

**STATEMENT  
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**UNITED STATES SENATE  
COMMITTEE ON ENERGY AND NATURAL RESOURCES**

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Senator Udall, thank you for the opportunity to come before the Committee. I am James Hubbard, Deputy Chief for State and Private Forestry of the United States Forest Service. With me today is Jack Cohen, Research Physical Scientist from the Rocky Mountain Research Station's Fire Sciences Laboratory in Missoula, Montana. I want to extend my deepest condolences on behalf of the Forest Service to the families of those who lost lives, property or were otherwise affected during the recent wildfires which have impacted Colorado and other states throughout this fire season.

I am here before you today to discuss the recent Colorado wildfires, restoration efforts and what was learned as a result of these fires. Finally, I will discuss projections for future wildfire conditions and best practices that can improve forest health.

The Southwest United States and the State of Colorado are currently in a severe drought condition. Snow pack during the 2011-2012 Winter was below the 25 percentile of normal snowfall. At the time of ignition of the High Park and Waldo fires, heavy and fine fuels were extremely dry—the result of extended periods of above average temperatures and below average moisture. In June and early July, record low fuel moistures, weather and topographic elements aligned to produce extreme fire behavior.

The recent fires that have impacted the State of Colorado were unprecedented in their destruction of life, property and resources. At the peak of fire suppression efforts this summer in Colorado there were over 4,700 firefighters and support staff working in a coordinated interagency effort to suppress the fires. During the height of Waldo Canyon fire suppression activities, there were over 1,500 personnel assigned to the fire. Air resources committed in Colorado during that same time included 37 helicopters and 10 large airtankers - including 4 Air National Guard C-130 Modular Airborne Fire Fighting System (MAFFS) retardant planes. In total, over 470,000 gallons of retardant were delivered to the Waldo fire.

As a contingency and in coordination with the United States Army at Fort Carson, basic firefighter training was initiated for over 400 soldiers. The Forest Service worked closely with Federal Emergency Management Agency (FEMA), and other federal, state and local agencies to assure communities were supported to the highest degree possible. Additionally, the Forest

Service remains committed to working with partners to coordinate restoration of impacted lands in Colorado.

### **FIRE RECOVERY AND MITIGATION EFFORTS**

The Forest Service, along with the Natural Resource Conservation Service (NRCS), other Federal, State and local partners, began planning and implementing immediate recovery efforts to mitigate the impacts of fire affected lands. In the case of five Colorado wildland fires this year, including the High Park and the Waldo Canyon fires, Forest Service Burned Area Emergency Response (BAER) and NRCS Emergency Watershed Protection teams began planning and implementing emergency flood prevention on National Forest System and adjacent private lands before the fires were declared contained.

BAER is a Forest Service emergency program for National Forest System lands that responds to imminent and unacceptable risks to people and resources that are triggered by changed conditions caused by fires. Common threats include excessive erosion, flooding, invasive plants and falling trees/rocks. The goal of the BAER program is to recognize these potential problems and, when possible, take immediate actions to minimize the damage. BAER treatments are completed for the purpose of preventing or minimizing additional damage. Emergency response actions, including treatments, are implemented immediately and for up one year after the fire.

USDA's Natural Resources Conservation Service administers the Emergency Watershed Protection (EWP) Program on private, State, and tribal lands. Through EWP, assistance is provided for reducing threats to life or property, protection from flooding and soil erosion, and restoring a watershed's hydraulic capacity. EWP work typically includes removing debris from stream channels, road culverts, and bridges; reshaping and protecting eroded stream banks; correcting damaged drainage facilities; repairing levees and structures; reseeding damaged areas; and purchasing floodplain easements. Assistance is provided through a project sponsor, such as a State or unit of local government or Indian tribal organization.

The Waldo Canyon BAER team began assessment of the 18,247 acres impacted by the fire on July 5, five days prior to the actual containment of the fire. The Forest Service joined with Natural Resource Conservation Service (NRCS), Federal Emergency Management Agency (FEMA), Army Corps of Engineers (ACOE), Colorado Springs Utilities and Colorado State Forest Service to share information and coordinate emergency response measures. The Forest Service has committed \$5,087,000 to the emergency response efforts to complete over 3000 acres of aerial mulching, road and trail storm protection mitigation, closures and warning signs, invasive detection/treatment, shooting range hazmat stabilization, and recreation site safety measures on National Forest System lands.

The USDA Natural Resources Conservation Service received a verbal request for EWP assistance from the Colorado Springs Utilities Board, which owns and operates reservoirs within the burn area that provide a significant portion of drinking water for Colorado Springs.

The Forest Service response to the High Park fire was similar. Approximately 50% of the total High Park Fire acreage was on National Forest System lands. An interagency BAER team was

formally established and started field evaluations in safe areas. To date, nearly \$7,000,000 has been approved to implement the High Park Fire BAER assessment and recommendations on National Forest System lands. Projects include aerial straw mulching on approximately 5,000 acres and wood shred mulching on approximately 600 acres, road storm proofing, closures, trail stabilization, warning signs and invasive plant prevention treatment.

The USDA Natural Resources Conservation Service also responded to the High Park Fire. NRCS team on the ground in Soldier Canyon identified potential treatments to protect Horsetooth Reservoir and all of the Colorado Big Thompson Project facilities. NRCS personnel have also reached out to Larimer County, Northern Colorado Water Conservancy District, City of Fort Collins, and Soldier Canyon Water Treatment Plant for potential EWP funding.

The Forest Service and NRCS remain committed to providing the resources necessary to meet emergency response to the wildfires that occurred on National Forest System, private, state and tribal lands in Colorado and throughout the west. Additionally, the Forest Service will continue to closely coordinate with other Federal, State and local partners to assure that we complement our respective efforts.

## **FOURMILE CANYON FIRE REPORT**

The Fourmile Canyon Fire study was conducted by a team of Rocky Mountain Research Station scientists at Senator Udall's request, in an effort to learn from this incident and focus on reducing the risk of future catastrophic fires to communities in the wildland urban interface (WUI). Understanding how the Fourmile Canyon Fire burned, the damage it caused, and how people and agencies responded is an important way for us to reduce the destructive results of future wildfires on the Front Range.

Without widespread fuel reduction on public and private lands, ignitions that occur during extreme weather conditions are now capable of burning tens of miles in a matter of one or two days. The Fourmile Canyon fire, Waldo Canyon fire, and High Park fire are just the latest examples. Decades of research has demonstrated fuel treatments can be extremely effective at changing fire behavior, limiting ecological and watershed damage, and improving suppression effectiveness even under extreme weather conditions.

During wildland fire events, public and firefighter safety is the highest priority. While property losses experienced during the Fourmile Canyon Fire were tragic, there was no loss of life thanks to an efficient, coordinated emergency response. There are no guarantees when it comes to protecting homes from wildfires, but we have opportunities to reduce home ignition potential by focusing efforts at the home and its immediate surroundings (within the home ignition zone, HIZ) to increase chances homes will survive without necessarily controlling extreme wildfire behavior.

Firebrands/burning embers directly igniting homes and surface fire spreading to contact homes were largely responsible for home destruction in the Fourmile Canyon fire. This serves as a reminder that reducing home ignition potential is more than a one-time effort of thinning dense stands of trees and other large fuels – it also requires regular maintenance like removing

flammable materials adjacent to the home, keeping tall grasses mowed, removing dead vegetation and pruning shrubs, and clearing debris from roofs and gutters.

Homeowners have the opportunity to significantly reduce the potential for wildland-urban interface disasters by creating and maintaining a HIZ. A HIZ includes a home's design, materials and removal of flammable debris in relation to its immediate surroundings within 100 feet. Although home ignition potential is most effectively reduced within the HIZ, in some vegetation types fuel treatments beyond the HIZ can affect fire behavior by diminishing the intensity and slowing the spread of wildfires. This can provide more options for residents to evacuate safely during a wildfire, and enhance firefighter safety.

### **IMPROVING FOREST HEALTH AND FUTURE WILDFIRE CONDITIONS**

Increasing the pace of restoration of the Nation's forests is critically needed to address a variety of threats – including fire, climate change, and bark beetle infestation, among others – for the health of our forest ecosystems and watersheds. The Forest Service is engaged in a broad range of actions designed to restore the health of the lands and waters of the National Forest System.

There is no one correct strategy for reducing risk to, and protecting communities and firefighters from wildfires. While reducing fuels through prescribed burning or mechanical treatment might be most effective in some areas of the country, in others it may be more effective to focus on landowner awareness, preventing ignitions and preparing communities for wildfire.

Through the Accelerated Restoration Strategy, the Forest Service is responding by restoring and working to maintain the functions and processes characteristic of healthy, resilient forests and watersheds not only in Colorado, but nationwide. There are between 65-82 million acres of National Forest System lands in need of restoration. In 2011, restoration treatments (watershed, forest and wildlife habitat restoration, and hazardous fuels reduction) were accomplished on 3.7 million acres. Components of the Accelerated Restoration Strategy include a suite of programs and efforts to efficiently advance restoration efforts. Stewardship contracting, Good Neighbor Authority, the Bark Beetle Strategy, the Collaborative Forest Landscape Restoration Act, and the Cohesive Strategy are all tools the Forest Service has available to implement the Accelerated Restoration Strategy.

#### Stewardship Contracting

This tool allows the Forest Service to acquire needed restoration services. Reauthorizing this authority and expanding the use of this tool is crucial to our ability to collaboratively restore landscapes at a reduced cost to the government by offsetting the value of the services received with the value of forest products removed pursuant to a single contract or agreement. In Fiscal Year 2011, 19% of all timber volume sold was under a stewardship contract and funded activities such as watershed and wildlife habitat improvement projects, and hazardous fuels reduction. In 2011, 208 contracts were awarded treating 189,000 acres of hazardous fuels.

#### Good Neighbor Authority

The Good Neighbor Authority was first authorized in 2000, responding to increased concern regarding densely stocked stands at risk from insect and wildland fires. The law authorizes the

USDA Forest Service to use contracting procedures of the Colorado State Forest Service to conduct certain watershed restoration activities on National Forest System land when conducting similar activities on adjacent state or private land. In 2004, Utah and BLM received the Good Neighbor Authority. Federal and state officials who have used Good Neighbor Authority cited project efficiencies and enhanced federal-state cooperation as its key benefits.

### Bark Beetle Strategy

The Bark Beetle Strategy, developed in 2011, focuses management efforts on priority treatment areas to ensure human health and safety and to reduce hazardous fuel conditions. The mortality of conifer trees caused by the bark beetle has escalated in the last decade, affecting nearly 18 million acres of National Forest System lands. In Colorado, nearly 3.2 million acres of National Forest System lands have been infested with bark beetle.

The Chief of the Forest Service has committed to spending \$101.4 million on bark beetle work throughout the western regions in FY 2012. The Rocky Mountain Region's share is \$33 million.

The Region has focused initial efforts on heavily impacted areas around the White River, Routt and Arapaho Roosevelt National Forests. We are prioritizing our forest health efforts across the entire region focusing on safety, resiliency and recovery.

Within the bark beetle area, the Region has worked with partners to address threats to the infrastructure, including powerlines, roads and communities. For example, the Forest Service developed a large-scale powerline Environmental Impact Statement (EIS) which covers the three national forests most heavily impacted by beetle mortality. The Region remains committed to working closely with the powerline companies where they are interested in more aggressively treating the transmission corridors.

### Collaborative Forest Landscape Restoration (CFLR)

In fiscal year 2012, the Forest Service received the full \$40 million authorized by the CFLR Act. The Secretary funded ten new projects, in addition to the continued funding for ten projects selected in 2010. Three additional high priority collaborative projects were also funded from other appropriated FS funding. These 23 projects have demonstrated collaboration among stakeholders can facilitate large, landscape scale restoration, thereby improving forest health, reducing wildfire risk, restoring fire-adapted ecosystems, and increasing timber and biomass production from our national forests.

The U.S. Forest Service reduced fire threats on more than 123,000 acres of land under the Collaborative Forest Landscape Restoration Program nationwide in fiscal year 2011 as part of a larger effort to improve the health and resiliency of national forests.

In its second year of funding, the Collaborative Forest Landscape Restoration Program also contributed \$21 million to local economies through treatments which included prescribed burns and fuels thinning, producing 121 million board feet of lumber and 267,000 tons of woody biomass for bio-energy production on ten projects around the country. On three National Forests throughout Colorado, CFLR projects have reduced fire threats over 14,000 acres using mechanical thinning and prescribed fire.

### National Cohesive Wildland Fire Management Strategy

Annual fire suppression costs are significant for Federal, State and local governments and can exceed \$2 billion for the Federal Government in severe fire seasons. In 2009, the escalating Federal fire suppression costs and adverse impacts to other Federal land management programs led Congress to pass the Federal Land Assistance, Management and Enhancement Act (FLAME Act), which authorized an additional funding source for Federal emergency wildland fire suppression. The FLAME Act required the development of the National Cohesive Wildland Fire Management Strategy for managing fire-prone landscapes and wildland fire across the Nation.

The National Cohesive Wildland Fire Management Strategy has three major components:

- 1) To restore and maintain landscapes.
- 2) To develop fire-adapted communities.
- 3) To use the most cost-effective and safest fire response.

### Restoration

The Forest Service is pursuing a number of policies and initiatives to increase the pace of forest restoration and management on the national forests and grasslands.

Over the next three years, the Forest Service is also committed to increasing by 20 percent the number of forested acres being mechanically thinned. This will increase the number of acres and watersheds restored across the system, while supporting jobs and increasing annual forest products sales offered to 3 billion board feet, up from 2.4 billion board feet in 2011.

Building public support for forest restoration and active-management activities is critical. To this end, the Forest Service continues to collaborate with diverse stakeholders in developing restoration projects on National Forest System lands.

### Fire-Adapted Residential Communities

Homeowners and others are not powerless against wildfires. In fact, many studies have shown homeowners who take an active role such as clearing brush and debris away from structures are a vital component in slowing the spread of fire and protecting their property, as identified in the Fourmile Canyon report.

The National Fire Protection Association's Firewise Communities program teaches homeowners, community leaders, planners, developers, firefighters and others about ways to protect people and property from wildfires. The Forest Service is a partner in this vital effort and others such as the Ready, Set, Go Program (International Association of Fire Chiefs).

In addition to urging homeowners to make their properties as safe as possible from wildfire, the intent of the Cohesive Strategy is to work through cross-jurisdictional partnerships with Tribes and other Federal, state and local governments before wildfires start. The agency's community partners have an array of tools at their disposal, including building external fuel buffers and internal safety zones, developing community wildfire protection plans (CWPP), supporting

codes and ordinances, that address wildfire threats, using proven forest management and fuels mitigation techniques and joining cooperative fire agreements.

### Wildfire Response

The intent of the Cohesive Strategy is to conduct rigorous wildfire prevention across all jurisdictions. Most wildfires are human caused, and while the Forest Service will continue to fully suppress all human-caused wildfires and actively promote fire prevention, firefighter and public safety are the highest priorities on all fires. Human safety and risk management guide all fire-management decisions and actions undertaken by agency fire managers.

Wildfire-management strategies are based on many factors including risks to public and firefighter safety, type and condition of fuels, weather, land management plan directions, cultural and historic properties protection, and available firefighting assets. Strategies can change as conditions change. All wildfires have a suppression strategy to—at a minimum—protect life and public safety, but some fires will have additional management strategies to meet ecological objectives.

The Forest Service responds vigorously to wildfire with an array of assets, which include more than 15,000 USDA and DOI firefighters (about 70 percent from the Forest Service), up to 950 engines, 19 large airtankers, eight Modular Airborne Fire Fighting Systems, 34 heavy helicopters and 300 call-when-needed helicopters.

The Forest Service has also awarded exclusive use contracts for seven "Next Generation" airtankers. Three will be operational in 2012 and four in 2013. This is the first step in implementing the Large Airtanker Modernization Strategy, which was submitted to Congress in February 2012 and recommends 18 to 28 large airtankers.

In addition, wildland fire managers use fire analysis tools developed by Forest Service Research and Development, such as fire behavior software, to model the probability of fire occurrence in a specific location. They can also help predict the spread and direction of a fire based on, among other things, the type of trees or other fuel for the fire and whether the fire is on the surface or in the tree crowns where a wildfire can quickly spread.

The three main factors that influence fire behavior are fuel, weather and topography. Of the three elements that determine fire behavior, fuels represent the one element that can be adjusted to reduce the potential for extreme fire behavior. Whether by reducing heavy fuel loads in forests or by reducing the amount of fuel around homes and private property, fuels management is an effective approach for reducing risks to homes and structures.

In 2006, the USDA Forest Service initiated a program to evaluate the effectiveness of prescribed fire and mechanical treatments designed to reduce the risk of wildfire. When a wildfire starts within or burns into a fuel treatment area, an assessment is conducted to evaluate the resulting impacts on fire behavior and fire suppression actions. In 2011, the Forest Service made the effectiveness assessment mandatory whenever a wildfire impacted a previously treated area.

Since 2006, over 1,000 assessments have been completed. Data has shown fuel treatments are effective in reducing both the cost and damage from wildfires. The summary of data from these administrative studies indicates over 90% of fuel reduction treatments changed fire behavior and directly led to control of the wildfire.

In summary, wildfires know no boundaries and we must work within an all-lands context to manage for and respond to wildfires. Additionally, we will continue to provide assistance to communities that have been or may be threatened by wildfire. As wildland fires have impacted lands across the Country, we recognize the interest, urgency and willingness of many members of Congress to provide tools for the Forest Service to apply restoration principles.