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FOREST RESTORATION: LESSONS IN ACTIVE MANAGEMENT FROM NEW MEXICO

United States House of Representatives Committee on Agriculture
Subcommittee on Conservation and Forestry Oversight Hearing:
To review the National Forest System and native forest management

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Chairman Thompson, Ranking Member Lujan Grisham and members of the Committee, thank you for the opportunity to provide testimony on the important issue of active management of our nation's forests. The Nature Conservancy is an international, non-profit conservation organization working around the world to protect ecologically important lands and waters for nature and people. Our mission is to conserve the lands and waters upon which all life depends.

I want to thank the Subcommittee for holding this hearing to identify the issues our nation faces in light of the escalating trend of large and severely damaging wildfires, and the need to invest in treatments that reduce fire risk and restore resilience to our forests for future generations.

The Nature Conservancy practices active forest management on our preserves and through our many large-scale partnerships with federal, state, local and Tribal governments and non-profit and private sectors. Through our own management of lands and waters, we have come to the conclusion that active management based on scientific information about ecological and social processes is essential to achieve key objectives for forests for their own sake, and for their ability to fulfill our needs and enrich our lives. My organization is joining many others and all levels of government in the US to begin implementing the National Cohesive Strategy for Wildland Fire Management. The Cohesive Strategy provides a unified call to action to restore and maintain landscapes, help communities become fire adapted, and enhance wildfire response and fire use for resource benefits.

Active forest management for the purpose of restoring forest resiliency is critical in my home state of New Mexico, and for the entire Southwest region, where our dominant forest types are adapted to frequent fire. Forest stands at the middle elevations typically burn on a 5-30 year cycle. The 20th Century United States policy of fire suppression has meant multiple missed cycles of fire, transforming many Southwestern forests from grassy, park-like stands of widely spaced trees, to dog-hair thickets of trees that are one hundred years old and yet no bigger in diameter than the circumference of my wrist. While the Southwest has a high concentration of frequent-fire forests, this fire regime type is found throughout the nation, typically in pine forests, and especially on dry sites in the Intermountain West, Pacific Coast, and even the areas in the East, for examples the Pine Barrens and Great Lakes.

Fortunately, scientists have investigated many aspects of fire-adapted forests. Federal land managers and partners are benefiting from the thousands of published fire ecology papers that point to a variety of clear strategies to improve resiliency through adaptive active management: in many cases, cutting and removing overgrown forests and using fire as a management tool when and where it is safe to do so. Unfortunately, fire behavior has changed significantly in the Southwest over the last two decades.

In fact, forest landscapes throughout the country have changed due to climate, land-use changes, and past management activities. The result are widespread forest health challenges in need of accelerated pace and scale of restoration. An area approximately the size of Pennsylvania and Washington State combined is in need of forest restoration on the national forest system.

As fire season is starting earlier and lasting longer in the West, wildfires are burning hotter and exploding with more extreme fire behavior. In New Mexico we keep setting and breaking the record for largest fire in the state. In 2000 people were terrified when a 58,000 acre fire threatened the Los Alamos National Lab. We were stunned a decade later when a fire that was three times larger broke the record again. And surprised again in 2012, the record was shattered once more, topping off at 250,000 acres. For our neighbors in Arizona, these numbers seem modest compared to their record setting fires, which now exceed 500,000 acres.

The growth in fire intensity and severity has been accompanied by public acceptance of the need to actively manage forests. Scientists have come forward to explain how our forests got into overgrown conditions and why trees need to be cut and removed to reduce the flammable material that can act as fuel for future fires. From this understanding, the social license has grown for active forest management, and collaborative groups with community roots have emerged, dedicating their time and energy to working with the Forest Service to plan and implement restoration treatments.

The same factors that cause wildfire growth are driving an increase in wildfire suppression costs. Congressional appropriations have not kept up with rising costs. The United States does not fund wildfire disasters in the same way it funds all other natural disasters. Rather, the USDA Forest Service (USFS) and Department of the Interior (DOI) fund suppression from their annual budgets. When suppression costs run high, the agencies must borrow money from other programs to make up the difference. This practice of “robbing Peter to pay Paul” has led to decreased budgets for many important programs, including Forest Service projects aimed at decreasing the severity of wildfires in the first place.

Resigned to the fact that federal funding for proactive forest management is limited, communities near national forest lands are working hard to form partnerships that will accelerate restoration -- some way, somehow. Recently, we noticed a change in the dialogue about active forest management in New Mexico -- triggered by the simple act of rain falling on severely burned lands. A short-duration thunderstorm can wreck untold havoc on downstream communities and reservoirs. When lands have burned so hot that there is no vegetation to hold the soil in its place -- and when all that is left is ash upon bedrock -- the rain water mixes with ash and creates a semi-liquid mixture or slurry. This flow of debris causes a mass-movement of ash, sediment, and other material out of the mountains and into the rivers and valleys where our farms, communities and businesses are located. Where New Mexicans once relied on forested headwaters to provide clean water, now the growing inventory of burned lands is creating a new sense of urgency that we must scale up forest management. Businesses understand the threat to our water security and economic growth, and are joining forces with communities and the more typical forest collaborators to participate in scaling up restoration.

New Mexico’s Las Conchas fire provides the clearest example. This fire was remarkable in that it burned 43,000 acres in its first 14 hours, and the areas it burned were so hot they exceeded the typical definition of high-severity burn. Six weeks after the fire stopped, thunderstorms with an inch to an

inch and a half of rain fell, two days in a row, in the burned headwaters. About 20 minutes after the rain stopped, debris flowed into the Rio Grande, depositing sediment plugs more than 70 feet deep. Catchment structures filled to the brim, then overflowed, and the surface water supply for Albuquerque and Santa Fe turned black for more than a month. Cities were forced to seek alternative water sources and farmers using drip irrigation risked clogging their equipment. Flooding occurred right away, and continued with nearly every storm for the last four years, moving sediment and depositing new plugs of material into the Rio Grande and communities. Native American communities suffered the most from these debris flows and floods, with homes and farms damaged by flooding, and recreation livelihoods ruined by the movement of ash out of the burned headwaters. The economic costs from this one wildfire have been high: \$48 million in direct fire suppression, and \$200 million more expended to repair and rebuild, and compensate for health, business and other local impacts.

Scaling up restoration activities is the clear need -- and that is very hard to accomplish in one of the Forest Service's lowest-budget regions, where the forest industry has retreated to barely more than a few small sawmills producing Southwest style building materials. Community leaders and local legislators are realizing the problem is bigger than the Forest Service alone. As the impacts of fire move from the ridgetop to the river bottom, responsibility for the consequences pass out of Forest Service jurisdiction and become the responsibility of local governments, states, and a different set of federal agencies -- the water managers.

Scaling up forest restoration will take enormous resources, and in New Mexico the stakes have become so high that communities are forming new partnerships to garner resources and establish priorities for action. One example that I have spearheaded is the Rio Grande Water Fund. The concept is simple -- the beneficiaries of clean water that comes from forests help to invest in keeping the forests healthy. In the Southwest, forests are our "water towers." Snowpack accumulates in the headwaters, and is released to our rivers and streams throughout the spring and summer. In their current overgrown condition, the forests can't store the full amount of snow -- the trees are literally packed together so tightly that snow is retained in the branches and does not reach the ground. Snow in the tree tops is then exposed to wind and sun, and never reaches the ground.

The Rio Grande Water Fund is a partnership of more than 40 organizations. While collaborative groups are emerging all over the nation, this one is interesting because of the private sector role. Prominent business groups like the Albuquerque Chamber of Commerce and the statewide Association of Commerce and Industry helped to develop the group's comprehensive plan for management of all lands in critical watersheds that have a high probability of burning, and that will contaminate someone's water source if they do. The private sector is stepping up with funding, from corporations like Lowe's and General Mills, to local utilities and breweries, and private foundations like the LOR Foundation. Hal Hutchinson, executive director, and Jake Caldwell, program officer, are here with me today, because the LOR Foundation has made a significant investment in this public-private partnership as a catalyst to leverage additional major investment. All of this represents a level of engagement I've not seen before, and it is emblematic of the broad consensus in my state that forest conditions are degraded in ways that affect people's lives, even in urban areas, and people want to see something done.

The New Mexico legislature has also gotten involved, providing over \$6 million of capital outlay funding for thinning in 2014, and passing a bill to create a recurring funding source for thinning in

2015. The insurance industry is interested too – because losses from post-fire flooding are becoming significant -- and they have been part of the conversation. We had a very partisan session this year – with our House of Representative in Republican control for the first time in 60 years – but this issue transcended the party divide. The long-term funding bill passed both our House and Senate unanimously -- though it was vetoed and will return with fixes in the next session. These recent events demonstrate the commitment of partners and non-federal entities to be a part of the solution by providing resources to accelerate restoration of federal lands.

Federal Policy Needs and Priorities

Let me start by thanking this Committee for helping to include in the Agricultural Act of 2014 permanent authority for Stewardship Contracting and Agreements and for providing the Good Neighbor Authority. We are eager to see the Forest Service release its final regulations on these new authorities and look forward to using them fully so that partner agencies and organizations can contribute as much as possible to accelerate forest restoration.

In addition, we would like to summarize the following policy needs and priorities:

1. The top priority is to create and fund a new federal fire suppression funding mechanism to relieve resources for proactive management.

The Nature Conservancy recognizes that even with a robust, proactive approach to land management, federal fire preparedness and suppression resources will still need to be maintained at an effective level to protect life, property and natural resources. But emergency preparedness and response resources must be provided through a mechanism that does not compromise the viability of the forest management activities that can actually serve to reduce risks to life and property and mitigate the demand for emergency response in the future. The current system of funding fire preparedness and suppression at the expense of hazardous fuels and other key programs threatens to undermine – and eventually overtake -- the vital management and conservation purposes for which the USDA Forest Service and Department of the Interior bureaus were established.

The dramatic increase of homes near natural areas that are prone to frequent and unnaturally damaging fire has added significantly to the cost of fire suppression. In the past, paying for this tremendous cost often resulted in “borrowing” or outright transfer of federal funding from critical land management and conservation programs into fire suppression accounts. This current wildfire suppression funding model and cycle of transfers and repayments has negatively impacted the ability to implement forest management activities. The agencies and first responders need a predictable, stable, and efficient budget structure to deliver their congressionally directed land management missions.

Numerous fire seasons over the past decade have required fire funding transfers from non-suppression accounts, clearly demonstrating the urgent need to change the suppression funding model at the USFS and DOI. The last few fiscal years have increasingly reflected the need for a new funding approach.

Over \$1 billion were transferred from USFS and DOI programs at the end of fiscal year 2012 and 2013 combined. Federal wildland fire suppression was funded below the forecast, and the fire season

was very costly, particularly at the end of the fiscal year. In the past, repayments of transfers occurred through emergency supplemental appropriations, which would occur well after the USFS and DOI Bureaus had been severely impacted by the transfers. However, fiscal year 2012 and 2013 suppression transfers were “repaid” from the entire Interior, Environment, and Related Agencies Appropriations Bill for the following fiscal year. The result is that all Interior bill agencies and their programs are now impacted by fire suppression funding. Additionally, the transfers have had long lasting effects on the USFS’ and DOI’s implementation of impacted programs that continue to this day.

From the national perspective, the fiscal year 2014 wildfire season was considered mild, in that it did not require traditional transfers. However, even in such a mild fire season, the USDA Forest Service experienced a \$200 million shortfall in suppression funding.

This pattern of funding is neither efficient nor sustainable. The Conservancy supports the bipartisan Wildfire Disaster Funding Act (H.R. 167), which would provide the USFS and DOI with a funding structure similar to that used by other agencies that respond to natural disasters, through a disaster cap adjustment. This important change would free the agencies to reinvest in core activities which have been reduced in recent years due to a continued shift of limited resources to fund wildfire suppression, including the very programs that would help to decrease wildfire costs over time. Further, this change would significantly reduce the highly disruptive process of canceling and/or significantly delaying ongoing project work, most often at the time such work is being executed on the ground.

2. The second priority is to increase federal funding for hazardous fuels reduction, Collaborative Forest Landscape Restoration and associated proactive federal land management operations and science.

a. Hazardous fuels reduction

Once the fire funding problem is solved, there will be room to properly address forest management challenges. It is essential that the Congress and the Administration increase federal investments to reduce fire risk in a manner that makes forests more resilient and resistant to fire and other stressors. Strategic, proactive hazardous fuels treatments have proven to be a safe and cost-effective way to reduce risks to communities and forests by removing overgrown brush and trees, leaving forests in a more natural condition resilient to wildfires. A 2013 meta-analysis of 32 fuels treatment effectiveness studies, funded by the Joint Fire Science Program, confirmed that when implemented strategically, fuels treatments can make a crucial difference in the size, spread and severity of wildfires.¹ These treatments can improve the safety and effectiveness of firefighters and provide protection for a community or essential watershed that might otherwise see extensive loss.

Many of these hazardous fuels reduction projects are also providing jobs and other economic benefits to rural communities. For example, an economic assessment of forest restoration revealed that in the dry, fire-adapted forests of eastern Oregon an investment in forest management and restoration has

1 Martinson, E.J.; Omi, P.N. 2013. Fuel treatments and fire severity: A meta-analysis. Res. Pap. RMRS-RP-103WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 35 p.

the potential to save millions of dollars in state and federal funds by avoiding costs associated with fire suppression, and the associated social and economic impacts.² Our estimate in New Mexico is that for every 1,000 acres of forest restored, about 22 full-time equivalent jobs are created or maintained.

The Nature Conservancy was pleased that Congress provided a \$55 million increase last year to the Hazardous Fuels Reduction program for the USDA Forest Service. The Conservancy supports continued increases to this program to fund the many ready-to- be implemented projects and future forest planning and treatment proposals that are developed collaboratively.

The Conservancy also appreciates Congressional emphasis on proactive hazardous fuels reduction and community preparedness, along with a commitment to safe and cost-effective wildfire response strategies. We agree that funding is urgently needed to create community protection buffer zones that can limit the damage from wildfire. Fighting fires will remain costly until such buffers are in place and people feel safe. But shifting too much funding away from undeveloped forest areas where fires have been excluded for a century, and conditions remain overly dense and susceptible to unnaturally damaging wildfire, will have a long-term negative impact on forest health and resiliency. The Nature Conservancy urges a balanced allocation of funding between treatments in wildland and developed areas.

Strategic mechanical fuels reduction in wildlands, combined with controlled burning to reduce fuels across large areas, can significantly reduce the chance that megafires will adversely impact the water supply, utility infrastructure, recreational areas and rural economic opportunities on which communities depend.

b. Collaborative Forest Landscape Restoration (CFLR) Program.

The CFLR Program helps prioritize and test a variety of collaborative, science-based approaches to forest restoration that both reduce wildfire risks and contribute to local jobs and economic opportunities. Authorized for 10 years through the 2009 Omnibus Public Land Management Act, CFLR was created to emphasize partnerships between government and local forest workers, sawmill owners, conservationists, businesses, sportsmen, outdoor recreationists, and others in the hopes a more collaborative forest management approach would result in fewer court challenges and more inclusive, science-based planning. A report released last month by the USFS revealed five years of impressive results from the federal Collaborative Forest Landscape Restoration (CFLR) program³ on 23 project sites across the Nation.

As revealed in the [five-year report](#), the CFLR program has been successful in meeting forest restoration goals:

- Reduced fire risk across 1.45 million acres;

² National Forest Health Restoration: An Economic Assessment of Forest Restoration on Oregon's Eastside National Forests. Prepared for Governor John Kitzhaber and Oregon's Legislative Leaders. November 26, 2012. Quote on page (iv). http://www.oregon.gov/odf/BOARD/docs/2013_January/BOFATTCH_20130109_08_03.pdf.

³ USDA Collaborative Forest Landscape Restoration Program 5-Year Report, FS 1047, March 2015, <http://www.nature.org/ourinitiatives/habitats/forests/cflr-five-year-report.pdf>

- Created and maintained 4,360 full and part-time jobs annually;
- Improved 2,078 square miles of wildlife habitat
- Generated \$661 million in local labor income;
- Improved 703 miles of stream habitat (length of the Yellowstone River);
- Produced 1,256 million board feet of sold timber;
- Treated 73,600 acres of noxious and invasive plants.

All of this, which was achieved with \$155 million invested over five years, matched by \$76.1 million in other funding. By comparison, the Las Conchas Fire cost \$48 million in suppression, with an estimate of \$246 million in damages and lost revenue, according to a study by the University of New Mexico.

Collaboration is a foundation for the success of this program. The scale and complexity of the situation facing America's forests and communities means that we must find ways to forge agreement among diverse interests about the "where, when and how" of forest management and then focus our resources on those landscapes that are poised for success. Collaboration, once considered "innovative" and "new," has become an essential tool to reduce wildfire risks, increase forest restoration and contribute to the sustainability of local economies. By bringing together county commissioners, local mill owners, water and utility managers, fire protection officials, conservation groups, scientists and others, collaborative groups can identify mutually beneficial solutions to forest health challenges and, sometimes by enduring a few bumps and bruises, pave the way for smooth and successful projects on the ground. Equally important is the long-term commitment these projects have fostered to both community sustainability and forest resilience.

The Conservancy is seeking to expand the CFLR authorized funding level to \$80 million to increase the scope of CFLR beyond the current 23 projects. This funding supports matching funds and monitoring requirements, as well as the project planning and preparation activities that facilitate implementation success, over the ten year life span of the projects. Future expansion should be considered. We must also increase our emphasis on and support for collaboration as a fundamental aspect of successful forest restoration planning and implementation. This should involve applying lessons learned through the CFLR Program to improve National Forest management throughout the system as collaborative, large-scale projects are created and new land management plans are developed under the new forest planning rule. It is encouraging that various funding sources, and even the state of Oregon, are providing funds that support the community collaborative capacity that will enhance implementation of the CFLR program.

3. **Finally, rehabilitation of burned lands is an emerging issue we are seeing on the ground in New Mexico and other states whose numbers of burned acres are growing.** Since the biggest impacts of wildfire come when rains fall long after the smoke has cleared, the number of affected interests and agency jurisdictions will be even more complex than that of cross-boundary fire management and large landscape restoration. The National Fire Plan of 2000 recognized the high priority need for rehabilitation and restoration of burned areas but unfortunately funding and attention have waned in recent years. Each agency has its own program for dealing with post-fire impacts, and the programs are generally oriented to emergency situations and addressing impacts in the first year after the fire. But watershed damage is long lasting and there are few programs to address the long-term effects, and gaps between community needs and the services the existing programs can provide. Communities are eager for more cooperation between federal partners who

manage the existing programs, and for adjustments to those programs to address the gaps that leave them facing the dirty water, damaged housing and destabilized economy alone. Building partnerships and increasing coordination to leverage the existing programs for burned area rehabilitation is an emerging problem that will become more visible as more forests are scorched. The same mechanisms that have worked to improve fire management could be put to work here to meet community needs to live in the post-fire environment.

Conclusion

It is timely and important that the House Conservation and Forestry Subcommittee is holding this hearing at the start of the 114th Congress. Forests are vital sources of water and other resources for nearly all Americans and deserve attention by Congress in the near term, and on a continuing basis. It is essential that the various Congressional Committees with jurisdiction, as well as a broad array of state, local, industrial and citizens groups all work together to seek solutions. We appreciate the opportunity to offer the Nature Conservancy's perspective on how we might shift our focus toward a more proactive and cost-effective management approach that provides multiple benefits to people and nature. Please let us know if we can provide any additional information or assistance to the Committee as you move forward in this arena.