part of what the model uses is the ignition point. With a complex of fires, rather than a single fire, SCI loses that part of the equation. FAM is reviewing how to handle complexes from both the management and data standpoint. In addition, incorporating SCI in WFDSS created some concerns because the spatial data used for SCI are limited in history.

Dutch Wildland Fire Use, Kaibab National Forest, Arizona

The Success

Although refinement of SCI is needed, its use in the 2007 season helped agency administrators and the Chief's Principal Representative evaluate current costs of fires compared to past fires with similar fuels types and ignition sources. SCI enabled officials to better evaluate the tactics and strategies from a historical cost data viewpoint as compared to today's costs. From these data, officials were able to determine whether the proposed approach was comparable. If the costs were higher, SCI afforded them the capability to determine the reasons.

The RMRS is in the process of evaluating the SCI model and will provide Forest Service leadership feedback after completing a sensitivity analysis of the model concerning the use of ignition point.

Federal Wildland Fire Policy

Federal Wildland Fire Policy has changed greatly since 1935 when the agency instituted the "10 a.m. Policy," under which all new fires were to be controlled by midmorning on the day after they were reported. Existing policy gives Federal fire managers a high degree of flexibility in managing wildland fire. Current implementation direction requires that fire managers apply an AMR to every wildland fire event, enabling a common sense approach to managing a fire by applying fire management resources at places and times in which they can be effective and efficient. Beginning with the initial response and continuing throughout the incident, all decisions consider firefighter and public health and safety, fire cause, current and predicted weather and fire behavior, fire effects, values to be protected from fire, management priorities, resource availability, cumulative effects of the fire, and cost effectiveness.

In 2007, Forest Service regions applied flexibilities afforded by Federal Wildland Fire Policy to develop and implement wildland fire responses commensurate with availability of firefighting resources, protection, and resource objectives, coupled with the probability of success. Regional application of the AMR concept freed up firefighting resources for initial attack and focused fire management efforts on critical portions of wildland fire incidents.

Surface Fire, Dutch Wildland Fire Use, Kaibab National Forest, Arizona

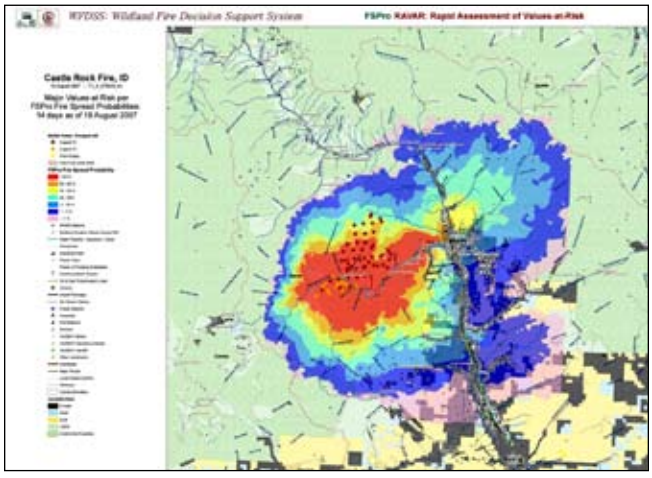
Wildland Fire Decision Support System Tools

Recently, FAM developed WFDSS tools to help fire managers and agency administrators make decisions regarding strategies and tactics on wildland fires. The use of these tools has the potential to improve the understanding of wildland fire decisions and the rationale behind them. This year, they were available for priority fires.

WFDSS—Fire Spread Probability Model

WFDSS-Fire Spread Probability Model (FSPro) is a spatial model that calculates and maps the probability of fire spread, in the absence of suppression, from a current fire perimeter or ignition point for a specified time period. Combining data layers that include the standard fuels models, current weather projections, historical weather scenarios, fuels moisture classification, and wind speed and direction, WFDSS-FSPro can project probabilities of fire spread in specified increments of 7, 10, 13, 30, and 90 days. It is not a fire perimeter like a FARSITE map. WFDSS-FSPro helps managers prioritize firefighting resources based on probabilities of fire spread. The model helps to assess a fire's growth potential. Managers can then match appropriate strategies, tactics, and resource allocations. The program can also aid in communication with affected partners and the public.

Sample FSPro/RAVAR Map from the Castle Rock Fire



WFDSS—Rapid Assessment of Values at Risk

WFDSS-Rapid Assessment of Values at Risk (RAVAR) is also a spatial model, showing the primary resource values to be protected and/or at risk by ongoing large fire events. The program can be integrated directly with the WFDSS-FSPro model, as described above, to identify the likelihood of different resources being threatened. The most important data layer generated by the WFDSS-RAVAR model is the structure layer, using local parcel records, but it is not limited to the assessment of threatened structures. Any resource value that has been spatially mapped may be included within a WFDSS-RAVAR assessment, including power lines, road networks, gas pipelines, recreation facilities, sensitive wildlife habitat, cultural heritage sites, and municipal water intakes. WFDSS-RAVAR helps fire managers prioritize firefighting resources based on values to be protected, segmented by the risk categories from WFDSS-FSPro.

The WFDSS tools can be applied to any fire. Use of these tools is mandated on fires anticipated to reach expenditures of $10 million or more and is recommended for fires anticipated to reach $5 to $10 million.

National Multi-Agency Coordination Group National Shared Resources

National shared resources—such as aircraft, equipment, Type 1 crews, incident management teams (IMTs) and overhead, Fire Use Teams, smokejumpers, military and international assets, and other national contract resources—are now being treated as national agency assets and managed in a centralized fashion. They are moved to areas and incidents based on Predictive Services and planning levels. The goals are to enhance responsiveness of the assigned resources and eliminate concentration of resources in a geographic area. Specifically, the National Multi-Agency Coordination Group (NMAC) implemented the following:

1. Conducting management of Type 1 crews and heavy and medium helicopters in a more dynamic manner. Geographic areas provided the National Interagency Coordination Center (NICC) with specific action points or priority objectives along with resource requirements. NMAC allocated and/or reallocated resources to meet these objectives.

NMAC managed national shared resources to enhance responsiveness.

Such allocation allowed for successful actions on multiple fires, rather than the standard practice of making an automatic 14-day commitment after resources are assigned to an incident.

This management approach provided greater flexibility in the command and control strategy of moving resources to the critical areas through the drawdown of geographic area resources. The strategy engages a certain level of risk, placed on the providing geographic area; however, the risk is mitigated with the ability to quickly redeploy if the situation changes.

2. Assigning NIMO to manage large, complex incidents and implement long-term fire planning and response. In previous years, the agency would have had long Type 1 and/or Type 2 IMTs rotating in and out every 2 weeks with the same anchor and flank strategy. Where possible, strategies other than full suppression were implemented and were successful in mitigating risk to lives, property, and communities. The use of the NIMO teams provided opportunities to allow other Type I teams to be available for incidents that were shorter in duration but highly complex. In addition, part of the cost savings generated above the mobilization and demobilization costs is due to the reduced size of the NIMO teams who operated with less than a full IMT complement of personnel.

The NIMO team also let the New York Fire Department IMT shadow and assist it on a complex Type 1 incident. This effort not only provided support to the NIMO team but also should have helped the agency build capacity in support of all-hazard incidents in the future.

3. Assigning IMTs, in many cases, to manage more than one fire using a range of wildland fire and response strategies.

   The use of Fire Use Management Teams (FUMTs) also changed in 2007 to allow for more flexibility in meeting the demand for teams but also in saving funds by implementing AMR strategies. A FUMT—fully qualified to handle any Type 2 incident—that was already assigned to an incident would also take on the management of a new incident rather than filling the request with another Type 2 IMT. This strategy—implemented several times throughout the season—was used to the largest degree on the Payette and Salmon-Challis National Forests in Idaho.

   Another strategy that NMAC used this year involved allowing an existing IMT, if it was already managing a wildland fire or multiple fires, to manage fire use incidents with the addition of a long-term analyst (LTAN) to the team's personnel. This additional expertise provided increased flexibility in the IMT's use of existing resources and eliminated the requirement for demobilizing the IMT and mobilizing a FUMT and related resources.

The final accomplishment worth noting is that NMAC required a representative from the geographic area to submit a detailed rationale when a team request was submitted. NMAC would review the request and rationale, respond back with the available resources to fulfill the request, and suggest other items and strategies for managing the situation. This approach allowed NMAC to control the number of resources assigned in cases where management of incidents/complexes and strategies could be refined.

Applying these strategies and using AMR and long-term planning resulted in the cost savings presented in table 1.

The comparisons in table 1 show how utilizing the appropriate decision models, using current predictive services information, and managing resources on a geographic-area basis versus an incident-only basis can contribute to reducing the costs of large fires. The same principles and the development of long-term plans and protection points were incorporated into managing the large complexes in Idaho and California as well.

Table 1. Cost comparisons and estimated cost savings, FY 2007 fire season

Incident	Duration	Total Acres	Team Assigned	Total Cost (US$)	Cost Per Acre (US$)
Ahron Fire	25 days	41,260	Type I Team	6,500,000	157
Rattlesnake Fire	23 days	29,652	Type II Team	6,200,000	209
Poe Cabin Fire	14 days	54,500	FUMT	5,400,000	99

Appropriate Management Response—Success Stories

Prioritizing Scarce Fire Management Resources To Mitigate Risk and Minimize Loss in the Northern Rockies Geographic Area in 2007

> *"Cost effectiveness—built to meet objectives of ensuring firefighter safety, investing suppression resources where there is a high probability of success and the values at risk warrant the investment. Point protection becomes far more commonplace than full perimeter control."—Rick Cables, Rocky Mountain Region Regional Forester and Chief's Principal Representative, Montana Fires*

The Northern Rockies Geographic Area experienced a fire season that set records for high temperatures, low relative humidity, and extreme fire danger. Despite the conditions favoring the rapid spread and development of high-intensity wildfires, initial attack efforts achieved a 98-percent success rate. Fires escaping initial attack due to fire behavior conditions and resource availability would require significant commitment of fire management resources to obtain perimeter control or be managed as long-duration events until a season-ending weather event occurred. To minimize costs and maintain initial attack effectiveness, the Northern Rockies Geographic Area implemented a regional strategy for managing these fires to ensure the safety of all fire management personnel and the public while deploying firefighting resources when and where they would be most effective in mitigating economic and natural resource loss.

In 2007, at a strategic level, the Northern Rockies Multi-Agency Coordination Group and the represented agencies adopted a primary strategy of *cost effectiveness* in which learning how to work *smarter* was emphasized over a cost-efficiency strategy of simply working *harder*. Using this regional strategy, they aggressively implemented the flexibility afforded them by Federal Wildland Fire Policy. The region applied a wide range of strategic and tactical options to manage wildland fires that met protection and fire use management objectives, as described in their respective land management plans.

When appropriate, and after completion of a Wildland Fire Implementation Plan (WFIP), the region manages a naturally ignited fire to achieve resource benefits as a wildland fire use event. In areas not appropriate for wildland fire use and after a Wildland Fire Situation Analysis is completed, the region develops long-term implementation plans for those fires where assigning additional resources has little chance for successful perimeter control. Decision-support system tools are critical elements used in both the WFIP and Wildland Fire Situation Analysis development.

A key component of the Northern Rockies strategy was the approach taken to prioritize and allocate fire management resources. The prioritization process allocated critical firefighting resources to key management action points—not to individual fires. The use of management action points for both wildland fire use events and long-duration events al-

Crews were placed where needed most, Lolo National Forest, Montana

lowed for the precise application of resources to key sections of a fire in which the consequences of management actions were greatest and did not allow for commitment of resources to the "siege" fire events in which effectiveness and outcomes were uncertain.

The Northern Rockies Multi-Agency Coordination Group established priorities through the use of a decision model that used defined criteria, evaluated the relative importance of the criteria, and rated potential management actions accordingly. Key criteria used in the evaluation included values at risk, probability of success, and duration of commitment of firefighting resources. The decision model process enabled open discussion of evaluation criteria by leadership and facilitated documentation of decisions regarding prioritization and allocation of resources.

Throughout the season, the group developed long-term management strategies for more than 20 incidents, and created WFIPs for more than 64 wildland fire use events. The geographic area monitored fire management costs and accomplishments for individual wildfires and wildland fire use events. This type of monitoring allowed for further evaluation of the effectiveness of these strategies, further understanding of the strategies, and the use of resources, thereby providing a basis for future fire management operations.

Chief's Principal Representative

An incident becomes one of national significance when it has the potential to reach a magnitude and intensity that will capture national attention and/or could become a significant drain on response personnel, resources, and budgets. Wildfires, projected to exceed $10 million in total cost, in general are considered to be of national significance.

In the infrequent situation in which an incident reaches national significance or when requested by a regional forester, the Chief or her designee assigns a Chief's Principal Representative, who is available to assist agency administrators (line officer or designee of the agency responsible for the management of the unit where the incident occurs) in reaching incident management decisions that will achieve safe, effective, and efficient operations commensurate with local protection objectives and national priorities. The Chief's Principal Representative assists the agency administrator to ensure appropriate management and fiscal controls are in place and functioning.

Roles and Responsibilities of a Chief's Principal Representative

The line officer or designee continues to carry incident decision authority associated with his or her respective position; however, the Chief's Principal Representative is responsible for doing the following:

- Providing assistance and advice to the regional forester relative to national policies, budgetary objectives, and incident management priorities.
- Sharing risks associated with incident decisions.
- Providing advice to the regional forester relative to line officer certification and incident management performance.

The Chief's Principal Representative reviews decisions made and decision-support information previously developed on the incident. He or she reviews scarce or critical resources deployed on the incident along with the availability of or need for those resources nationally. The Chief's Principal Representative provides a national perspective to the risk-informed decision process and priority deployment of resourc-

Incident commander briefs the Chief's Principal Representative on the Zaca Fire, Los Padres National Forest, California

es for consideration in future decisions on the incident. He or she assists in developing public information products to ensure that risk-informed decision logic and discussions of national priorities are incorporated. Throughout the incident, the Chief's Principal Representative documents activities associated with the incident, provides fiscal oversight, assists the regional forester develop a budget for the incident, and ensures that effective, positive communication occurs across all levels of the agency and organization.

Deployment of a Chief's Principal Representative

A flexible approach to meeting the needs of each individual situation applies to the deployment of a Chief's Principal Representative. In some cases, the Chief's Principal Representative will be sent to the incident to work directly with the agency administrator and regional forester. A small decision-support group may accompany the Chief's Principal Representative to provide support not already available at the incident. In other cases, the Chief's Principal Representative may work remotely through telecommunication means.

Chief's Principal Representatives Success Story

During FY 2007, the Chief deployed Chief's Principal Representatives to eight incidents of national significance throughout the United States. Each was responsible for preparing a report at the conclusion of his or her assignment. The following reveals some of the common observations made by the Chief's Principal Representatives:

- The Chief's Principal Representative concept is an excellent idea. Assigning amember of the national leadership team to represent the Chief and to assist line officers or designees in reaching incident management decisions that achieve safe, effective, and efficient operations, commensurate with local protection objectives and national priorities, and to help the agency administrator ensure that appropriate management and fiscal controls are in place and functioning, should be continued.
- AMR and the use of WFDSS tools are the keys to cost efficiency when managing wildland fire.
- The use of a Chief's Principal Representative on incidents provides the opportunity for mentoring line officers with limited fire experience.

"Implementation of an appropriate management response appears to have produced substantial cost savings . . . , Review of Incident Status Summaries (ICS 209) shows an emphasis on making resources available for other incidents as soon as possible . . . . Emphasis was also given to renegotiating high-cost services."—Chuck Myers, Southern Region Regional Forester and Chief's Principal Representative, Zaca Fire, California

Line Officer Certification

All line officers will meet enhanced qualifications before being designated as the responsible official for an incident. The certification process has been developed and is designed to improve decisionmaking and risk management on large fires. Certification will be at three levels. In addition, a mentoring network of experienced line officers has been established to provide training and share experience to enhance performance skills.

Aviation Efficiencies and Contracting

A full-time national helicopter coordinator is in place to provide national interagency oversight for assigning and positioning helicopters. This year, the Forest Service shifted to more exclusive-use versus call-when-needed contracts for helicopters. This change in contracting procedures greatly reduced large-fire suppression costs with the potential cost savings in the tens of millions of dollars per year. The agencies are pursuing longer term aviation contracts for all aviation resources with increased performance-based contracting.

The National Interagency Aviation Committee (NIAC) prepared an overarching strategic plan to address the interagency strategic direction. The NIAC plan was constructed with input from participating interagency partners. This strategy includes an overview of aviation doctrine, mission requirements, currently available aviation assets, the role of Federal and State governments in utilizing and managing aviation assets, and future infrastructure and technology needs.

Ham Fire, Superior National Forest, Minnesota

The Forest Service and other agencies involved with plan development realized the need for more specific strategies to address individual agency needs. The Forest Service has developed a supplement to this plan to bring the overall interagency strategic direction to the agency level. The Forest Service supports this national strategy with the following initiatives:

- Safety remains the highest priority. A detailed plan to complete airworthiness assessments for all Forest Service firefighting aircraft in compliance with the National Transportation Safety Board's recommendation A-04-29 will be formulated by January 31, 2009.
- Control of the escalating cost of aviation assets is the second priority. Centralized management of airtankers and Type 1 helicopters, prepositioning of aircraft, and a greater reliance on speed and accuracy will be used to operate more efficiently and maintain adequate delivery capacity without sacrificing safety. Working together with other firefighting agencies to share aircraft, intelligence, and other resources in a more collaborative manner will enhance this effort.
- Rebuild the aging fleet of firefighting aircraft is the third priority. The Forest Service is measuring the loads incurred by firefighting aircraft and developing structural specifications that will identify appropriate aircraft sufficient to carry out the mission in a firefighting environment for the long term. Rebuilding toward a smaller, stronger, and more agile fleet that takes advantage of modern technology is part of this priority.

Aviation Efficiencies and Contracting—Success Story

Exclusive-Use Contracting for Aircraft Saves $14,475,000

The 2007 fire season was extremely active, requiring activation of all aviation assets on contract. Exclusive-use helicopter contracts were used, yet a need remained for additional helicopters—requiring call-when-needed helicopters to supplement the fleet of exclusive-use helicopters. The following points demonstrate common practices using exclusive-use helicopters before call-when-needed helicopters and indicate when and why call-when-needed resources may be used.

- Pre-season placement of exclusive-use helicopters in areas with higher fire potential can lessen the need for last-minute call-when-needed resources. Exclusive-use helicopters are used under their pre- and post-season option to limit the activation of the more costly call-when-needed resources.
- The NICC helicopter coordinator dispatches helicopters based on the following factors:
  - Date/time needed.
  - Emerging fire or existing large campaign fire or preposition.
  - Estimated duration of incident.
  - Mobilization cost.
  - Daily availability rate.
  - Hourly flight rate.
- The length of need is also addressed at each step of the ordering process to ascertain which resource could be used most efficiently for the lowest cost. The WildCad dispatch analysis program calculates cost of resource, length of need, and proximity to the incident and determines the lowest cost option to meet the need. Instances occur when ordering a call-when-needed helicopter is significantly cheaper than activating an exclusive-use asset. In those instances, call-when-needed helicopters were ordered.
- Incidents routinely cycle out call-when-needed resources when exclusive-use helicopters are available if exclusive-use helicopters provide a better value to the incident's needs. The NICC helicopter coordinator assisted in this transition.

- When the need reaches a level in which nearly all helicopters on contract are required, exclusive-use resources were used first to assist in the success on initial attack incidents. The complement of personnel on an exclusive-use resource makes these helicopters an excellent use of the resource. On the other hand, call-when-needed helicopters do not come with personnel and are better served on large incidents rather than on initial attack, if they are used at all.
- The NICC helicopter coordinator works to use exclusive-use helicopters whenever possible instead of call-when-needed resources, finds aviation personnel to assist with incidents, and tracks aircraft movements and utilization daily to ensure and realize the greatest efficiencies.
- Exclusive-use helicopters are contracted to guarantee their availability for the duration of the time period contracted. The average national exclusive-use contract period is 90 days. Call-when-needed aircraft have the ability to work for the Forest Service one day and another agency or organization the next; there is no commitment from the vendor under the call-when-needed contract.

The efficiencies identified above led to an estimated cost savings of **$14,475,000** for the fiscal year based on using the aircraft under exclusive use. Total cost savings estimated for the entire life of the contracts is **$26,441,486.**

Hazardous Fuels Accomplishments

The hazardous fuels treatment and ecological restoration job that lies before Federal land management agencies, States, counties, local communities, and tribes is enormous. The best opportunity to protect communities and valuable resources in the event of a problem fire is to reduce hazardous fuels accumulations through active management, program alignment, and resource leveraging to bring the full capability of the agency and its partners to bear on the problem. Despite an extremely busy fire season, the Forest Service was able to reduce hazardous fuels on more than 3 million acres from all vegetation management programs in 2007.

The Forest Service remains committed to reducing hazardous fuels adjacent to communities. Since the National Fire Plan was instituted in FY 2001, nearly two-thirds of all hazardous fuels reduction funds have been invested in the WUI, treating more than 7 million acres directly adjacent to communities—an area comparable in size to the State of Maryland. In 2007, the Forest Service treated 1.4 million acres of WUI. Fuels reduction in the WUI is the most complex, costly work done, balancing risk, weather conditions, access, smoke concerns, and important but intricate collaborative relationships with communities, stakeholders, and partners.

The number of hazardous fuels acres treated from FY 2000 through 2007 is reflected in Table 2.

Cascade Complex, Boise National Forest, Idaho

Fuel Treatment Project, Wasatch-Cache National Forest, Utah

Table 2. Hazardous fuels reduction accomplishments, FY 2000-07

Accomplishments	Fiscal Year							
	2000	2001	2002	2003	2004	2005	2006	2007
Total Acres Treated–Hazardous Fuels	772,400	1,361,600	1,248,300	1,453,300	1,803,400	1,663,700	1,454,300	1,725,400
WUI acres		611,600	764,400	1,114,100	1,311,000	1,187,900	1,045,100	1,138,500
Non-WUI acres		750,100	494,000	339,200	492,400	476,000	409,200	586,900
Other programs								
Restoration					550,200	730,300	839,500	821,200
SFA grants			40,100	136,300	146,000	76,600	82,000	216,000
Wildland fire use	37,900	62,600	59,400	290,900	60,900	251,100	171,700	264,100
TOTAL ACRES	**772,400**	**1,361,600**	**1,258,300**	**1,453,300**	**2,560,500**	**2,721,700**	**2,547,500**	**3,026,700**

SFA = State Fires Assistance

Hazardous Fuels Prioritization and Allocation System

Increased numbers and frequency of large fires have drawn attention to the agency's hazardous fuels reduction program and the method by which areas are prioritized for treatment and funding. To identify high-priority areas and integrate hazardous fuels treatments, the agency developed a consistent, spatially relevant process to inform funding allocation decisions. By implementing this system, the Forest Service is able to more effectively implement hazardous fuels projects and funding to have the greatest impact.

The Forest Service and the DOI now use the prioritization and allocation methodology for the hazardous fuels reduction program. Nationally consistent geospatial information is modeled to prioritize regions for hazardous fuels funding. The following decision criteria determine the priorities:

- Wildfire potential (based on fuels potential, weather potential, and large-fire occurrence potential).
- Negative consequence associated with catastrophic fire (values at risk).
- Past performance and other opportunities (other funding sources and restoration objectives).

LANDFIRE is a 5-year, multipartner project producing the only consistent and comprehensive national vegetation and fuels maps covering all ownerships in the United States. In its fourth year of development, the project continues to make good progress with anticipated completion of the continental United States by FY 2008. A contract will be awarded to continue the development process for Alaska and Hawaii. LANDFIRE products help land managers prioritize areas for hazardous fuels reduction and ecological restoration and are routinely used to support wildland fire suppression decisions.

LANDFIRE products are used by the Hazardous Fuels Prioritization Allocation System, Fire Program Analysis, WFDSS, and the State and Private Forestry Re-Design Analysis Tool. It will also feed directly into the Southern States Wildfire Risk Assessment. The project has an approved Operations and Maintenance Plan and is on time and on budget.

Hazardous Fuels—Success Stories

"The extent of hazardous fuel treatments on private lands in this area is not common. We did not see a single home in the Stage I or II evacuation areas that we felt we could not defend. This is a tribute to the hard work of your community."—Joe Molhoek, Type II Deputy Incident Commander, Tin Cup Fire

Fuels Treatments Help Firefighters Save 100 Homes on Tin Cup Fire, Darby, MT

Hazardous fuels treatments on public and private lands significantly contributed to the success of firefighters when containing the Tin Cup Fire outside Darby, MT, during the 2007 fire season. The fuels reduction projects resulted from partnerships among the Forest Service; Montana Department of Natural Resources and Conservation; the Bitter Root Resource Conservation and Development Area, Inc.; and private landowners. The locations of these treatments were guided by priorities established in the Bitterroot Valley's Community Wildfire Protection Plan.

The Bitterroot National Forest treated 214 acres during the months preceding the fire; and the Bitter Root Resource Conservation and Development Area, working through grants from the Forest Service and the Montana Department of Natural Resources and Conservation, assisted five landowners in treating an additional 102 acres during the previous 5 years.

Fuels Treatments on public and private lands significantly contributed to success of firefighters

Preparation Spares Community During Grass Valley Fire, San Bernardino National Forest, California

Tammy Hopkins awoke just after 4:30 a.m. on Monday, October 22, 2007, to hear her 8-month-old son crying and to realize the power was out in her home. As the Lake Arrowhead area resident scooped her son out of his crib, flashlight beams raked her darkened walls, and she heard the honking of a neighbor's car coming down the road. Back in the master bedroom, the sliding glass doors, which normally opened to a panoramic view of the canyon, revealed a red glow that could mean only one thing—a fire, and a big one at that.

The firefighter's wife was concerned only with protecting the young couple's two sons. She knew she had to do it alone. Her husband had been called to a fire that began earlier in the recent siege of southern California fires. She gathered her things and headed to her husband's grandparents' home down the block to help them.

Grass Valley Fire, San Bernardino National Forest, California

"This project only cost $40,000, but it saved millions of dollars worth of homes—Battalion Fire Chief George Corley, San Bernardino County, CA

In the 15 minutes it took to alert the elderly couple and get them into the car, a power line had fallen across the exit route, and the group had to retreat, heading back toward the fire to reach another roadway. "At that point, I could see flames from the canyon below my house," Tammy said. "But the engines were coming down the street, and we had the fuels break."

The fuels break Tammy made reference to was a 150-foot-wide clearance, or ground fuels treatment, funded by the Forest Service through the California Fire Safe Council. It had been something of an experiment. Fire Chief George Corley summarized the project by saying, "We wanted to use our grant to show that you could do a little work along the edge of the interface and get paid extensive dividends. We trimmed up trees and removed ground fuels on the slope beneath the homes."

The experiment worked. In the aftermath of the 1,247-acre Grass Valley Fire, Chief Corley recounted, "What we did gave fire crews enough time to anchor off it (the fire from the fuels break). Firefighters didn't have to struggle with fires in the backyards, so the structure protection units were able to keep moving down the street. Unfortunately, the first house outside the project area burned to the ground. But that's how you know this works; you can stand here and see it. This project only cost $40,000, but it saved millions of dollars worth of homes."

CAL FIRE's San Bernardino Unit Chief Tom O'Keefe added that Arrowhead Fire Safe Council and San Bernardino County Fire "prevented these losses 6 months ago."

Williams Trail Fuels Break Tested During the Galion Fire, Huron-Manistee National Forest, Michigan

In an effort to protect a small subdivision from wildfire, a shaded fuels break was constructed adjacent to homes along Williams Trail in 2002. The fuels break was about one-half mile long and 200 to 300 feet wide. The construction consisted of tree thinning to increase the distance between the tree crowns (upper portions of the trees), and several homeowners prepared for potential wildfire events by establishing defensible space around their homes and thinning flammable tree species, such as jack and red pine.

On August 30, 2007, the Galion Fire erupted to the south of the Williams Trail subdivision. The fire quickly transformed into a running crown fire heading toward the Williams Trail subdivision; however, after the fire hit the fuels break, its intensity reduced to a ground fire. Although the ground fire continued through the fuels break and into the subdivision and destroyed several structures, most structures remained damage free. Homeowners who had prepared ahead of time suffered little or no damage to their homes or outbuildings.

The fire stopped later that day as the weather moderated and ran into the moister, riparian area of Silver Creek. In total, 557 acres burned. Two homes were lost in the subdivision adjacent to the fuels break.

The fire was controlled with assistance from the Michigan Department of Natural Resources; the Grant Township, Tawas City, East Tawas, and Plainfield Township fire departments; Michigan State Police; Iosco County Sheriff; U.S. Fish and Wildlife Service; and the Forest Service.

Galion Fire, Huron-Manistee National Forest, Michigan

Effects of Vegetation Treatments on the Vincent Fire Apache-Sitgreaves National Forest, Arizona

The Vincent Fire started on the morning of May 29, 2007, outside the treatment units contained in White Mountain Stewardship Projects Dutch Joe A and Dutch Joe B. These projects were designed to reduce the threat of wildfire to adjacent private lands. Aggressive thinning and slash removal had been completed in 2006 under the Dutch Joe A project; similar actions were in progress under the Dutch Joe B project.

In each project unit, the understory was thinned and trees up to 18 inches in diameter were removed. Remaining slash was chipped and transported for burning at a 24-megawatt biomass plant. Large diameter trees were retained, but tree spacing was increased and ladder fuels (branches in the lower part of the trees) were removed.

Vincent Fire in untreated area (top photo) and treated area (bottom) of Apache-Sitgraves National Forest, Arizona

After it ignited, the Vincent Fire grew rapidly in size due to dense forest conditions, low humidity, and moderate winds. The ground fire quickly moved into the canopy of untreated ponderosa pine stands, and tree torching and running crown fires were observed.

Once the fire reached the area treated by the Dutch Joe A and Dutch Joe B projects, it dropped from the tree crowns (upper portions of the trees) to the ground, making the fire far easier and safer to control and demonstrating that thinning and slash treatments are effective tools to moderate fire behavior.

Camp Caloosa Project
Lee County, Florida

Camp Caloosa is an 80-acre property in Lee County, Florida, and is designated as a high-wildfire-risk area. The camp is owned by the Southwest Florida Girl Scouts and is used as a residential camp and instructional retreat. Most of the 80 acres are pine flatwoods with a significant accumulation of dense palmettos reaching 10 to 12 feet in height and include areas with dense melaleuca growth.

Efforts to reduce the hazardous fuels began in the area following a request by the local fire department in 2006. The fire department responded to a small wildfire and experienced difficulty accessing the property. They were concerned about the dense vegetation and the need for addi-

Camp Caloosa project widens trail

Treatment area after wildfire burned into northwest boundary of the camp

tional fuels management of the camp. Following a meeting with Girl Scout staff at the camp, a management plan for the property was developed that included a comprehensive mitigation plan.

During the initial phase of the mitigation plan, the Intermountain Region Mitigation Team widened walking trails through the camp. The widened trails were used to define prescribed burn units for the next phase of the work.

On April 4, 2007, a wildfire burned into the northwest boundary of the camp. The widened trails served as firebreaks that stopped or slowed the fire enough for suppression equipment to work effectively. The trails were also wide enough for brush truck access. As a result, the fire burned only 8 acres before it was contained.

The cost of this project, including Intermountain Region team personnel, equipment, and local district personnel working jointly on the mitigation project was approximately $9,000; however, the project protected 21 structures with an estimated value of $3,675,000 in the face of wildfire. The per-structure cost to provide this additional protection was only $426.

Partnership Accomplishments

The Forest Service Partnerships Program identifies, develops, and coordinates with other organizations to achieve shared goals. The result is a synergistic approach to issues such as WUI fire, national emergency response, fire prevention, fire in the ecosystem, State and local unit cooperation and coordination, and many other issues that affect a wide variety of national interest groups.

By collaborating with groups such as the National Association of State Foresters (NASF), International Association of Fire Chiefs, Federal Emergency Management Agency (FEMA), National Fire Protection Association (NFPA), and many others, the Forest Service facilitates a cooperative course of action that yields integrated solutions to common issues.

The Partnerships Program includes Cooperative Fire Protection, specifically Volunteer Fire Assistance (VFA), State Fire Assistance (SFA), and Federal Emergency Personal Property. The program also includes Fire Prevention, the Firewise program, the Wildland-Urban Interface Fire program, and All-Hazard Emergency Response. The Partnerships Program also coordinates any requests for international programs and cooperation for Fire and Aviation Management.

Georgia Forestry Commission officials assist Atlanta NIMO Team during Idaho wildland fires

Cooperative Fire

The Forest Service Cooperative Fire program provides support and grant opportunities to help State and local agencies prepare for and respond to wildland fire. The two most important grant opportunities include the SFA and VFA programs. Many other important initiatives are supported either through collaborative efforts or grants. Examples include grants provided to the NASF, International Association of Fire Chiefs, The Advertising Council, and NFPA, as well as collaboration with FEMA. The Forest Service is continuing its commitment, as detailed in a memorandum of understanding, to work with the Department of Homeland Security (DHS) and the DOI to coordinate wildland fire grant programs. Another important achievement of the Cooperative Fire program was the coordination with interagency partners to gain approval of an updated template for preparing cooperative wildland fire agreements with the States. The new template was approved by the National Fire and Aviation Executive Board in January 2007 and will help improve efficiency and facilitate coordination during wildland fires, as well as during Stafford Act emergency responses.

State Fire Assistance

Forest Service funding in 2007 provided more than $79 million for technical and financial assistance to the States for all fire management activities, including training, planning, hazardous fuels treatments, and purchasing and maintaining equipment. SFA funding assisted 33,332 communities in the form of risk assessments, fire prevention programs, fire management planning, and hazardous fuel mitigation projects. An emphasis in funding was placed on WUI. The SFA program provides key support to successful community programs, such as Firewise Communities/USA and Fire Safe Councils, as well as support for an expanded national public service fire prevention program. In addition, many communities and local fire departments, in collaboration with State foresters, developed community wildfire protection plans (CWPPs) to prioritize hazardous fuels treatments and reduce structural ignitability in communities that receive support from SFA funding. SFA grants treated approximately 215,000 acres of hazardous fuels in the WUI, helping to protect more than 6,000 communities at risk from catastrophic wildfire.

SFA funding assisted more than 33,000 communities with various prevention programs

Community Wildfire Protection Plans and Communities at Risk

In FY 2007, assistance was provided for hazard assessments and funding was provided for CWPPs for communities at risk. CWPPs address issues such as wildfire response, hazard mitigation, community preparedness, and structure protection. They provide communities with a tremendous opportunity to influence where and how Federal agencies implement fuels reduction plans on Federal lands and how additional Federal funds may be distributed for projects on non-Federal lands. State foresters evaluate the progress made at reducing risk in communities at risk. A community at risk may be considered at reduced risk by the State forester if the community has mitigated high-priority fuels according to the CWPP, has achieved Firewise or equivalent recognition, or has enacted mitigation or fire prevention ordinances. Table 3 illustrates the current status of CWPPs and communities at risk.

Table 3. Status of community wildfire protection plans and communities at risk

NASF Region	States with Communities at Risk List/Map	Total Communities at Risk	Communities Covered by CWPPs	Communities at Risk at Reduced Risk
West	17	6,169	3,145	1,412
South	13	40,984	1,160	888
Northeast	19	4,459	457	1,514
Total	49	51,612	4,762	3,814

NASF = National Association of State Foresters.

Volunteer Fire Assistance

The VFA program provides grants to rural and volunteer fire departments that serve communities of fewer than 10,000 people. The grants, made by the State foresters, are funded at a 50/50 cost share. In general, most grants are for less than $5,000 and average $2,000 for a fire department. The grants are used for training, firefighting equipment, and safety equipment, including personal protective equipment. They are also used for organizing fire departments. Application for these funds is made by the fire departments to the respective State forester. In FY 2007, the VFA program accomplished the following:

- Increased firefighting capacity by providing technical assistance, training, supplies, and equipment to approximately 10,157 small rural communities.
- Provided nearly $14 million for technical and financial assistance to States to enhance firefighting capacity at State and local levels.
- Supported the organization or expansion of 53 fire departments.

Volunteer Fire Assistance—Success Stories

West Virginia Uses Volunteer Fire Assistance Funding To Train Wildland Firefighters

Rural fire protection in the 20 States served by the Forest Service Northeastern Area State and Private Forestry relies heavily on volunteer fire departments and their members. Although State forestry agencies are legally responsible for preventing and suppressing wildland fires, local volunteer fire departments provide the initial attack capabilities on most wildland fires. For local communities and State forestry agencies, a well-trained, well-equipped workforce is critical to suppressing those fires.

In 2003, the West Virginia Division of Forestry (WVDOF) developed a program to train volunteer firefighters in the suppression of wildland fires. Using funding from the VFA program, the WVDOF trains VFD personnel and university students in three courses that will enable students to fight wildland fires more safely and effectively. Those courses include Basic Incident Command, Fire Weather Behavior, and Basic Firefighter Training. Upon successful completion of these courses, firefighters each receive a set of personal protective equipment—Nomex yellow shirt and green trou-

West Virginia volunteer firefighters and Air National Guard

Fire Prevention messages performed by comedian Jeff Foxworthy aired throughout the South

sers. Firefighters are also eligible to take the work capacity test; if they successfully complete the test, they receive an incident qualifications card—a red card—enabling them to participate on out-of-State fires with the WVDOF.

Since 2003, the WVDOF has trained more than 390 wildland firefighters under the VFA training grant. This number includes members from more than 83 fire departments, 49 students from the West Virginia University School of Forestry, and 28 members of the West Virginia Air National Guard. The WVDOF has been able to increase its firefighting workforce while instilling proper wildland firefighting techniques and safety procedures in its firefighters.

This training program has increased personnel available for the WVDOF's wildland fire crews for both in-State and out-of-State fire assignments. Since 2003, the WVDOF has conducted 8 pack tests and issued more than 180 red cards. In addition, the firefighter training program has become a permanent part of the West Virginia University's School of Forestry curriculum.

Fire Prevention

Smokey Bear turned 63 years old in 2007, and America still needs his message. Each year, people are responsible for carelessly starting many wildfires, including, during the 2007 fire season, the Angora Fire near Lake Tahoe, CA. The Angora Fire ignited when an illegal warming fire was left unattended. It burned more than 3,100 acres, cost $12.7 million to suppress, and destroyed more than 250 homes.

Fire Prevention Education Teams were deployed throughout the Nation before and during the 2007 fire season. The Southern Region leads the Nation with more than 400 trained fire prevention team members.

The teams produced public service announcements (PSAs) for television and radio, created fliers and posters, and conducted Firewise awareness workshops. One of the most notable team achievements was the PSA that the State of Georgia developed for national comedian Jeff Foxworthy, who stated "Even a 5th grader knows you shouldn't start a wildfire. Cut it out!" The PSAs were aired throughout the Southern Region during its busy fire season.

The prevention message across the country stressed the role of individuals in protecting homes and public lands from wildland fires. Prevention teams worked with partners at the University of Nevada–Reno Extension to develop a "one-stop shopping" Web site to educate residents on creating defensible space.

The Fire Prevention Branch continued its partnership with the Ad Council and Radio Disney to increase the awareness of the Ad Council campaigns. The Smokey Bear Fire Prevention Campaign remained at the top of Radio Disney's list of campaigns.

More than $12.9 million in media services were donated in the first quarter of 2007. Radio and outdoor/transit (billboards, bus signs, etc.) media accounted for 62 percent of total donated media support. Highlights of the media campaign's first quarter, when compared to the same quarter a year earlier, include the following:

- 378-percent increase in newspaper-donated media.
- 187-percent increase in magazine-donated media.
- 687,801,976 impressions (each time a target audience member is exposed to the message) on the Internet, including the *New York Times, National Geographic*, and *Google* Web sites.
- Spanish and English radio activity dominated air play with the PSAs *Smoke:60* and *Sprinkler:60*.

Smokey Bear was the only PSA costumed icon at the "Move It! Summer 2007" mall tour in 42 major markets during July and August. Smokey Bear was one of only six PSA campaigns featured at the Eisner Museum of Advertising and Design in Milwaukee, WI. Estimates indicate that more than 20,000 visitors will view the exhibit, which continues through March 2008.

The Southern Region, with help from Eastern and Pacific Southwest Regions, coordinated the Smokey Bear advertisement campaign for the Little League World Series. This ad—American Traditions (apple pie, the American flag, and Smokey Bear)—was spearheaded with help from the Virginia Department of Forestry, and the ad was located in each region's souvenir program guide. The National Garden Clubs and the Forest Service annual poster contest reached 300,000 students.

Smokey Bear ad created for Little League World Series

Wildland-Urban Interface Fire Program

The 2007 fire season started early and got big fast with the Sweat Farm Fire and Bugaboo Fire in the Southern Region. Once again, WUI issues took the forefront. Development in the WUI continues to grow exponentially and, along with it, the cost of fire suppression and the danger to private property. The growth vastly outpaces available resources to protect the structures from wildland fire threats.

Firewise is the best tool for homeowner mitigation of risk from WUI fires. The Partnerships Program's grant and cooperative agreement with the NFPA supports the *Firewise* program. *Firewise* principles, when implemented, significantly increase defensible space and survivability. These principles provide a layer of safety for structures, homeowners, and firefighters. Through this program, the Forest Service encourages and teaches property owners to take responsibility for mitigation on private land. Every dollar invested in the *Firewise* program yields $14 in matching funds or in-kind contributions.

In 2007, every State implemented *Firewise* principles, and 36 States had *Firewise Communities* in place. *Firewise* liaisons operate in 45 States, and more than 300,000 people live in *Firewise Communities*.

Overall visibility and awareness of *Firewise* and its principles have increased nationwide as a result of targeted outreach to the media. Print and broadcast media reached more than 30 million people with the *Firewise* message in 2007 alone. NFPA provided more than 150,000 printed or audiovisual items, mostly free of charge, to fulfill orders received through the online catalog.

The *Firewise* Web site received an average of 40,000 individual hits per month during the peak of fire season. Those individuals accessing the site visited an accumulated total of 1 million times on the site after logging in. More than 8,400 people are registered on the site to receive monthly *Firewise* alerts—e-mail messages with items of interest and upcoming events, such as chat sessions, which are held monthly. Online learning enrollment for fire-related topics has also increased.

***Firewise* HIZ used during East Zone Complex, Payette National Forest, Idaho**

Assessing Wildfire Hazards in the Home Ignition Zone (HIZ) training sessions reached many more with train-the-trainer sessions in five locations across the country. The HIZ training sessions were so successful that they will be continued in 2008.

The Partnerships Program piloted a *Firewise* Hazard Mitigation Team during the 2007 fire season. The team concentrated on addressing issues resulting from increased growth in the WUI.

Restoring Fire Adapted Ecosystems: A Forest Service, Department of the Interior, and The Nature Conservancy Partnership

The Forest Service, DOI, and The Nature Conservancy continue to partner to accelerate fire restoration across the country. Restoring Fire Adapted Ecosystems is designed to advance the common goals of the sponsoring partners, while focusing on collaborative outreach, education, training, and community-based conservation. In 2007, the program centered on developing and promoting a common national fire education message that emphasizes the role of fire in the ecosystem. FAM funded the public education campaign that stresses fire's natural and beneficial role. The campaign complements Smokey Bear's message of preventing unwanted human-caused wildfires. This partnership supports the 10-Year Strategy Implementation Plan and the Chief's focus area of reconnecting kids with nature.

The Forest Service assigned 393 trucks and 218 trailers to State cooperators during 2007

Rural fire department in Oklahoma acquires fire truck through DOD Firefighter Property Program

Federal Excess Personal Property Program

The Federal Excess Personal Property (FEPP) program allows for the lending of Forest Service-owned property, including high-demand equipment and supplies, to State foresters to help State and rural agencies and volunteer firefighters prepare for suppression and presuppression missions on Federal, State, and community lands. The FEPP program provides items from gloves to fire trucks, thereby effecting substantial savings to the taxpayers.

Federal Excess Personal Property Program—Success Story

In 2007, the Forest Service assigned 393 trucks and 218 trailers to State cooperators. In most instances, these items were equipped with tanks, generators, and pumps to assist firefighters on wildland and brush fires. Approximately 17 pieces of heavy equipment were loaned to State cooperators to help maintain and build fire roads. In FY 2007, the State forestry agencies acquired nearly $30 million of FEPP. Currently, 49 States and 5 territories participate in the FEPP program.

Department of Defense Firefighter Property Program

The Firefighter Property Program (FFP) is a new authority that began in March 2006. The FFP allows a State to acquire title to excess military equipment and then assign that equipment to rural fire departments. The Department of Defense (DoD) authorized the Forest Service FEPP program to manage the transfer of DoD property through a memorandum of agreement.

The major difference between the FFP and the FEPP program is the ownership of the items acquired. All items acquired in the FEPP program remain the property of the Forest Service, but items acquired under the FFP are transferred to the recipient. The FFP property is screened at a higher level, therefore, making better quality and larger quantity of property available for the firefighting agencies. The program also acquires items for emergency services, such as search and rescue, hazardous material spills, and emergency medical services equipment, in addition to firefighting equipment, making it beneficial to participating agencies. These functions often fall within the firefighting agencies' responsibilities but are not applicable to the FEPP program.

Firefighter Property Program—Success Story

Currently, 23 States are permitted to acquire FFP equipment—Alabama, Arkansas, Colorado, Connecticut, Florida, Idaho, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, and Washington. New agreements between other States and the Forest Service are in the process of being approved with most States expected to be signed up within the next 1 to 2 years.

In 2007, more than $38 million in equipment went to the 23 States. The North Carolina Division of Forest Resources acquired two backhoes for clearing fire roads, providing a cost savings of more than $6 million to the State agency and North Carolina taxpayers.

The FFP has enabled State cooperators to acquire more than 400 refurbished trucks equipped with pumps and generators to assist in rural wildland firefighting in 2007. With an original acquisition cost of more than $18 million, these free-issue vehicles provided an enormous savings to rural firefighters and volunteer fire departments, not only in resources to fight fire, but also in the level of protection and safety they are able to provide their communities.

Fire Management Today

Founded in 1936, *Fire Management Today* has served the wildland fire community for more than 70 years by providing information, in magazine format, on new techniques, technologies, and ideas. In 2007, a new column, "Anchor Point," penned by Tom Harbour, Director of FAM, was added. This column focuses on the challenges and changes to FAM. Another landmark event occurred in 2007 for *Fire Management Today*—the updating of the Forest Service Web site (http://www.fs.fed.us/fire/fmt/) by adding many previous issues bookmarked to provide ease in finding information.

National Response Plan

The Forest Service is a land management agency with a unique combination of people, skills, and resources that adds significant value to the agency's national all-hazard response capability. The agency accepts its all-hazard role under the NRP as complementary to its overall land management mission. In recent years, a major increase in the number and complexity of all-hazard incidents has resulted in unprecedented demands on Forest Service employees and its partners in emergency response.

The NRP has been revised, and the new draft, called the National Response Framework (NRF), establishes a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. It forms the basis of how the Federal Government coordinates with State, local, and tribal governments and the private sector during incidents. The Partnerships Program staff took the lead for agency participation in revising the NRP by the DHS/FEMA.

Aftermath of Kansas Tornados, Boise NIMO Team deployed to assist

The Forest Service is the primary agency and coordinator for Emergency Support Function 4, Firefighting (ESF4) under the NRP, and this role continues under the NRF. The function of ESF4 is to enable the detection and suppression of wildland, rural, and urban fires resulting from, or occurring coincidentally with, an incident of national significance. ESF4 manages and coordinates firefighting activities, including the detection and suppression of fires on Federal lands, and provides personnel, equipment, and supplies in support of State, local, and tribal agencies involved in rural and urban firefighting operations.

To successfully facilitate this function, the Forest Service has strengthened close working relationships with partner departments and agencies. DOI agencies provide staffing support for ESF4 and wildland fire resource support for mission assignments during all-hazard responses. The U.S. Fire Administration (USFA) provides subject-matter experts and expertise regarding structural/urban/suburban fire and fire-related activities. The Forest Service, in conjunction with USFA, is developing a standardized training program for ESF4 personnel and producing job aids and other ancillary materials for use during ESF4 activations.

San Juan Hotshot Crew assists Boise NIMO Team in aftermath of Kansas tornadoes

Many changes to Federal disaster response have emerged, based on lessons learned from the 2004 and 2005 hurricane seasons. ESF4 personnel participated in exercises to test the procedures resulting from the changes. Several exercises, involving many Federal departments and agencies, were held during 2007. The Forest Service was an active participant in these exercises at both the national and regional levels.

National Response Plan—Success Stories

The following examples highlight some of the Forest Service's all-hazard support to the NRP during FY 2007:

- **Kansas tornadoes**—When a tornado destroyed the town of Greensburg, KS, in May 2007, FEMA activated ESF4 regionally at the Regional Response Coordination Center (RRCC) in Kansas City, KS. ESF4 deployed a Forest Service National Incident Management Organization incident management team and an Interagency Hotshot Crew to establish and manage a base camp for emergency responders.
- **Micronesia floods**—When salt water intrusion from storm surge and unusually high tides in May 2007 wiped out the subsistence food crops in Chuuk, Micronesia, FEMA activated ESF4 regionally to deploy Forest Service personnel as part of a preliminary damage assessment team and later to establish and manage a food distribution program, providing quality assurance and technical assistance to a U.S. Department of Agriculture feeding program.
- **Hurricane Dean**—As one of the strongest hurricanes on record, Hurricane Dean at one point threatened several States and territories. As a precaution, FEMA activated ESF4 regionally at the RRCCs in New York (for Puerto Rico) and Denton, TX, and at the National Response Coordination Center in Washington, DC. Logistics Section personnel were deployed to provide expertise, quality assurance, and technical assistance to FEMA for the establishment of a base camp.

National Incident Management System Support

The National Incident Management System (NIMS) outlines a standard approach to incident management and response that follows the wildland fire model—one used by the Forest Service and other fire agencies for years. It integrates effective practices in emergency response into a comprehensive national framework for incident management. In addition, it enables responders at all levels to work together more effectively and efficiently to manage domestic incidents no matter what the cause, size, or complexity.

The Partnerships Program took the lead for the agency's participation in the upgrade of NIMS by the DHS/FEMA. Subject matter experts from the Partnerships Program were embedded in the senior steering committee for NIMS and chaired the working group that developed guidelines for resource typing, credentialing, multiagency coordination, and emergency operations centers and also published an emergency response guidebook.

NIMS is of supreme importance for national incident management, but its update will have minimal impact on the agency because the Forest Service's current system has been grounded in the NIMS for many years. Impact to the agency includes the following:

- Training agency personnel (IS-700 and IS-800).
- Reviewing emergency plans at the district, forest, and regional levels.
- Reviewing agreements to ensure NIMS compliance.
- Resource typing nonfire assets for disaster service.

Each region has identified a NIMS contact to help coordinate information and to ensure compliance.

More than 600 Federal, State, local, tribal, nonprofit, and private company representatives assisted in the process. Staffs from the Partnerships Program were part of the 10-person final adjudication committee. The upgraded NIMS document was ready for release by the June 1, 2007, timeframe established by the White House. The NRP is awaiting final review and comment.

FAM International Activities

More than 100 years of wildland firefighting experience has earned the Forest Service a worldwide reputation. This experience, along with the technical and professional expertise of fire specialists in the Forest Service, provides the basis for FAM's international involvement.

The Partnerships Program staff members coordinate and manage fire requests for international programs. FAM builds and maintains strategic national alliances through emergency firefighting arrangements with Canada, Mexico, Australia, and New Zealand.

Forest Service personnel assist in Australia during 2007 wildland fire season

Some examples of the success experienced by this program are as follows:

- When firefighting resources became scarce during the 2007 western wildland fire season, Canada provided support through the Canada/United States Reciprocal Forest Fire Fighting Arrangement. The United States also provided firefighting support to Australia in January and February 2007 through the United States/Australian Participating Agencies Arrangement.
- FAM employees traveled to Greece as part of a Disaster Assistance Support Program wildfire technical assessment team in September 2007. The team provided technical assistance and support to the government of Greece during its disastrous fire season.
- FAM employees provided instruction in all aspects of fire management on assignments to Mexico, India, Jamaica, and several countries in the Association of Southeast Asian Nations.
- FAM has been an active member of the North American Forest Commission (NAFC) Fire Management Working Group (FMWG) for more than 40 years. The NAFC is one of six regional forestry commissions of the Food and Agriculture Organization of the United Nations. NAFC, which was established in 1958, provides a forum for fire policy and technical information sharing for member nations (Canada, Mexico, and the United States) to discuss and address North American forest and fire issues. The FMWG, established in 1962, is one of nine working groups under the NAFC.

In May 2007, FAM supported the NAFC-FMWG by co-sponsoring the 4th International Wildland Fire Conference in Seville, Spain.

In September 2007, FAM and NAFC-FMWG supported the exchange of experiences and technological advances by hosting a study tour for firefighters from Australia and New Zealand. The tour visited sites and studied current fire management issues throughout Canada and the Western and Southern United States.

Part III. Looking Ahead to 2008

In FY 2008, Fire and Aviation Management will continue to support the Chief's initiatives by deploying a program with specific focus areas and planned activities. These emphasis areas and activities, highlighted below, will enhance the program and the agency's performance and efficiency. They, and others, will be integral components in FAM's Strategic Plan.

Horse Creek Fire, Bridger-Teton National Forest, Wyoming

Chief's Initiative

FAM will continue to support the Chief's "Climate, Water and Kids" initiative through an integrated program that includes the following:

- Reducing hazardous fuels and integrating fire within ecosystems.
- Expanding use of appropriate management response and wildland fire use.
- Protecting vital watersheds during wildland fires and through the restoration process.
- Initiating an education program, reaching all ages, that emphasizes fire prevention, the natural role of fire in fire-adapted ecosystems, and the connection of natural resources to the homes and communities surrounding the national forests and grasslands.

Focus Areas

Management Controls and Operational Efficiencies

FAM will maintain its emphasis on management controls and operational strategies that improve program oversight, delivery, effectiveness, and efficiency. Using rigorous management controls such as the Chief's Inter-Deputy Group to provide executive-level fiscal leadership and oversight, the Chief's Principal Representative for fires of national significance and the line officer certification process for incident-level oversight will emphasize the importance of cost containment. Strategic use and deployment of firefighting resources and implementation of aviation efficiencies, such as centralizing aviation services and assets, will be underscored.

Risk-Informed Management

The Forest Service will continue to accentuate the importance of decision-support technology development for risk-informed management strategies to support implementation of AMR and prioritization of hazardous fuels. Developing and refining systems and services such as the Wildland Fire Decision Support System, the Ecosystem Management Decision Support System, and Predictive Services are essential to the agency's success. These systems and other tools will support managers in making informed decisions, thereby increasing the likelihood of success and potentially reducing costs.

Integrated Fuels Management

The Forest Service will continue to work collaboratively with other Federal, State, local, and tribal governments and with nongovernmental organizations and other partners to ensure the accomplishment of mutually agreed-to objectives. Program funding will be prioritized and integrated to accomplish Healthy Forests Initiative and Healthy Forests Restoration Act objectives efficiently and effectively. Continued emphasis will be placed on the integration of CWPPs with Federal hazardous fuels mitigation priorities.

Planned Activities

Build Readiness Capability and Mobilization

The Forest Service will provide readiness resources comparable to those used in FY 2007, including approximately 10,480 firefighters, 120 helicopters, and 20 airtankers. The agency will use Predictive Services and other resources to analyze potential fire activity to guide strategic placement of resources. All actions will occur with firefighter and public safety as the primary consideration.

Develop Fire and Aviation Management Strategic Planning

FAM continues to develop a Fire and Aviation Management Strategic Plan linked in part to the current Program Assessment Rating Tool Improvement Plan. The strategy will define program components relative to incentives, accountability, and cost containment while considering risks and establishing objectives to evaluate whether strategies are being achieved in an effective and efficient manner.

Community shows appreciation, Citadel Fire, Shoshone National Forest, Wyoming

Reduce Hazardous Fuels

The Forest Service will continue hazardous fuels reduction efforts by treating approximately 2.9 million acres of hazardous fuels and reducing flammability of the forests, woodlands, shrublands, and grasslands, including 2 million acres in the WUI and 868,000 acres in areas outside WUI areas. In addition, fuel loads will be reduced on approximately 1.5 million acres as a secondary benefit through other vegetation management activities, wildland fire use events, hazardous mitigation grants awarded under the SFA program, and activities of Southern Nevada Public Lands Management Act.

The Forest Service will continue participating in the Federal Woody Biomass Utilization Working Group to promote and support the utilization of woody biomass and woody biomass products from forest and woodland treatments.

Warm Springs hotshots begin fire rehab work in aftermath of California fires, San Bernardino National Forest

Promote Restoration and Post-Fire Recovery of Fire-Adapted Ecosystems

The agency will continue to promote the increase of wildland fire use consistent with land and resource management plans and public and firefighter safety. These acres attributed to wildland fire use will be reported annually. On lands that are severely burned by wildland fire in FY 2008, emergency stabilization, rehabilitation, and restoration treatments will be implemented. Burned areas will continue to be reforested through a 5-year, cost-share agreement with American Forests for Wildfire ReLeaf. In addition, the Interagency Program To Supply and Manage Native Plant Materials—a long-term strategy to improve nursery and plant material center infrastructure and monitor restoration effects and public/private partnerships—will be continued.

Promote Community Assistance

FAM will partner with the Federal, State, NFPA, and nonprofit partners to encourage community responsibility for hazard mitigation through land use planning, building codes, landscaping codes, zoning, and community fire protection planning through the *Firewise* Communities program.

Technical assistance, training, supplies, and equipment will be provided to more than 6,500 small rural communities and 5,075 volunteer fire departments. Firefighting capacity will be increased by providing technical assistance, training, supplies, and equipment to rural communities through the VFA program.