

A Perspective on Fire Protection in the Wildland/Urban Interface

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Welcome to you all! It is a pleasure and an honor to be here to help kick off this conference.

Fire protection in the WUI is one of the thorniest issues we face because it is bound up with two challenges that are tremendously complex: climate change ... and development. These are two of the major drivers of the landscape-scale changes we have been seeing, and I'll talk more about that in a moment.

I am here to give you my perspective on fire protection in the WUI. A perspective is more than just someone's point of view. According to the dictionary, the word "perspective" has to do with relationships—the way things stand in relation to each other. Fire protection in the WUI takes the ability to put things into perspective through the right kind of relationships.

It takes a particular kind of relationship to even start a fire: the relationship among the three sides of the fire triangle. Another kind of triangle drives fire severity: the relationship among fuels, weather, and topography. And it takes yet another kind of triangle to provide fire protection in the WUI: a good working relationship among jurisdictions—federal, state, and local.

But there's one triangle in particular I want to talk about today. It's the relationship among the three things needed to protect the WUI, working across the jurisdictions I just mentioned:

first, restoring ecosystems on a landscape scale—in other words, building fire-adapted natural communities; second, building fire-adapted *human* communities; and third, responding appropriately to wildfire. Each side of this triangle contributes to fire protection in the WUI. Remove any one side—or remove any side of that jurisdictional triangle I mentioned—and the whole thing collapses. At the Forest Service, we are working with the Department of the Interior to build and sustain these triangles—these relationships—through something we call the Cohesive Wildfire Management Strategy. That's the perspective I will share with you today.

Drivers of Landscape-Scale Change

But first, I will outline the challenges we face in terms of the changes we have been seeing across the landscape.

America's forests are often in poor or declining health. Many areas are besieged by drought, especially in the Interior West. As you know, drought-stressed forests are especially vulnerable to wildfire as well as to outbreaks of insects and disease.

In much of the West, a legacy of fire exclusion has left forests overstocked and full of hazardous fuels. In terms of fire and fuels, we are in a whole new era. Since 1999, we've had 242 wildfires exceeding 50,000 acres, more than twice as many as in the previous two decades. At least nine states have had record-breaking fires, megafires on a scale rarely seen before. In 2000, for the first time since the 1950s, more than 7 million acres burned in a single year. Two years later, more than 7 million acres burned again. In 2004 and 2005, more than 8 million acres burned; in 2006 and 2007, it was more than 9 million. Some experts anticipate future fire seasons on the order of 12 to 15 million acres.

Overstocked, drought-stressed forests are also susceptible to devastating outbreaks of insects and disease. As you know, entire landscapes are dead or dying across the West, at all elevations and latitudes ... from pinyon pine, to lodgepole pine, to whitebark pine ... from Arizona, to Colorado, to Idaho ... and in California, from the coastal ranges, to the Sierras, to the Cascades.

Drought-stressed forests ... catastrophic fires ... outbreaks of insects and disease ... partly, these are symptoms of a changing climate. Changes in temperature and precipitation, in the timing and magnitude of weather events, are altering ecosystems and fire regimes. Milder winter temperatures are letting bark beetles reproduce faster and spread upslope and northward. Alaska alone has billions of trees killed by insects and other effects of a warming climate. Think of climate change as the common backdrop for all these developments. And these developments in turn contribute to climate change by releasing more carbon into the atmosphere; scientists call it a positive feedback loop.

Climate change is one of the major drivers of the changes we are seeing across our landscapes. Another is growth and development, the spread of homes and communities into America's wildlands. America's population has been growing by leaps and bounds. In 1940, it was 132 million; in 2000, it was 281 million; and by 2030, it is predicted to reach 351 million—or even 410 million, by one estimate.

Much of that growth has occurred—and is still occurring—in or near America's wildlands. From 1940 to 2000, 28 million housing units were built within 30 miles of the national forests, national parks, and wilderness areas. The rate of growth has been highest on or near the national forests. The number of housing units within half a mile of a national forest grew from 484,000 in 1940 to 1.8 million in 2000. The number of units *within* national forest boundaries rose from 335,000 in 1940 to 1.2 million in 2000.

And this will only continue. From 2000 to 2030, we predict substantial increases in housing density on 57 million acres of forest land across the country. That's an area larger than North and South Carolina combined.

All that growth is expanding the WUI at a time of grave and growing dangers associated with climate change. Almost 70,000 communities are now believed to be at risk from wildfire, and less than 6,000 of them have a community wildfire protection plan. That's less than 10 percent. Not surprisingly, nearly 28,000 homes, businesses, and outbuildings have burned in wildfires in the last 10 years.

This year is the centennial of the Big Burn of 1910, when millions of acres burned across the Northern Rockies and elsewhere in the country ... when hundreds of people perished ... when entire communities burned to the ground. Under the worsening conditions we now face, we have to ask: Are we setting ourselves up for another Big Burn? How can we protect the WUI under these conditions?

For one thing, we have to strengthen that jurisdictional triangle I mentioned. Federal, state, and local authorities have found good ways of working together in the past. The Big Burn set the stage for the Weeks Act of 1911 and the cooperative fire management partnerships that followed. In the future, we need to make those partnerships even stronger. We need to make sure we are reading from the same sheet of music, with a joint response that is seamless across the landscapes we all share.

The FLAME Act passed by Congress last fall has given us a start. It requires the Secretary of the Interior and the Secretary of Agriculture to develop a Cohesive Wildfire Management Strategy by November 1. To meet this requirement, the Forest Service and Interior are planning a comprehensive analysis, based on the best available science, of all wildlands on a landscape scale. Based on that analysis, we will develop strategic investment, policy, and program alternatives for federal lands. The strategy will focus on three key areas—the three sides of the triangle for WUI protection that I mentioned earlier: landscape-scale ecological restoration; fire-adapted human communities; and an appropriate response to wildfire. In the remainder of my remarks, I will outline all **three**.

Ecological Restoration

I will start with restoration. As the saying goes, the best defense is a good offense. The best way to protect the WUI is to restore surrounding landscapes to a healthy, resilient condition. Healthy, resilient forest ecosystems are less likely to see uncharacteristically severe wildfires that turn into

human and ecological disasters.

That does not necessarily mean less fire on the landscape; it might even mean more. As Stephen Pyne has pointed out, the Big Burn of 1910 affected both tribal lands and other lands, but tribal lands saw less damage. Why? Because tribal lands had been subject to a continuous regimen of light burning for millennia. Pyne drew the following conclusion, and I quote: "Fire protection might be better grounded in fire's calculated use than in fire's unwitting suppression."

Forest Service specialists are testing that hypothesis. When a wildfire starts in—or burns into—an area where we previously used fire or otherwise reduced fuels, we are systematically assessing the results. In 2009, we conducted more than 100 such assessments, and we consistently found lower fire severity, with less damage and fewer suppression costs.

For example, the Los Padres National Forest in California conducted prescribed burns on more than 13,000 acres from 2005 to 2009. Last summer, when the La Brea Fire burned into the treated areas, suppression forces were able to contain that portion of the fire perimeter. Hundreds of nearby homes would otherwise have been threatened and many would likely have burned.

The Forest Service and other federal land managers have taken such lessons to heart. From fiscal year 2001, when the National Fire Plan was launched, to fiscal year 2008, the federal land managers jointly treated 29.1 million acres. That's an average of 3.6 million acres per year, an area more than twice the size of Delaware. And more than half the area treated, an area the size of West Virginia, was in the WUI.

The American Recovery and Reinvestment Act of 2009 gave us another big boost. In fiscal year 2009, through recovery funding alone, the Forest Service treated more than half a million acres, benefiting more than 2,200 communities in the WUI.

But we need to do more. In 2001, our scientists looked at the ecosystems most at risk, such as ponderosa pine, and they estimated that almost 400 million acres in all ownerships were at moderate to severe risk—in fire regimes I and II, condition classes 2 and 3. From 2001 to 2008, we treated about 29 million acres of those 400 million acres at risk—that's only 7 percent, a drop in the bucket. In terms of federal lands alone, the treated proportion was much higher, about 23 percent. But at the rate we were going, it would take 35 years to treat the entire federal area at risk. Meanwhile, as the climate continues to change ... as the WUI continues to grow ... millions of additional acres are likely to need treatment. Are we even holding our own?

As a nation, we need to pull together to get the job done. One way is to marshal our resources across jurisdictions; no one of us can do it alone. The National Forest System contains only 20 percent of the nation's forests. Fifty-seven percent are in private landownership, and another 23 percent are in state, tribal, county, municipal, and other federal ownership. Forest ecosystems typically form mosaics—mosaics of plant and *animal* communities and mosaics of landownerships. This is true not only in the East, but also in the West, where the critical drivers are the same—climate change and demographic growth. Restoration requires an all-lands approach.

The Cohesive Wildfire Management Strategy is a start. It brings together federal land managers to leverage our comparative advantages—our scientific and professional expertise. We will analyze the ecological components of landscapes that shape wildland fire conditions. We will examine the impacts of wildfires, insects and diseases, invasive species, and vegetation management programs on the fire environment, especially in the WUI. We will then identify strategies and priorities for fuels treatments and compare alternative fuels and restoration programs. Based on the results, we will work with partners across borders and boundaries to get more done on the ground. We will need help from all of our partners, including you in this room, to build the fire-adapted natural communities needed to protect the WUI.

Fire-Adapted Communities

To protect the WUI, we also need to *build* fire-adapted human communities. Ecological restoration is key, but it alone is not enough. With 70,000 communities in the WUI, there will always be risk from wildfire. To make people, homes, and communities safe from fire, we need to work together not only in the woods, but also right where people live.

Again, no one of us can do it alone. We need seamless coordination across jurisdictions based on that triangle of local, state, and federal partners. The first step is to clearly define our roles so we can build on each other's strengths. Last year, the Forest Service began working with the International Association of Fire Chiefs, the National Association of State Foresters, and other partners to work out our mutual roles and responsibilities.

Here's my take on that as Forest Service Chief. Our job at the Forest Service is to keep wildfires away from homes and communities—and if we can't always do that, then to reduce fire severity to manageable levels. That's what we're trained and equipped to do, and I believe we do it well.

But we are not trained and equipped for structure protection outside federal jurisdiction. It is not our job, and no one should expect us to do it. We will do anything to save lives, but we will not put our pilots and *firefighters* at risk—lives at risk—to protect somebody's poorly prepared private property in the WUI.

Structure protection in the WUI is the role and responsibility of individual property owners and state and local agencies. The Forest Service has an obligation to support state and local agencies, and I'll say more about that in a moment. But it is up to state and local agencies—not us—to actually do the job of structure protection in the WUI.

I believe that individual homeowner responsibility is key. Americans have a long and proud tradition of individual freedom and private property rights, but with those rights and freedoms comes responsibility. The main responsibility for fire protection in the WUI lies with individual homeowners and communities. That's just the way our system works.

With that *said*, the Forest Service does have a role to play. We have 30,000 employees living in communities all over the country, and many of those communities are in the WUI. That gives us a vested personal interest in building fire-adapted communities. Our strategy is to work through cross-jurisdictional *partnerships* before a fire starts rather than relying on suppression alone. Our community partnerships have an array of tools at their disposal, including community wildfire protection plans; external fuel buffers; internal safety zones; fire departments with the capacity to mitigate, educate, and protect a community at risk; codes and ordinances that address wildfire threats; prevention and education programs; forest management and fuels mitigation; and cooperative fire agreements. These tools make our partnerships stronger, and our partnerships make the tools more effective.

A good example is the national Firewise program, which encourages individual homeowners to take responsibility for making their properties firesafe. With funding from the Department of the Interior, the Forest Service administers a grant with the National Fire Protection Association to provide support and educational materials for the Firewise program. I am happy to say that the program has been growing by leaps and bounds. From 2008 to 2009, the number of designated Firewise communities ... communities able to survive wildfire without intervention ... grew by almost 50 percent, from 400 to nearly 600.

The Forest Service is also encouraging communities in the WUI to plan for wildfires. In 2009, we provided \$6 million in grants to state forestry agencies designed to help communities conduct risk assessments and complete fire management planning activities, such as community wildfire protection plans. Through such activities, we benefitted nearly 20,000 communities.

We are also working with the Department of the Interior, the National Association of State Foresters, and the U.S. Fire Administration to support the national expansion of the Ready, Set, Go program. Since Ready, Set, Go is the centerpiece of this conference, I will leave the details to other speakers.

Building fire-adapted human communities is key to the Cohesive Wildfire Management Strategy we are developing together with the Department of the Interior. As the second pillar of our strategy, the goal of fire-adapted communities encompasses a series of tools, partnerships, and processes needed to help communities reduce the risk of wildfire. We will analyze the components of effective community wildfire mitigation and we will look at the roles and responsibilities of federal, state, and local governments. We will also examine land use and zoning, the use of community wildfire protection plans, the effectiveness of fire prevention, and the potential for engineering solutions such as fire-resistant structures.

Response to Wildfire

But our best efforts to restore landscapes and to build fire-adapted communities will not be enough. Most of our landscapes are adapted to *fire*; sooner or later, they will burn. Suppression will be needed, and fire protection in the WUI will always be predicated on a response to wildfire. The question is: What is the appropriate response?

That question has two parts: First, what should our general strategy be in responding to wildfires? Second, what tactics should we use to implement our strategy?

The Big Burn of 1910 gave the Forest Service a rallying cry that resonated with Americans across the nation: Put 'em out, put 'em all out, and put 'em all out fast! Fire exclusion in the form of the 10 a.m. Policy became our national strategic response to wildland fire.

It took decades to see how futile and misguided that policy was. Fire can be postponed, but not indefinitely; in most of our landscapes fire cannot be excluded, and today we are seeing the tragic results: Overgrown forests, in a drought, are fueling megafires. One classic example is Rodeo-Chediski in 2002, which burned almost half a million acres in Arizona.

Accordingly, our strategic response has changed. We still suppress human-caused wildfires, but when lightning is the cause, if conditions are right, we take the opportunity to allow fire to play its natural role. Lightning fires are often the most appropriate means—often the only means, given our limited resources—to achieve our restoration goals on a landscape scale.

Last summer, the federal land managers went a step further, changing the way we implement the Federal Wildland Fire Management Policy. Federal fire managers now have the flexibility to manage a lightning-caused wildfire to achieve multiple objectives. They also have the flexibility to change those objectives in response to the way a fire spreads across the landscape.

I know that many in state and local government—maybe even some in this room—have doubts about those changes. I want to assure you that our approach to fire protection in the WUI hasn't changed. Fire managers will continue to be as aggressive as ever in putting out wildfires that threaten lives, homes, and critical natural resources, no matter what the cause.

In this connection, the Forest Service is using new decision support technology. Our Wildland Fire Decision Support System is a Web-based application designed to help fire managers ensure the safety of firefighters and the public, protect structures and natural resources, and use firefighting resources effectively. The new system will help save lives, prevent damage, and reduce suppression costs.

But the most carefully crafted strategic response to wildfire isn't worth anything if not executed well, and that gets to the tactical question of how we implement our policy—how we get boots on the ground. Our Forest Service fire managers have the expertise and experience to make the right decisions—to use the right resources in the right places at the right times. Sometimes, however, we

are second-guessed after an incident in the WUI, often by people with little or no expertise and experience.

Make no mistake: We will do everything we can to aggressively fight fire in the WUI, using every *resource* at our disposal. But we will not put lives and resources at needless risk. We will not put pilots in the air when we know from experience that it will make no difference. And we will not put firefighters in harm's way when we know from experience that a fire will simply blow right over a fireline. To do so would be unconscionable, unprofessional, and irresponsible to the people we serve.

Appropriate fire response in the WUI is predicated on partnerships, and the Forest Service is strongly committed to supporting our state and local partners. Last year, we provided more than \$35 million in grants to state forestry agencies for preparedness, suppression, equipment, and other support, including training for over 42,000 personnel. We also provided more than \$10 million in grants to volunteer fire departments for equipment and other support, including training for over 24,000 personnel.

One of our most successful support programs has been for federal excess personal property. Since 1956, we have provided more than \$1 billion worth of supplies and equipment to state forestry agencies and volunteer fire departments in 50 states and 5 U.S. territories. In 2009 alone, we furnished more than 800 pieces of equipment, including more than 400 trucks and trailers, typically equipped with tanks, generators, and pumps.

Our inability to radio each other in the fire community is a huge barrier to cooperative fire protection in the WUI. To solve the problem, the Forest Service is launching the Central Oregon Interagency Radio Integration Pilot Project. Our goal is to have a single interagency radio system in place by 2013.

Appropriate fire response is the third pillar of the Cohesive Wildfire Management Strategy we are developing together with the Department of the Interior. As part of the strategy, we will conduct a comprehensive analysis of wildfire response and suppression capabilities. We will also provide a comparative analysis of suppression **program** alternatives.

Relationships Are Key

In closing, our new Cohesive Wildfire Management Strategy rests on three pillars: restoring fire-adapted *natural* communities; building fire-adapted human communities; and responding appropriately to wildfire. These three elements form a triangle for fire protection in the WUI. Each is necessary for success; and all three sides of the triangle rest, in turn, on the jurisdictional triangle of cooperation and collaboration among local, state, and federal authorities.

Thank you for being here. Fire protection in the WUI is one of the greatest challenges facing fire managers and land managers, particularly in this era of climate change and vigorous growth and development. I commend you for taking on this challenge. Aside from the substance of what you will address at this conference, I hope you will build and strengthen your relationships, because those relationships are key. They are the foundation of the jurisdictional triangle that supports the triangle of fire protection in the WUI.