From the Director

This year, as we reflect back on the 2011 wildfire season, first and foremost, we remember those who lost their lives while protecting the communities and natural resources we protect. Our hearts go out to the families and friends of these brave firefighters who gave the ultimate sacrifice while doing their jobs.

In retrospect, the events of the 2011 wildfire season evoke memories of the ferocious wildfires in southern and southwest regions of our country. We remember the record setting wildfire activity on private, state, tribal and federal lands—historic wildfires in the states of New Mexico, Arizona and Texas. Hypotheses have told us that the combination of future drought and the degraded conditions of landscapes will lead to catastrophe. We see it happening; it should be a sign for the future. Therefore, we need to position ourselves for a future of more severity, more risk, more interaction and greater integration with our partners. We cannot do it alone! Amidst the uncertainty, one thing is for certain, America needs our best skills, applied most effectively—and most importantly, in the safest manner possible.

Regardless of whether we work for the local volunteer fire department, the state or the federal government, when a death or serious accident occurs within our firefighting family, we all suffer. There is the need for continued, constant vigilance in our work. There have been too many deaths and injuries. Millions of good decisions are made by thousands of good people each wildfire season, but by the sheer number of accidents and fatalities suffered during the season, it demonstrates the need for continued learning, continued after action reviews, and continued attention to doctrine, policy and risk management. We owe it to those who have gone before us to improve risk management each and every day, and we owe it to ourselves, our fellow firefighters who come to work every day and most importantly, we owe it to the families who wait at home at the end of each day to ensure the safe return of their loved ones!

As you read through the 2011 report, you will see that we were again accountable to the American people and that we accomplished what we set out to do. For that, we are proud. One of our major accomplishments for 2011 includes working together with our local, state, tribal and other federal partners and the public toward completion of Phase II of the National Cohesive Wildland Fire Management Strategy. The level of interest and collaboration during Phase II surpassed our highest expectations. Addressing the planned and unplanned fires across the United States is not simply a fire management, fire operations, aviation operations or wildland urban interface problem—it is a larger, more complex land management and societal issue. America has multiple, localized, wildland fire problems that will only be solved when we enter into partnerships with our neighbors, use the best-available science, and work across “all lands,” regardless of the jurisdictional boundaries. During Phase II, we did just that! We look forward to our continued collaboration during Phase III, and I encourage each of you to become involved—to be a part of the solution!

This year, we have once again prepared our report so that our accomplishments not only demonstrate our accountability to the goals identified in the USDA Forest Service, Fire and Aviation Management Strategy Plan and to the performance measures identified by our regulatory agencies, but we will also associate the appropriate cohesive strategy primary factors and the goals with our reported accomplishments.

Every year brings with it new challenges, and every year, our employees and our partners—national and international, rise to those challenges and make a difference. I hope you will find that the 2011 Fire and Aviation Management Accountability Report illustrates the good work we have done throughout the year.

Tom Harbour, Director
Fire and Aviation Management
USDA Forest Service
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Part I - Introduction

A Review of the 2011 Wildfire Season

This wildfire season saw the continued development of doctrine in suppression activities and application of risk management on both fire and aviation actions taken during wildland fire incidents. The implementation of these concepts led to improved decision making and contributed to the increased probability of success in all aspects of wildland firefighting.

The number one priority remains to mitigate risks to firefighters and the public. Discussions between the line officer and fire managers include protection of values at risk, goals, and an acceptable level of exposure. This leads to agreement on a strategy which will guide courses of action that have the highest probability of success and lowest exposure to risk.

The winter of 2010-2011 was colder than normal for most of the eastern two-thirds of the country. Cold temperatures reached much further south than normal resulting in frost which increased fine fuels. Most of the southeastern third of the country was drier than normal with precipitation deficits extending from the mid- and lower-Atlantic coast to the front range of the Rockies. Drought continued to plague many states in the east; many of the southern and southwestern states reported record dry winters.

The initial seasonal outlook for the southern, eastern, and southwest areas called for above normal fire potential across much of western Texas, eastern and southern New Mexico and far southeastern Arizona. Also, above normal were Florida and the costal regions of Louisiana, Mississippi, Alabama, Georgia, and North and South Carolina.

By May 31, on all lands nearly 29,000 fires burned in excess of 3.1 million acres nationally. Compared to the 10-year average, this represented 240 percent of acres burned and 92 percent of the number of fires. The Southern and Southwest Geographic Areas claimed the majority of the fires and acres burned—more than 23,000 fires and nearly 2.8 million acres, which were mostly human caused.

The weather pattern for the summer was dominated by a large ridge of high pressure draped over the center of the country, baking much of the southern and eastern parts of the nation. The southern plains were hit especially hard as Texas and Oklahoma received the brunt of the heat wave. Temperatures were above normal across virtually all but the western part of the country. Texas, Oklahoma, New Mexico and Louisiana recorded their warmest
summers on records. Fifteen other states from the Rockies to the east coast had summers that ranked among their top 10 warmest. Weather stations in 11 states recorded maximum temperatures of 100 degrees or more for more than 40 days during the summer.

Nationally, by the end of August, close to 54,000 fires burned nearly 7 million acres. This represented 121 of the total acres burned and 93 percent of the total number of fires when compared to the 10-year national average. Record breaking fires occurred in the states of Arizona and New Mexico.

August 2011 set a new record with 343 new large fires (large fire = wildfire of 100 acres or more occurring in timber, or a wildfire of 300 acres or more occurring in grass/sage) reported in a single month over the last 10 years, an increase in the previous record of July 2006. By October 31, over 1,600 large fires were reported to the National Interagency Coordination Center (NICC) (including fires managed for multiple objectives). This was up dramatically from the 853 large fires reported for the same period in 2010.

During the fall, precipitation was mixed—some was much needed and some was received in already saturated parts of the country. The extreme drought areas from central and southeast Texas to central Oklahoma received three to six inches of rain, which was 150 to 300 percent of normal. This, however, did little to mitigate the long-term drought conditions. Precipitation deficits continued across southern Arizona, New Mexico, Louisiana, Mississippi and Alabama. Deficits contributed to challenging fire behavior in the midwest from Missouri to Minnesota.

Fall conditions developed and burning periods shortened, fuel conditions continued to improve across the United States. In areas where drought persisted, fuel conditions began to trend toward normal.

**Hazardous Fuels Reduction Program**

FY 2011 was an effective year for the hazardous fuels reduction program. The Forest Service funded and completed nearly 2.8 million acres of high priority fuel reduction projects. Of that total, 58 percent was treated in the wildland urban interface (WUI). Over the course of the 2011 fire season, several areas that received fuel treatments were tested by wildfire. The most dramatic instances occurred in June, during the Wallow Fire in Arizona. The communities of Alpine and Greer were protected by prior fuels treatment projects that were accomplished over the previous eight years. Numerous times, as the high-intensity crown fire burned into the treatment areas, the fire intensity reduced and diminished to a surface fire—enabling firefighters to actively and safely engage in fire suppression operations.
Wildland Fire Management Appropriation

The Forest Service was funded for Fiscal Year (FY) 2011 by the Department of Defense and Full-Year Continuing Appropriations Act of 2011, HR 1473, signed into law on April 15, 2011, as Public Law 112-10.

This law provided the Forest Service with a wildland fire management appropriation totaling nearly $2.3 billion, and included funding for the FLAME Wildfire Suppression Reserve Fund at $290 million. The FLAME fund is intended to address the challenges of budgeting for fire suppression and to enable the agency to respond effectively during highly variable fire seasons.

The wildland fire management appropriation represented 48 percent of the Forest Service’s discretionary appropriations in FY 2011, up from 47 percent in FY 2010, and 45 percent in FY 2009.

In FY 2012, Fire and Aviation Management (FAM) continues to aggressively pursue strategies to enhance efficiency and cost effectiveness including risk-informed allocation of preparedness resources, increasing accountability for large fire management, establishing performance metrics for large fires, risk-informed prioritization of hazardous fuels treatments (hazardous fuels prioritization allocation system), prioritization of funds to states (State and Private Forestry re-design), and other actions.

Risk-Informed Decision Making

In FY 2011, the Forest Service reported over 6,600 wildfires on national forests and grasslands across the United States. These fires resulted in more than 1.7 million acres burned with suppression expenditures reaching $1.4 billion. When compared to FY 2010, the numbers of fires increased by approximately 29 percent while the numbers of acres burned increased by almost 300 percent.

Increased level of fire activity is due to the changing climate, longer and more severe fire seasons, cumulative drought across the country, extensive insect kill in western forests, and regional shifts of populations into the wildland urban interface. These changes have resulted in more expense and greater complexity in meeting the challenges of managing wildland fire across America. Despite these challenges, the Forest Service continued its efforts to manage costs.

In FY 2011, the agency expanded and continued to implement an aggressive hazardous fuels reduction program, accelerated the use of risk-informed fire management, expanded operation efficiencies and continued use of management controls. Specifically, Forest Service actions included:

- focused hazardous fuels treatments in those areas closest to the wildlands—the wildland urban interface (WUI) areas, and in the fire-adapted ecosystems that presented the greatest opportunity for restoration;
- expanded the use of the Wildland Fire Decision Support System (WFDSS) tools across the agency and continued the use of science-based tools giving fire managers more information on which to base better risk-informed decisions that provide better results, either planned or unplanned;
- continued work with partners to build strong, cooperative frameworks that promoted safety,
success and ecosystem health; and

- implemented revised guidelines to the Federal Wildland Fire Management Policy that promoted efficient, effective management of both planned and unplanned wildland fires.

FAM worked aggressively within the agency and with cooperators to implement these strategies and to manage suppression expenditures. While Forest Service suppression expenditures reached $1.4 billion, the agency’s costs would have been much higher without these management controls.

Region 3 consumed 22 percent of the Forest Service’s reported wildfire suppression costs in FY 2011—the greatest portion across the nine regions. Region 8, Region 6 and Region 5 each used 5 percent. Region 1, Region 2, Region 9 and Region 10 used 3, 2, 1 and 0 percent respectively.

**National Preparedness Levels**

There are five preparedness levels (PL) — one being the lowest and five the greatest.

During FY 2011 fire season, the PL did not reach the highest level of 5. There were 7 days in the FY 2011 wildfire season where the PL was 4.

**Military and International Assistance**

In 2011, there were four military C-130 Modular Airborne Firefighting Systems (MAFFS) activations in support of wildland fire suppression in Mexico, the southwest and other parts of the west. The first mobilization was on April 15 to the state of Texas to suppress fires burning in Mexico. The two MAFFS flew 37 sorties into Mexico from April 16 to 23 and dropped 105,000 gallons of retardant.

The second activation involved MAFFS from California, North Carolina, Colorado and Wyoming at different times. These MAFFS flew 101 sorties in Texas and dropped a total of 315,000 gallons of retardant.

The third MAFFS activation occurred from June 15 to July 13 and involved six MAFFS from California, North Carolina and Colorado. These aircraft were based in Albuquerque, New Mexico, and flew a total of 287 sorties, dropping over 610,000 gallons of retardant in Arizona and New Mexico.

The fourth, and last, MAFFS activation occurred on September 8 when six MAFFS from Colorado, Wyoming and North Carolina (two from each state) flew sorties in the states of Idaho, Oregon and Texas. The National Interagency Coordination Center (NICC) released the MAFFS to the state of Wyoming on September 18; to North Carolina on September 22; and Colorado on September 30.

International assistance was provided by Canada. Convair 580 airtankers and three aerial suppression modules from Alberta, British Columbia and
Saskatchewan provided assistance from August 27 to October 29. Manitoba also provided water scoopers and an aerial supervision module to the Pagami Creek Fire in Minnesota. Canada provided a contingent of 20 smokejumpers from British Columbia to Montana on August 27. Eight were released on September 13, the remainder stayed until September 29. They jumped fires in both Idaho and Montana.

**Aviation Fuel Savings**

The Forest Service is striving toward reducing the cost of aviation fuel (Jet A) by allowing contractors to utilize Defense of Logistics Agency (DLA) Energy AIR Cards in 2011. The cards enable Forest Service contractors to pay Department of Defense (DOD) contract rates for fuel. The agency has estimated a savings of over $500,000 per year by employing DLA AIR cards. A Forest Service Fuel Card Guide, approved in 2011, provides guidance for the DLA AIR Card Program for the Forest Service Component Program Manager, Forest Service Accountable Officials, card users and contractors. In addition, the Forest Service, in concert with DLA and Albuquerque Service Center, provided training for over 60 agency and contractor personnel.

**Travel Savings**

Federal agencies are being called upon to reduce operating costs in numerous ways. FAM reduced its overall budget in 2011 by approximately 10 percent. This was accomplished by reducing the need for employees to travel by conducting fewer meetings and training sessions and by restructuring training to utilize more web meetings and remote virtual training opportunities. The program will continue to seek technological answers for traditional training and virtual meetings that will improve overall costs and effectiveness.
Part III - 2011 Major Accomplishments

In FY 2011, FAM continued to work toward accountability expectations.

FAM accomplishments are tied to the goals of the Forest Service, FAM Strategic Plan, and where relevant, to the primary factors and goals of the National Cohesive Wildland Fire Management Strategy. An account of the FAM performance measures are also included.

National Fire and Aviation Management Strategic Plan

The FAM Strategic Plan was developed in July 2008 and tiered to the Forest Service Strategic Plan, Fiscal Years 2007-2012. The plan is intended to provide specific, measurable goals, objectives and strategies for all FAM programs and encompasses other agency plans. It concentrates on FAM’s quest for sound, cost-effective risk management practices that will lead to healthy fire-adapted landscapes.

Development of annual work plans guide all activities that support the FAM program. These operating plans, include critical support from interagency partners and the public.

The accomplishment portion of the FY 2011 FAM Accountability Report is tiered to the six goals of the FAM strategic plan as follows:

- Goal 1: Technology and Science
- Goal 2: Protection and Management
- Goal 3: Hazardous Fuels and Restoration
- Goal 4: Community Assistance
- Goal 5: Communication
- Goal 6: Workforce

The format of this accountability report lists each goal, its respective objective, and the relevant primary factor from the National Cohesive Wildland Fire Management Strategy, followed by the significant accomplishments associated with each goal. In some cases, specific successes are recounted through success stories.

National Cohesive Wildland Fire Management Strategy

Last year while working on the National Cohesive Wildland Fire Management Strategy, the decision was made to implement the cohesive strategy effort in three phases, allowing stakeholders to systematically and thoroughly develop a dynamic approach to plan for, respond to, and recover from wildland fire incidents.


Phase II involved the development of regional specific reports for three regions of the country—Eastern, Southern, and Western Regions. These reports were submitted by the regions to the wildland fire executive council on September 30, 2011. The reports include regional specific objectives, actions and activities that potentially...
could be implemented in achieving the three national goals for the cohesive strategy. As part of the process for developing these reports, each region conducted extensive outreach to stakeholders using a variety of media. These regional reports will provide the foundation for conducting the national risk tradeoff analysis during Phase III.

As part of the national risk tradeoff analysis process, the national science and analysis team will work closely with each region to validate conceptual and analytical models developed for Phase III and will help facilitate development of region specific alternatives. Phase III is currently underway and is expected to last approximately one year.

Wildland Firefighter Series Changes

During FY2011, changes were made to career firefighters by redefining relationships of the following job series: GS-0401 Biological Science, GS-0462 Forestry Technician and GS-0301 Program Management. Working in partnership with the National Federation of Federal Employees (NFFE) and Albuquerque Service Center Human Resource Management (ASC-HRM), new pathways were created to assure logical progression in each series and to meet the future needs of the agency for succession management. These actions alleviated a number of issues that arose with the use of the GS-0401 series and from the conversion of GS-0462 to GS-0401 series. As part of the Cultural Transformation Plan, FAM continues to seek a career specific wildland firefighter series.

In 2008, the USDA Office of the Inspector General (OIG) conducted an audit and raised concern regarding the use of the GS-0401 series as a career pathway resulting in a management alert. With the issuance of the management alert, then Chief Kimball, took measures to deal with the alert by ceasing all personnel actions concerning the GS-0401 series indefinitely. In June of 2009, an OPM audit of the Forest Service application of the GS-0401 series found questions concerning the crossover between the series and the standards used to qualify employees in the professional series. In addition, the use of the GS-0462 above the GS-11 level was determined to be outside classification authority for that series. At that point, critical fire and aviation positions were held up and not filled at an alarming rate.

Early March 2010, NFFE, ASC-HRM and FAM leadership held a summit to determine future actions. The parties agreed the use of the GS-0301 series would resolve the issues raised by the OIG and OPM. FAM leadership’s primary concerns were that safety of firefighters would not be compromised; firefighter retirement coverage would remain; there would be upward mobility in the fire and aviation workforce; and that the importance of providing natural resource management wildfire and emergency management would continue to be recognized.

The plan was submitted to National Leadership Team and approved in concept. It was then approved by the ASC-HRM and OPM. The GS-0401 series would continue to be used for positions primarily in fuel management that possess duties requiring scientific knowledge. The GS-0462 series would be used through the GS-09 level for non-managerial forestry technician positions in aviation and fire management. The GS-0301 series would be the primary series for all managerial positions GS-11 though GS-15 in FAM. Interagency Fire Program Management (IFPM) standards were adjusted accordingly to correspond to the inclusion of the GS-0301 series. The initial GS-301-12/13 and GS-0301-11/12 position descriptions for fire management officers were classified and approved for firefighter retirement coverage in late 2011, other key position are in process for approval.
Goal 1—Technology and Science

- Fire and aviation management decisions are informed by best available science and technology.

Objectives:

1. Annually prioritize, support, and select the research, development, and utilization of future technologies that assist fire management leaders in informed decision making.
2. Have a support system in place, including adequate training and hardware which readily transfers new technology to the field upon completion.

National Cohesive Wildland Fire Management Strategy Goal—Primary Factor: Wildfire Response

All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

The National Incident Management Organization (NIMO) has been working to evaluate new technological concepts and technologies to improve firefighter safety, decision support and situational awareness. Testing of technology has been conducted on wildfires on Forest Service, Department of Interior (DOI) and state lands. Data and evaluation has been evolving over a number of years to determine the most efficient and appropriate application.

Highlights include:

**Lessons Learned Map System (2008-Present)**

An auto updating map system of Google Earth has been designed and built to provide case-studies of accident or near-miss incidents. This allows fire managers to evaluate trends in specific areas of the country which allows for better informed decisions on missions in these same areas or similar circumstances.

**Common Operating Picture (1999-Present)**

NIMO developed a segment of expertise called the geospatial technology and application group. This group designed and built a standalone common operating picture (a single display of relevant information shared across multiple commands or units) utilizing Google Earth. While there are limitations, the concept is sound and now provides feedback, testing and firefighter perspectives to FAM Information Technologies for the Fire Situational Awareness Portal, as well as provide incident support for communication and mapping products.

**3-Dimensional Modeling (2009-Present)**

The design and use of 3-D modeling for enhanced training courseware has been designed. This technology was used for the Crandall Felling Accident facilitated learning analysis to increase understanding of what occurred to prevent future accidents of that nature.

**Augmented Reality (2012)**

Augmented reality allows a person to see more information through the camera of a smart device compared to normal vision. This is still in the infancy stages, but this type of technology could allow for increased firefighter perspective when receiving limited intelligence regarding growth or spread of a fire or progression made by firefighters.
**Field Data Collecting (2008-Present)**

FAM is experimenting with various technologies which are in different stages of testing. The intent is to provide for quicker intelligence, resource efficiency and for better firefighter and public safety improving overall situational awareness. Table 1 shows the technologies currently being tested.

**Table 1. Technologies currently being tested**

<table>
<thead>
<tr>
<th>Personal Tracking</th>
<th>Networking &amp; Remote Connection</th>
<th>Ground Cameras</th>
<th>Smartphone Devices</th>
<th>Misc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>iBAT</td>
<td>OODAkit Portable Satellite Kit</td>
<td>SWATCam</td>
<td>Droid Android</td>
<td>iPod Touch</td>
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<tr>
<td>Trackstick</td>
<td>Mi-fi (Cell Hot Spot)</td>
<td>FireCam (Satellite, Fixed)</td>
<td>HTC WinMobile</td>
<td>MYVU Audio Cables</td>
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<td>Shout</td>
<td>Wave Relay (Mesh)</td>
<td>iPhone Apple</td>
<td>Pocket Projector</td>
<td>Print Stick</td>
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<td>Solara</td>
<td>Netbook</td>
<td>Print Stick</td>
<td>Solar Charges</td>
<td></td>
</tr>
</tbody>
</table>

**Structure Triage Spreadsheet**

FAM produced, tested and updated the structure triage excel form, a spreadsheet system that can rapidly create and sort structure triage according to the format in the incident response pocket guide. Use of this tool allowed two firefighters to triage and map over 400 structures in one day on a fire in Georgia. Outputs display in Google Earth or it can transfer to ESRI Arc products and is currently being translated into a Smartphone application for immediate data input.

**Improve Access to Fire Social Science**

NIMO has been working with Forest Service Research and Development to focus on a more systematic and cohesive means of ensuring that social science research is providing fire and aviation managers with the information and tools they need. The goal is to address four areas:

1. Identify and prioritize specific social science information needs of managers.
2. Identify existing science-based knowledge that can meet these needs.
3. Develop materials and dissemination plans to improve adoption by on-the-ground users.
4. Facilitate development of research and tool development to fill gaps in understanding and application.

**NIMO is currently supporting three different joint fire science projects briefly described below.**

**2010-2011 - Systematic Learning after a Wildfire: Development of a Post-Fire Research Framework and Protocol**

*(Toddli A. Steelman, Ph.D. Department of Forestry and Environmental Resources, NC State University; Branda Nowell, Ph.D., School of Public and International Affairs, NC State University; Sarah McCaffrey, Ph.D. USFS Northern Research Station)*

The Forest Service often conducts post-fire reviews of large costly fires to determine what might be done differently to mitigate risks and reduce costs in the future. Because a systematic and consistent review is lacking, NIMO was tasked to evaluate and develop a system to manage large, complex wildfires. NIMO is working closely with research and the wildland fire lessons learned center to appropriately evaluate how business is currently conducted and tweak the system to better reflect what works effectively.

This project will develop a new framework for post-fire research that will facilitate more consistent and rigorous data collection and improve the ability to aggregate lessons across fires. Greater attention is being focused on the period following a fire as a time to learn how various factors before and during the fire contributed to or mitigated negative outcomes.

Such post-fire follow up investigations can clarify how the complex interactions between decisions made and actions taken before and during the fire, by fire and land managers and members of the public, contribute to better or worse outcomes.
2009-2011 - Information Collection, Assimilation and Dissemination for Fire Management: A Social Network Analysis

(Toddi A. Steelman, Ph.D.  Department of Forestry and Environmental Resources, NC State University; Branda Nowell, Ph.D. and Deena Bayoumi, School of Public and International Affairs, NC State University; Sarah McCaffrey, Ph.D.  USFS Northern Research Station)

Effective relationships among local forest employees, incident management teams and the local community are an important part of sound fire management. Formal reporting structures and organizational charts do not fully capture the coordination needed for sound information collection, assimilation and dissemination during a wildfire event.

In this research, social network analysis was used as a tool to better understand formal and informal networks as they relate to information processes in fire management.

Assessing and supporting strategically important networks has the potential to yield substantial performance benefits for wildfire management. Better understanding of

- what these formal and informal networks look like;
- how they operate; and
- how they might be improved to assist in fire management.

Figure 4. Communication Schematic

(2007-2011) Implementation Factors that Affect Appropriate Management Response*

(Toddi A. Steelman, Ph.D.  Department of Forestry and Environmental Resources, NC State University; Branda Nowell, Ph.D., School of Public and International Affairs, NC State University; Sarah McCaffrey, Ph.D.  USFS Northern Research Station)

This project explored how community-agency interaction influenced the exercise of appropriate management response (AMR). Wildland fire management must balance the multiple objectives of protecting life, property and resources; reducing hazardous fuels; and restoring ecosystems. Increasingly, these policy imperatives must be met while achieving cost containment. AMR is a risk-informed approach to setting suppression priorities and making operational decisions. It includes a continuum of suppression strategies and tactics that can be used on the same fire (FAM 2007).

While AMR is a compelling vision, specifics are lacking about the factors that influence strategic and tactical decision-making including how community interaction increases or decreases the opportunity to exercise AMR. While there is a plethora of local (individual) and anecdotal evidence, research relating to community and public understanding of fire management during a fire event is limited.

Patterns of activity associated with agency-community interaction pre-fire and during-fire were identified. Agencies have many options to interact with the public. They also have limited resources and so need to make informed choices about the most effective way of interacting with the public to successfully engage in AMR.

* The use of the term AMR was valid during the inception of this research and for data consistency has remained a term that is used.

Fire Program Analysis
Fire Program Analysis Accomplishments

In March 2011, the Fire Program Analysis (FPA) Team delivered to the Interagency Analysis Team (IAT) findings of the 136 Fire Planning Units (FPU) covering all states and US territories. The IAT validated the FPA analysis and found that it provided sufficient logical processes which can be used in support of the FY 2013 budget submission.
A major component in the success was the addition of the Support Working Team (SWT) which comprised of field level fire planning experts from the FS and the DOI. The work of the SWT was instrumental in testing and implementing new model calibration methods, application functionality and validating model outputs across agency boundaries.

The FPA project team continued to work on a system, data model and improvements through October 2011. Data enhancements include a complete LANDFIRE based update of the fire behavior fuel models and fire simulations runs in preparation for the 2012 analysis to support the 2014 budget submission.

Independent External Review and Relationships

In September 2011 an independent external review was initiated to report on the technical and business process used in the development and implementation of the FPA application. The results of the review are expected in early calendar year 2012.

The FPA Project Team continues to build linkages with other interagency wildland fire management programs including: LANDFIRE, Wildland Fire Decision Support System (WFDSS), Hazardous Fuels Prioritization and Allocation System (HFPAS), Ecosystem Management Decision Support (EMDS), and National Fire Plan Operations and Reporting System (NFPORS).

FPA Governance

The FPA Oversight Group (OG), whose activities are coordinated by the Executive Director, meets on a quarterly basis to review user recommendations and findings and issue guidance on the future direction of the FPA application. The OG membership includes the Interagency Science Team (IST) Lead who works closely with members to assure new findings in the research realm are also considered.

System Oversight and Management

Funding for the project is provided by the Forest Service and the DOI on an equal cost share basis. The Forest Service is the managing partner and owner of the FPA program for the purpose of the OMB business case submission and agency information technology standards and security compliance.

Wildland Fire Decision Support System

The Wildland Fire Decision Support System (WFDSS) tools are an integral part of the management of wildfires on National Forest System (NFS) lands. These tools, coupled with other emerging technologies and local knowledge base, help managers better evaluate fire situations, assess risks and apply comprehensive information to risk-informed decisions.

Expanded development and deployment of WFDSS tools continued in FY 2011. The system was used by managers to support wildland fire decisions on all fires and helped to ensure the safety of firefighters and the public, protect structures and natural resources, and efficiently use firefighting resources. The efficiencies that resulted from the use of WFDSS reduced costs and potential losses on complex wildfires. The system was particularly valuable in the management of large fires in the southeastern and southwestern portions of the United States in 2011.

Aerial Delivery of Fire Retardant

In 2000, the Forest Service and other firefighting agencies established guidance for retardant application as contained in, Guidelines for Aerial Application of Fire Retardant and Foams in Aquatic
Environments (Guidelines). The guidelines were developed and implemented to mitigate the impact of aerial fire retardant application on aquatic species and aquatic habitat.

In 2004, the Forest Service Employees for Environmental Ethics (FSEEE) filed a lawsuit charging the agency with failure to comply with the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA).

The United States District Court for the District of Montana issued an October 24, 2005 decision citing failure to conduct an environmental analysis and to engage in formal consultation with regulatory agencies violated NEPA and ESA, respectively.

On February 27, 2008, the Court ruled that the Forest Service had complied with NEPA and ESA. On April 2, 2008, the new decision was challenged by FSEEE in Missoula’s U.S. District Court and included in the new filing, listing both the USFWS and NMFS as co-defendants.

On July 27, 2010, the Court issued an adverse ruling on the adequacy of the EA for application of aerial fire retardant.

In August 2010, the agency published a Notice of Intent (NOI) to prepare an Environmental Impact Study (EIS) and initiated a 45-day scoping period in the Federal Register. Twenty-seven scoping comments were used to develop the range of alternatives to be considered in the EIS.

In the fall of 2010, the agency signed an agreement with the U. S. Institute for Environmental Conflict Resolution for assistance in developing meaningful public involvement and collaboration on the nationwide EIS. The agency also contracted through the Institute with EnviroIssues—a third-party, neutral contractor, to provide facilitation and design assistance for the project.

In December 2010, EnviroIssues convened a stakeholder committee comprised of FSEEE, state and tribal representatives. EnviroIssues conducted approximately 25 stakeholder interviews and developed a comprehensive collaboration and public involvement process for draft EIS and final EIS.

In April 2011, the agency engaged at various levels in consultation with tribal partners. A government-to-government consultation was offered to nearly 500 Tribes, and tribal listening sessions were held during April to October 2011.

Also, in April 2011 the agency initiated formal consultation under the ESA with the US Fish and Wildlife Service and the National Marine Fisheries Service. Formal consultation included over 400 species.

In May 2011, the agency published a Notice of Availability (NOA) for the draft EIS entitled, *Nationwide Aerial Application of Fire Retardant Project, Proposing to Continue the Aerial Application of Fire Retardant on National Forest System Lands*. The Draft EIS identified a preferred alternative addressing the concerns from the District Court as well as stakeholder concerns with the aerial application of fire chemicals. The comment period for the Draft EIS ended on June 27, 2011.

During the comment period:

- 53 comment letters were received;
- concurrently, the agency conducted a wide-range of public involvement and collaboration activities on the draft EIS—listening sessions, technical listening sessions, interdisciplinary science panel, and stakeholder discussion groups. Public meetings were held in four locations across the country in order to obtain any public concerns with the aerial delivery of fire retardant that would be beneficial as the alternatives were developed.

The interdisciplinary team reviewed and developed responses to all of the comments received for inclusion in the Final EIS. In addition all of the comments from the stakeholder engagements were considered and used to develop the Final EIS.

Through the conclusion of the fiscal year the interdisciplinary team worked to complete ESA consultation and prepare the Final EIS with the goal of completing an agency decision that would meet the District Court deadline of December 31, 2011.
Wildfire Air Quality Coordination Efforts During the Wallow Fire

During the June 2011 Wallow Fire in Arizona, adverse air quality impacts were significant potentially affecting the health of firefighters and the public. Significant smoke impacts were felt as far away as Albuquerque and Santa Fe, New Mexico.

To address health and safety, a coordinated effort among federal, state, tribal and local governments to address smoke impacts. Clear, concise and consistent messages on potential smoke impacts and how the public could protect themselves was disseminated widely across the affected areas.

Daily coordination calls were conducted to:

- assess monitoring data;
- discuss monitoring logistics and issues;
- discuss weather forecasts to determine potential influences on fire activity, emissions and air quality;
- review input from the WFDSS regarding projected wildfire activity;
- discuss modeling results;
- create a consistent daily messages; and
- discuss the process of sharing information.

The Forest Service worked together with the EPA Offices of Tribal Coordination to share information with the tribes in the impacted areas.

A daily air quality monitoring summary was produced. A public access website was provided so that people affected by the wildfires could easily query air quality monitoring sites and data that were posted by the Forest Service’s Pacific Northwest Research Station AirFire Team.

Custom air quality model simulations were conducted using the BlueSky Framework and WFDSS Air Quality Portal. These products and Forest Service air quality monitoring equipment were used to supplement information for on-site fire personnel and fire managers regarding firefighter and public smoke exposure. Messages and graphics were used by the news media outlets in both Arizona and New Mexico where the greatest impacts from the Wallow Fire were felt. National distribution was made through official outlets and by the EPA’s AirNow information system.

The Interactive Monitoring Maps and Air Quality Model Projections, Daily Monitoring Data Summary and the Consolidated Air Quality Outlooks were made available at http://smoke.airfire.org/.

Smoke Column from the Wallow Fire in Arizona on June 8, 2011
Goal 2—Protection and Management

- The Nation’s communities are protected and well-prepared for fire and the Nation’s resources are protected and managed through safe, efficient, effective wildland fire and aviation management and emergency response.

Objectives:

1. Manage wildland fires and emergency responses safely, efficiently and effectively as they occur.
2. Reduce the number of human-caused wildfires through prevention and education on an ongoing basis.
3. Land and resource management plans are developed to guide fire management and protection activities through desired conditions, objectives and guidelines.

National Cohesive Wildland Fire Management Strategy Goal—Primary Factor: Wildfire Response

All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management

Wildland Fire and Emergency Response

In 2011, approximately 10,500 Forest Service firefighters responded to more than 6,500 wildfires on National Forest System lands that burned approximately 1.7 million acres. Forest Service firefighters also responded to wildfires on land under the jurisdiction of other federal, state and local government agencies (67,500 wildfires on 7 million acres of land)

Only about 2 percent of all wildfires in 2011 escaped initial attack, which generally means that they burned for longer than 24 hours. Forest Service firefighters played a key role in achieving that success rate.

In 2011, the Forest Service employed a mix of fixed and rotor wing aircraft to respond to wildfires on all lands. These aircraft included up to 19 large airtankers on exclusive use contracts*; more than 100 helicopters on exclusive use contracts; approximately 300 helicopters on call-when-needed contracts; up to 12 aircraft to transport Forest Service Smokejumpers; and 2 heat detecting infrared aircraft.

In 2011, large airtankers under contract to the Forest Service continued to be an important tool in suppressing wildfires burning on all lands, particularly during initial attack. Large airtankers dropped approximately 23.4 million gallons of retardant on wildfires helping to reduce fire intensity and rate of spread of aiding firefighters on the ground

*The number of large airtankers on exclusive use contracts decreased in July 2011 when the Forest Service terminated its contract with Aero Union of Sacramento, California because the company failed to meet its contractual obligations.

Wildland Fire Serious Accidents

The 2005 Accident Investigation Guide states, a Forest Service serious accident is one that involves:
- a death;
- three or more persons hospitalized after treatment for reasons other than observation;
- wildland fire shelter deployments or entrapments;
- property damage, other than aircraft, that exceeds $250,000; or
- damage to aircraft that exceeds $1 million or results in total destruction of the aircraft.

For this report, an accident is considered a “Forest Service accident” if it involved Forest Service personnel, regardless of location or jurisdiction, or if it happened, regardless of agency affiliation, on an incident under Forest Service jurisdiction.

Fatalities

There was one fatality on a Forest Service fire in 2011. During this tragedy a member of a responding
partner agency was killed during initial attack. This was the first fatality in ground fire operations on National Forest System lands since July 26, 2008. During FY 2011, there were no fatalities in Forest Service fire-related aviation operations; and there were no other accidents that would be defined as “serious” according to the above criteria; but there were a number of accidents that would be classified as “less than serious,” or as unintended outcomes that had significant potential to be much worse.

**Aviation**

During FY 2011, the Forest Service achieved the lowest accident rate on record. There were no accountable accidents which resulted in zero injuries and fatalities. The 2011 accident/fatality rate was significantly below the agency 10-year average accident rate. Flight hours for all contract and government owned aircraft total approximately 71,300 hours for the year which is slightly lower than the 10-year average of 75,120 hours.

**Entrapments**

In FY 2011, the Forest Service had 16 people entrapped, with one entrapment-related fatality on the Coal Canyon Fire in South Dakota. Of the 16 people entrapped on Forest Service incidents, three were Forest Service fire employees, six were Forest Service recreation employees, three were cooperating agency employees, two were contract fire crew members and two were heavy equipment contractors. Analysis of these events is ongoing, and the Forest Service’s focus on entrapment avoidance training continues.

**Hazard Trees**

In FY 2011, there were a number of accidents involving hazard trees; but no fire-related hazard tree fatalities involving Forest Service employees. Several hazard tree accidents resulted in personnel injuries such as fractured vertebrae, ribs and other bones. A number of injuries and near misses involving fire personnel occurred in hazard reduction operations. Accidents occurring in this category in FY 2011 were similar to accidents occurring in previous years.

**Heavy Equipment Operation**

There were no heavy equipment operating accidents that resulted in equipment damage or injury of the operators reported in FY 2011. A dozer operator and transport driver were entrapped, and the transport was destroyed by fire on the Salmon-Challis National Forest.

**Nationwide Trend Analysis**

For all agencies, wildland firefighter fatalities increased in calendar year 2011 from the number of fatalities reported for calendar year 2010.

Forest Service trends:

- Aviation continues to be the single largest cause of wildland firefighter fatalities, accounting for 14 out of 20 fatalities (70 percent) during the 5-year period. It is notable that there have not been any fire-related aviation fatalities in the Forest Service in the past two years.
- For the 5-year period of 2007—2011, Forest Service wildland firefighter fatalities amounted to 29 percent of the total of all wildland firefighter fatalities in the U.S.
- There is no correlation between acreage burned and the number of wildland firefighter fatalities.
Table 2. Wildland Firefighter Fatalities from 2007—2011

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Number of Fatalities (all agencies)</th>
<th>Forest Service Fatalities and Accident Type</th>
<th>Forest Service Employee Fatalities</th>
<th>Contractor Fatalities</th>
<th>Cooperator Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>9</td>
<td>3 Aviation (1) Driving (2)</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>25</td>
<td>12 Aviation (9) Burnover (1) Hazard Tree (1) Heavy Equipment (1)</td>
<td>1</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>2009</td>
<td>15</td>
<td>4 Aviation (4)</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>13</td>
<td>1 Burnover (1)</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5 Year Total</td>
<td>68</td>
<td>20 Aviation (14) Burnover (2) Driving (2) Hazard Tree (1) Heavy Equipment (1)</td>
<td>3</td>
<td>13</td>
<td>3</td>
</tr>
</tbody>
</table>

♦ The number of Forest Service entrapments and shelter deployments rose in 2011. This was a reversal of the trend since 2007. It is impossible to pinpoint the cause or causes for this, as there are too many independent variables. Entrapments occurred in five different Forest Service Regions. The greatest number (75 percent) of the entrapments occurred between August 11 and September 12.

♦ The Forest Service fire program has not had a line of duty heart attack death since 2004. This may attributed to three things:
  1. health screening via the health screening questionnaire prior to taking the work capacity test;
  2. an emphasis on physical fitness via wellness programs and physical training; and
  3. the implementation of the medical standards program.

Safety Management Systems
Risk Management
The objective of a Safety Management System (SMS) is to provide a process that will help control risk and assure quality in operations. SMS is an organized approach to hazard identification and risk management with the intent to minimize effects to property, financial losses, environmental and societal impacts, and loss of life. The agency continues to emphasize the importance of operational safety through creation of Strategic Aviation Risk Assessments (SARA) for particular programs or missions. In 2011, the Forest Service completed three SARAs—aerial ignition, helicopter night operations and fleet DC-3 operations.

Risk management is an iterative process focusing on the net outcome of reducing risk to the lowest practical level; thereby, approaching the goal of zero accidents in aviation operation.

Quality Assurance
Quality Assurance (QA) was fully implemented following the tragic 2009 helicopter crash that killed a total of nine firefighters. QA is now used for contract compliance audits, reactivation of the rappel program and operational oversight.

In 2011, a helicopter company was suspended from their contract because of noncompliance with the contract in terms of required maintenance, recordkeeping and other issues. The FS worked with the company to assure that they completed the necessary actions required to be reinstated to the contract. The company was eventually reinstated and continues to be subject to QA review.
Another company failed to meet the airworthiness safety standards of their contract. QA audits of the company’s maintenance and inspection records revealed significant contract breaches. The company could not resolve the issues within the given time frame; therefore, the contract was terminated.

SMS Promotion

In 2005, the Forest Service aviation program implemented a SMS that applies risk management and quality assurance processes as accident prevention tools. In 2011, as a result of these efforts, the Forest Service aviation program experienced the lowest accident rate in the history of the program. The program sustained zero accountable accident in over 71,000 flight hours, and zero fatalities. The rate for 2011 is significantly below the 10-year average accident rate of 4.3 per year and 3.8 average fatalities per year. The Forest Service will continue to emphasize SMS practices as it strives to maintain the current zero accident rate.

Guidance

The Forest Service Airworthiness Assurance Guide (AAG) established prerequisite criteria, evaluations and monitoring, based on each special mission. This validates the aircraft for specific use and ensures an appropriate maintenance and inspection program.

Based on Forest Service participation in AAG program, the National Transportation Safety Board (NTSB) closed Recommendation (A-04-29)—the second of three recommendations issued to the FS in 2004 as a result of the NTSB investigations of the air tanker accidents of 1994 and 2001.

Recommendation A-04-31 was closed February 2007 based on Forest Service implementation of additional Federal Aviation Administration (FAA) training for agency airworthiness, avionics inspectors and engineering expertise the agency had contracted (but has since hired internally).

The Forest Service anticipates the third and final Recommendation A-04-30 will be closed within the next six months.

Next Generation Air tanker Contract

The Forest Service has been working with industry and government partners to develop a request for proposal (RFP) for improving the speed, capacity and capability of large air tankers (LAT) used to respond to wildland fires. Multiple vendors indicated they were prepared to provide LATs with the necessary capabilities identified by the agency. This next generation aircraft will be identified as vendors demonstrate they meet agency requirements. Currently, Neptune Aviation Services (an existing Airtanker contractor) has provided a BAe-146 aircraft with a design that meets agency requirements.

Modular Airborne Fire Fighting Systems

In 2011, all four Air National Guard and Reserve Airlift Wings (AW) designated by the Air Force to provide Defense Support to Civil Authorities (DSCA) completed transition to the new MAFFS. The new system is a second generation (MAFFS 2), which slips into C-130 aircraft, converting them for use as a LAT. Fire managers request this new system in situations where contracted LATs are in full use and additional resources are needed on a short to medium term basis. The ability to utilize established Guard and Reserve flight crews with experience in airborne firefighting provides a responsive resource when the need arises. For 2012, biennial training for the AWs in Colorado Springs, Colorado, and Channel Island, California, will occur at those local bases, which will reduce the cost for deploying to a single large training event. AWs from Charlotte, North Carolina, and Cheyenne, Wyoming, will conduct their biennial training in 2013.

Interagency Practical Test Standards

In 2011, the fixed-wing and rotor-wing interagency practical test standards (IAPTS) guide was completed and will soon be approved by the Deputy Chief, State and Private Forestry. The IAPTS guide provides a foundation that enables both agency and bureau inspector pilots to administer a relevant, thorough and objective flight evaluation. If any issues arise in the field having to do with pilot proficiency, the deficiency can be defined by referring back to the IAPTS. Nearly every task performed by a pilot or crewmember on an incident
In FY 2011, eight additional helicopters at six bases were reactivated into the National Rappel Program is described in great detail in the IAPTS. Through the IAPTS, the government can now clearly express what is expected of the contract workforce in advance of performance evaluations.

**National Rappel Program**

In 2010, the rappel program was reactivated after the Chief ordered stand-down following the death of a rappeller during a training. A quality assurance process standardized the program including use of only Bell medium helicopters, consolidated training, standardized training and operational procedures, and a revised Forest Service rappel guide.

In 2011, eight additional helicopters at six bases were reactivated following the same quality assurance process. In 2012, consolidated and standardized training will occur at two locations using a national training cadre. A national rappel steering committee was chartered to provide national direction to the program.

**Airworthiness Practices Board**

A Forest Service Airworthiness Practices Board (FS-APB) was chartered in late FY 2011 to implement the special mission airworthiness assurance guide. The FS-APB will review airworthiness related policy, procedures and standards, mission requirements, training, aircraft, equipment and support services, and contract specifications for acquisition (purchase, lease or contract), and for existing agency owned aircraft. The FS-APB will make recommendations based on review and analysis to maintain and improve airworthiness assurance of aircraft operated in special missions by the Forest Service. The FS-APB will coordinate with agency employees, cooperators, contractors, and other federal agencies. The FS-APB recommends and submits program direction and any policy changes to the Director FAM.

**National Incident Management Organization**

The National Incident Management Organization (NIMO) provided management oversight on two international fire assignments, 11 fires in the United States and one non-traditional assignment at the Washington Office in 2011. As a result, NIMO had fire management cost avoidance of over $61 million; values at risk cost avoidance of $357 million, totaling cost avoidance of over $418 million for 2011.

Two international assignments, through a request by USDA and State Department to work with United States Agency for International Development (USAID) were completed. Assistance was provided to wildfire situations in Israel and Mexico.

The teams fulfilled 11 assignments throughout the spring, summer and fall. This included:

- Five (5) deployments to assist Texas Forest Service with multiple fires including the Bastrop Fire. The request was made by Region 8 to assess and provide information regarding appropriate level of federal response needed, and the teams also managed and supported operational and logistical modules to support local, state and federal resources.

- Two mentor assignments were completed;
Sweat Farm Road II Fire which NIMO mentored a Georgia Forestry Commission Type 2 team, and a North Carolina Type 2 Division of Forest Resources team.

- NIMO managed the Shadow Lake Fire on the Deschutes NF in Oregon and the Salt Fire on the Boise NF.
- NIMO was requested to manage BAER support on the Las Conchas Fire, where they also took over fire management. They developed a long term implementation plan and fire strategy for the Coronado NF.

Additional assignments included fire support strategy development for Regions 2 and 3, deployment to the WO in developing a workforce diversity hiring plan, Region 3 Area Command Support, Region 8 serious accident investigation/smoke management plan development and Chief’s Safety Journey logistical support.

In addition to management of incidents, NIMO spends about 50 percent of programmatic time training, conducting risk management and ‘futuring’ for concepts, approaches and technology (see Goal 1) to continually improve fire management (Figure 7).

**Training**

This year training included capacity training for management of wildland fires by developing Type 3 teams on five forests while continuing to support the development of Type 2 organizations with the states of NC, GA, AL, TX, SC, FL, NJ and IL.

Continued support of the national accelerated training program (NATP) pilot which began in 2010 included coaching and mentoring 36 employees by streamlining their fire management training and qualification as well as building leadership skills.

Management of the Gettysburg & Bakersfield staff ride and development of View Lake staff & Lonesome Complex staff ride’s (R6) as well as the development of a virtual staff ride for prescribed fire workshop in R8. This training is in support of developing better decision making and assessing leadership attributes.

NIMO supported implementation of the S-520 simulation for 2011 and hosted a number of field 420 events allowing for real-time training and qualification at a Type 2 level.

In all, NIMO training and mentoring consisted of 11% of programmatic time and more than 450 individuals in 2011- not including risk management training.

**Figure 6. 2011 Summary of NIMO Assignments**
Objectives of Forest Session
1. Build or strengthen the concept of a "container" consisting of forest employees and leadership where open discussion is encouraged and everyone's input is valued.
2. Introduce concept of empowerment of being Risk Managers.
3. Introduce communication practices which impact risk and risk management and techniques to mitigate.
4. Introduce concepts of risk management, decision modeling and probabilities.

Forest Sessions in 2011
- National Forests in Mississippi
- National Forest in Alabama
- National Forests in Texas (Angelina-Sabine and Crockett)
- Fishlake National Forest
- Uinta-Wasatch-Cache National Forest
- Payette National Forest
- Manti-LaSalie National Forest
- Caribou-Targhee National Forest
- Dixie National Forest
- Boise National Forest
- Humboldt-Toiyabe National Forest
- Sawtooth National Forest
- Salmon Challis National Forest
- Bridger-Teton National Forest
- Cleveland National Forest
- San Bernardino National Forest
- Six Rivers National Forest
- Los Padres National Forest
- Angeles National Forest
- Umatilla National Forest
- Ashley National Forest
- Wallowa-Whitman National Forest
- Okanogan-Wenatchee National Forest
- Malheur National Forest
- Rogue River – Siskiyou National Forest
- Central Oregon Fire Management Service (Deschutes and Ochoco NF)
- Shoshone National Forest
- Black Hills National Forest
- Pike San Isabel National Forest
- Rio Grande National Forest

Risk Management Sessions
Regional Leadership Team and Forest level sessions were hosted to improve communication and improve risk assessment and decision making.

Overall, 30 Forest Supervisors and 180 district rangers participated in risk sessions.

Participant Comments
I thought you did a great job covering concepts and using examples and exercises that made sense and kept people engaged.

Great job by cadre to bring message to us in a very clear presentation. "Risk Mgmt" is not fuzzy like it was to me before this discussion.

Really appreciated the interactive nature of workshop. It is much more effective than listening to someone talk and forces us to communicate with co-workers.

A good forum to interact throughout our ranks. Need more non fire folks to attend to mix it up.
National Airtanker Base Review

The Forest Service initiated a national review of 40 agency airtanker bases as part of an effort to develop priorities for funding infrastructure needs and work toward efficiencies through standardization.

The objectives were to determine airtanker base operations; infrastructure status, infrastructure deficiencies; program efficiencies; and develop a regional and national program baseline report. This will assist in the development of strategies for the future.

The National Interagency Support Caches (NISC) Implement Changes

Through a strategic plan developed by the NISC in 2007 the Forest Service, Bureau of Land Management, and two states have been busy implementing components of the plan. One of the goals and strategies ties to the efficiency of delivering supplies to incidents and the organization it takes to make this happen. The Forest Service contracted a study of the delivery cost of supplies to a timeframe for demand. Because of the results of these studies, the agency is implementing changes to gain business efficiencies, as well as establish a center of excellence for refurbishment of the supplies. In the end, the NISC will be able to meet the demands of the user community while managing all the supplies needed in the most cost effective, efficient manner.

Implementation of Shift Food and Bio Preferred Products

Through mobile food contracts, shift foods such as energy bars and dried fruits are added to traditional firefighter sack lunches helping firefighters consume additional calories and snack throughout their work shift. Studies suggest that eating regularly throughout the work shift can have positive benefits, including improved work capacity, increased reaction times late in the day, and reduced fatigue.

The Forest Service also enhanced implementation of bio preferred products in national mobile food and shower contracts by requiring purchase of certain bio based items such as cutlery, garbage can liners, paper towels, and cleaning agents. Per the USDA, bio preferred products must be made of a minimum percentage of bio based content.

Fire Prevention

Research on fire prevention programs conducted by the Southern Research Station and partners concluded that fire prevention education efforts in the state of Florida had a benefit to cost ratio of 35:1; the savings came from reduced suppression costs and the avoidance of environmental and economic losses due to the reduction in the number of fires.

In 2011 85 percent of wildfires recorded by NIFC were human caused. Two of the historically large fires, the Wallow and Las Conchas, were human caused.

The Forest Service, National Association of State Foresters, and the Advertising Council developed new wildfire prevention curriculum for kindergarten through second grade classrooms. The “Smokey Bear & Friends” program was a huge success in terms of outreach, and engaging teachers and children in wildfire prevention messages.

The curriculum, which meets national education standards, was used by over 10,000 teachers and reached more than 483,000 children. The program combined new teaching activities with the, “A day in the forest with Smokey Bear,” DVD (2010) and artwork from the 2009 Smokey Bear Storybook. The message is presented in a way that gains attention.

For several years, field personnel have requested
new prevention signs. To meet the need, the regional fire prevention coordinators developed new fire prevention signs for roadways and posters for recreation areas. The Rocky Mountain Region of the Forest Service provided the creative graphic design talent to create the new signs and posters, and fire prevention funding was provided throughout the Forest Service to acquire new signs.

During calendar year 2010, the Smokey Bear Campaign received more than $46 million dollars in donated advertising media from the Ad Council’s public service campaign—ranking fifth in overall funding for 2010, and more than $15 million dollars was donated in the first half of calendar year 2011. Smokey’s presence in social media increased as well. With the talents of the Ad Council, Smokey now has over 48,000 fans on Facebook (www.facebook.com/smokeybear) and has over 8,100 followers on Twitter (www.twitter.com/smokey_bear). In conjunction with the www.smokeybear.com website, web banner Public Service Announcements (PSAs) and blogs, Smokey’s prevention message is reaching a wide and diverse audience.

**International Fire Prevention**

Fire prevention and education personnel continue to assist other nations through the Forest Service’s international programs and USAID. In May 2011, Forest Service personnel went to Guyana and conducted a series of ‘train the trainer’ workshops, teaching fire management preparedness.

Smokey Bear was invited to speak to a group of wildland fire managers in Moscow in June 2011. Smokey and his colleagues discussed prevention education, enforcement and engineering aspects that might be applicable in Russia, as well as numerous other wildland fire management topics. Travel expenses were paid by USAID

**HSPD-12 Working Group**

The Forest Service and DOI have formed a working group to identify ways to address Homeland Security Presidential Directive 12 (HSPD-12) for non-federal temporary employee access to federal networks and resources. The Forest Service and DOI rely on hundreds of state and local government support personnel to assist with wildfire suppression and emergency response. With the advent of HSPD-12, all employees must undergo a background investigation before they can be allowed access to federal networks and/or systems.

**National Incident Management System**

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

During FY 2011, the Forest Service met specific NIMS compliance requirements by:

- ensuring all Forest Service response personnel were trained on NIMS and met appropriate NIMS ICS training requirements;
- reviewed agency emergency plan and appropriate agreements to ensure wording was compliant with NIMS requirements; and
- categorized non-fire assets (through resource typing) for potential disaster response.

FAM continues to chair the National Response Framework/NIMS Committee within the National
Wildfire Coordinating Group. During 2011, FAM enhanced relationships with FEMA’s National Integration Center (NIC) and now maintains a desk at the NIC for closer coordination on NIMS-related efforts. FAM is involved with 11 NIC working groups in support of NIMS.

All-Hazard Support to the National Response Framework

The National Response Framework (NRF) details how the nation conducts all-hazard response, from the smallest incident to the largest catastrophe. It describes special circumstances where the federal government exercises a larger role, including incidents where federal interests are involved and catastrophic incidents where a state would require significant support.

The NRF builds upon the NIMS coordinating structures to align key roles and responsibilities, linking all levels of government and non-governmental organizations with the private sector. Under the NRF, all incidents are managed locally. For most non-fire incidents, requests for federal assistance are coordinated through the Federal Emergency Management Agency (FEMA). Requests for federal assistance for oil spills and other hazardous substance releases are coordinated through the United States Coast Guard or the EPA under the National Oil and Hazardous Substance Pollution Contingency Plan.

There are 15 Emergency Support Functions (ESFs) identified in the NRF. At the federal level, the Forest Service is the coordinator and primary agency for ESF number 4, Firefighting (ESF4). The mission of ESF4 includes coordination of federal firefighting activities and resource support to rural and urban firefighting operations. The Forest Service is also responsible to provide support to 12 of the remaining 14 ESFs.

FAM provides national and regional coordinators that work with FEMA counterparts on a day-to-day basis. FAM maintains qualified ESF4 personnel to staff FEMA national, regional and field coordination centers during Presidentially-declared emergencies and major disasters.

In the ESF4 role, FAM worked with FEMA and other federal agencies on six national-level planning efforts during FY 2011:

- Federal Interagency Response Plan (Earthquake response)
- Federal Interagency Response Plan (Hurricane response)
- Improvised Nuclear Device Concept of Operations Plan
- Medical Countermeasures Management Plan (Anthrax)
- New Madrid Earthquake Plan
- Whole-of-Community Catastrophic Incident Plan

FAM participated in the planning for and conduct of four national-level exercises during FY 2011:

- Eagle Horizon Exercise – National level Continuity of Operations exercise
- FEMA Hurricane Tabletop Exercise
- Anthrax Response Exercise Series
- National Level Exercise 2011 – New Madrid Earthquake exercise

Examples under the National Response Framework

Federal disaster response was fairly active during FY 2011 at both the national and regional levels. A few highlights of the Forest Service’s support to FEMA, other federal agencies, and state/local agencies during fiscal year 2011 included:

Northeast Ice Storms

A severe ice storm paralyzed the northeastern United States late January and early February 2011. Forest Service personnel staffed the ESF4 desk in New York in anticipation that crews would be needed to assist with emergency road clearing of downed trees.

Tsunami from Japan Earthquake

The catastrophic earthquake in Japan in March 2011 triggered a tsunami that threatened the entire West Coast of the United States. FEMA activated ESF4 nationally and in two FEMA regions because of the potential damage from the tsunami. Ultimately, damage from the tsunami was not widespread in the United States, and no federal firefighting resources
were needed.

**Flooding**

**North Dakota:** As with the previous two years, spring flooding occurred along the Red River Basin in North Dakota and Minnesota. FEMA activated ESF4, and the Forest Service provided communications equipment and personnel to assist.

**Rocky Mountains:** Flooding and mudslides caused by spring rains and warm temperatures melting an excessive snowpack occurred throughout the Northern Rocky Mountains in May of 2011. FEMA activated ESF4 regionally, and the Forest Service provided ESF4 staff and an incident management team to coordinate state and local responses to flooding in Wyoming.

**Tropical Storm Lee:** In September, Tropical Storm Lee made landfall at Pecan Island, Louisiana, then stalled over Pennsylvania and New York adding a tremendous amount of rain to areas already saturated by rains from Hurricane Irene. Record flooding occurred in many areas. ESF4 staff, along with one incident management team and two hand crews were again assigned to New York State to support operations there and in Pennsylvania for nearly a week.

**Hurricane Irene**

This Category 3 storm made landfall in Puerto Rico late August 2011 and three times on the United States East Coast. Coastal areas in the Mid-Atlantic states sustained the brunt of the damage from the initial landfall; Irene then battered much of the Northeast with record rainfall and major flooding. ESF4 staff operated at FEMA headquarters and in four FEMA regions, as well as Puerto Rico. Over a period of about two weeks, three incident management teams and 11 hand crews were mobilized to New York and Massachusetts to assist with emergency road clearing, distribution of water and other commodities. Communications equipment, communications technicians, and aviation specialists were also mobilized.

**Topical Storm Nate**

The path of this storm, which formed in September 2011 in the Gulf of Mexico, appeared to threaten the U.S. Gulf Coast. FEMA activated ESF4 nationally and regionally until it was determined that there was no longer a threat to the coastline. This was significant, as ESF4 was already mobilized nationally and regionally because of flooding from Tropical Storm Lee and the Texas wildfires.

**Texas Wildfires**

Extreme drought resulted in a critical fire situation in Texas. September 2011, several serious wildfires consumed over 1,000 homes. A Presidential Declaration of Emergency was declared, and FEMA activated ESF4 to provide technical support and advice to FEMA personnel working with the state of Texas.

**Support Under the National Oil and Hazardous Substance Pollution Contingency Plan**

**Yellowstone River (Silvertip) Oil Spill**

FAM was the initial USDA lead and point-of-contact for all agency coordination and support to EPA and the State of Montana in response to the Silvertip Oil Spill on the Yellowstone River in July. Forest Service engineering worked directly with USDA Departmental Management, with FAM support as needed.
Success Stories - Goal 3 - Hazardous Fuels and Restoration

National Recognition

The Bastrop Unified Command group received an award for “Most Notable Emergency Response Implementation by a Federal, State or Local Entity—Operational Emergency Response Deployment.” The award was presented on November 14 at the Government Security News 2011 Homeland Security Awards Dinner in Washington, D.C. The group was recognized for joining together under unified command to manage the Bastrop Fire. The group consisted of the Bastrop County Office of Emergency Management, the Texas Forest Service, the Forest Service Boise National NIMO) and the Southern Area Type I Red Team. The fire ignited Labor Day 2011 and lasted 30 days. Two lives were lost, 34,000 acres burned, and over 1,700 structures were destroyed.

“If we had any success at all in managing this horrible fire, it was because all of us who had responsibility joined together in a unified command system, whereas each of us assured that the other’s missions could be accomplished.” —Mike Fisher, Bastrop County Emergency Management Coordinator

NIMO Provides BAER Support

The Las Conchas Fire (the largest wildfire in New Mexico’s recorded history) started on June 26, 2011, burned 157,000 acres, and was fully contained 36 days later. The fire burned primarily within the Santa Fe National Forest, Valles Caldera National Preserve, Bandelier National Monument, the Pueblos of Jemez, Santa Clara, Cochiti and Santo Domingo, and on private lands.

As firefighters continued their progress containing the fire, the Boise NIMO Team was brought in to manage efforts of several BAER Teams who were assessing conditions and identifying proposed rehabilitation treatments. Efforts resulted in a safer work environment, reduced overall costs, greater efficiencies, and greater communication and coordination among the multitude of interagency partners.

Public Awareness Against Wildfire Arson

The City of Palm Bay near Orlando had a high number of suspicious wildfires over the past several years. In response, Florida Forest Service brought in an interagency wildfire prevention team to help address the issue.

The team worked with the local CRIMELINE to develop an arson specific billboard and other public service ads. A tip to the CRIMELINE ultimately led to the arrest of the arsonist in July.

Throughout the 2011 wildfire season, numerous fire prevention and education teams were also used in the states of Texas, Louisiana, New Mexico, Arizona and Georgia.
Hazardous Fuels Accomplishments

Goal 3—Hazardous Fuels and Restoration

- Hazardous fuels are treated, using appropriate tools, to reduce the risk of wildland fire to communities and to the environment. Fire-adapted ecosystem are restored and maintained to achieve land management plan desired conditions, to mitigate and respond to the effects of a changing climate, and to achieve sustainable environmental, social, and economic benefits.

Objectives:

1. Within the context of a changing climate, prioritize and implement socially, economically, and ecologically sustainable management actions to reduce wildland fire risk to communities and natural resources.
2. Use fire or mechanical fuel treatments to create landscapes in which fire can be used to meet integrated resources management objectives and land management plan desired conditions for restoration, maintenance, and protection.
3. Capitalize on opportunities to derive economic benefits, recover treatment costs, or increase capacity to execute fuels treatment projects.
4. Hazardous fuels and other vegetation treatment objectives are achieved in an integrated fashion with a high degree of efficiency and effectiveness.

National Cohesive Wildland Fire Management Strategy Goal—Primary Factor: Restore and Maintain Resilient Landscapes

Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.

The moderate wildfire season, good weather and efficient use of resources during FY 2011 afforded fire managers the ability to make exceptional progress toward fuel treatment accomplishments. In fact, the Forest Service exceeded its total hazardous fuel treatment target by 39 percent during FY 2011, improving or maintaining conditions on nearly 2.8 million acres across the United States.

The Forest Service hazardous fuels program coordinates internally with other Forest Service programs to complete projects that reduce hazardous fuels and accomplish other objectives such as wildlife habitat improvement thereby leveraging funding to accomplish more treatments. The Forest Service collaborates externally with state agencies, communities, interest groups and citizens on hazardous fuel projects in the highest priority areas.

The Forest Service continues to prioritize work toward the reduction of vegetation adjacent to communities, which has been the case since the establishment of the National Fire Plan in 2001. Since that time, 61 percent of hazardous fuel accomplishment has occurred in the wildland urban interface (WUI) totaling nearly 15 million acres.

Table 3. Hazardous Fuels Reduction Accomplishments, FY 2002—2011

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Acres Treated Hazardous Fuels</td>
<td>1,258,400</td>
<td>1,453,300</td>
<td>2,561,000</td>
<td>2,708,000</td>
<td>2,515,000</td>
<td>3,035,000</td>
<td>3,030,000</td>
<td>3,599,000</td>
<td>3,262,000</td>
<td>2,772,000</td>
</tr>
<tr>
<td>WUI Acres</td>
<td>764,400</td>
<td>1,114,100</td>
<td>1,700,000</td>
<td>1,653,000</td>
<td>1,607,000</td>
<td>1,644,000</td>
<td>1,941,000</td>
<td>2,190,000</td>
<td>1,965,000</td>
<td>1,613,000</td>
</tr>
<tr>
<td>Non-WUI Acres</td>
<td>494,000</td>
<td>339,200</td>
<td>861,000</td>
<td>1,055,000</td>
<td>908,000</td>
<td>1,391,000</td>
<td>1,097,000</td>
<td>1,408,000</td>
<td>1,297,000</td>
<td>1,160,000</td>
</tr>
</tbody>
</table>

*Table statistics are rounded to the nearest thousand
Fuel Treatment Effectiveness Program

The Forest Service has implemented a program to evaluate the effectiveness of fuel treatments when those treatments are tested by wildfires. As a result, when a wildfire starts or burns into a previous fuel treatment, a team of fire management specialists conduct an assessment to determine:

- if the fuel treatment either affected fire behavior by reducing the intensity and/or rate of spread; or
- if suppression effectiveness was improved through enhanced firefighter safety, reduced suppression costs, and/or reduced potential fire damage.

The program began in FY 2008 and continued through FY 2011. To date, over eight hundred assessments have been completed, and data show that the treatments are effective in reducing both the cost and damage of individual wildfires which start in or burn into previous projects completed to reduce the density of the vegetation in those areas. Data shows that an effective fuel treatment program improves firefighter safety and increases the opportunity for firefighters to take action when compared to untreated conditions.

Hazardous Fuels Prioritization and Allocation System

Both the Forest Service and the Department of the Interior (DOI) use a Hazardous Fuels Allocation and Prioritization System (HFPAS) to identify high-priority areas, allocate funding and integrate hazardous fuels treatments. In the Forest Service, the HFPAS process has three components:

- **Ecosystem Management Decision Support (EMDS)** is a geospatial information system (GIS)-based Logic Model combined with a Decision Support Model. The logic model interprets and synthesizes information about landscape conditions. The decision model helps identify high priority areas and set priorities for management actions by integrating managers’ input on the relative weight of decision criteria. The EMDS model uses nationally consistent geospatial information within four categories:
  1. Wildfire Potential: A relative comparison of the likelihood of an area to burn in a large wildfire;
  2. Negative Consequences: A set of criteria to capture the potential consequences of wildfire on values at risk;
  3. Performance: A comparison of the prior year’s performance for key areas of hazardous fuels investments; and
  4. Ecological Restoration Opportunities: Information about potential integration of fuels funding and other funding to accomplish restoration objectives.

- **Program Direction** is the management guidance provided to regional and local units regarding further distribution of the allocation and selection of priority treatments. Program direction provides guidance regarding national priorities but allows the flexibility needed for managers to incorporate local conditions.

- **Management Considerations** are used by leadership to incorporate priorities and direction that are not easily modeled and to limit potentially disruptive shifts in funding. Use of management considerations provides flexibility needed for timely response to late-breaking issues and the realities of managing a functional program.

Aerial view of the Las Conchas Fire after burning into previously treated areas.
**American Reinvestment and Recovery Act**

The American Reinvestment and Recovery Act (ARRA) authorized $500 million for Wildland Fire Management. Of these funds, half was dedicated to hazardous fuels reduction, forest health protection, rehabilitation and hazard mitigation on federal lands; the other half was authorized for activities on state and private land. Funds were obligated in 2009 and 2010, and work continues. As a result over half a million acres of federal land will have been treated to reduce the risk of wildfire.

**Forest Service and Tribal Collaboration**

The Chippewa NF is working with the Leech Lake Band of Ojibwe (LLBO) and the Bureau of Indian Affairs to complete hazardous fuels work in north-central Minnesota.

Through an initial ARRA award of $110,000 in 2009 ten wildland firefighters from the LLBO were trained. Subsequent ARRA funding in 2010 and 2011 funded fuel treatment projects on LLBO Tribal lands which is almost entirely encompassed by the Chippewa NF.

Methods for removal of dense vegetation included a combination of mechanical fuel reduction and prescribed burning. Over 320 acres have been treated.

Collaboration continues with cooperative fuels projects, stewardship contracts and ecological restoration.

**Fuel Treatments Helped Save Homes During Wallow Fire**

The Wallow Fire, the largest fire in the history of Arizona, started May 2011. In less than a week, the fire burned 40,000 acres (63 square miles). On day 6, the situation intensified as dry and windy conditions pushed the blaze into a crown fire heading toward the community of Alpine, Arizona. As the fire entered the half-mile-wide White Mountain Stewardship fuel treatment area just outside the town of Alpine the fire dropped from the tree crowns to the ground before reaching town.

The strategically-placed fuel treatments reduced hazardous fuel loading near the community which allowed engines and crews to use a full range of firefighting tactics to successfully protect homes and property. All but one of Alpine’s structures – including 100 homes – were saved from the Wallow Fire.

By the time it was extinguished, the Wallow Fire had burned over half a million acres in Arizona and New Mexico. White Mountain Stewardship project reduced hazardous fuels on more than 50,000 acres of federal and state land near wildland urban interface communities.
Goal 4—Community Assistance

■ Communities in fire-adapted ecosystems are well-prepared for wildland fire.

Objectives:

1. Continue to assist communities in building capacity to prepare for, suppress, and reduce losses from wildland fires.
2. Reduce the number of human caused wildfires through prevention and education on an ongoing basis.
3. Provide assistance to our partners and cooperators in the wildland urban interface in accordance with mutual agreements.
4. Property owners and communities are fully engaged and proactive in mitigating impacts of wildland fire in the wildland urban interface.
5. Outreach to diverse and underserved communities at all levels of program delivery.

National Cohesive Wildland Fire Management Strategy Goal—Primary Factor: Fire Adapted Communities

Human population and infrastructure can withstand a wildfire without loss of life and property.

Fire Adapted Communities

The Office of the Inspector General (OIG) audit of Forest Service Large Fire Suppression Costs in 2006 reported that, “Forest Service managers and staff generally agree that WUI protection is the major component of Forest Service’s escalating suppression expenditures, with some estimating that between 50 to 95 percent of large wildfire costs are directly related to protecting private property and homes in the WUI.”

The 2005 and the 2009 Quadrennial Fire Reviews urged wildland fire managers to promote fire adapted communities (communities which can co-exist safely with wildfire) and to develop steps for achieving fire adapted communities.

The National Cohesive Wildland Fire Management Strategy lists creating fire adapted communities as one of three major factors of the strategy along with restoring and maintaining resilient landscapes and responding to wildfires.

The Forest Service began developing the Fire Adapted Communities (FAC) Program in 2009 to primarily address increasing risks to communities in the wildland urban interface and secondarily, to mitigate large fire suppression costs. The FAC program is not a replacement for existing programs like Firewise or Ready, Set, Go! Instead the FAC program combines existing programs and tools into a comprehensive package of aids that will assist a community to become fire adapted. While one program alone won’t completely protect a community from fire, a combination of several efforts will greatly improve survivability and reduce wildfire risk. FAC is working with partners to promote creation of fire adapted communities in the wildland urban interface nationally.

The goal of the FAC program is to reduce risk from wildfire in at-risk communities in the WUI, reduce
damage due to wildfire and reduce fire suppression and structural protection costs without compromising firefighter or public safety.

FAC tools include programs like Firewise, Community Wildfire Protection Plans (CWPPs), and Ready, Set, Go!. It includes land management plans, fuels treatments, fuel buffers or safety zones, and co-operative agreements and partnering to carrying out tasks to reduce risks.

Creating fire adapted communities involves all stakeholders and engages them in the holistic effort to reduce risk and reduce reliance on government to provide all of the answers.

In a fire adapted community:

- A multi-jurisdictional, community-wide coalition of partners is established.
- Residents understand the need for and have properly prepared their homes before a wildfire threatens and are prepared for safe evacuation.
- Fire departments have appropriate skills, equipment and capacity; and residents understand the department’s limitations.
- Federal, state, local and private land owners are aware of fuels threats on their property and have taken action to mitigate the danger.
- Local and/or state authorities have taken steps to assure structures are designed, constructed, retrofitted, and maintained in a manner that is ignition resistant.
- Local government has implemented effective land use planning and regulation, including building codes and local ordinances.
- The community has embraced the need for and created defensible space.

The Forest Service is working with a group of national partners to collaborate in developing the agency’s FAC program. Current coalition members are the National Fire Protection Association, International Association of Fire Chiefs (IAFC), Insurance Institute for Business and Home Safety, National Volunteer Fire Council, National Association of State Foresters, National Wildfire Coordinating Group Wildland Urban Interface Mitigation Committee, the Department of the Interior, and the U. S. Fire Administration.

Firewise
This year, the National Fire Protection Association (NFPA) Firewise Communities program turned 10 years old. There are now over 750 Firewise Communities nationwide, and NFPA has set a goal of 1,000 communities by 2013. NFPA honored the nine original Firewise pilot sites for their continued participation and successes in reducing wildfire risk.

The Firewise Communities/USA Recognition Program was born out of the Firewise program in 2001 to give communities the opportunity to work together toward wildland fire preparedness.

NFPA expanded its outreach by hiring six regional Firewise advisors in June. The advisors help communities use Firewise principles, achieve Firewise Communities USA recognition and become officially “fire adapted.” Firewise was credited with “saves” of homes and property across the nation during the FY 2011 wildfire season.

For more information go to the newly updated website: www.Firewise.org

**Founding Firewise Communities:**

- Timber Ridge, Prescott, Arizona
- Genesee Foundation, Golden, Colorado
- Perry Park Municipal District, Larkspur, Colorado
- Wedgefield, Orlando, Florida
- Wilderness Ranch, Boise, Idaho
- Greater Eastern Jemez WUI Corridor, Jemez, New Mexico
- Emigration Canyon, Salt Lake City, Utah
- Sundance, Utah
- River Bluff Ranch, Spokane, Washington

Ready, Set, Go!
The IAFC’s Ready, Set, Go! program grew from a nine-state pilot in 2010 to having 275 member departments in 41 states in 2011.

The Ready, Set, Go! program uses the Firewise defensible space message in combination with wildfire situational awareness and safe evacuation. The Ready, Set, Go! program is another tool to help communities in the wildland urban interface become fire adapted, thus reducing risk and the need for additional suppression forces in the event of a
wildfire. A co-operative agreement between FAM Partnerships and IAFC supports the program along with funding from the Department of the Interior (DOI) and the United States Fire Administration (USFA).

IAFC responded to a request from the Texas Forest Service at the height of the 2011’s fire siege for a two-person Ready, Set, Go! team designed to help Texas fire departments learn about and implement Ready, Set, Go! in preparation for the encroachment of wildfire on their jurisdictions. The team spent two weeks in Texas and trained representatives of 69 fire departments, along with 23 employees of the Texas Forest Service, 8 fire marshals, 3 military personnel, 10 people from the Texas Office of Emergency Management, and one representative each from the Bureau of Indian Affairs and the Forest Service.

Ready, Set, Go! staff partnered with the National Association of Hispanic Firefighters to produce a Spanish version of the national Ready, Set, Go! video and will continue work toward a Spanish version of the Ready, Set, Go! Action Guide.

To learn more about RSG or to see documents go to http://wildlandfiresg.org/

Partnering to Get More Done

Wildland urban interface fire issues seldom touch only one group or organization. Risk in the interface affects many and any mitigation of risk ultimately involves a variety of organizations. The Forest Service’s aim is to coordinate ongoing efforts, avoid duplication and encourage partnerships that work together to more effectively address the issues. It has been a successful when promoting the creation of fire adapted communities. Some examples:

- NFPA and IAFC are working together to cross-promote Ready, Set, Go! and the Firewise message; and
- IAFC is working with local fire departments and NFPA through homeowners and associations.

The two organizations are working together to develop pre- and post-fire information packages for communities-at-risk in the WUI. The pre-fire packages will target communities in areas of the country that are expected to be at highest risk based on predicted weather and vegetative conditions. The information will educate those communities about becoming fire adapted and successfully surviving a wildfire. The post-fire kits will target communities already hit by wildfire and help them recover, prepare for and mitigate against the next wildfire.

Insurance Institute for Business and Home Safety

The Insurance Institute for Business and Home Safety (IBHS) has stepped into the wildfire risk arena and is working with partners to address wildfire risk issues that affect their members. IBHS is working with IAFC to help small fire departments adopt and implement Ready, Set, Go!, the Firewise message and promote fire adapted communities.

IBHS funds a mini-grant program administered through IAFC. The program provides funding to small fire departments though defraying costs of training, literature and other expenses.

IBHS research, through the Ember Demonstration Project, was successful in showing a nationwide audience how embers cause homes to burn and how to mitigate that risk. Go to http://www.slideshare.net/ibhs/wildfire-research-member-webinar to see the video and learn from the webinar.
National Volunteer Fire Council

The National Volunteer Fire Council (NVFC) joined the IAFC, NFPA, IBHS, US Fire Administration and others to promote fire adapted communities. NVFC has stepped forward to assist with training volunteer fire departments in home and community risk assessments, creation of CWPPs, and using volunteer departments to educate communities about adapting to fire.

Community Wildfire Protection Plans

Community Wildfire Protection Plans (CWPPs) address wildfire response, hazard mitigation, community preparedness and structure protection. CWPPs provide communities a tremendous opportunity to influence how and where federal agencies implement fuels reduction plans on federal and non-federal lands. Table 4 below illustrates the current status of CWPPs, as well as Communities at Risk (CAR).

### Table 4. Current state of Community Wildfire Protection Plans (CWPPs) and Communities at Risk (CAR)

<table>
<thead>
<tr>
<th>NASF Region</th>
<th>Total CAR</th>
<th>CAR Covered by CWPP</th>
<th>CAR at Reduced Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>6,506</td>
<td>3,920</td>
<td>1,576</td>
</tr>
<tr>
<td>South</td>
<td>57,394</td>
<td>1,128</td>
<td>8,505</td>
</tr>
<tr>
<td>North-east</td>
<td>6,030</td>
<td>519</td>
<td>212</td>
</tr>
<tr>
<td>Total</td>
<td>69,930</td>
<td>5,567</td>
<td>10,293</td>
</tr>
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Cooperative Fire

The Cooperative Fire Program has two main components, the State Fire Assistance program and the Volunteer Fire Assistance program.

State Fire Assistance

The State Fire Assistance (SFA) program assists several national initiatives, such as Firewise and the Smokey Bear campaign, but also provides funding to state forestry agencies for a variety of activities, including:

- wildfire response, coordination, and delivery;
- compliance with the national safety and training standards that ensure state and local crew;
- deployment to federal wildfires and other emergency situations;
- hazard assessments and fuels treatment projects; and
- public education efforts.

Volunteer Fire Assistance Program

The Volunteer Fire Assistance (VFA) program is administered by state forestry agencies through the distribution of 50/50 cost-sharing grants to local fire departments in rural communities. The program's main goal is to provide federal financial, technical and other assistance for the organization, training and equipping of rural fire departments with a population of 10,000 or less.

State Foresters evaluate the progress made toward reducing the threat of wildfire in communities at risk when considering distribution of grant funding. If the community has met one of the following three conditions, a Community at Risk may be considered at reduced risk by the State Forester:

1. treated high priority fuels according to its CWPP,
2. achieved Firewise or equivalent recognition, or
3. enacted mitigation or fire prevention ordinances.

Together, the SFA and VFA programs provided the following support in FY 2011:

- trained nearly 101,600 firefighters;
- provided $17 million in funding for communities to upgrade or purchase new fire suppression equipment; and
- formed or expanded 101 new or existing volunteer fire departments.
Federal Excess Personal Property Program

The Federal Excess Personal Property (FEPP) program allows the loan of Forest Service owned property, including equipment and supplies, to assist state and rural agencies and volunteer firefighters in preparedness for suppression and pre-suppression missions on federal, state, and community lands. The program provides items from fire hoses to heavy equipment, thereby, allowing substantial savings to the taxpayers.

In FY 2011, over 800 property items were acquired and assigned to nearly 40 state cooperators. This included just shy of 400 pieces of rolling stock. Fourteen (14) pieces of heavy equipment were loaned to state. The line items distributed through this program had an acquisition cost of over $31 million.

Department of Defense Federal Firefighter Property Program

The Federal Firefighter Property (FFP) program began in March of 2006. Through the FFP program states are afforded the opportunity to acquire title to excess military equipment; 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 program and the FEPP program is the ownership of the items acquired. All items acquired through the FEPP program remain the property of the Forest Service and are loaned to the recipient agency, while items acquired under the FFP program belong to the recipient. The FFP program’s assets are screened at a higher level, therefore, making better quality and larger quantities of property available. The program also acquires items for emergency services such as search and rescue, hazardous material spills, and emergency medical services, making it of more benefit to participating agencies. These functions often fall within the firefighting agencies’ responsibilities but are not applicable to the FEPP program.

Currently, 32 states participate in the FFP program. Participants include the states of Alabama, Alaska, Arkansas, Colorado, Connecticut, Florida, Idaho, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Virginia, Washington, and Wyoming. New agreements between non-participating states and the Forest Service are being completed; two additional states are expected to be under agreement in FY 2012.

In 2011, over $122 million in equipment was distributed to 29 states. The Arkansas Forestry Commission alone acquired eight fire trucks which provided a potential cost savings of more than $1.5 million. Through FFP, state cooperators acquired more than 1,000 vehicles in 2011 with an original acquisition cost of over $60 million.
Success Stories - Goal 4 - Community Assistance

**FEPP Assists Wyoming State**

Through the Federal Excess Personal Property (FEPP) Program, Wyoming State Forestry Division (WSFD) reconditions excess-military trucks as firefighting vehicles.

Once acquired, the WSFD mechanic shop provides a full-scale overhaul of the vehicle and adds 750-gallon firefighting packages. When they leave the shop, these trucks are ready to fight wildfires. They are distributed based upon a state-wide needs list. This is a tremendous asset when fighting rural fires where water could be scarce. When a wildfire is reported, the first firefighters on the scene are usually from volunteer fire departments. This initial attack role in fighting Wyoming wildfires is significant. This program reaches out to all counties and is especially important for smaller communities where funds are often limited.

**Iowa DNR Provides Assistance to Local Fire Department**

The volunteer firefighters of Floyd, Iowa, love a challenge. But even for them, this was a big one. Having just a photo of a totaled fire truck and a few sentences describing its specifications the Floyd Fire Chief convinced the department to take on the rebuilding project. The truck was only a few years old, but it was involved in a roll-over accident that left it totaled.

The 20 volunteer firefighters rolled up their sleeves and contacted local businesses and residents who could lend a hand. They obtained discounts on parts and refurbished the truck for a mere $40,000 which is now valued at $320,000. It took an estimated 3,200 hours of labor from the firefighters—it was a labor of love, but also done out of necessity. “We build most of our own trucks. It’s the only way we can really afford to update them.”

**Firewise Practices Protect a Community**

Shenandoah Farms community has been involved with Firewise since 2006. Supported by the Virginia Department of Forestry many Firewise projects have been accomplished the last several years. For example, in April 2010, Shenandoah Farms homeowners took on a fuel reduction project by removing more than 15 tons of woody debris. February 2011, a home fire escalated into a wildfire within the community. Although this home could not be saved, no other structures were damaged. The fire burned around several homes but since most homeowners created defensible space around their property, no other homes were lost.

An evacuation was called for and residents were prepared. One homeowner said “I knew what to do when we received word to evacuate, taking my pets and following the route out of the community to where we were told to go for food and shelter.”
Goal 5—Communications

- The Fire and Aviation Management vision, direction, and expectations are understood, accepted, and supported internally, externally, and internationally, by stakeholders and cooperators.

Objectives:

1. Continually, leadership direction and expectations are clearly understood throughout the organization and are complementary with our cooperators.

2. Leadership, at all levels, delivers a clear, consistent message to the public regarding fire and aviation management programs and emerging strategies.

National Cohesive Wildland Fire Management Strategy Goal—Primary Factor:

- **Restore and Maintain Landscapes**
  
  Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.

- **Fire Adaptive Communities**
  
  Human populations and infrastructure can withstand a wildfire without loss of life and property.

- **Wildfire Response**
  
  All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

Webinars

In February 2011, the Forest Service worked with the BLM, NPS, BIA, and FWC to hold the second national public information officer (PIO) pre-fire season webinar. The goal was to prepare PIOs with consistent messaging for upcoming fire season.

Topics included:

- a fire season outlook;
- the NIFC fire communication themes;
- National fire policy/terminology;
- the Ready, Set, Go! Program; and
- the use of social media in incident communications.

Several hundred units across the country participated in the webinar.

Fire Management Today

Fire Management Today has served the wildland fire community for more than 70 years. The publication provides information regarding new techniques and technologies relevant to wildland fire management. Four issues of FMT were published in 2011. FMT is available free of charge on the Forest Service, Fire and Aviation Management website at: [http://www.fs.fed.us/fire/fmt/volumes_authors.html](http://www.fs.fed.us/fire/fmt/volumes_authors.html)
National Interagency Fire Center Tours

NIFC hosted tours for wildland fire and emergency response officials from several countries including Greece, Lebanon and Oman. NIFC’s staff arranged for delegations from Ethiopia and the Philippines to visit incidents to observe Incident Management Teams in action.

Social Media

FAM expanded its use of social media by integrating video into the website; drafting wildfire related tweets for the Forest Service Chief; posting stories on the USDA blog; creating podcasts and posting them on the NIFC website; posting a video on the USDA YouTube channel; and other activities.

FAM developed guidance regarding firefighters’ use of social media and devices to take photos and videos while working on the fireline.

InciWeb

FAM took a number of steps to enhance the stability and reliability of InciWeb, including:

- awarding a task for a technical refresh under the FAM operation and maintenance contract to IBM;
- establishing an interagency steering committee to guide future developments; and
- making changes to the software and hardware.

In June, which was the peak of the 2011 fire season, 1.4 million visitors from 166 countries/territories accessed InciWeb, spending an average of 45 minutes on the site.

News Media

FAM staff provided information and interviews to dozens of national, regional and local news media including the Washington Post, Wall Street Journal, New York Times, CBS and CNN. Topics included support for the Texas wildfires, large airtankers and firefighter succession.

Success Story - Goal 5, Communications

Public Outreach Shadow Lake Fire

Assigned to the Shadow Lake Fire on the Deschutes NF in Oregon, the Portland NIMO recognized the need to explain the strategies for managing the fire including risk-based decisions chosen to reduce exposure to firefighters and the public. From information and material gathered since the beginning of the fire, the group developed an 18 minute video that highlighted the efforts made in risk-based decisions. The intent of creating a video was to provide a tool for leading discussions internally and with the public about risk management. The video is hosted on the Deschutes County wildfire page at: [http://www.projectwildfire.org/index.php/shadow_lake](http://www.projectwildfire.org/index.php/shadow_lake)

Further, it was obvious community outreach and education were critical to for successful outcome. Fire information staff decided to engage the public using an untried technique to leverage social media. A volunteer group was created, using non-local, technically proficient social media mavens from across the worldwide web. The Virtual Information Operations (VIOS) group built and created several social media outlets for the fire. The NIMO PIOs managed the information and postings to InciWeb while the VIOS group took this information and posted it to various social media sites. It was amazingly successful, and the group of six to eight people stayed with the fire for 19 days.

Shadow Lake Fire on the Deschutes National Forest
Goal 6—Workforce

- Fire and Aviation is a diverse, service-oriented, innovative, highly skilled, accountable organization.

Objectives:

1. Develop and maintain a professional wildland fire, fuels management, cooperative fire, and aviation workforce.
2. Continue to support a diverse workforce which reflects the American workforce.
3. Implement a performance management system that honors, values, encourages, and awards innovative thinking.
4. Develop metrics that define employee accountability in meeting their fire and aviation management commitment.

National Cohesive Wildland Fire Management Strategy Goal—Primary Factors:

- Restore and Maintain Landscapes
  Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- Fire Adaptive Communities
  Human populations and infrastructure can withstand a wildfire without loss of life and property.
- Wildfire Response
  All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

Office of Inspector General Workforce and Succession Planning Audit Report
Office of Inspector General Report 08601-54-FS

The FAM organization began working on the audit recommendations upon acceptance of the final report. Since that time, a lead position was established and tasked with implementation and working through other report recommendations not specific to developing a succession plan.

Workforce and succession planning begins with the foundation of strategies that will make it successful. The FAM workforce and development strategic framework has been developed and encompasses activities agency-wide and not just within fire and aviation. It includes identifying the primary workforce needed for fire and aviation activities, as well as a supplemental workforce to assist with the agency’s fire and all hazard incident response.

Guidance from the human resources workforce planning and program analysis branch, the recent national wildland firefighter workforce study, the National Wildfire Coordinating Group’s IMO succession planning initiative and the OIG audit recommendations have all been taken into consideration in developing this framework.

The scope of this framework provides guidance to the varying levels within the organization on how to plan, establish, implement and monitor their unit’s firefighting resource assets and at the same time assisting the agency with meeting its national workforce goals.

In addition to the framework, an action plan has been developed which provides the key elements of
work to successfully respond to the OIG audit but also poise the Forest Service to continue to be leaders in fire and aviation management in the future.

**The Davidson River Firefighter Recruitment Project**

The Region 5 Davidson River initial attack fire crew was established in 2008 through a partnership between the Forest Service and the Department of Labor Job Corps. The project’s mission is to recruit Job Corps graduates, provide training through an intensive advanced wildland fire program, and utilize them as a mobile and highly-skilled fire crew.

This program includes classroom and physical fitness training, job mentoring and experience working in a wide variety of firefighting positions. The crew is also extensively utilized as a primary prescribed firefighting asset in the Southern Region of the Forest Service (Region 8).

The goal of the Davidson River crew is to provide a career track for Job Corps students interested in fire management, and ultimately, convert them into permanent fire positions. Davidson River graduates have demonstrated a high level of commitment to wildland firefighting careers through their completion of an intensive 10-month program.

With the support of the Region 5, this program will improve diversity recruitment in California, strengthen the continuing relationship with the Department of Labor Job Corps program, and provide a sustainable pipeline of disciplined and well-qualified applicants to the apprentice program.

**Human Resource Specialists Support for Wildland Fire Incidents**

Human Resource Specialists (HRSP) on wildland fire incidents provide a point of contact for all incident personnel to discuss human resource and civil rights concerns. HRSPs, working with incident management teams, support incident personnel, set the tone for mutual respect, and provide leadership for a harassment free and positive work environment.

In the past 10 years, the program has reported an average of 414 serious contacts to HRSPs on incidents each year. Most of the HRSP contacts provided assistance for personal emergencies, including Critical Incident Stress Management (CISM), and support of fire peer critical incident stress teams. Early resolution of conflict and mutual respect issues was a notable accomplishment this year especially. Only one contact did not come to resolution at the incident. With an ongoing average of 98 to 99 percent resolution of Human Resource issues on incidents, the HRSP program is highly cost effective.

In FY 2011, the HRSP Coordinated Program established three new CISM teams, and conducted three HRSP courses nationwide. FAM and the HRSP program remain dedicated to providing quality support to incident personnel.

**FAM Workforce Diversity Program**

Annually, FAM contributes approximately $650,000 in support of workforce diversity proposals throughout the agency to address:

- Workforce Diversity Planning
- Outreach
- Recruitment
- Hiring/Selection of Candidates
- Retention

Evaluation of proposals is based on demonstrated creativity in technique, scope, complexity, and potential for replication or influence nationally.

Oversight of the program is provided by a FAM workforce diversity committee with representation from each region across the country. The committee reports directly to the national director of fire and aviation management.

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Davidson River Crew visits Washington, D.C.
Funds awarded each year are contingent upon successful implementation of the project and stated accomplishments for each proposal. An annual report is required to evaluate the effectiveness of each project.

The following summarizes the current approved projects approved from 2011 through 2013:

**Haskell Indian Nation Fire Training**
Washington Office-Human Resources Management, Multicultural Workforce Strategic Initiatives (MWSI)

Provide basic firefighter training and Work Capacity Test to Native American students at Haskell Indian Nations University in order to be fire ready to fight fire through the Forest Service STEP and SCEP programs during the summer.

**Multicultural Workforce Strategic Initiatives, Student Temporary Employment Program**

The Forest Service FAM provides funding for 100 diversity students annually under the MWSI program for travel to their duty stations as Student Temporary Employment Program (STEP) appointments.

**Aerial Fire Depot (AFD)**

Assist in retention of fire employees with families by creation of on-site daycare services. Assist with start-up funding, AFD Daycare staff and the leasing of an existing structure adjacent to the Aerial Fire depot to host a day care.

Recruitment, development and retention of women in fire. Multi-faceted approach utilizing the Great Northern Crew for entry level hires. Hire entry level women for fire and provide them with a well-rounded foundation of fire knowledge. The project also provides training and development opportunities through details.

**Coconino and Kaibab National Forests and Northern Arizona University (NAU)**

Fund 5 STEP positions from the NAU forestry program to work in fire on the Kaibab and Coconino NF’s. Create opportunities to develop these employees into high-level fire professionals with a balance of training, education and experience.

**Lincoln National Forest and Mescalero/Apache Tribes Interns**

Develop a participating agreement to fund Mescalero Apache youth as tribal interns to work seasonally with the tribe’s forestry and fire personnel. This intern program will help train promising young adults of the Mescalero Apache Tribe with the knowledge that they will become their community’s natural resource leaders and possible Forest Service employees or contractors.

**Manti La-Sal National Forest & San Juan National Forest**

Outreach and recruitment workshops across the Navajo Reservation and neighboring diverse communities to connect successful Canyon County Youth Corps and Southwest Conservation Corps employees directly to Forest Service job opportunities.

Funding to provide salary to extend the tours for three existing permanent seasonal fire employees and provide travel/per diem associated with outreach and recruiting efforts. Expand existing proven fire recruiter program and continue coordination of inter Regional recruitment efforts.

**Cleveland National Forest**

Collaboration between the Cleveland National Forest, the southwestern community college and southern California consortium to train diverse students in wildland firefighting. Cleveland NF provides fire instructors, training materials and PPE to students.
**Umatilla National Forest**

Re-funding and expansion of a previous successful project which provided for outreach of students from the local schools. Expansion of the fire fuels camp and establish urban career camp in Pendleton, Oregon.

**Mt. Hood Type 2 IA Crew**

Refunding and expansion of a previous successful project which provided for outreach, recruitment and hiring of entry level firefighters recruited from the urban areas in Portland, Oregon and Vancouver, Washington. The new funding provides additional work experience that would help employees become competitive for entry level fire positions at the GS-4/5 level and increase the number of organizations and communities that serve as a recruitment base for the crew.

**Increase Women and Minorities in the GS-462 Series via STEP/SCEP Hiring**

Targeted recruitment at two year forestry technician schools with special emphasis on women, six students per year and VRA. Current partnerships with tribal colleges, Haskell Indian college, Hispanic serving two-year forestry schools and forestry tech schools. Hiring of students working towards Associate of Science degrees and training in basic wildland fire skills. Provide basic fire training and burning experience in southern units then assign to western units for wildland fire through mid August.

**Chippewa National Forest – Blackduck Ranger District Career Camp**

Establishment of a three week career camp featuring natural resource management with emphasis on fire and fuels. Hiring of the 18-22 year olds into entry level firefighting positions. Summer internships working in fire and fuels management. Upon completion of a summer internship in the fire program, students will be eligible to pursue a degree at Itasca Community College.

**USDA Forest Service Job Corps Civilian Conservation Centers**

The Forest Service operates 28 Job Corps Civilian Conservation Centers (JCCCCs). FY 2011 was another successful year for the Job Corps program. The JCCCCs span seven Forest Service regions, 22 forests and grasslands and 18 different states. Job Corps has the capacity to serve 6,200 students and provides a well trained cadre of students skilled in advanced forestry and wildland fire management, with the highest of standards in safety, training, and certification.

Job Corps students and staff have proven their ability to provide cost-effective support in all areas of fire management business and technology. They are available with minimum lead time and can be moved quickly to respond to the needs of the Forest Service. Job Corps’ vocational training programs makes students suitable for employment as trainees and apprentices in diverse areas of the Incident Command System from administrative support to computer technical specialties. Employing Job Corps students and staff helps the Forest Service reduce fire suppression costs and meet peak demands for fire resources.

**Incident Management Organization Succession Planning Project**

The Forest Service participated in a National Wildfire Coordinating Group (NWCG) effort to develop an incident management model that is sustainable for the future. The goal of the “Incident Management Organization Succession Planning Project,” is to update the current militia-based business model to address incident management needs into the future.

The project team identified 7 alternative organizational models, based 11 overarching principles, and provided members of the wildland
fire community with an opportunity to comment on them.

Over 1,000 comments were received and analyzed. The NWCG is expected to make a final decision on a new incident management organization model in FY 2012.

**National Fire Training Centers**

The national fire training centers have joined forces under FAM organization to provide interagency training opportunities to other federal, state and local wildland fire management personnel. The journey began in 2009. New technologies are being deployed to enhance training and learning. The national advanced fire and resource institute (NAFRI) and the wildland fire lessons learned center (LLC) have been under the NAFRI director and co-located in Tucson, AZ along with the fire use training academy. In 2010, the staffs of the Prescribed Fire Training Center in Tallahassee, FL, and the wildland firefighter apprenticeship program in McClellan, CA, also became part of the Washington Office detached unit, maintaining their locations in FL and CA.

Since this time, the five programs have worked together under the direction of the National Fire Training Centers Director (formerly the NAFRI Director). Areas of collaboration include personnel management, budgeting, curriculum management, new training technologies, and cross-utilization of personnel.

**Prescribed Fire Training Center (PFTC)**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Participants</td>
<td>1,567</td>
</tr>
<tr>
<td>Host/Cooperators</td>
<td>410</td>
</tr>
<tr>
<td>Training Assignments</td>
<td>4,187</td>
</tr>
<tr>
<td>Burns</td>
<td>2,144</td>
</tr>
<tr>
<td>WUI Acres</td>
<td>218,588</td>
</tr>
<tr>
<td>Total Acres with WUI</td>
<td>784,849</td>
</tr>
</tbody>
</table>

**National Advanced Fire and Resource Institute (NAFRI)**

<table>
<thead>
<tr>
<th>Class</th>
<th>Number Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Aerial Firefighter Academy</td>
<td>51</td>
</tr>
<tr>
<td>National Advanced Fire Danger Rating System</td>
<td>20</td>
</tr>
<tr>
<td>S495 Geospatial Fire Analysis, Interpretation and Application</td>
<td>57</td>
</tr>
<tr>
<td>RX510 Advanced Fire Effects</td>
<td>47</td>
</tr>
<tr>
<td>FLA/Lessons Learned Workshop</td>
<td>60</td>
</tr>
<tr>
<td>Fire Management Leadership</td>
<td>77</td>
</tr>
<tr>
<td>Complex Incident Management Course</td>
<td>48</td>
</tr>
<tr>
<td>L580 Leadership is Action (Gettysburg)</td>
<td>70</td>
</tr>
<tr>
<td>L580 Leadership is Action (Wharton)</td>
<td>9</td>
</tr>
<tr>
<td>Interagency Partner Use of NAFRI</td>
<td>439</td>
</tr>
<tr>
<td>Total</td>
<td>2,923</td>
</tr>
</tbody>
</table>
## Fire Use Training Academy (FUTA)

<table>
<thead>
<tr>
<th>Class</th>
<th>Number Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>S390 In term Fire and Fire Behavior Calculations</td>
<td>24</td>
</tr>
<tr>
<td>BEHAVE Plus</td>
<td>28</td>
</tr>
<tr>
<td>RX301 Prescribed Fire Implementation</td>
<td>35</td>
</tr>
<tr>
<td>RX310 Introduction to Fire Effects</td>
<td>44</td>
</tr>
<tr>
<td>RX341 Prescribed Fire Plan Preparation</td>
<td>24</td>
</tr>
<tr>
<td>RX410 Smoke Management</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>181</td>
</tr>
</tbody>
</table>

## Prescribed Fire Training Center

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
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<td>218,588</td>
</tr>
<tr>
<td>Total Acres with WUI</td>
<td>784,849</td>
</tr>
</tbody>
</table>

## Wildland Fire Lessons Learned Center (LLC)

| Wildfire lessons webpage views | 5,000,000 |
| Wildfire lessons document views | 10,000,000 |
| “Two More Chains” views (Issues 1—3) | 56,623 |
| IRPG Stickers mailed           | +50,000    |
| YouTube video views (since June 2011) | +10,000 |
| New My Fire Community neighborhoods | 126 |
| New My Fire Community members | +8,000     |
| New Incident Management Team sites | 24 |

## Wildland Firefighter Apprenticeship Program (WFAP)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apprentices Converted</td>
<td>279</td>
</tr>
<tr>
<td>Advanced Academy Graduates</td>
<td>260</td>
</tr>
<tr>
<td>Basic Academy Completions</td>
<td>305</td>
</tr>
<tr>
<td>Total</td>
<td>844</td>
</tr>
</tbody>
</table>
Success Story - Goal 6 - Workforce

Veterans Green Corps – A Mutually Beneficial Partnership

Across the West, crews of returning military veterans have been hired by the Forest through the Veterans Green Corps, a national program that provides returning veterans with the skills, credentials and experience to pursue jobs in natural resource conservation and wildland fire management.

For the last few years, Veterans Green Corps crews have been using a variety of equipment, hand removal methods and prescribed burning to reduce the hazardous fuels that contribute to severe fires and threaten local communities.

On the Springerville District of the Apache-Sitgreaves National Forest in Arizona, where the Wallow Fire began earlier this year, a six member Veterans Green Corp crew of six Veterans worked alongside Forest Service fire and fuels staff. They contributed to about 20 acres of mechanical and hand fuel treatments per week, expanding on earlier projects to reduce excess vegetation and the threat that wildfire poses to natural resources and local communities.

According to the district fire management officer the quality of the Veterans’ work stands out, “they catch on really fast, pay attention well and are already familiar with the chain of command.” The members of the crew average about three to six years of military service each.

The Veterans Green Corps is considered a “win-win” situation for everyone involved, giving unemployed veterans jobs, training and the chance to contribute to the Forest Service’s mission of sustaining the health, diversity and productivity of the nation’s forests and serving the people.

Projects last about 10 weeks, and the experience and training the crew members gain with the Veterans Green Corps prepares them to pursue seasonal and long-term employment with the Forest Service and other land management agencies.

Veterans Green Corps has served as a great recruiting tool for the Forest Service. Several veterans from last year’s crews have been hired into seasonal positions on the San Juan National Forest in Colorado.

The Forest Service contributed about $1.5 million to the Veterans Green Corps in Fiscal Year 2011, with nearly $450,000 in additional funding from ARRA. More than 80 Veterans Green Corps positions were created with the Forest Service in FY 2011.
Part IV. Fire and Aviation Management Performance Measures and Outcomes

Performance Accountability

Sound performance accountability requires establishment of relevant measures and reportable outcomes, with transparent reporting toward the desired results of those measures. Wildland fire is a high-profile, interagency program with a significant allocation of agency resources. As such, viable performance accountability is an integral part of the FAM program.

FAM’s performance management framework continues to evolve as a result of changes scheduled to occur in FY 2011 including:

◆ a new USDA Strategic Plan,
◆ the Administration’s focus on High Priority Performance Goal measures throughout the government, and
◆ the continued efforts by Office of Management and Budget (OMB) to refine performance assessment.

Excluding the USDA Strategic Plan measures which will be replaced in 2011, the following list provides a full accounting of the performance measures reported at the national level by FAM for FY 2011. These measures are part of a multi-faceted performance framework that shapes FAM’s work. They are a result of a number of different efforts:

1. The Forest Service Strategic Plan;
2. OMB’s performance assessment rating tool;
3. Forest Service output measures aligned with Budget Line Items;
4. Forest Service executive priorities; and
5. The interagency and intergovernmental 10-Year Comprehensive Strategy.

It should be noted that with the federal natural resource management agencies’ adoption of the 2009 implementation guidance for the federal wildland fire management policy, the term, wildland fire use is no longer used. This guidance provides for two types of fire—planned ignitions (prescribed) and unplanned ignitions (wildfire).

Accomplishments for what was formerly referred to as “wildland fire use” in the performance measures are recorded in the following tables as “unplanned.” This includes those unplanned ignitions that demonstrated hazard reduction and fire effects in alignment with local Land and Resource Management Plan (LRMP) Desired Conditions.

Table 5. Forest Service Strategic Plan 2007—2017 Performance Measures and Outcomes for FY 2011

<table>
<thead>
<tr>
<th>Forest Service Strategic Plan FY 2007—2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
</tr>
<tr>
<td>1.1a Number and percentage of acres treated to restore fire-adapted ecosystems that are: (1) moved toward desired conditions and (2) maintained in desired conditions.</td>
</tr>
<tr>
<td>1.1b Number of acres brought into stewardship contracts.</td>
</tr>
<tr>
<td>1.2 Percentage of fires not contained in initial attack that exceeded a stratified cost index (SCI).</td>
</tr>
<tr>
<td>1.3 Percentage of acres treated in the wildland urban interface (WUI) that have been identified in community wildfire protection plans (CWPPs) or equivalent plans.</td>
</tr>
</tbody>
</table>
### USDA Strategic Plan

**Table 6. USDA Strategic Plan**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Measure</th>
<th>2011 Actual</th>
<th>2011 Target (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Annual acres of public and private forest lands restored or enhanced *</td>
<td>4,926,108</td>
<td>3,737,365</td>
</tr>
<tr>
<td>2.4.1</td>
<td>Number of communities with reduced risk from catastrophic wildfire</td>
<td>3,902</td>
<td>14,000</td>
</tr>
<tr>
<td>2.4.2</td>
<td>Cumulative number of acres in the National Forest System that are in desired condition relative to fire regime</td>
<td>59,269,943</td>
<td>59,610,600</td>
</tr>
<tr>
<td>2.4.3</td>
<td>Percentage of acres treated in the WUI that have been identified in community wildfire protection plans or equivalent</td>
<td>60.8%</td>
<td>75%</td>
</tr>
</tbody>
</table>

*Fire and Aviation Management contributes to this measure*

### Program Assessment

**Table 7. Program Assessment Measures and Outcomes for FY 2011**

<table>
<thead>
<tr>
<th>Measure</th>
<th>2011 Actual</th>
<th>2011 Target (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of total National Forest System land base for which fire risk is reduced through movement to a better condition class.</td>
<td>2.87 percent</td>
<td>3.1 percent</td>
</tr>
<tr>
<td>Percent of fires not contained in initial attack that exceed a SCI.</td>
<td>20.8 percent</td>
<td>18 percent</td>
</tr>
<tr>
<td>Number of acres maintained and improved by treatment category (prescribed fire, mechanical, and wildland fire use*) and of those improved the percent that change condition class.</td>
<td>1,449,917 34.6 percent</td>
<td>1,238,095 30 percent</td>
</tr>
<tr>
<td>Percent change from the 10-year average for: (1) number of wildfires controlled during initial attack, and (2) number of human caused wildfires.</td>
<td>-0.8 percent -11.6 percent</td>
<td>+/- 0.5 percent -1.0 percent</td>
</tr>
<tr>
<td>Total acres treated in WUI and non-WUI and also acres treated for other vegetation management activities that achieved fire objectives as a secondary benefit.</td>
<td>2,765,619</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Number of acres restored and maintained per million dollars gross investment.</td>
<td>3,910</td>
<td>3,614</td>
</tr>
<tr>
<td>Acres moved to a better condition class per million dollars gross investment.</td>
<td>1,060</td>
<td>1,428</td>
</tr>
</tbody>
</table>
**Table 8. 10-Year Comprehensive Strategy Implementation Plan Measures and Outcomes for FY 2011**

### 10-Year Comprehensive Strategy Implementation Plan

<table>
<thead>
<tr>
<th>Measure</th>
<th>2011 Actual</th>
<th>2011 Target (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent change from 10-year average for: (a) percent of wildfires controlled during initial attack, and (b) number of unwanted human-caused wildfires.</td>
<td>-0.77 percent</td>
<td>+/- 0.5 percent</td>
</tr>
<tr>
<td></td>
<td>-11.61 percent</td>
<td>-1.0 percent</td>
</tr>
<tr>
<td>Percent of fires not contained in initial attack that exceeded a SCI.</td>
<td>39.7 percent</td>
<td>18 percent</td>
</tr>
<tr>
<td>Number of acres treated per million dollars gross investment in WUI and non-WUI areas.</td>
<td>1,597 acres/ million</td>
<td>N/A</td>
</tr>
<tr>
<td>Percent of collaboratively identified high priority acres treated where fire management objectives are achieved as identified in applicable management plans or strategies.</td>
<td>59.9 percent</td>
<td>N/A</td>
</tr>
<tr>
<td>Number and percent of acres treated through collaboration consistent with this Implementation Plan identified by treatment category (i.e., prescribed fire, mechanical fire, and wildland fire use—unplanned).</td>
<td>2,277,536</td>
<td>82 percent</td>
</tr>
<tr>
<td>Number and percent of acres treated to restore fire-adapted ecosystems which are: (1) moved toward desired conditions and (2) maintained in desired conditions.</td>
<td><strong>Moved toward</strong> 787,478</td>
<td><strong>Moved toward</strong> 960,000</td>
</tr>
<tr>
<td></td>
<td>35 percent</td>
<td>40 percent</td>
</tr>
<tr>
<td></td>
<td><strong>Maintained</strong> 1,028,611</td>
<td><strong>Maintained</strong> 1,200,000</td>
</tr>
<tr>
<td></td>
<td>45 percent</td>
<td>50 percent</td>
</tr>
<tr>
<td>Number of burned acres identified in approved post-wildfire recovery plans as needing treatments that actually receive treatments.</td>
<td>187,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Percent of burned acres treated for post-wildfire recovery that are trending toward desired conditions.</td>
<td>95 percent</td>
<td>N/A</td>
</tr>
<tr>
<td>Number and percent of communities-at-risk covered by a CWPP or equivalent that are reducing their risk from wildland fire. A community is at reduced risk if it has satisfied at least one of the following requirements: (1) recognized as a Firewise community or equivalent, or (2) enacted a mitigation/fire prevention ordinance, or (3) high priority hazardous fuels identified in the CWPP or equivalent are reduced or appropriate fuel levels on such lands are maintained in accordance with a plan.</td>
<td>3,902</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>5.85 percent</td>
<td>N/A</td>
</tr>
<tr>
<td>Percentage of at risk communities who report increased local suppression capacity as evidence by: (1) the increasing number of trained and/or certified firefighters and crews or (2) upgraded or new fire suppression equipment obtained or (3) formation of a new fire department or expansion of an existing department involved in wildland firefighting.</td>
<td>17.3 percent</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of green tons and/or volume of woody biomass from hazardous fuel reduction and restoration treatments on federal land that are made available for utilization through permits, contracts, grants, agreements, or equivalent.</td>
<td>3,940,000 green tons 1,322,000 Board Feet/CCF</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Table 9. Forest Service National Measures Set and Outcomes for FY 2011

Forest Service National Measures Set

<table>
<thead>
<tr>
<th>Measure</th>
<th>2011 Actual</th>
<th>2011 Target (If applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres of hazardous fuels treated outside the WUI to reduce the risk of catastrophic wildland fire.</td>
<td>1,153,628</td>
<td>N/A</td>
</tr>
<tr>
<td>Acres WUI high-priority hazardous fuels treated to reduce the risk of catastrophic wildland fire.</td>
<td>1,611,191</td>
<td>1,600,000</td>
</tr>
<tr>
<td>Three-year percent of fires not contained in initial attack that exceeded a SCI.</td>
<td>20.8 percent</td>
<td>19.6 percent</td>
</tr>
<tr>
<td>Number of communities receiving firefighting capacity building State Fire Assistance (SFA)</td>
<td>14,724</td>
<td>9,397</td>
</tr>
<tr>
<td>Number of small communities receiving firefighting capacity building Volunteer Fire Assistance (VFA).</td>
<td>9,782</td>
<td>5,600</td>
</tr>
</tbody>
</table>

A variety of factors have the ability to influence one way or the other the agency’s ability to meet all established performance measure targets. Adverse weather, resource availability, whether the treatments are located in the more expensive, complex areas of the country—in the WUI, and/or the number of treatments required to move an area toward its desired condition, are all examples of factors that can negatively affect accomplishments and the agency’s ability to meet established targets.

Overall, the agency continues a major effort to effectively address the wildfire situation in an efficient, integrated and comprehensive manner. Critical emphasis to continue agency efforts on these objectives will be maintained in FY 2012. Targets will continue to be achieved by working in collaboration with federal and non-federal partners and by working across agency programs.
Part V. Looking Ahead to Fiscal Year 2012

FAM Key Objectives for FY 2012

Looking ahead to FY 2012 with an understanding that federal, state and local budgets will remain austere at best, it is necessary to look toward ways to manage risk in a safe, effective and efficient way as wildland fire managers deal with America’s wildland fire management problems. For FY 2012, FAM has identified six key objectives. They are:

A National Cohesive Wildland Fire Management Strategy

Addressing wildfire and prescribed fire is not simply a fire management, fire operations, aviation operations or wildland-urban interface problem—it is a larger, more complex land management and societal issue. In America, there is not a singular wildland fire problem, there are multiple, more localized, wildland fire problems. Those problems will be solved with partners, science, and across “all lands.” During the first phase of the Cohesive Strategy, the conclusion arrived at was that the vision for the next century is to, “Safely and effectively extinguish fire, when needed; use fire where allowable; manage our natural resources; and as a nation, live with wildland fire.” This vision does not embrace the status quo – it leads wildland fire manager across “all lands” to improvements. “Good enough” just isn’t for this great nation. Developing a national cohesive strategy is important to the nation because it will set a framework for the agency’s role and responsibility in wildland fire and aviation management into the future.

In Phase II, completed during this fiscal year, Regional Strategy Committees were formed; and they identified regionally specific values, risks, objectives and goals. Looking ahead to FY 2012, Phase III will begin; and considering the work accomplished in Phase II, a trade-off analysis will be completed.

Aligning fire dynamics with land objectives

In order to maximize efficiency, improve effective response to wildfire, improve application of prescribed fire, and implement the Chief’s focus on landscape restoration, the Forest Service must better align land management objectives with the ecologic fire dynamics of the land. Forest Service units must deliberately plan for realistic and expected outcomes based upon the characteristics of the combination of land form, climate, soil and vegetative characteristics, current natural resource conditions, and communities. As fire and aviation professionals, FAM and the Forest Service needs to partner with the state and local agencies and more fully engage land management planners and community leaders. The Forest Service has an obligation to be excellent natural resource managers, as well as excellent emergency responders. Aligning fire dynamics with the objectives is important to the long-term sustainability of the land and the people who depend on the land.

Doctrine and Risk Management

Work, across nearly 200 million acres in more than 40 states, demands FAM maintains coherency in key doctrine, key policies, and in our application of risk management. Effective command and control relies on the expression of clear leaders intent, confidence in capabilities, acceptance of mutual responsibilities, specified objectives, freedom to act, and a clear understanding of risk management, all firmly rooted in shared doctrinal principles. When there are undesirable outcomes, even from the best of intentions, wildland fire managers will learn from those outcomes. The future of wildland fire
management deserves an organization dedicated to continual improvement. Operationally sound, effective and efficient decisions, using the science, technology and tools available is required to develop and apply those decisions.

FAM will continue the identification, formulation, implementation, adaptation, and evolution of doctrine and risk management, and will improve decision making. Wildland fire managers will value thinking minds, voices and the respectful actions of those that seek to improve those decisions while focusing on leaders intent. FAM, at all levels, needs to cement the relationship between doctrine and risk management so FAM is a guiding light in wildland fire and aviation management.

Risk management will be exercised in every action taken, every day FAM personnel are on the job. The goal is to be both effective and efficient, and there will be no shortcuts, and no work actions outside the established leaders intent, doctrine, and principles. FAM will continue to be agency leaders in holding themselves accountable for positive changes in operating procedures.

Being leaders in the development and application of doctrine and risk management is important to each employee, as individuals and to the families at home—ensuring each individual employee returns home each evening.

**Professionalism**

In wildland fire management, the Forest Service FAM fills a key niche in the nation and in our agency as FAM links emergency management and natural resource management. The organization is uniquely positioned to be recognized for their wisdom, skills and accomplishments. In the highest sense of the word and the aspirations the word inspires, FAM needs to “professionalize” wildland fire management and create a profession with strong ethics, a code of conduct, and a strict set of knowledge, skills and abilities associated with the wildland fire management profession. The development and exercise of discipline, innovation, and execution remain essential to greatness.

Leadership behaviors in all FAM areas will demonstrate a positive, focused, responsible and purposeful manner. FAM must effectively deal with both tactical and strategic objectives; above all, firefighters and wildland fire managers will respect each other and provide a profession of equality and opportunity.

The commitment of the agency continues to be for every firefighter and fireline leader, every aviator and aviation leader to have the tools necessary, especially those “thinking” and “character” tools, to recognize the risks of the task at hand, make an assessment and then effectively accomplish our work. FAM will not confuse the ability to have the proper tools for our jobs with the unrealistic expectation of unlimited budgets.

Diversity, of people and the way they think, is essential to success. While FAM diversifies, they will be unyielding in their commitment to a strong ethical behavior and code of conduct.

**The Quadrennial Fire Review**

The Quadrennial Fire Review (QFR) is a strategic assessment process that is conducted every four years to evaluate current mission strategies and capabilities against best estimates of the future environment for fire management. This integrated review is a joint effort of the five federal natural resource management agencies, state, tribal and local partners that comprise the wildland fire community. The objective is to create an integrated, strategic vision for the future.

In the past, the QFR has considered the driving forces for change, suggested mission strategies, and provided analyses of workforce and operational capabilities. It is the wildland fire management community’s “crystal ball,” enabling them to look to future as they make decisions for the future. It is an influential, long-term planning tool in the wildland fire management toolbox. It helps to set the stage for a “strategic conversation” about direction and change in wildfire management. The Forest Service and FAM maintain a commitment to the QFR process and look forward to the insight the 2013 QFR will bring. The National Cohesive Wildland Fire Management Strategy is a plan for the nearer term, while the QFR process is one that helps wildland fire management officials look at the longer-term. The QFR is important to help position
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There is no doubt that the Forest Service has great wildland fire people. The wildland fire organization is the largest, best-trained and equipped in the world. There is an important role for FAM on the “world stage;” and with that position in the world, comes a responsibility to balance duties to others with responsibilities to the people and natural resources they are charged to protect. While FAM must not lose sight of their primary responsibility, they have an obligation to continue to reach out and provide assistance to their counterparts across the globe, primarily through training, but with direct assistance when needed. FAM must be role models to others around the world. Taking their proper role in the world wildland fire and aviation management matrix is important, both so they can learn from the best of their international partners, and to enable them to give back to the broader international community as well.

Each year brings new challenges, the Forest Service and FAM are committed to meeting those challenges in the safest, most efficient and effective way possible.