

# COLLABORATIVE ECOLOGICAL RESTORATION

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## HEARING BEFORE THE COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE ONE HUNDRED TENTH CONGRESS SECOND SESSION

TO

CONSIDER S. 2593, A BILL TO ESTABLISH A PROGRAM AT THE FOREST SERVICE AND THE DEPARTMENT OF THE INTERIOR TO CARRY OUT COLLABORATIVE ECOLOGICAL RESTORATION TREATMENTS FOR PRIORITY FOREST LANDSCAPES ON PUBLIC LAND, AND FOR OTHER PURPOSES

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## COLLABORATIVE ECOLOGICAL RESTORATION

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TUESDAY, APRIL 1, 2008

U.S. SENATE,  
COMMITTEE ON ENERGY AND NATURAL RESOURCES,  
*Washington, DC.*

The committee met, at 2:30 p.m. in room SD-366, Senate Dirksen Office Building, Hon. Jeff Bingaman, chairman, presiding.

### OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. OK. Why don't we go ahead and get started? This is, as I've explained to Chief Kimbell and also Deputy Director Bisson, we're a little fouled up right here because the Senate is about to start a vote. I think I'll give my very short statement and then put the committee back into recess for a few moments while Senator Tester is on his way. He's over there on the Floor ready to vote and then will come here to help preside and I'll be back after the vote as well.

So, the purpose of today's hearing is to consider S. 2593, the Forest Landscape Restoration Act. This bill establishes a program to select and to fund landscape scale forest restoration projects through a process that encourages collaboration, relies on the best available science, facilitates local economic development and leverages local funds with national and with private funding.

As wildfire activity and suppression costs have grown dramatically, and as the effects of global warming are posing an ever-greater threat to forest and watershed health, and as the economy struggles, the time is right for this approach.

The positive response that the bill has received from communities around the country, I believe, speaks to the importance of these issues and the strength of this approach.

As I indicated, we are just now beginning a vote. So, I will have to excuse myself for a few minutes.

I'd like to thank all the witnesses for coming and for putting together very thoughtful testimony. I'd like to offer a special welcome to Howard Gross of the Forest Guild in my home state. Where's Howard? I know he's here somewhere. There he is.

We have worked with agencies involved, with many others, in putting this proposal together. We certainly will carefully consider today's testimony and other feedback that we receive as we move forward, and as I indicated, I think the best course now would be to put us back into recess until we get a few more senators here who can hear your testimony and that'll be quickly, and I will return quickly myself.

So, we'll go back into recess. Thank you.  
[Recess.]

**STATEMENT OF HON. JON TESTER, U.S. SENATOR  
FROM MONTANA**

Senator TESTER. Call this committee meeting back to order, and I want to thank Senator Bingaman for his opening statement and the opportunity to address this issue which is critically important, I think, to the whole country, particularly to the West.

When we talk about forest restoration, it is an issue that is becoming more and more apparent in the West because of the fires, and their intensity, the bark beetles, and disease, millions of acres of our land is changing. I attribute it mostly to climate change, and to be honest, in the past we may have made some mistakes as we managed the forests, but we have the opportunity to start correcting those mistakes and really develop restoration projects that would provide the kind of forest health that we need well into the future and for future generations.

So, it's a big issue. I had the opportunity last weekend to deal with a different kind of restoration project in Missoula, Montana, with the removal of the Milltown Dam, but it's all kind of connected. Water and forests and wildlife and good fishing and clean water for drinking.

So, with that, we will start with the statements. Senator Bingaman, has either one given statements yet?

The CHAIRMAN. They are waiting patiently.

Senator TESTER. Chief Kimbell.

**STATEMENT OF GAIL KIMBELL, CHIEF, FOREST SERVICE,  
DEPARTMENT OF AGRICULTURE**

Ms. KIMBELL. Thank you, Senator Tester. I'd like to thank the committee for this opportunity to provide this, my agency's view on Senate Bill 2593 today and to congratulate the chairman and the ranking member and other co-sponsors on your efforts to develop this bill.

We appreciate that you reached out to talk with us and with many others as you pulled together the concepts of the bill and for the focus you place on treating the land and restoring priority forest landscapes.

We could not agree more that it is an important time for action to restore the health of the Nation's forests. We believe that sensible forest management approaches, such as hazardous fuel treatment and forest thinning, can improve the health of landscapes and watersheds, reduce risks from catastrophic fire, insect and disease infestations, and can increase the ability of forests to adapt to the ecological shifts associated with climate change.

Mr. Chairman, in short, we support the intent and concepts that you have assembled in this bill. We fully agree with its emphasis to work on the landscape scale, to integrate the best available science, and to implement proposals through a collaborative process and to monitor for performance.

Although the Forest Service has been carrying out restoration work across landscapes under current authorities, this bill would

enhance our current efforts by helping prioritize landscape level restoration work.

In my testimony, my written testimony, I offer specific examples of collaborative restoration efforts, such as the White Mountain Stewardship Project on the Apache-Sitgreaves National Forest in Arizona, the 16 Springs Stewardship Project between the Lincoln National Forest and the Mescalero Apache Tribe in New Mexico, as well as work in Southern Oregon, the front range of Colorado, and in South Carolina. There are many, many others, including in Montana.

I also offer some background on our current efforts in developing an agency forest restoration framework and policy and our Open Space strategy to work with partners to conserve open space.

In addition, we outline the legislative proposal that was offered within the president's Fiscal Year 2009 budget proposal for an ecosystem services pilot. It would expand our ability to bring new partners together with the Forest Service on landscape scale projects that restore forests through market-oriented approaches to stewardship of national forests.

Both the president's proposal and Senate Bill 2593 depend on a collaborative approach that builds commitment to partnership and ownership of the results. Each would help different groups find their common interests and leverage resources to get work done.

On the other hand, we have concerns with the funding mechanism in the bill and because the amounts appropriated to the fund may result in the decrease of amounts for other high-priority work, we have a number of specific comments on technical aspects of the bill and those can be found in my written testimony and we'd be happy to work with you.

Mr. Chairman, the Forest Service is committed to working with Congress and various stakeholders to protect the communities and people and to work collaboratively to restore healthy ecological conditions on lands of all ownerships that have undergone so many changes.

We believe that the actions we are currently taking will be enhanced by various provisions of this bill. This bill will provide the Forest Service some important tools we need to do work to restore the resilience and vitality of our Nation's forests.

We recognize and appreciate the time spent by the committee to develop a bipartisan constructive approach to carrying out collaborative ecosystem restoration a priority for forest landscapes. We look forward to the opportunity to work with the committee to explore the establishment of an ecosystem services authority and to make technical amendments to clarify and strengthen the bill.

I'll be glad to answer any questions you may have.

[The prepared statement of Ms. Kimbell follows:]

PREPARED STATEMENT OF GAIL KIMBELL, CHIEF, FOREST SERVICE,  
DEPARTMENT OF AGRICULTURE

Thank you for the opportunity today to provide the Forest Service's view on S. 2593, a bill that would provide for the establishment of a program to carry out collaborative ecological restoration treatments on priority forest landscapes. We support the intent of the bill to work on a landscape scale, to integrate the best available science, and to implement proposals through a collaborative process. As reflected by the inclusion of an ecosystems demonstration legislative proposal within

the President's FY 2009 Budget and much of our current work, we share this goal. The Administration's ecosystem demonstration proposal would expand our ability to bring new partners together with the Forest Service on landscape-scale projects that restore forests through market-oriented approaches to stewardship of national forests.

Both the President's proposal and S. 2593 reflect a collaborative approach that builds commitment to partnership and ownership of the results. Each would help different groups find their common interests and leverages resources to get work done. Although the Forest Service has been carrying out restoration work across landscapes under current authorities, S. 2593 would enhance our current efforts by helping prioritize landscape-level restoration work. In my testimony, I will give some background on our current efforts in landscape-level work and make some general comments on the bill.

We believe there is a need for action to restore the health of many of the Nation's forests and rangelands. On the one hand, some of our forests and grasslands have adapted to natural disturbance regimes. On the other hand, many areas across the Nation are experiencing extended droughts, reduced snow packs, damaging storm events, and other environmental stressors. The presence of large amounts of hazardous forest and rangeland fuels poses a risk of catastrophic wildfire that threatens other public and private land and natural resources and communities. Millions of acres of forest and rangeland ecosystems are under attack from native insects, such as bark beetles as well as non-native invasive species. For example between 2000–2004, trees were killed on approximately 27.1 million acres in the Western States from a combination of factors. These diverse threats affect aquatic and terrestrial ecosystems in virtually every region of the country.

#### CURRENT EFFORTS

We believe that hazardous fuels treatment and other forest management approaches, such as forest thinning projects can help mitigate these risks, restore healthy forest conditions, and increase the ability of our Nation's forests and grasslands to adapt to ecological shifts associated with climate change. The Forest Service has taken several actions to accomplish these objectives, for example:

**Forest Restoration Framework and Policy.**—The Forest Service has completed a strategic, science-based framework for restoring and maintaining forest and grassland ecological conditions titled the "Ecosystem Restoration Framework." The framework looks at the development of an integrated agency-wide forest restoration policy to promote ecosystem restoration and efforts to integrate this work across all functional areas of the agency. The framework also considers integration of ecosystem restoration into our national strategic, forest land and resource management plans, and project plans; and use of incentives to increase accomplishment of restoration objectives.

The framework will address policy factors such as requirements to plan, implement, monitor, and evaluate ecological restoration activities in consideration of current and future desired conditions and the potential for future changes in environmental conditions, including climate change. Our policy will provide consistent guidance to all of our field units; communicate our intention to increase emphasis on operating at a landscape scale, and our expectation to accelerate collaborative restoration work. The policy is under development and is expected to be released within the near future.

**Stewardship Contracting as a Tool to Accomplish Restoration.**—The Forest Service has been actively using stewardship contracts, part of the Healthy Forests Initiative, to advance hazardous fuels reduction and other forest restoration treatments in priority areas. Last year, we completed an assessment of our progress on implementing stewardship contracting, and we are working to expand our use of stewardship contracting. We believe that stewardship contracting is an effective tool to implement the landscape restoration proposals under this bill, and we think that the authority to enter into the contracts should be made permanent. Several projects stand out as examples of this tool's capability.

- The White Mountain Stewardship Contract on the Apache-Sitgreaves National Forests in Springerville, Arizona is the largest stewardship contract in the nation. This contract has a 10-year term to treat 15,000 acres per year for a total of about 150,000 acres, and it is entering its fourth year. The project was designed and is being carried out through a collaboration of various state and local governments, representatives of local forest products industry, and special interest groups. The goals of this effort are to restore forest health, reduce the risk of fire to communities, reduce the cost of forest thinning, support local

economies, and encourage new wood product industries and uses for the thinned wood fiber. Removal of saw timber is offsetting the cost of fuels treatments and improvements to forest health. In addition, the project will partially supply material to the Renegy Biomass Plant (25 megawatt) in Snowflake, AZ.

- In Alamogordo, New Mexico, the Lincoln National Forest and the Mescalero Apache Tribe signed the 16 Springs Stewardship Project under the authority of the Tribal Forest Protection Act (TFPA, Public Law 108-248). This is the first stewardship contract under the TFPA authority, which permits the Federal government to enter into contracts and agreements with American Indian Tribes for work on public lands bordering on or adjacent to tribal lands. The 6-year contract involves 15,000 treatment acres (half with commercial timber harvest and service work, half with service work only). The service work primarily consists of thinning and fuel treatments. The project is designed to reduce the threat of wildfire and forest disease spread from public lands to Tribal land. The project will contribute to the central priority of restoration of fire-adapted ecosystems by reducing intensities of wildfires, especially in Wildland-Urban Interface (WUI) as identified under the Otero County Community Wildfire Protection Plan, sanctioned by the Otero County Working Group. Furthermore, the project will restore natural ecologic processes across a range of forest types, provide forest products to the local community, and enhance watershed conditions. The full implementation of this contract will reduce the threat of damaging wildfire to national forest system, private, and tribal lands.
- The Sustained Yield Restoration Stewardship Contract on the Fremont-Winema National Forest in Lakeview, Oregon is a contract with a 10-year term that we anticipate will treat about 3,000 acres per year for a total of about 30,000 acres. This project will reduce the risk of catastrophic fire and restore watershed conditions. The goals of the project are to sustain and restore a healthy and resilient forest ecosystem that can accommodate human and natural disturbances, to sustain and restore the capacity to absorb, store, and distribute quality water, and to enhance opportunities for people to realize spiritual, and recreational values on the forest. The forest thinning treatments will yield sawlogs and biomass. The biomass from this contract will provide a portion of the material necessary to produce electric energy in the planned \$20-million Lakeview Biomass Plant. Once this plant is operational, it is expected to annually produce about 13 megawatts of renewable energy. The project is an outgrowth of a 20-year Memorandum of Understanding signed by The Collins Companies, Marubeni Sustainable Energy, Lake County Resources Initiative, Oregon Department of Forestry, Lake County, Town of Lakeview, City of Paisley, the BLM, and the Forest Service.
- The Front Range Stewardship Contract is located on the Pike, San Isabel, Arapaho, and Roosevelt National Forests in Colorado and is a contract with a 10-year term that should treat about 4,000 acres per year for a total of about 40,000 acres. This contract will involve the harvest of saw timber, treatment of non-saw timber, biomass and slash and will create fuel modification zones, fuelbreaks and fireline construction. The project is designed to provide hazardous fuel reduction, forest restoration, watershed enhancements, and related services. The initiative is the outcome of the Front Range Roundtable, a diverse group of stakeholders that has worked together since 2003 to develop a long-term vision and roadmap for achieving comprehensive fire risk mitigation and forest health goals in the ten counties comprising Colorado's Front Range. Through intense ecological analyses, the Roundtable identified over 1.5 million acres along the Front Range in need of treatment to reduce the risks of wildfire to communities and restore forests to sound ecological health.
- The Francis Marion Biomass Removal Stewardship Project on the Francis Marion National Forest in Cordesville, South Carolina offered two multi-year contracts to treat approximately 2,000 acres per year for 5 years for a total of 10,000 acres. The primary objectives are to reduce fire hazard and improve the forest health of dense stands of young loblolly pine that established following Hurricane Hugo of 1989. The contracts have stimulated a biomass chip market that supplements the energy needs of local users for power generation. The biomass chip value offsets the cost of pre-commercial thinning and has realized a major savings for the Forest. These contracts have resulted in stand treatment costs dropping by about 50 percent. The project sprung from a collaboration of Santee Cooper Power and Electric Company, South Carolina Forestry Commission, the Native Plant Society and the South Carolina Coastal Conservation League, and several local fire departments from communities adjoining the Forest.

Many of the successes in our use of stewardship contracting are a direct result of the development and implementation of projects through collaborative partnerships with groups of diverse interests.

**Open Space Strategy.**—In December of 2007, we announced the release of the “Forest Service Open Space Strategy.” Healthy ecosystems require maintenance as well as restoration. The loss of open space threatens the sustainability of the Nation’s forests and grasslands. We lose approximately 6,000 acres of open space to development or land conversion each day across the United States. Land development is outpacing population growth, especially in rural areas where the trend is low density, dispersed development. The new Forest Service strategy provides a framework for working with others to conserve open space. It emphasizes collaborative approaches and partnerships to conserve ecologically and socially important forests, grasslands, ranches, and urban green spaces. These important lands provide vital ecosystem services and benefits for society, such as clean air, abundant water, connected fish and wildlife habitat, scenic beauty, outdoor recreation, and renewable resource products.

**Landscape Research.**—Forest Service Research and Development provides long-term research, scientific knowledge, and tools that can be used to manage, restore, and conserve forests and rangelands. Forest Service research-based information relevant to this bill includes social science on collaborative planning that can help managers plan and carry out projects. Also, we are responsible for the Nation’s Forest Census, known as the Forest Inventory and Analysis program. Research information is essential for understanding effects and management options for multiple stressors on ecosystems, such as drought, invasive species, fire, and air pollution and loss of open space. Other relevant research under way addresses how biomass utilization can help reduce fire impacts by reducing fuel loads. Additionally, there is ongoing research on costs of fire suppression and various fuels treatment that will be available for managers’ use.

#### ECOSYSTEM SERVICES: A MORE INCLUSIVE PATH FORWARD TO OBTAINING FOREST BENEFITS

Our country and those elsewhere are becoming increasingly aware of the importance of healthy forest ecosystems as ecological life-support systems. As you know, healthy forests provide strong economies and jobs, but also yield other goods and services that are vital to human health and livelihood—natural assets we call ecosystem services. Many of these goods and services are traditionally viewed as free benefits to society, or “public goods”—wildlife habitat and diversity, watershed services, carbon storage, and scenic landscapes, for example. Recognizing forest ecosystems as natural assets with economic and social value can help promote conservation and more responsible decision-making.

The President’s FY 2009 Budget reflects a commitment to the expanded thinking about ecosystem services and recognition of other values that flow from healthy ecosystems. The Budget’s proposal would bring new partners together with the Forest Service in a broad effort to advance stewardship on national forest lands in landscape-scale projects that address a full range of ecosystem services. Restoring ecosystem function through projects such as hazardous fuels reduction lets local interests invest in local projects to their own benefit with an assurance of the outcomes of that investment. Here are some of the highlights of this proposal:

- The Forest Service would have the authority to implement up to five Ecosystem Services Demonstration Projects with partners to restore, enhance, or protect ecosystem functions on National Forest System lands.
- Outcomes from these projects will demonstrate the value of clean water, carbon sequestration, and other critical services that forests provide.
- The ecosystem services provided by these projects will be identified and measured through applied research, providing valuable information to potential and emerging markets.
- These projects will benefit the Forest Service and a partner, defined as either a State, political subdivision of a State, Indian tribe, or non-profit organization.
- The projects will be expanded or accelerated using the funds or services provided by a partner. Partnering entities could carry out the project for the agency, provide funds for project implementation up to a total of \$10 million for all projects, or provide a combination of funds and services.
- Each project will be consistent with applicable land and resource management plans and will comply with environmental laws and regulations.
- All ecosystem service benefits that accrue from these projects will remain public.

As does the ecosystem services proposal, S. 2593 would provide an additional tool for restoration consistent with current efforts. Projects would be created collaboratively and be part of a system that is evaluated on a landscape scale. In particular, this could be helpful for developing comprehensive management options that address issues related to climate change. I would like to now turn to the bill language.

*Section 3. Definitions.*—We believe a definition of the term “restoration” would be useful and should focus on restoration of healthy, sustainable, productive ecosystems for the future, as opposed to a return to a historic condition. We would like to work with the Committee on the definition.

*Section 4. Collaborative Forest Landscape Restoration Program.*—Section 4(a) would require the Secretary, in consultation with the Secretary of the Interior, to establish a program to select and fund ecological restoration treatments for priority forest landscapes. Section 4(b) sets out criteria that ecological restoration proposals under the program would be required to meet in order to be eligible for nomination. Requirements include a landscape restoration strategy that identifies and prioritizes treatments for a 10-year period across a landscape that is at least 50,000 acres, and is comprised of primarily forested National Forest System lands, but may also include other Federal, State, tribal, or private land. The restoration proposal would be required to be developed and implemented through a collaborative process. It must include an analysis that estimates the anticipated cost savings resulting from reduced wildfire management costs, and decreases the unit costs of implementing ecological restoration treatments over time. Additionally, the restoration proposal must include an estimate of the amount of new non-Federal investment that would be leveraged by Federal funding for restoration treatments, though non-Federal investments are not affirmatively required.

We support the intent of the bill to work on a landscape scale, to integrate the best available science, and to implement proposals through a collaborative process. We already use criteria to support resource allocation in priority treatment areas regarding hazardous fuels. However, we suggest the Administration’s ecosystem services proposal provides for a broader suite of actions beyond hazardous fuels alone, but are willing to work with the Committee on technical aspects of the eligibility criteria in the bill.

Section 4(c) sets out a nomination process that would require submission of proposals to Regional Foresters for consideration. As part of the nomination process, Section 4(c)(3)(B) would require the Regional Forester to obtain concurrence from the Secretary of the Interior if actions under the jurisdiction of Interior are proposed.

Section 4(d) would establish the process for selecting the collaborative forest landscape restoration proposals, which would require consultation with the Secretary of the Interior even for proposals that do not affect lands administered by the Interior Secretary. We would like to work with the Committee to modify this provision to require consultation only when lands administered by the Secretary of the Interior are part of the proposal.

Section 4(f) would establish the Collaborative Forest Restoration Fund that could be used to pay up to 50 percent of the cost for carrying out proposals for ecological restoration treatments on National Forest System lands. The bill provides for authorization of up to 40 million dollars to the Fund for each fiscal year 2008 through 2018. No more than 10 proposals could be funded during any given year, nor could more than 2 proposals be funded in any 1 region during a given year. Under section 4(f)(3) amounts appropriated from the general fund of the Treasury would be invested in interest bearing securities of the United States. The Administration objects to this provision. Amounts available for investment should be limited to funds collected from the public and not to funds appropriated from the General Fund which are not made subject to the appropriations process. We are also concerned that amounts appropriated to the Fund may result in a decrease of amounts appropriated for other high priority work and that there is no requirement for matching of non-Federal monies for projects that occur on non-Federal lands.

Section 4(g) would establish program implementation and monitoring requirements. Section 4(g)(1) would require the creation of an implementation work plan that includes a description of the landscape restoration proposal, a business plan, and documentation of the non-Federal investment in the priority landscape. Section 4(g)(4) would require the Secretary, in collaboration with the Secretary of the Interior, to use a multi-party monitoring, evaluation, and accountability process to assess the ecological, social, and economic effects of each forest landscape restoration project. We are concerned that, in practice, the implementation of the bill may be

administratively burdensome. Also, it is not clear when environmental analysis would be required. However, we would be happy to work with the Committee on clarifying language and to make any necessary administrative changes to the bill.

We support landscape level planning, projects implemented cooperatively, and monitoring of performance. We recommend replacing “multi-party monitoring” with science-based” monitoring. This bill would provide the opportunity to use a network of landscape level projects to conduct coordinated research on key questions, such as effects of treatments on soil, water, fire hazard, wildlife, insect and disease, and economics. A well designed system of science-based monitoring at the appropriate scale, combined with a well-designed set of landscape treatments, would provide valuable information about the effects and effectiveness of large landscape treatments over time across a number of different types of ecosystems. The results of the monitoring would improve information for managers providing a network of standard measures of effectiveness and effects of landscape restoration.

#### CONCLUSION

Mr. Chairman, the Forest Service is committed to working with Congress and various stakeholders to protect communities and people and to work collaboratively to restore healthy ecological conditions on lands of all ownerships that have undergone many changes. We believe that the actions we are currently taking will be enhanced by various provisions of S. 2593, particularly if combined with the provisions of our ecosystem services demonstration project legislative proposal. Together they will provide the Forest Service some important tools we need to do work to restore our Nation’s forests and grasslands to a condition so they can better resist disease, insects, and catastrophic fire.

We recognize and appreciate the time spent by the Committee to develop a bipartisan constructive approach to carrying out collaborative ecosystem restoration of priority forest landscapes. We look forward to the opportunity to work with the Committee to explore the establishment of an ecosystem services authority and to make technical amendments to clarify and strengthen the bill. I will be glad to answer any questions you may have.

Senator TESTER. Thank you. I think we’ll go on with you, Henri, if you want to make your statement and then we’ll have questions at the end.

#### **STATEMENT OF HENRI BISSON, DEPUTY DIRECTOR, BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR**

Mr. BISSON. Mr. Chairman and Senator Tester, thank you for inviting me to testify regarding S. 2593, the Forest Landscape Restoration Act of 2008.

The Department of the Interior strongly supports landscape scale restoration efforts and believes in the goals of landscape level approaches to land management. While we do have a few concerns with the legislation, we certainly appreciate the sponsor’s intent in introducing S. 2593 to manage land health on a landscape scale.

In our view, a true ecological approach to restoration begins with a collaborative evaluation of what is best for the health of the landscape and is followed by the engagement of the appropriate partners.

I would like to take this opportunity to share our current efforts to improve ecological health of lands through a landscape scale collaborative approach.

Initiated in fiscal year 2007, the Healthy Lands Initiative focuses on implementing the landscape scale habitat restoration and conservation projects across both public and private lands. A key component of this initiative is the partnership aspect and working closely with our neighbors to initiative and fund landscape scale restoration work that allows for continued healthy working landscapes.

Building on recent success, the BLM proposes to expand HLI to California, in addition to the six initial project areas in New Mexico, Utah, Idaho, Wyoming, Oregon, Northern Nevada, and Western Colorado. The Western Colorado project is going to be expanded into the northwestern part of the State in 2009.

My written testimony highlights several successful HLI and other large-scale landscape level projects.

Since 2001, the department has worked aggressively to reduce the amount of hazardous fuels on Federal lands and to restore the health of our public forests, woodlands and rangelands, utilizing the authorities provided under the Healthy Forest Initiative and the Healthy Forest Restoration Act of 2003.

Of the 258 million acres administered by the BLM, 69 million acres are forests and woodlands located in the 11 Western States and Alaska. These authorities have provided us with tools to ensure sound management practices and to implement hazardous fuels reduction projects and stewardship contracting.

Overall, the DOI has applied nearly 8 million acres of hazardous fuels reduction treatments to forests, woodlands and rangelands, utilizing the tools of prescribed burns and chemical and mechanical fuels treatments, and has restored 1.4 million acres through other landscape restoration activities.

We support the intent of S. 2593. The legislation would provide the Secretary with an additional tool for restoration treatments for priority forest landscapes on public lands.

We're concerned that the approach outlined in S. 2593 does not take into consideration the important connection between the health of forests and adjacent woodlands and rangelands and, furthermore, we suggest the DOI and Forest Service, where appropriate, be equal partners in the nomination and selection process in order to continue implementing priority projects across entire landscapes.

We're committed to working with the committee and the legislation sponsor to ensure that any legislation effectively considers the health and restoration of both forests and rangelands. We will continue to work toward identifying priorities in an effort to achieve significant improvements in the health and productivity of the public forests, woodlands and rangelands at the landscape level.

Thank you for the opportunity to testify, and I'd be happy to answer any questions, also.

[The prepared statement of Mr. Bisson follows:]

PREPARED STATEMENT OF HENRI BISSON, DEPUTY DIRECTOR, BUREAU OF LAND  
MANAGEMENT, DEPARTMENT OF THE INTERIOR

Thank you for the opportunity to testify for the Department of the Interior (DOI) on S. 2593, the Forest Landscape Restoration Act of 2008, which establishes a collaborative and science-based forest landscape restoration program that would prioritize and fund forest-based ecological restoration treatments. The DOI strongly supports landscape scale restoration efforts, and believes in the goals of landscape-level approaches to land management. While we do have concerns with the legislation, which are discussed below, we appreciate the sponsors' intent in introducing S. 2593 to manage land health on a landscape scale.

In our view, a true ecological approach to restoration begins with a collaborative evaluation of what is best for the health of the landscape and is followed by the engagement of the appropriate partners. This approach is more effective in achieving the mutual goal of improving landscape health which, in turn, improves resil-

ency to the risk of wildfires and invasive species and preserves key wildlife habitat. It aggregates the investments of the partners and increases the cost-effectiveness of those investments. We would like to take this opportunity to share our current efforts to improve the ecological health of lands through a landscape-scale collaborative approach.

#### BACKGROUND

Collaborative landscape-scale treatments continue to be the focus and priority in carrying out land management objectives on DOI-administered lands. It is important for us to look at management from a landscape perspective beyond geopolitical boundaries and isolated ecosystems. Forests, woodlands and rangelands are a mosaic where the lands, resources and communities are all interconnected. From this perspective, we see the interdependence of resources and the need to develop interdisciplinary strategies for balanced multiple-use management across the entire landscape.

Several current activities and proposed programs in the Administration's FY 2009 budget request already promote landscape-level approaches to restoring and maintaining land health that engage a number of Federal and non-Federal partners. Examples of key DOI programs include the Healthy Lands Initiative and the Wildland Fire Hazardous Fuels Reduction Program.

Healthy Lands Initiative.—One challenge DOI faces is meeting land health goals that are required to integrate landscape-scale habitat restoration and resource management. Through the Healthy Lands Initiative (HLI), DOI is working collaboratively with our Federal and non-Federal partners to restore, enhance, and protect habitats through landscape-scale restoration initiatives and conservation planning, allowing us to continue to fulfill our multiple-use mandates. HLI considers the health of the land at a landscape scale instead of acre by acre.

Initiated in Fiscal Year 2007, the Department's Healthy Lands Initiative focuses on implementing landscape-scale habitat restoration and conservation projects across both public and private lands. All of the projects implemented under this Initiative promote the maintenance or restoration of healthy native plant communities with the increased ability to survive or adapt to anticipated changes in the environment in the future. The Healthy Lands Initiative represents a concept for meeting emerging challenges in managing natural resources for continued multiple-use with flexible landscape-level approaches. Land restoration efforts are targeted toward priority landscapes to achieve various resource objectives, including resource protection, rehabilitation, and biological diversity. A key component of this initiative is the partnership aspect of HLI and working closely with our neighbors to initiate and fund landscape-scale restoration work that allows for continued healthy, working landscapes. The BLM leverages appropriated funding with matching funds provided by other Federal agencies, State, local and tribal governments, philanthropic organizations, advocacy groups, and industry partners.

The 2009 Budget includes a total of \$21.9 million within DOI to meet land health goals, a \$14 million increase over the 2008 enacted level. BLM has the largest level of involvement in this initiative. In FY 2009, the BLM is requesting a \$10.0 million increase over the FY 2008 enacted level of funding of \$4.9 million, for a total of \$14.9 million for HLI. An additional \$8.2 million in BLM base funding also supports healthy lands. The BLM proposes to expand HLI to California as an addition to the six initial project areas located in New Mexico, Utah, South-central Idaho, South-west Wyoming, Southeast Oregon-Southwest Idaho-Northern Nevada, and Western Colorado. The Colorado project area will be expanded to the northwestern part of the State in 2009.

Our approach, working with our partners to maintain healthy landscapes, sustain wildlife and maintain continued access to the public lands for multiple uses, supports a landscape-level approach to natural resource management and restoration.

We would like to highlight a few of the many successes and planned efforts that illustrate our ability to conserve the diversity and productivity of the landscape through the opportunities we have in HLI.

- The Colorado Landscape Conservation Initiative encompasses 20.5 million acres of mixed ownership, including roughly 4 million acres managed by the BLM. This area provides quality habitat for diverse wildlife populations, including seven of the eight remaining populations of Gunnison sage-grouse, as well as numerous special status species. The BLM, National Park Service, U.S. Fish and Wildlife Service, Forest Service, Natural Resources Conservation Service, Colorado Division of Wildlife and private partners are working together to restore, enhance, and protect habitats through conservation planning efforts and partnerships. To enhance existing resources and restore conditions, BLM Colo-

rado's planned actions include implementing habitat treatment projects, implementing effective weed management efforts, expanding native-seed program, pursuing conservation easements, and monitoring treatment effectiveness. This year BLM is spending close to \$400,000 to treat 560 acres of wetlands, 12 miles of stream, 3,060 acres of shrub, grass, woodland, and 10 riparian projects. In the Fiscal Year 2009 President's Budget request, the BLM is requesting almost \$2 million to treat 1,380 acres of wetlands, 14 miles of stream, 3,110 acres of forest, shrub, grass, woodland, 1,380 acres of weeds, and 27 riparian projects.

- In New Mexico, the BLM is working closely with private, state, and other Federal partners to restore desert grasslands that are being supplanted with invasive mesquite. Removing the mesquite from these landscapes reduces habitat fragmentation for important species such as the Lesser Prairie Chicken and Aplomado Falcon and improves the overall natural biodiversity of desert grasslands. The BLM treated 40,000 acres in Fiscal Year 2007, is planning to treat 48,730 acres in Fiscal Year 2008, and is requesting almost \$3.5 million to treat 132,320 acres in Fiscal Year 2009. Additional non-BLM acreage is being treated using other contributed funds.

BLM also engages in comprehensive land health treatments through other base activities. For instance:

- The BLM plans institutionalization of landscape level land health treatments that characterize HLI. In Montana, the BLM is addressing landscape-scale restoration on a 600,000 acre watershed in the southwest part of the state. A recent forest health assessment on a 32,000 acre area, known as the south Tobacco Roots watershed, found that altered forest structure, density and species composition in the mid-elevation forests, of which both Forest Service and BLM are major land managers, is putting these forests at high risk to insect epidemic and catastrophic wildfire. The agencies have been working collaboratively with private landowners, conservation groups, and the Montana Department of Natural Resources and Conservation to begin restoration across the watershed. The DOI planned actions are 4,000 acres of forest restoration sales followed by prescribed burn and 1,600 acres of juniper treatment by prescribed burn. These treatments across the entire watershed will restore the health, resiliency and productivity of the entire watershed and continue to provide high quality habitat, as well as a high quality place to live and work for the people who live here.

National Fire Plan/Healthy Forests Initiative/Healthy Forests Restoration Act.—Two major challenges facing DOI are addressing ecosystem health and the accumulation of flammable fuels on Federal lands, a major cause of fire risk. Multiple factors contribute to wildfire, which include weather, fuel type, terrain, location with respect to the wildland urban interface, and other highly valued landscapes, and managerial decisions made before and during fire incidents. As we have noted in past testimony before this Committee, we are seeing changing temperature and prolonged drought across many portions of the West and Southwest and an expansion of the wildland urban interface and an increase in the number of people living there. Fifty-seven million people now reside within 25 miles of BLM lands, and BLM lands host approximately 58 million recreation visits annually.

As current trends indicate wildfire seasons may be lasting longer and the burned areas are becoming large. Continued accumulation of wood fiber, and substantial increases in highly flammable invasive species, are converging to increase the risk of catastrophic loss from wildland fires. The DOI, along with the Forest Service and other partners, is addressing cost containment measures to reduce suppression costs. We are also working hard in developing a cohesive approach among Federal partners, local governments, private organizations and citizens to reduce hazardous fuels and restore and maintain forest, woodland and rangeland health. This is being achieved through various initiatives such as the National Fire Plan (NFP), the Healthy Forests Initiative (HFI), and implementation of the Healthy Forests Restoration Act of 2003 (HFRA). To date, we have made considerable progress.

Since 2001, the DOI has worked aggressively to reduce the amount of hazardous fuels on Federal lands and restore the health of our public forests, woodlands and rangelands, utilizing the authorities provided under the HFI and the HFRA. Of the 258 million acres administered by the BLM, 69 million acres are forests and woodlands located in the 11 western states. HFI and HFRA have provided the BLM with tools to ensure sound management practices and to implement hazardous fuels reduction projects and stewardship contracting.

The BLM's hazardous fuels reduction and forests, woodlands and rangelands rehabilitation activities have also been guided by the National Fire Plan (NFP). The goals are to reduce fuels (combustible forest materials) in forests, woodlands, and

rangelands at risk, rehabilitate and restore fire-damaged ecosystems, and work with local residents to reduce fire risk and improve fire protection. The NFP is being successfully implemented under the leadership of an interagency and intergovernmental group of Federal, state and local agencies working cooperatively to reduce wildfire risk and restore fire-adapted ecosystems. Investments made to restore land health today can have a profound impact on the resiliency of the treated acres to catastrophic and expensive wildfires in the future. Many treatments, such as thinning in forests and woodlands have an additional benefit of improving watershed conditions, wildlife habitat, and species diversity. Overall, the DOI has applied nearly 8 million acres of hazardous fuels reduction treatments to forests, woodlands, and rangelands on the public lands since 2001, using the tools of prescribed burns, and chemical and mechanical fuels treatments, as well as restored 1.4 million acres through other landscape restoration activities.

The 2009 President's budget proposes \$850 million to support fire preparedness, suppression, fuels reduction, and burned area rehabilitation needs for the DOI. This is a \$42 million increase over the 2008 enacted level (excluding supplementals). The DOI continues to support the Healthy Forests Initiative. The budget proposes \$202 million for hazardous fuels reduction program. These funds will support more high priority fuels treatment projects. Putting forth the effort to cooperatively reduce wildfire risk and restore fire-adapted ecosystems now will lead to reduced fire impacts and costs in the future.

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The legislation calls for the Secretary of Agriculture, in consultation with the Secretary of the Interior, to establish a collaborative Forest Landscape Restoration Program to select and fund ecological restoration treatments for priority forest landscapes.

Section 4(b) discusses eligibility criteria for collaborative forest landscape restoration proposal nominations. One criterion is for the proposals to be comprised primarily of forested National Forest System land, but may also include other Federal, State, tribal, or private land.

Section 4(c) describes the nomination process, requiring the Regional Forester to nominate collaborative forest landscape restoration proposals for selection by the Secretary of Agriculture.

Section 4(f) establishes a fund for the cost of carrying out ecological restoration treatments on National Forest System land, allowing the Secretary of Agriculture to use the fund to treat National Forest System lands for each collaborative forest landscape restoration proposal selected. It is unclear if the fund can be used to treat lands outside of the National Forest System that comprise a portion of a selected restoration project. The section also authorizes to be appropriated \$40 million for each of fiscal years 2008–2018, to remain available until expended, and it allows interest to be credited to the fund.

Section 4(g) states the Secretary of Agriculture shall, in collaboration with the Secretary of the Interior and interested stakeholders, use a multiparty monitoring, evaluation, and accountability process for not less than 15 years after project implementation commences. The bill also requires the Secretary of the Interior, as a collaborator with Secretary of Agriculture, to report on accomplishments for collaborative forest landscape projects carried out under the authorities of this legislation.

As previously stated, we support landscape level approaches to land health. The legislation would provide the Secretary with an additional tool for restoration treatments for priority forest landscapes on public lands. As noted above, however, the Department, through the Wildland Fire Hazardous Fuels Reduction Program and the Healthy Lands Initiative, and the U.S. Forest Service already engage in activities proposed to be included in the bill. Moreover, the FY 2009 budget proposes Ecosystems Services Demonstration Projects in the Forest Service, described in greater detail in the Forest Service's testimony today.

Of particular concern to the Administration is the creation of the Collaborative Forest Landscape Restoration Fund. The bill requires the Fund provide up to fifty percent of the cost of carrying out ecological restoration. It is not clear what mechanism would require Federal agencies to seek partner funding from non-Federal sources. Leveraging Federal funds with non-Federal funds is a vital element to successfully undertaking landscape level restoration projects as it facilitates collaboration and commitment by our non-Federal partners. Under section 4(f)(3) amounts appropriated from the general fund of the Treasury would be invested in interest bearing securities of the United States. The Administration objects to this provision. Amounts available for investment should be limited to funds collected from the public and not to funds appropriated from the General Fund which are not made sub-

ject to the appropriations process. We also have concerns that implementation of the bill may be administratively burdensome.

Finally, we are committed to working with the Committee and the legislation's sponsor to ensure that any legislation effectively considers the health and restoration of forests, woodlands, and rangelands.

#### CONCLUSION

Landscape-scale restoration continues to be a high priority for DOI. In collaboration with our partners, we have made considerable strides in restoring thousands of acres of Federal lands along with state and privately-owned lands under the jurisdiction of our partners. The DOI will continue to work towards achieving priorities in an effort to make significant improvements in the health and productivity of the public forests, woodlands and rangelands at the landscape level. We look forward to working with the Committee on S. 2593. Thank you for the opportunity to testify, I will be happy to answer any questions.

Senator TESTER. Thank you to both of you for your testimony.

Mr. Chairman, do you want me to go first? I will do it then.

Chief Kimbell, you discussed in your testimony several restoration projects that are in the works. In Montana, we have a few of those collaborative groups that have come up with some good restoration proposals.

Everyone seems to like the proposals, but we are continually told, I am continually told, that they cannot be implemented without additional appropriations from Congress directly to the region or district level because there's not enough money due to fire fighting and other needed reasons.

The question is do we need to have some sort of legislation in order for these projects to become a reality?

Ms. KIMBELL. I think this bill encourages landscape level collaboration in a way that's very complementary to the work we're doing.

One of the larger barriers to implementing stewardship contracting right now is really around the cancellation liability and the fact that if—you know, we have under the Federal Acquisition Regulations, there's some limits on length of contracting and for a 10-year contract, the forest has to be able to set aside enough moneys at the very start to cover the liability in potential cancellation and that's moneys that are taken then out of a forest's budget or a region's budget and can't be spent on project work.

This was an issue with the White River project or the White Mountains project. It's been an issue with any of the longer-term timber—longer-term stewardship contracts that aren't in an area that has an existing infrastructure.

Senator TESTER. So, how often is that money used—

Ms. KIMBELL. That money—

Senator TESTER [continuing]. That's set aside?

Ms. KIMBELL. It's held to the side. It's not yet been used.

Senator TESTER. OK. So, do you anticipate it being used or can you give me some past experiences that would conclude that this money is used, all of it's used, half of it's used, none of it's used?

Ms. KIMBELL. If the money is not used to pay for cancellation, then the moneys are returned to the agency's workings.

Senator TESTER. All right. Can you give me sort of an idea of how often that happens—that it's returned?

Ms. KIMBELL. It's not yet happened because the White Mountain project is the first of these longer-term projects.

Senator TESTER. OK, OK. I've got you.

Ms. KIMBELL. It's still active.

Senator TESTER. So, this is a new procedure that you're using now, to set aside the money for the 10-year projects?

Ms. KIMBELL. In setting aside money in case those projects are canceled.

Senator TESTER. OK. You're well aware that Beaverhead Deer Lodge Partnership in Montana, you know, that group happens to be made up of timber folks, environmentalists. It's a group that, quite honestly, 10 years ago, they probably wouldn't have been talking. They probably would have been doing something else. So, we appreciate their efforts. They're trying to implement 70,000 acres of restoration over 10 years.

Comparatively speaking, the Beaverhead Deer Lodge National Forestland, I believe, and correct me if I'm wrong, will treat about 2,500 acres per year, due mainly to budget constraints.

On the same forest, the Forest Service has identified about nearly 300,000 acres that need to be treated or at least should be open to treatment. At the rate of 2,500 acres a year, that would take in excess of a hundred years to treat that land, significantly in excess of a hundred years and that's just one forest.

So, will the Forest Service be able to fund and carry out projects like this realistically in the future?

Ms. KIMBELL. Each region is going through a prioritization of projects and I expect the Beaverhead Deer Lodge is competing with all the other forests in Montana and Northern Idaho for those moneys, those vegetation management moneys, at the regional level, because no, there's not enough money for all the forests to have projects of that size.

Senator TESTER. OK. Does Congress need to start appropriating money directly to the region or district level?

Ms. KIMBELL. I would hope not in that the prioritization—I mean, really, there are higher priorities in one place than in another, and each region goes through a very careful evaluation of that in allocating moneys at the regional level.

Senator TESTER. Do you know how many proposals there are out there right now similar to the 2,500 acre proposal at Beaverhead Deer Lodge?

Ms. KIMBELL. There are——

Senator TESTER. In that region?

Ms. KIMBELL. No, I don't have an exact number, but I do know of proposals where people have come in and proposed a 10-year stewardship contract to a national forest where there isn't existing infrastructure and have suggested they would build infrastructure, but they need to have that 10-year commitment or more to be able to secure the loans that they would need in order to construct some kind of milling infrastructure and the forest has not been as responsive as some might like because of this need to have to set aside moneys for cancellation and the liability there.

Senator TESTER. OK. So, you have goals to take care of several different forests through your plans. The one that I talked of before was Beaverhead Deer Lodge. It's in direct competition with other forest restoration plans.

I would assume that at some level they all have merit?

Ms. KIMBELL. Yes.

Senator TESTER. So is the discrepancy in the goals of taking care of these problems from a restoration standpoint simply money or is it something else?

Ms. KIMBELL. There are many challenges but certainly there are many more acres of restoration need than we have funding for.

Senator TESTER. OK. Thank you very much.

Ms. KIMBELL. Thank you, Senator.

The CHAIRMAN. Thank you. Let me ask, so I understand better. You know, in a lot of our grant programs around here, we make a grant to an agency or to an organization to do something, and in making that grant, we ensure that they will have funding over a 3-year period, for example, or a 5-year period. I think that's fairly normal in some of the other areas, not in your agencies.

But I guess what I'm trying to determine is when you talk about these long-term stewardship contracts, you're saying money needs to be set aside in case the contract's canceled to cover the liability, but there is no money set aside to ensure that the contract need not be canceled.

Ms. KIMBELL. I believe that's correct.

The CHAIRMAN. So, if I were to get a long-term stewardship contract and appropriations are inadequate, then you would just not fund it next year and pay the liability for the 9 years that it's not in fact going to be carried out. Is that what I'm understanding?

Ms. KIMBELL. Once we sign a contract, you know, we are stating that we are committed to seeing through our part of this contract. So though there may not be a fund that sets aside 1 year's money to be able to—well, right now we don't have the mechanism, but to be able to use it in future years, once we sign a contract like that, we're saying this is a very high priority for us and we will—

The CHAIRMAN. So, you don't have a practice of just canceling these. Once you enter into them, the practice is you stick with them?

Ms. KIMBELL. We do not have a practice of canceling these.

The CHAIRMAN. But you set aside money, not in order that you can stick with them, but in the eventuality that at some point you can?

Ms. KIMBELL. We do set aside money as per the Federal Acquisition Regulations, but we don't set aside money for the continued operation of our part of that contract.

The CHAIRMAN. OK. Let me ask about monitoring. You know, the whole idea behind this landscape scale restoration, it's somewhat experimental, and we have put in this proposed legislation significant requirements for monitoring in order to learn what's working and what isn't working. I mean that's the whole idea behind it.

In the past, my understanding is that monitoring commitments on agency projects often have not been funded and that's an area that seems to always get sort of short shrift.

What are your thoughts, either one of you, as to the extent of the monitoring that you're currently able to engage in on forest restoration projects and what's appropriate?

Ms. KIMBELL. As trained scientists, a lot of our people are very well trained and very attuned to collecting data. We like to collect data. We like to compare data. We like to measure data and yet

the tough part of that is deciding which data is important and what data will we learn something from.

We do have monitoring plans in the Forest Service. We have monitoring plans with our forest plans. Each project has some monitoring attached to it. In the past, we have made those monitoring plans far more complex than we were ever able to carry out. We've put a lot of effort into making those monitoring plans more reasonable and more meaningful, so that they actually tell us something after we collect the information.

After some of the fires this last season, we actually did some on-the-ground monitoring and I have a report that I would like to submit for the record that's an Assessment of Fuel Treatment Effects on Fire Behavior, Suppression, Effectiveness and Structure Ignition on the Angora Fire\* just outside of South Lake Tahoe where they actually did an analysis of the treatments that were done around South Lake Tahoe and looked at the fire behavior in those areas that were treated and this is only one of many examples of where we think collecting that kind of information to help inform landscape level treatments that we're planning now.

Mr. BISSON. Senator, monitoring is a big part of making sure that we spend the money wisely and I think that frequently, you're correct, I think there is a lot of monitoring that would, should, could, ought to have happened that there hasn't been funding to do.

I feel that if we make a commitment to doing restoration, if we are doing forest rehab, if we're doing these treatments, that there needs to be a commitment to do the monitoring as well, and we're currently working with the Geological Survey to look at developing a process we can commit to, particularly on the rehab emergency stabilization, in these projects that is something we know we can afford and will be committed to as we move into the future. GS is working with us on that right now.

The CHAIRMAN. Thank you very much, Mr. Chairman.

Senator TESTER. Senator Domenici.

Senator DOMENICI. Did you just come down after the vote, Senator Bingaman?

The CHAIRMAN. Yes, I sure did.

**STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM  
NEW MEXICO**

Senator DOMENICI. I'm sorry I'm late. I did the same thing but got sidetracked. I voted before I came up here.

I have an opening statement that I'm going to give and then maybe if we stay long enough, I have a couple of quick questions. If not, I'll submit them.

There are two paths that we can follow when it comes to the ecological health of our Federal lands. The first path is one that we have been traveling down for the last decade or two. We know that we have a big problem but it's a thorny problem. So, we take only small steps to resolve the issues. I fear that path will result in millions of acres burned and billions of dollars expended with little to show for the effort.

\* Report has been retained in committee files.

The other path is to get serious about undertaking the forest restoration work needed to truly change the risk of catastrophic fire across large landscapes. I believe that forest landscape restoration is an important step down the latter path, but let me suggest it is only a small step.

I expect some witnesses will have concerns with the bill. I hope we will address as many of these concerns as possible. At the same time, I have concerns that we in Congress are not addressing the fundamental question of process paralysis as aggressively as need be.

Process paralysis is what I said. When I said it, you coughed. That's just whatever you call it; that didn't cause you to cough? All right. But it came at a very good time.

[Laughter.]

Senator DOMENICI. I just wanted you to hear it. I think Congress needs to take steps to speed up the appeals process and to limit the time it takes to work through legislation.

Those who don't want any change have an easy way to do it now; that is, an easy way to cause you to take a very long period of time before you can act and sometimes, maybe most of the time, that's the end of the process. It doesn't work.

I fear that unless Congress finds the will to take on these two issues, much of the good I see in the Forest Landscape Restoration Act will be lost. I can understand why you and Senator Feinstein have some trepidation about taking these steps and I understand that we must incrementally address issues so that we have critical political support needed to prevail.

It was Winston Churchill who once said, you can always count on Americans to do the right thing after they have tried everything else, and I think that's pretty apropos of what happens to you all, not necessarily of your own will. That's the way it happens.

We try everything else and then when it won't work, we come back and try to do the right thing. Sometimes it takes too long to get there, sometimes we've lost the right way by the time we've got there or we have new people. In any event, it is a great way that is being used by those of who do not want to let us do what we must and I know there are many that resist fixing this process, the process of appeals and litigation.

Sadly, these are the same ones that seem willing to sacrifice our forests to catastrophes. I do not think we should do that. I suspect that in the end, Congress would do the right thing. I just hope that it happens quickly enough to help rebalance the ecological integrity of our forests without having to withdraw the balance of our Federal treasury to fight decades of senseless and wasteful forest fires and wildfires.

Senator Bingaman, I listened to Chief Kimbell at this morning's Interior Appropriations hearing and I have to tell you that I'm compelled to work to find a solution to the delays that appeals and litigation are causing and it may have to be that I will have to do that in this bill. I hope that I won't, but if I have to, I hope you will work with me, Mr. Chairman, in absentia, work with me to find those solutions.

Thank you very much.

Senator TESTER. Senator Domenici, you can keep the floor if you've got questions.

Senator DOMENICI. Are you finished?

Senator TESTER. I'm finished with mine, and I think Senator Bingaman is finished with his.

Senator DOMENICI. I will submit to Gail Kimbell about four or five questions in writing, if you will submit them for me, and Deputy Director Henri Bisson, I'll submit two questions to you, and Chris West, he's not here, but—

Senator TESTER. Next panel.

Senator DOMENICI. OK. There you are. I think I'm permitted to ask him. I'll submit some questions for him, and let's just go right through and submit them all. I submit these en bloc, Mr. Chairman, for them to answer in a timely manner and since this bill seems to have very broad support, I would think the right time means rather quickly.

How long are you giving them to respond? Two weeks or what did we say?

Senator TESTER. Two weeks is just fine by me. Is that adequate for you? If it's a week, that's even better—

Ms. KIMBELL. We believe so.

Senator TESTER. Good. Thank you.

Senator DOMENICI. OK. Thank you very much.

Ms. KIMBELL. Thank you, Senator.

Senator TESTER. Senator Salazar, we have just heard from Chief Kimbell and Henri Bisson of the BLM on the restoration bill, and if you have any questions or if you have a statement, you're certainly welcome to do either right now or both.

#### **STATEMENT OF HON. KEN SALAZAR, U.S. SENATOR FROM COLORADO**

Senator SALAZAR. Thank you, Senator Tester and Senator Domenici and Chairman Bingaman, the committee.

I just want to make a quick statement. I have a formal statement for the record that I will submit for the record. I also just want to say that for Colorado, this is a very important piece of legislation and legislation that I fully support.

We have 11 national forests and two national grasslands in Colorado, as you know, Chief Kimbell, managed by the Forest Service. We have a huge problem in my State, given that 20 percent of our lands are owned by and managed by the Forest Service. There is a bark beetle problem which has infested our forests in a way that is unprecedented. I have sometimes referred to it as the Katrina of the West.

When you think about 1.5 million acres of bark beetle infested acreage on national forests in Colorado, and when you—recognize that about 95 percent of all the mature lodge pole will die in Colorado in the next few years, we really are looking at the kind of devastation that really requires us to take proactive action.

So, I'm pleased to be a supporter of Senator Bingaman and Senator Domenici's bill. I also am hopeful that as we address the issue of forest health, that legislation which the Colorado delegation had drafted to try to help us deal with the bark beetle problem, this

legislation, components of which we might be able to include in this legislation as we move forward.

Thank you, both, and thank Senator Tester and Senator Domenici.

Senator TESTER. Thank you, Senator Salazar. Just one real quick one that I had. Chief Kimbell, you've said that history will judge us, the leaders, by how well we respond to climate change.

What role do you see landscape scale restoration responding to the climate change issue? I'll also that of you, too, Mr. Bisson.

Ms. KIMBELL. I think landscape scale looks at wildlands as absolutely critical to how we as a Nation address the challenges with climate change. The health, the vitality, the vigor of our forests dictates how much carbon it sequesters, it dictates how much carbon it processes, it helps it filter water, all the different processes, the natural processes that we've come to take for granted from forestlands, from wildlands, across the country, really depend on the health and vigor of those lands.

So, I think a landscape look to be able to address priority needs for active management on those landscapes is really critical and this bill does direct that kind of work and it's going to be very important to our address in this Nation to climate change.

Senator TESTER. OK. Mr. Bisson.

Mr. BISSON. Senator, because of much of the land that we administer is rangeland, the same issues hold true on the rangeland ecosystem, particularly sagebrush. We think that cheat grass invasion restoration after fire are largely the two determinants about whether certain species get listed because of what's happening in the sagebrush ecosystem and some of that is tied to the changing climate and so we're very concerned about this issue as well.

Senator TESTER. OK. Thank you very much. I appreciate your testimony. Appreciate your time for being here today. Thank you.

The next panel, we have up Scott Simon, Director of the Arkansas Chapter of Nature Conservancy, Chris West, Vice President of the American Forest Restoration Council, Nathaniel Lawrence, Senior Attorney and Director of the Forest Project, Natural Resources Defense Council, and, finally, Howard Gross, Director of the Forest Guild.

You guys get situated and we'll hear your testimony. I want to thank you all for being here, to give us your input on S. 2593, and I think we'll just go right down the line. We'll start with you, Mr. Simon, and go from there.

Welcome to you all.

**STATEMENT OF SCOTT SIMON, ARKANSAS STATE DIRECTOR,  
THE NATURE CONSERVANCY, LITTLE ROCK, AR**

Mr. SIMON. Thank you, Senator. Good afternoon, Mr. Chairman. Good afternoon, Senator Lincoln.

My name is Scott Simon, and I'm the Director of the Nature Conservancy in Arkansas.

Thank you very much for the opportunity to testify on this bill. Thank you especially to Senator Lincoln from all your friends in Arkansas for all the wonderful conservation projects you do there and when we have conservation challenges for bringing everybody

together to come up with a workable solution. We really appreciate you. So thank you.

The Nature Conservancy really appreciates the work of this committee on this bill and strongly supports it, and I'd like to share an Arkansas example which illustrates a successful restoration project and illustrates why we think this legislation will work.

Our experience in Arkansas is similar to the rest of the country. After 70 years of fire suppression, our historically open woods became dense causing a significant increase in wildfires and also outbreaks of the sort of beetles that the previous panel discussed, leading to over a million acres of all of our oak trees dying, and it really alarmed the people of Arkansas, and fortunately Senator Lincoln came to the rescue and with Senator Crapo held hearings in the Senate Ag Committee and many people from Arkansas were galvanized by these hearings and they felt like they had to do something and so we formed a team called the Ecosystem Restoration Team, Federal agencies, State agencies, private organizations, this great group of people, with the goal of developing large landscape scale restoration projects on the ground, 50,000 acres and greater.

What we did was two things. First, the team agreed on what we felt the woods should look like, and the second thing we did is tried to meet other partners who were doing this work on the ground and we picked one from the Ozark National Forest, the Bayou Ranger District, and some people that wanted to do this sort of work and we selected them not so much based on the place but more based on the people and who they were because they had significant experience, they had had successes on the ground, and they had a vision for how they were going to open up the woods into the future, and then we worked together on a very simple plan which they included us in that included on-the-ground monitoring and then went to the Forest Service and asked them to focus and prioritize the resources to this project which they did, which we're very appreciative of.

So, the staff on the ground got to work doing the prescribed burns, the mechanical treatments and since 2002, they have treated of this 60,000 acre project about 90 percent of the lands and the results from the monitoring are very clear. There's a significant decrease, open woods, significant decrease in the density of the woods. There's a significant decrease in the wildfire risk. There's a significant increase in the abraded layer and the diversity of the site and in general it's just a much healthier forest.

Most importantly, this project was just the beginning and so now it consists of about a 110,000 acres that includes the Buffalo National River, State wildlife management areas, and numerous private landowners, and this project was really an inspiration. It's led to six other very large projects in Arkansas and many small ones that cover over a half a million acres, all of them with treatments on the ground, so that today we have nearly a 100,000 acres in the open desired condition.

The team faced several challenges, three. First, we found that the agencies really had a very difficult time prioritizing the projects and providing enough resources to achieve restoration at a sufficient scale.

Second, the project was set back several years by fire borrowing which brought everything to a halt as the Forest Service tried to fund the fire suppression costs, and finally, the cost of the mechanical treatments is very high because there's no market in Arkansas, Ozarks, for small diameter hardwood stems.

So, in summary, our experience in Arkansas reflects that these unhealthy forests, it's not just a Western problem, it's really a national problem, and we feel that this bill would address many of the causes and the problems and would be a great opportunity to get more treatment on the ground.

Thank you very much.

[The prepared statement of Mr. Simon follows:]

PREPARED STATEMENT OF SCOTT SIMON, ARKANSAS STATE DIRECTOR, THE NATURE CONSERVANCY, LITTLE ROCK, AR

The Nature Conservancy is an international, nonprofit organization dedicated to the conservation of biological diversity. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Our on-the-ground conservation work is carried out in all 50 states and in more than 30 foreign countries and is supported by approximately one million individual members. The Nature Conservancy has protected more than 117 million acres of land and 5,000 miles of river around the world. Our work also includes more than 100 marine conservation projects in 21 countries and 22 U.S. states.

NEED FOR THE FOREST LANDSCAPE RESTORATION ACT

Millions of acres of publicly-owned forests are in poor health, putting people and nature at risk. These forests protect our drinking water, help regulate our climate and shelter wildlife. But across the country, many of our national forests and other public lands are overgrown and choked with vegetation as a result of past land management practices and fire exclusion. Unnaturally dense forests are more vulnerable to severe wildfire and destructive pests such as bark beetles which threaten forests in many places throughout the nation. Climate change is an additional stress to unhealthy forests, with longer wildfire seasons and winters that are warm enough for pests such as bark beetles to keep reproducing.

Many forests in the South and Western states depend on a certain amount of fire to maintain their health. However, fire exclusion and other factors have altered this natural balance and caused a build-up of trees and other vegetation that today are fueling unnaturally severe fires. The scale of this problem is illustrated by a recent study that showed that fire and ecological conditions across 80% of the continental U.S. have been moderately or highly altered.<sup>1</sup> Seven of the worst ten fire seasons since the 1950's have occurred in just the last 11 years.<sup>2</sup>

Unnaturally severe fires put communities and livelihoods at risk and devastate forests. In 2002 the Rodeo-Chediski burned nearly half a million acres in Arizona and caused 30,000 people to be evacuated. Also that year, the Biscuit fire burned 499,570 acres in Oregon and the Hayman fire in Colorado burned 137,760 acres and 600 structures were lost. In 2007, the Georgia Bay complex burned 441,705 acres and 9 homes.

Fire suppression costs are sky-rocketing. The USDA Forest Service spent \$1.5 billion on fire suppression in 2006. In fiscal year 2008 the Forest Service is spending 46% of its budget on wildfire suppression and other fire-related activities,<sup>3</sup> compared to 13% in 1991. These trends threatened to transform the U.S. Forest Service into the U.S. Fire Service. Expensive fires means agencies cannot fund their other programs.

Forest treatments provide the opportunity to reduce severe fire risk, restore forest health and stimulate local economic activities. For forests that are unnaturally

<sup>1</sup>Blankenship, K., A. Shlisky, W. Fulks, E. Contreras, D. Johnson, J. Patton, J. Smith and R. Swaty. 2007. An Ecological Assessment of Fire and Biodiversity Conservation Across the Lower 48 States of the U.S. Global Fire Initiative Technical Report 2007-1. The Nature Conservancy, Arlington, VA.

<sup>2</sup>www.nifc.gov

<sup>3</sup>USDA Forest Service, Overview of FY 2008 President's Budget, Forest Service Budget Justification.

dense, removing the build up of small trees, based on ecological principles, helps reduce the excess vegetation that fuels unnaturally severe fire and creates the spaces that certain tree species need to grow and thrive. The woody biomass removed by thinning can be used by small wood processing industries to develop a wide range of products from solid wood items like flooring and furniture to products from waste material like electricity and wood stove pellets. Developing new markets for the by-products of thinning provides an economic boost to communities in rural areas that have suffered in recent years due to the decline of wood-processing industries.

Current treatments to thin trees and reduce fuels in publicly owned forests are not happening at a scale which will restore forest health. Over the past four years, federal land management agencies have treated on average three million acres annually, an amount that represents only two percent of the total lands that need to be treated to restore forest health. Most treatments have not been at a scale that will restore health to our public forestlands. Stewardship contracting is tool that was developed to advance forest restoration, yet after four years, the average area of land treated is only 750 acres for a 10-year stewardship contract. These small contracts are not sufficient to sustain the industries that process woody biomass. Only three restoration projects over 10,000 acres have been carried out using stewardship contracts. Under the current approach, few, if any, projects receive sufficient funding to stimulate economic development and create stable markets for the products of thinning treatments.

#### STRENGTHS OF THE FOREST LANDSCAPE RESTORATION ACT

The legislation will establish a Forest Landscape Restoration Fund of up to \$40 million annually, available on a competitive basis, for up to 10 years of landscape-scale fuels treatments on National Forest and DOI agency lands. We believe that making funding available via a competitive process, to those projects that meet a set of national eligibility criteria, coupled with approval by the Secretaries of Agriculture and the Interior and advice from Science and Technical Advisory Groups, is an appropriate process and one that builds upon some of the most successful elements of the Collaborative Forest Restoration Program in New Mexico. We think it is especially important that eligible landscapes demonstrate a high level of match between the federal investment in fuels treatment and private investment in infrastructure and capacity building.

The Nature Conservancy uses the phrase “enabling conditions” to describe how we choose among the many places we could invest. Our organization achieves success by working in places where biodiversity conservation matters, but we are also careful to pick places where all indications are that success can be achieved. We believe that the eligibility criteria in the Forest Landscape Restoration Act will serve as an effective screen for enabling conditions.

In particular, we support the criteria in the legislation requiring that eligible landscapes must have:

1. Science-based determination of forest health need.
2. A collaborative process in place and the scale of landscape to be restored is 50,000 acres or more.
3. Wood-processing and restoration infrastructure is in place or planned.
4. Collaboratively developed ecological restoration plan is substantially completed.
5. Capacity to complete NEPA analysis is demonstrated for some portions of the landscape.
6. Potential for cost savings in treatments and fire suppression.
7. Evidence of significant non-federal investment in capacity building, infrastructure or treatments.

Some have asked where the funding for the Forest Landscape Restoration Fund will come from. The legislation appropriately targets \$40 million of the Hazardous Fuel Reduction line item to these high priority landscapes. We believe this is a good investment. Furthermore, the amount of increases in the Senate Interior Appropriation bills for this line item over the past few years is roughly equal to the amount authorized for the Fund.

We also believe that the Fund creates an incentive for land managers to develop strong projects that meet the eligibility criteria, even if only a few receive funding. This effect has been demonstrated in New Mexico, where after seven years the Collaborative Forest Restoration Program has stimulated many projects that meet the criteria even though only small number are funded each year.

## RESTORATION EXPERIENCE IN ARKANSAS SHOWS WHY FLRA IS NEEDED

The experience in Arkansas with declining forest health is similar to other states. The story is familiar: seventy years of fire suppression resulted in a denser forest. In the Ozark Mountains, the increase was from an average of 52 trees per acre to 148 trees per acre, with many areas having 300-1,000 stems per acre. These forests became increasingly unhealthy as more trees compete for the same amount of nutrients and water. The effect was uncharacteristic wildfires and outbreaks of native insects and diseases that resulted in 1,000,000 acres of dead oak trees.

After a hearing held in 2002 by Senator Lincoln, to focus attention on these indicators of unhealthy forests, Arkansas Game and Fish Commission, The Nature Conservancy, US Forest Service, and a variety of agency partners and other stakeholders formed a team (the Oak Ecosystem Restoration Team) to collaborate on large-scale restoration projects. The team agreed on the desired ecological condition they wanted to achieve and used that as a foundation for their work together. The team came up with a simple but elegant implementation plan that included monitoring. Resources were purposefully concentrated initially on a large 60,000 acre demonstration area in the Ozark National Forest, rather than spread across the Bayou Ranger District's 280,000 acres.

The team implemented the restoration plan and achieved the desired ecological condition on much of the landscape. Since 2001, ninety percent of the demonstration area has had a mechanical or prescribed burn treatment. More than a third of the acres have received multiple treatments, such as more than one burn or a combination of mechanical thinning and burning.

The monitoring plan has been implemented, providing the team with data to show that the restoration treatments had the expected effects: increased plant diversity and forage production, lower intensity fires, fewer trees per acre, and a healthier forest. The monitoring program was seven percent of the total cost and worth the expense. The data, in combination with public outreach through pamphlets, presentations, field tours for policy makers and others, and information panels at demonstration sites, has helped convince the skeptics and build support for this large scale of restoration.

Since the early success of the original restoration project, this project has grown to over 110,000 acres and now includes National Park Service, State Wildlife Management Areas, and private lands. The restoration treatments are implemented jointly. Most importantly, the demonstration landscape was used as an example for six additional restoration projects. A total of 600,000 acres of treatment are in progress in Arkansas and showing similar results, with today over 100,000 acres in the desired open oak woodland condition.

The team in Arkansas did face three major challenges in accomplishing this work. First, the agencies have a great deal of difficulty prioritizing projects and concentrating resources. Even though this landscape project was identified as a priority, the team struggled every year to keep the resources concentrated on the demonstration project. Second, the project was set back every year by "fire borrowing," when the Forest Service had to divert its project funding to cover the fire suppression costs. Each time these allocated funds are diverted, the work comes to a halt. The Nature Conservancy's crews try hard to keep the projects going anyway, adding resources and personnel to make sure the treatments continued. Finally, the cost of mechanical treatments is high, and there is no current or historical market in the Ozarks for small-diameter hardwood stems.

The experience in Arkansas reflects the fact that unhealthy forests and altered fire regimes are not just a western problem. The solutions found in Arkansas are widely applicable to fire-dependent ecosystems across the nation. The three challenges in Arkansas are also broadly reflective of barriers faced everywhere that landscape-scale ecological restoration is attempted. The Forest Landscape Restoration Act will address the key needs of such projects.

## SUMMARY

The Nature Conservancy is strongly supportive of the four anticipated outcomes of this legislation:

- 1) Create approximately 10 large-scale examples where targeted investments in ecological restoration and prioritized use of the Hazardous Fuel Reduction line item will help get ahead of the problem of escalating fire suppression costs on overgrown federal lands.
- 2) Stimulate markets for small diameter wood and biomass by creating conditions, in the selected landscapes, for stable levels of restoration. Once these

markets are established, the anticipated outcome is reductions in the per-acre treatment costs.

3) Establish a positive incentive for federal land managers to develop and implement collaborative, large-scale restoration projects that are based on agreed-upon science, and provide woody by-products to forest industries. That positive incentive is access to consistent funding.

4) Finally, the legislation will create a direct linkage between federal investment in hazardous fuels reduction, private investment in wood processing infrastructure, and philanthropic investment in capacity building. This would leverage all three sources of funding to address the need of improving forest health.

Thank you for the opportunity to present this testimony. I would be pleased to answer any questions you may have.

Senator Lincoln [presiding]. Thank you, Scott. We appreciate it. I certainly appreciate your thoughtful and kind words, and one of the things I'm so proud of are the multiple emblems that were on that last poster which really does indicate team work, folks coming together and really working hard together for the good of everybody.

So, we appreciate your leadership in helping to make that happen.

Mr. West, thank you and welcome to the committee.

**STATEMENT OF CHRISTOPHER I. WEST, VICE PRESIDENT,  
AMERICAN FOREST RESOURCE COUNCIL, PORTLAND, OR**

Mr. WEST. Thank you, Senator Lincoln. For the record, my name is Chris West. I'm Vice President of the American Forest Resource Council, a forest products trade organization that represents nearly 80 forest product manufacturers and landowners in the Western United States.

My testimony today not only reflects the views of AFRC but those of the Associated Oregon Loggers, Douglas Timber Operators, and Washington Contract Loggers. Our collective members represent loggers, sawmills, co-gen facilities and forest landowners that are committed to the ecological and economic and social stability of our western forest communities.

We appreciate the opportunity today to discuss our thoughts regarding the Forest Landscape Restoration Act.

This committee and the Subcommittee on Public Lands and Forests has heard from a long list of distinguished forest ecologists, silviculturists, and land managers who have stated that we can and desperately need to get back to the business of managing our western forests.

Current landscape conditions are a result of both manmade and natural factors, but rather than dwelling on the past, we believe we need to start restoring the land to conditions that are both sustainable and resilient not only to wildfires but also to climate change.

This Act will help improve and enhance numerous forest values while also providing an opportunity of certainty and predictability that forest products and biomass energy businesses need.

Today, we are still losing mills across the West and in many places are in danger of losing the last infrastructure. For example, one of my members has a mill located in Central Oregon and they've been shut down for weeks at a time due to the lack of logs and they sit in the middle of a Federal forest that is overstocked and in need of thinning.

The company has vested millions of dollars into small log technology and can handle a log to five inches in diameter, but without a predictable and consistent flow of projects, they cannot afford to invest in state-of-the-art logging equipment, mill technology and biomass energy facilities, and this legislation will help provide some of that certainty that our industry's entrepreneurs can take to their bankers and investors.

We support the goal of restoring priority forest landscapes through a collaborative and science-based approach. To accomplish these goals, we need to have that meaningful discussion, like Scott mentioned that they had at the local site-specific level, where environmental conditions and ecological opportunities can be fully vetted by the stakeholders and natural resource professionals.

A one-size-fits-all approach from Washington, DC, won't result in quality work on the ground and we're thankful that this legislation avoids that temptation to legislate prescriptive solutions.

We'd offer several suggestions for increasing the effectiveness of this, and the first one deals with the authority given to the Forest Service and BLM around stewardship contracting.

Many of these projects will produce byproducts, saw logs, fenceposts, fuel wood, biomass that clearly have value but won't pay their way out of the woods. Stewardship contracting authority allows the Federal agencies to trade goods for services and thus reduce the cost of accomplishing the work. Unfortunately, this authority expires in 2013 and we would ask that under this bill it be extended.

The second issue that needs to be addressed deals with the current Federal Acquisition Regulations and Chief Kimbell had a discussion with Senator Tester about this, and I think they fully discussed the issue, but there is a solution out there and Senator Kyle has proposed legislation, S. 2442, that addresses the situation and will fix it so that we don't have to set money upfront, aside to cover just in case the contracts get canceled, and so we'd ask that that language be included in the bill.

Finally, since much of the restoration work done under this Act will result in low-value material that may only be suitable for biomass energy, we would ask that 2593 amend the definition of renewable biomass that is in the Renewable Fuels Standard of the Energy Bill that was passed in December.

The Renewable Biomass language inserted in the Energy bill by the House of Representatives is a travesty. We have millions of acres of Federal forests that are in desperate need of restoration with the potentials of millions of tons of biomass, yet the current law would not allow this material to count toward a renewable fuel standard and without the credits associated with that standard, investors are going to be hard-pressed to undertake any new ventures in woody biomass energy.

That concludes my prepared remarks, and I'd be happy to answer any questions.

Thank you.

[The prepared statement of Mr. West follows:]

## PREPARED STATEMENT OF CHRISTOPHER I. WEST, VICE PRESIDENT, AMERICAN FOREST RESOURCE COUNCIL, PORTLAND, OR

Good afternoon, Chairman Bingaman, Ranking Member Domenici and members of the Committee. For the record my name is Chris West. I am the Vice President of the American Forest Resource Council (AFRC), a forest products trade organization representing nearly eighty wood product manufacturers and forest landowners in the western United States based in Portland, Oregon. Growing up in communities across the West, I am a second generation forester and attended the University of California at Berkeley where I earned a Bachelors of Science in Forestry and a Masters of Forestry in Forest & Wildlife Management Planning. My testimony today not only reflects the views of AFRC's membership, but also those of the Associated Oregon Loggers, Douglas Timber Operators and Washington Contract Loggers Association. Our collective members represent loggers, wood product manufacturers, biomass energy producers and forest landowners that are committed to the ecological, economic and social sustainability of our nation's western forest communities. They also provide family-wage jobs that fuel rural economies. We appreciate the opportunity to discuss our thoughts regarding S.2593, the Forest Landscape Restoration Act.

This Committee and the Subcommittee on Public Lands and Forests has heard from a long list of distinguished forest ecologists, silviculturalists and professional land managers who have stated that we can and desperately need to get back to managing our western forested landscapes. As a result, the Committee already knows the great need for large-scale landscape restoration across the West. Current landscape conditions are a result of a variety of man made and natural factors, but rather than focusing on these, we would like to concentrate on what must be done to restore these forests. Some may want to dwell on the past, but we strongly believe that for the sake of our forest ecosystems, key watersheds, critical wildlife habitats and rural communities, we need to start restoring the land to conditions that are sustainable and resilient to not only catastrophic wildfire, but also climate change. If we, as a society, choose to continue an endless debate—allowing the judicial system to obstruct important projects while these vital ecosystems are devastated by unnatural catastrophic wildfires and insect epidemics—shame on us.

The Forest Landscape Restoration Act will help improve numerous forest values, but more importantly it will also provide the certainty and predictability of opportunities that forest products and biomass energy businesses need. Today, we are still losing mills across the West and in many places we're in grave danger of losing the last remaining infrastructure. The current poor housing market and the associated drop in lumber demand has resulted in a rash of sawmill curtailments and shut-downs, but over the last decade we've lost mills across the West, especially in the four corners states, simply due to a lack of supply. Moreover, many of these mills were the only infrastructure located in areas at high risk of catastrophic wildfire. One of our member's has a mill located in central Oregon, which has had to shut down for weeks at a time due to no log supply. This mill has invested millions of dollars in small-log technology and can take a log as small as five inches in diameter. It is nearly surrounded by federally owned, overstocked and unhealthy stands of trees at high risk of catastrophic wildfire and in desperate need of thinning. This is just one example of how we as an industry have adapted to changing times, utilizing the latest technology to maximize the consumer products that can be produced from smaller trees. But without a predictable and consistent flow of forest management projects, companies cannot afford to make investments in new state of the art logging equipment, small log milling technology or biomass energy facilities. S.2593 would help provide some of that certainty upon which industry entrepreneurs can take to their bankers and investors. This basic fact is incredibly important and often an overlooked reality in the discussions surrounding a forest restoration program. We must have large landscape scale projects to implement, not only to save our forests, watersheds and wildlife habitats, but to also save our rural communities and the infrastructure we desperately need to do this work.

We support the stated purpose of S.2593, which is to encourage the restoration of priority forested landscapes through a collaborative and science based approach. To accomplish these goals, there must be meaningful discussions at the local, site specific level, where environmental conditions and ecological opportunities can be fully vetted among diverse stakeholders with natural resource professionals and research scientists' input. A one-size-fits-all approach from Washington DC will likely result in tying the hands of land managers and diminishing the quality of work on the ground, therefore we thank you for leaving these decisions to the people in the field and avoid legislating prescriptive solutions.

The Forest Landscape Restoration Act builds on a solid foundation of earlier forest restoration legislation, specifically the Quincy Library Group Forest Recovery and Economic Stability Act (QLG) and the Healthy Forest Restoration Act (HFRA). QLG grew out of a local collaborative effort to treat the forest landscape over three national forests in an effort to reduce the size and intensity of catastrophic wildfires. HFRA was a bipartisan effort to treat 20 million acres of high risk forest ecosystems across the nation. Unfortunately, these two important legislative efforts have not resulted in the large landscape projects that our forests, watersheds, wildlife habitats and communities desperately need.

We would like to offer several suggested improvements to S.2593 with the goal of increasing its effectiveness of meeting the stated goals of restoring priority landscapes. First, a critical tool to accomplishing the restoration work envisioned by the bill is the Stewardship Contracting authority authorized by the Omnibus Appropriations Act of 2003. In so many site specific situations, the restoration work has by-products, such as sawlogs, fence posts, firewood and biomass that clearly have value but will not pay their way out of the woods. The Stewardship Contracting authority allows the federal agency to trade “goods” for “services” and thus reduce the cost of accomplishing the vital restoration work. Unfortunately, the Forest Service and BLM’s authority to use this important tool expires in 2013, therefore we request that this authority be extended under this Act.

Second, under current Federal Acquisition Regulation requirements there exists a government liability problem associated with Stewardship Contracting that if not resolved will likely limit the ability of the Forest Landscape Restoration Act to fulfill its desired outcomes. Specifically, these regulations require appropriated funds be obligated up-front to cover the government’s potential financial liability should a contract be canceled. Considering the Forest Service’s current dismal budget situation, this funding should be used to plan and implement other stewardship projects rather than being set aside to comply with an antiquated federal regulation. The Department of Agriculture’s Federal Acquisition Regulations must be amended to allow multiyear stewardship contracts to be satisfied at the time of cancellation by using appropriated funds. Senator Kyl has proposed legislation, S.2442, that addresses this situation and we would ask that this language be included in S.2593.

Finally, since much of the restoration work done under this Act will yield low value material that may be only suitable for biomass energy production, we ask that S.2593 amend the definition of “renewable biomass” in the Renewable Fuels Standard of the Energy Bill passed last December. The “renewable biomass” language inserted into the Energy Bill by the House of Representatives was completely nonsensical and illogical. AFRC and its members work in our federal forests, comply with the strictest environmental laws and regulations, and produce renewable and sustainable consumer products that Americans demand. We have millions of acres of our federal forests in desperate need of restoration, with the potential for millions of tons of biomass, yet current energy law would not allow this material to count towards the Renewable Fuels Standard. Without the credits associated with this standard, potential investors will be hard pressed to undertake new woody biomass alternative fuel ventures.

In conclusion, we are thankful that S.2593 recognizes that each area has its own unique values and challenges and that land managers, stakeholders, scientists and community representatives are best suited to plan projects through a collaborative, science-based approach. This concludes my prepared remarks. I would be happy to answer any questions you might have. Thank you.

**STATEMENT OF NATHANIEL LAWRENCE, SENIOR ATTORNEY  
AND DIRECTOR OF FOREST PROJECT, NATURAL RE-  
SOURCES DEFENSE COUNCIL, OLYMPIA, WA**

Mr. LAWRENCE. Thank you, Senator Lincoln. I’d like to thank you and the chair and the committee for the opportunity to appear today to give the views of the Natural Resources Defense Council on S. 2593.

You know, we certainly urge you to pursue this bill. We urge you to pursue the committee’s commitment to restoration of national forests. We hope that in the course of doing that, you will consider some specific suggestions in my written testimony about ways to enhance the chances of the bill to achieve its very laudable goals.

In short, the bill has many very positive features that I want to begin by flagging. It certainly shows a crucial understanding that forest restoration needs to be founded on and evaluated in light of the best available science that starts with the premise that decisions about how to use public funds on public lands are best made in a collaborative fashion and, where possible, done in a way that creates local jobs.

It recognizes that forest restoration is a broad and multifaceted undertaking. It's guided by the need, a very pressing need ultimately to reduce the out-of-control costs of fire suppression in this country in the national forests. It calls for critical monitoring and follow-up evaluation of the projects, and very importantly, it preserves the set of baseline environmental protection laws that guarantee disclosure and accountability and public participation in public lands decisionmaking and provides a safety net of our natural resources.

I want to focus my testimony today mostly on reasons why it's important to have some limits on restoration projects. Probably most importantly, thinning forests can actually increase subsequent fires rather than reducing them.

A very vivid illustration of this was the site that President Bush chose in 2002 for his announcement of the Healthy Forests Initiative. He stood among a stand of small badly burned trees and called for thinning our forests. What escaped attention at the time was that the fire that came up to that site started in thinned forests down below, thinned stands down below, where it blew up and came up the hill and toasted all of the trees there.

The reasons for this are multiple. Thinning forests creates fuels that fan wildfires. It opens up forests in a way that lets sun in and dries the forest interior which can cause hotter fires subsequently, and it increases wind speeds in forests which also dries things out, and can mean that wildfires move more rapidly.

Now, this is certainly not to say that thinning can't succeed. However, it does mean that it's really still in its experimental phase. Recently, Forest Service researchers stated very aptly that information comparing fire behavior and fire facts on various treated versus untreated forest stands following wildfire remains largely anecdotal and in point of fact, I only know of two studies of commercial and non-commercial thinning on national forests as actually done by logging crews in the field, studying how the thinned stands performed compared to neighboring similarly situated unthinned stands.

One of those studies took a look at a half a dozen fires and found that the thinning had reduced subsequent fire intensity; the other study showed that in every case in the fires it looked at, the thinning was associated with increased intensity afterwards.

So, it's an experiment and it needs to be treated as an experiment. What we do know from the science suggests a couple of sidebars that we hope the committee will keep in mind.

First, the best results we've got for this kind of thinning is in Ponderosa pine, particularly in the Southwest. Second, the best results are associated with removal of small trees without new roads and accompanied by the use of prescribed fire afterwards to clean up, and finally, the thinning that is going to be most accessible in

the long term, in our view, would be accompanied by vigorous efforts to make communities more fire-wise, to make homesites and communities able to withstand fire and the reason for that is that even a very low-intensity fire can burn houses, as happened in the Los Alamos fire in Northern New Mexico in 2003, when the fire entered the town as a low-intensity fire that left many ornamental shrubs and street trees in place but burnt many of the houses to the ground.

Until those communities are fire safe, it's asking more than I think is reasonable of fire bosses in the field to let fires burn, to reintroduce fires to the system, when they have to be concerned that a fire that gets out of control is going to turn into a community disaster.

We hope very much that the committee keeps these factors in mind as it moves S. 2593 through the legislative process, and we look forward to your deliberations.

I'd be happy to take any questions.

[The prepared statement of Mr. Lawrence follows:]

PREPARED STATEMENT OF NATHANIEL LAWRENCE, SENIOR ATTORNEY AND DIRECTOR OF FOREST PROJECT, NATURAL RESOURCES DEFENSE COUNCIL, OLYMPIA, WA

Mr. Chairman and Members of the Committee: Thank you very much for your invitation to appear today and offer the views of the Natural Resources Defense Council (NRDC) on S. 2593, the Forest Landscape Restoration Act. NRDC and its 1.2 million members and activists have a deep and abiding interest in the welfare of public lands in general and the National Forest System in particular. The degradation of those lands, which this bill aims to redress, is something we have longed worked to reduce.

We applaud your initiative, Mr. Chairman, and that of your bill's co-sponsors, in developing legislation to promote restoration projects for our national forests. The bill you have introduced is replete with positive features. The bill evinces an understanding that forest restoration needs to be founded on, and evaluated in light of, the best available scientific advice. It also starts from the premise that decisions about how to use public funds on public lands should be collaboratively developed and, where possible, create local jobs. It recognizes that forest restoration is a broad, multi-faceted undertaking. It looks, as it should, to ultimately reducing the out-of-control costs of wildfire suppression. It appropriately calls for follow-up monitoring and evaluation. And critically, it preserves the set of baseline environmental protection laws that guarantee disclosure, accountability, and public participation in public lands decisionmaking and provide a safety net under resource values. A central feature of the bill is its authorization of a limited number of projects. I would like to focus my testimony today, first and foremost, on the reason why having limits on this kind of restoration project is, for now at least, essential.

Members of this Committee are acutely aware that many of our national forestlands are significantly degraded. Despite substantial study and some demonstrable successes, however, we have only a limited understanding of how and where to try to remedy that degradation. As a result, in most regards, forest restoration remains a grand experiment. It is certainly one we need to undertake, but also one to approach with care and the knowledge that it can be done in ways that make matters worse, not better.

In particular, we have very fragmentary data about the fire ecology effects of forest restoration. In 2003, a U.S. Forest Service research publication reported that "the question of fuel treatment effectiveness has received surprisingly little scientific attention. Thus, neither existing theory nor available empirical evidence provides much clarity on the question of fuel treatments and the conditions that influence their effectiveness when tested by wildfire."<sup>1</sup> This was echoed two years later by fire

<sup>1</sup>Martinson, E. J. and P. N. Omi. 2003. Performance of Fuel Treatments Subjected to Wildfires, in Omi, P. N.; Joyce, L. A., technical editors. Fire, fuel treatments, and ecological restoration: Conference proceedings; 2002 16-18 April; Fort Collins, CO. Proceedings RMRS-P-29. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Research Station. pp. 7-8. See also

ecologists who noted that “replicated, empirical research on fuel reduction techniques are rare.”<sup>2</sup> And again, in 2006, Forest Service researchers stated that “information comparing fire behavior and fire effects on treated versus untreated forest stands following wildland fire remains largely anecdotal.”<sup>3</sup>

In the absence of good empirical data on which to rely, there is still, of course, a strong intuitive basis for thinning forests to restore manageable fire regimes. Removing flammable wood should, one naturally thinks, result in smaller fires. Our experience with fireplaces, wood stoves, and campfires supports this. And computer modeling of fuel loads and flame spread corroborates the idea as well.

In practice however, the picture is much cloudier. In the first place, taking wood out of forests can actually promote hotter, faster burning fires. Aggressive thinning that removes larger trees and reduces canopy closure is a particular problem. It opens up forests to sunlight. That warms and dries the understory, making it more readily burnable. It also promotes rapid ingrowth of flammable young trees and other plants, including non-native species. And all substantial thinning, even just in the understory, increases wind speeds in the forest interior. That both dries out the vegetation and leads to faster spread of wildfire and greater fireline intensity.<sup>4</sup>

In the second place, it is a mistake to conceive of western national forests as all overgrown thickets in need of thinning to restore prior forest structure and fire regimes. It is, of course, relatively easy to find thick stands of trees where selective logging, grazing, and fire suppression have altered western forests. And in drier sites, particularly those naturally dominated by ponderosa pine, and particularly in the Southwest and the Eastside of Oregon and Washington, fire ecologists have concluded that these stands are now prone to fire intensity and severity that is abnormal and damaging to the ecosystem.<sup>5</sup> Active restoration of these sites, if we can figure out how to do it successfully and without excessive collateral damage to the ecosystem, is desirable.

However, many other sites, particularly higher elevation and wetter forests, are adapted to intense, stand-replacing fires, and dense stands there represent healthy forests. For instance, “high density in lodgepole pine and spruce-fir forests is not related to fire suppression; it is simply a natural ecological feature of these subalpine forests.”<sup>6</sup> As a result, “variation in climate rather than in fuels appears to exert the largest influence on the size, timing, and severity of fires in subalpine forests. . . . We conclude that large, infrequent stand-replacing fires are ‘business as

Carey, H. and M. Schumann. 2003. “Modifying Wildfire Behavior-The Effectiveness of Fuel Treatments.” *The Forest Trust*. p. 16. Available at [www.theforestrust.org/images/swcenter/pdf/WorkingPaper2.pdf](http://www.theforestrust.org/images/swcenter/pdf/WorkingPaper2.pdf). p. 15 (“The proposal that commercial logging can reduce the incidence of canopy fire appears completely untested in the scientific literature”).

<sup>2</sup>Stephens, S. L. and J. J. Moghaddas. 2005. Silvicultural and reserve impacts on potential fire behavior and forest conservation: Twenty-five years of experience from Sierra Nevada mixed conifer forests. *Biological Conservation* 125:369-379. p. 370.

<sup>3</sup>Cram, D.S., T.T. Baker, and J.C. Boren. 2006. Wildland Fire Effects in Silviculturally Treated vs. Untreated Stands of New Mexico and Arizona. Research Paper RMRS-RP-55. Fort Collins, CO. U.S. Forest Service, Rocky Mountain Research Station. p. 1.

<sup>4</sup>Martinson and Omi, supra note 1. p. 7. U.S. Forest Service. 2000a. Final Environmental Impact Statement for the Roadless Area Conservation Rule (“FEIS”), volume 1. Online at: <http://www.roadless.fs.fed.us/documents/feis>. p. 3–110. Collins, B.M. et al. 2007. Spatial patterns of large natural fires in Sierra Nevada wilderness areas. *Landscape Ecology* 22:545–557. p. 554. Whitehead, R.J. et al. 2006. Effect of a Spaced Thinning in Mature Lodgepole Pine on Within-stand Microclimate and Fine Fuel Moisture Content, in Andrews, P. L. and B.W. Butler, comps., *Fuels Management-How to Measure Success: Conference Proceedings*. 28–30 March 2006; Portland, OR. Proceedings RMRS-P-41. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Research Station. Online at [http://www.fs.fed.us/rm/pubs/rmrs\\_p041/rmrs\\_p041\\_523\\_536.pdf](http://www.fs.fed.us/rm/pubs/rmrs_p041/rmrs_p041_523_536.pdf). p. 529. Keeley, J.E., D. Lubin, and C.J. Fotheringham. 2003. Fire and grazing impacts on plant diversity and alien plant invasions in the southern Sierra Nevada. *Ecological applications* 13:1355–1374. p. 1370. FEIS, supra this note, Fuel Management and Fire Suppression Specialist’s Report. Online at: [http://www.roadless.fs.fed.us/documents/feis/specprep/xfire\\_spec\\_rpt.pdf](http://www.roadless.fs.fed.us/documents/feis/specprep/xfire_spec_rpt.pdf). p. 21 (“Fahnstock’s (1968) study of precommercial thinning found that timber stands thinned to a 12 feet by 12 feet spacing commonly produced fuels that ‘rate high in rate of spread and resistance to control for at least 5 years after cutting, so that it would burn with relatively high intensity.’” “When precommercial thinning was used in lodgepole pine stands, Alexander and Yancik (1977) reported that a fire’s rate of spread increased 3.5 times and that the fire’s intensity increased 3 times”); id. at 23 (“Countryman (1955) found that ‘opening up’ a forest through logging changed the ‘fire climate so that fires start more easily, spread faster, and burn hotter”).

<sup>5</sup>Christensen, N, et al. 2002. Letter to President George W. Bush. p.1. Attached to this testimony as Exhibit 1.

<sup>6</sup>Romme, W. et al. 2006. Recent Forest Insect Outbreaks and Fire Risk in Colorado Forests: A Brief Synthesis of Relevant Research. Colorado State University, Fort Collins, CO. Online at [http://www.cfri.colostate.edu/docs/cfri\\_insect.pdf](http://www.cfri.colostate.edu/docs/cfri_insect.pdf).

usual' in this forest type."<sup>7</sup> Other forest types, like pin-on-juniper, often considered to be normally sparse also occur in dense stands naturally.<sup>8</sup>

In the mixed conifer systems found in much of the West, pre-settlement forest structure is hard to reconstruct with confidence. However, current fire patterns seem to be largely similar to those that pre-dated European settlement and the active management associated with most forest health problems. Researchers in southern Oregon and northern California, for instance, determined that in that region "most [recent] large wildland fires have been dominated by low severity fire, with variable proportions of moderate and high severity. This is consistent with historical estimates inferred from stand age structure."<sup>9</sup> Notably, they found that "closed-forest vegetation had significantly less high-severity fire than the burned landscape as a whole."<sup>10</sup> In the Sierra Nevada, scientists looking at recent fires allowed to burn in two mixed conifer wilderness areas concluded that there is little evidence that current fires burn differently from those of 100 to 300 years ago.<sup>11</sup> Others, looking at the Rocky Mountain region, from Wyoming through Arizona and New Mexico, concluded that fire regimes in mixed conifer forests had likely only been significantly affected at lower elevations, on dry slopes, and adjacent to grasslands.<sup>12</sup> Generally speaking, they concluded, "occurrence of high-severity crown fires is not outside the historical range of variability" in mixed-severity fire regimes of the region.<sup>13</sup>

Even in ponderosa pine, often taken as the paradigm case of a forest type in need of restoration, creating open stands with low intensity fires would match our knowledge of prior conditions in only some places. "Such historically sparse forests, subject to high-frequency [low-intensity] fires, comprise much of the ponderosa pine forest in Arizona and New Mexico but only a small fraction of the ponderosa pine forest in the central and northern Rockies."<sup>14</sup> More specifically, "less than 20% of the ponderosa pine zone in the northern Colorado Front Range appears to have been characterized by frequent, low-severity fires. Instead, most of the ponderosa pine zone was characterized by a variable-severity fire regime that included a significant component of high-severity fires."<sup>15</sup> A U.S. Forest Service publication reviewing ponderosa forests throughout the West found that "In most parts of the western United States there is also insufficient evidence to support the idea that mixed-or high-severity fires were or were not absent or rare in the pre-EuroAmerican fire regime. Thus, programs to lower the risk of mixed-or high-severity fires in ponderosa pine forests . . . have insufficient scientific basis if the goal is restoration."<sup>16</sup> Similarly, Forest Service researchers looking at dry forests in eastern Oregon and Washington found that historically there had been "mixed severity fire in all subregions and across the study area . . . Instead of strong dominance of low severity fires, we saw dominance of mixed fires of highly variable severity, representing a virtual continuum of mixed surface fire and stand replacement effects."<sup>17</sup>

Beyond the potential of thinning to backfire, and the widespread occurrence of forests where fire does not appear to be significantly altered, a third set of factors will likely influence restoration success. Most of the impetus for landscape restoration currently focuses on forest structures and fire regimes. Members of this Committee are well aware that human management and utilization has left a broad legacy of

<sup>7</sup>Schoennagel, T., T.T. Veblen, and W.H. Romme. 2004. The interaction of fire, fuels and climate across Rocky Mountain forests. *BioScience* 54: 661–676. p. 666.

<sup>8</sup>Romme, W., et al. 2003. Ancient Piñon-Juniper Forests of Mesa Verde and the West: A Cautionary Note for Forest Restoration Programs, in Omi, P. N.; Joyce, L. A., technical editors. Fire, fuel treatments, and ecological restoration: Conference proceedings; 2002 16–18 April; Fort Collins, CO. Proceedings RMRS-P-29. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Research Station.

<sup>9</sup>Odion, D.C., et al. 2004. Patterns of Fire Severity and Forest Conditions in the Western Klamath Mountains, California. *Conservation Biology* 18:927–936. p. 933.

<sup>10</sup>Ibid. p. 932.

<sup>11</sup>Collins, B.M. and S. L. Stephens. 2007. Managing natural wildfires in Sierra Nevada wilderness areas. *Frontiers in Ecology and the Environment* 5:523–527. p. 526.

<sup>12</sup>Schoennagel, T., T.T. Veblen, and W.H. Romme, supra note 7. p. 671.

<sup>13</sup>Ibid. p. 673.

<sup>14</sup>Ibid. p. 669.

<sup>15</sup>Romme, W., et al. supra note 8. p. 6.

<sup>16</sup>Baker, W.L. and D.S. Ehle. 2003. Uncertainty in Fire History and Restoration of Ponderosa Pine Forests in the Western United States, in Omi, P. N.; Joyce, L. A., technical editors. Fire, fuel treatments, and ecological restoration: Conference proceedings; 2002 16–18 April; Fort Collins, CO. Proceedings RMRS-P-29. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Research Station. p. 330.

<sup>17</sup>Hessburg, P.F., R.B. Salter, and K.M. James. 2005. Evidence for mixed severity fires in pre-management era dry forests of the inland Northwest, USA. *Association for Fire Ecology Miscellaneous Publication No.*, 3, 89–104. p. 101.

other restoration needs as well. Accordingly, the Forest Landscape Restoration Act wisely looks beyond the narrow issue of forest structure and fire susceptibility, requiring that restoration proposals address other landscape features that may call for rehabilitation. S. 2593, sec. 4(b)(3). However, even if the only goal were to restore manageable fire, these additional restoration needs would have to be addressed too. This is because several other forms of landscape damage have important implications for how forests grow and burn.

Roads, for instance, are associated with increased fire starts.<sup>18</sup> The Forest Service has found that “in areas already roaded, fire occurrence data for all causes, human and lightning, indicates that the number of large fires are dramatically higher than in inventoried roadless areas.”<sup>19</sup> Grazing, too, can profoundly affect fire, because cows and sheep crop forest grasses that otherwise would shade out tree seedlings and carry low intensity, brush-clearing fires.<sup>20</sup> Non-native plant species also alter fire regimes, interacting with them in ways that are both mutually reinforcing and complex.<sup>21</sup>

Given these confounding factors, and the current use of thinning for fire risk reduction in many forest types, it is not surprising that the results are mixed at best. As noted above, systematically gathered and analyzed data are still scarce (though anecdotal success and failure stories are abundant). However, we are beginning to get relevant information from some careful and meaningful studies.

In a few cases, review of thinned and similarly situated unthinned stands shows success at lowering fire damage. Martinson and Omi analyzed 6 small diameter, non-commercial and pre-commercial thins from Montana to California, and two prescribed burns. They found that all reduced fire severity relative to neighboring untreated stands.<sup>22</sup> Treatments that removed the smallest trees appeared most effective among the thinning plots; however, lower residual stand density did not correlate with lower fire severity.<sup>23</sup> At the Blacks Mountain Experimental Forest both pre-commercial and commercial thinning reduced fire effects, with the largest difference found where prescribed fire was also used; lower stand density was related to lower damage.<sup>24</sup> No stands with only prescribed fire were analyzed for comparison, however. More recently, Forest Service researchers analyzed treatment performance in three large southwestern fires. They found that treatment reduced crown damage, particularly when accompanied by prescribed burning, though thinning did not always result in lower tree mortality.<sup>25</sup>

The most striking contrary results come from a study of paired sites on national forests in the Sierra Nevada. The researchers took a comprehensive approach, reviewing all areas known to have been mechanically thinned and later burned, outside of experimental forests, between 2000 and 2005. They found that in every instance the thinned stands burned more lethally, irrespective of the time since thinning.<sup>26</sup>

Between these two extremes is the detailed analysis conducted of the Hayman Fire in Colorado. There, the results were very mixed. The authors found that “each of the different types of fuel modification encountered by the Hayman Fire had in-

<sup>18</sup> Christensen, N., et al. *supra* note 5. p. 2.

<sup>19</sup> U.S. Forest Service (2000a), *supra* note 4. p. 3–115.

<sup>20</sup> Belsky, A.J. and D. Blumenthal. 1997. Effects of Livestock Grazing on stand Dynamics and Soils in Upland Forests of the Interior West. *Conservation Biology* 11:315-327. Hicke, J.A. et al. 2007. Spatial patterns of forest characteristics in the western United States derived from inventories. *Ecological Applications* 17:2387-2402. p. 2388. U.S. Forest Service. 2000b. Protecting People and Sustaining Resources in Fire-Adapted Ecosystems: A Cohesive Strategy. Online at: [http://www.fs.fed.us/publications/2000/cohesive\\_strategy10132000.pdf](http://www.fs.fed.us/publications/2000/cohesive_strategy10132000.pdf). p. 15.

<sup>21</sup> Zouhar, K. 2003. *Bromus tectorum*. In: Fire Effects Information System. U.S. Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Online at: <http://www.fs.fed.us/database/feis/plants/graminoid/brotec/all.html>. Keeley, J.E., D. Lubin, and C.J. Fotheringham, *supra* note 4. p. 1370.

<sup>22</sup> Martinson and Omi, *supra* note 1. pp. 9–10.

<sup>23</sup> *Ibid.*, pp. 10–11. See also Christensen, N., et al. *supra* note X. p. 2 (“removal of small diameter material is most likely to have a net remedial effect”).

<sup>24</sup> Skinner, C.N., M.W. Ritchie, and T. Hamilton. In press. Effect of Prescribed Fire and Thinning on Wildfire Severity: the Cone Fire, Blacks Mountain Experimental Forest. Proceedings 25th Vegetation Management Conference, Jan. 2004, Redding, CA. Online at <http://www.fs.fed.us/fire/fireuse/success/R5/ConeFire-Skinneretal.pdf>. pp. 9–10.

<sup>25</sup> Cram, D.S., T.T. Baker, and Jon C. Boren, *supra* note 3. pp. 7, p. 13.

<sup>26</sup> Hanson, C.T. and D.C. Odion. 2006. Fire Severity in mechanically thinned versus unthinned forests of the Sierra Nevada, California. In: Proceedings of the 3rd International Fire Ecology and Management Congress, November 13–17, 2006, San Diego, CA. Online at: <http://www.emmps.wsu.edu/2006firecongressproceedings/Extended%20Abstracts%20PDF%20Files/Poster/hanson.pdf>.

stances of success as well as failure in terms of altering fire spread or severity," with prescribed fire showing the greatest success.<sup>27</sup>

The uncertainty that these studies embody is heightened by their temporal limitations. Restoration thinning will not be, on balance, successful and worth the investment, if it does not lower the risk of abnormal fire effects over a number of years. Manipulation of forest structure could decrease fire intensity at some point, but raise it at others. The period directly after thinning, for instance, is often a period of heightened risk from activity fuels that loggers leave behind. Similarly, opening forests by heavily thinning them may lower risks at some period, but increase them during drought or after a growth spurt among small trees and understory vegetation, stimulated by increased sunlight. Thus the limited snapshot provided by a small number of studies does not assure us that reduced fire impacts under one set of circumstances will translate into landscape level success if broadly applied.

One important exception should be noted to the very substantial uncertainty that exists about where and how to thin for fire risk reduction. We know quite a lot about how to make homes and other buildings survive fires. Thinning forests away from structures is not the answer. The Cerro Grande fire in Northern New Mexico vividly illustrates this. Shortly after the fire, Forest Service researcher Jack Cohen investigated the loss of 200 homes from the fire in Los Alamos. Cohen found that the fire entered the town as a low intensity ground fire. House after house burned to the ground while nearby trees survived. The cause was neither big flames nor wooden roofs, but flammable material on, adjacent to, and near the buildings.<sup>28</sup>

Cohen and others have shown that, while homesites that are not fire-ready are destroyed by even low intensity burns, well-prepared ones survive even very hot wildfires. NRDC has summarized the needed measures in a report submitted with this testimony and based on a study led by former California State Fire Marshall Ron Coleman.<sup>29</sup> In sum, trees have to be kept thinned within a few hundred feet of homes, vegetation and other flammable material must be pulled back from around buildings, and the roofs, siding, doors, vents, eaves, and windows of structures need to be designed or retrofitted to withstand heat and sparks. When these measures are taken, home survival is very high in any wildfire. Notably, thinning is needed across forest types in the homesite context. The issue is not restoration of natural fire frequencies and other ecological processes. Rather, it is reducing flame heights near structures, regardless of how fires would normally burn in the area absent human influences.

Securing lives and communities from wildfire is, of course, a very high priority in its own right. It also plays a very significant role in forest restoration. There is no debate that forest health problems are caused or exacerbated by fire suppression. The Forest Service has known since at least 1930 that putting out fires aggressively leads to bigger fires later.<sup>30</sup> So forest ecologists early on opposed the agency's "10 a.m." policy of putting out all fires by early the day after discovery, whenever possible.<sup>31</sup> But sure knowledge of long-term harm is, predictably, often outweighed by the near term threat of disaster. As long as fire crew bosses have to worry about a fire getting out of control and overwhelming some community, even a relatively remote one, we should not expect to break the cycle of suppression, threat, and suppression again that currently thwarts forest restoration, and breaks the agency's budget. In short, community fire preparedness is as critical an ecological issue as it is a human safety one.<sup>32</sup> And because fire suppression decisions forced by community exposure entail enormous budget outlays, it is also a key economic factor.

Several policy implications emerge from these studies.

- 1) Forest restoration needs to be approached as an experiment, with caution;

<sup>27</sup>Martinson, E., P.N. Omi, and W. Shepperd. 2003. Effects of Fuel Treatments on Fire Severity, in Hayman Fire Case Study, Graham, R.T., Tech. Ed. RMRS-GTR-114. Ogden, UT. U.S. Forest Service, Rocky Mountain Research Station. p. 96.

<sup>28</sup>Cohen, J. 2000. Examination of the Home Destruction in Los Alamos Associated with the Cerro Grande Fire, July 10, 2000. Online at: [http://www.nps.gov/fire/public/pub\\_publications.cfm](http://www.nps.gov/fire/public/pub_publications.cfm).

<sup>29</sup>Mall, A. and F. Matzner. 2007. Safe at Home: Making the Federal Fire Safety Budget Work for Communities. NRDC. New York, NY. Online at: [www.nrdc.org/safeathome](http://www.nrdc.org/safeathome).

<sup>30</sup>Benedict, M.A. [Supervisor of the Sierra National Forest]. 1930. Twenty-one years of Fire Protection in the National Forests of California. *Journal of Forestry* 28:707-710. Weaver, H. 1943. Fire as an ecological and silvicultural factor in the ponderosa pine region of the Pacific slope. *Journal of Forestry* 41:7-15.

<sup>31</sup>Cram, D.S., T.T. Baker, and Jon C. Boren, *supra* note 3. p. 1.

<sup>32</sup>Odion et al., *supra* note X. p. 935 ("Treating the home-ignition zone as described by Cohen (2000) can almost eliminate the possibility of homes burning in wildfire. This would increase fire-management options and perhaps ultimately further conservation goals").

- 2) Thinning currently appears most appropriate in southwestern ponderosa pine forests;
- 3) Small tree removal is safest and most likely to restore fire regimes;
- 4) Failure to burn when thinning lessens success;
- 5) Restoration requires addressing factors other than tree density; and
- 6) Securing homesites and communities is a prerequisite to restoration.

As the Forest Landscape Restoration Act moves through the legislative process, NRDC hopes that you, Mr. Chairman, and your Senate colleagues will consider refining the bill, to fully incorporate these conclusions. Recognizing the very substantial care, thought, and revision that have already gone into S. 2593, we would like to take this opportunity to suggest several specific areas to look at.

First, is the issue of project size. The bill specifies a minimum of 50,000 acres for each proposal. Sec. 4(b)(1)(B)(i). No maximum is given. We need reasonable limits on how much of the forest landscape to experiment with. This is partly to limit the risk from applying a discipline in its infancy. And partly it is to ensure that as experience is gathered, plans are rethought and lessons learned are applied. Limiting project size will also be important in keeping by-product utilization scaled to support restoration decisions rather than to drive them, as a large processing facility would likely come to do over time. From these perspectives, 50,000 acres looks more appropriate as an upper limit than a lower one.

Second, without a commitment to monitoring, we should not expect to learn from experience as much or as fast as we need to. The bill appropriately calls for monitoring for at least 15 years after implementation starts. Sec. 4(g)(4). The Achilles heel of all Forest Service monitoring, however, is funding. Every national forest has monitoring plans. Few if any are fully implemented. Proposals under this bill, or funding decisions by the Secretary under sec. 4(f), should commit to paying for the full suite of monitoring and analysis activities needed to understand how experimental restoration plays out over time and how to do it better next time. Congress needs to take away the option to let monitoring slip.

Third, the bill should ensure priority for projects most likely to meet with success. Based on what we now know, such projects will be in lower ponderosa pine sites, particularly in the Southwest, limit thinning—with few exceptions—to small diameter trees, include burning as a restoration treatment, reduce road density and grazing, and include or be coordinated with a Firewise or similar preparedness program in local communities. The bill has, now, features which should tend to promote such projects. These include the requirement that strategies incorporate the best available science and that up to 12 experts advise the Secretary on “the strength of the ecological case of the proposal.” Secs. 4(b)(1)(C) and 4(e)(1). The bill also mandates that collaborative processes “describe plans to” among other things use fire “where appropriate,” control invasive exotic species, and maintain or decommission roads. Sec. 4(b)(3). These provisions identify important aspects of restoration. They do not, however, assure that any of the priorities listed above will guide selection of proposals for funding or reliably be implemented. Congress, if it is to expect results and use scarce funds well, should not hesitate to require these project elements, subject to periodic re-examination by the Secretary in light of monitoring results and scientific advice.

Fourth, the experimental nature of this work dictates that essentially no one has a meaningfully proven track record. The proof that a given approach works under a specific set of conditions will only emerge over time. It is, at this point in time, not really possible, in the relevant sense, for a project-proposing collaborative process to have “an established record of successful planning and implementation of ecological restoration projects on National Forest System land,” as sec. 4(b)(2)(C) now requires. We therefore suggest dropping this requirement to avoid creating a needless dispute point during the bill’s implementation.

In closing, I would like to thank you Mr. Chairman, again, for the opportunity to offer this testimony. S. 2593 is a welcome move towards the start of a long and careful process of national forest landscape rehabilitation. It contains numerous provisions which will help strengthen such work as it is undertaken. In NRDC’s view, I would stress, where new funding is found to address forest restoration, our top priority should be on local community Firewise programs, without which forest restoration cannot succeed. We cannot break the expensive, self-reinforcing, and damaging cycle of fire suppression until communities can survive fire.

I would be happy to answer any questions which you or Members of the Committee may have.

*September 9, 2002.*

President GEORGE W. BUSH,  
*The White House, 1600 Pennsylvania Avenue, Washington DC.*

DEAR PRESIDENT BUSH: As fire researchers and ecologists, we are writing to you concerning the scientific basis for efforts to reduce risks from the kinds of forest fires that have attracted so much media and political attention in the western United States this year. As we elaborate below, responding effectively to this fire situation requires thoughtfulness and care. The fires are traceable to differing factors in different regions and forest types. Some have burned in forests where fire exclusion and land use have created unnatural accumulations of fuels while others have burned in a relatively natural manner. The most debated response to alleviating destructive fires in the future—mechanically thinning trees—has had limited study, and that has been conducted primarily in dry forest types. Thinning of overstory trees, like building new roads, can often exacerbate the situation and damage forest health. Whatever restoration measures are undertaken, preventing the re-emergence of fire problems will require a commitment to manage with fire rather than simply trying to exclude it in the future.

No single cause can explain the variety and number of fires occurring this year in western forests. In some drier forest types, such as the semi-arid ponderosa pine ecosystems, fire exclusion aided by grazing and logging has produced accumulations of highly flammable fuel well outside historical norms. However, in many western forests, including parts of the Siskiyou (mountains of the Biscuit fire), Sierra Nevada, Cascades, and Central Rockies, much of the undergrowth is primarily the product of succession from past logging and other disturbance, rather than fire exclusion alone. In other settings, like southwestern chaparral and the lodgepole pine forests of the Rockies, succession naturally produces highly flammable communities, and periodic crown killing fires are inevitable and ecologically desirable. Drought conditions such as those seen across much of the West this year can produce extensive fires even in areas where fuel loads are “normal.” In all of these areas, increased human activity and habitation on fireprone landscapes have greatly increased the chances of ignitions and the threats to people and their property when wildfires do occur.

We have no simple, proven prescription for meeting this challenge throughout the West. In semi-arid ponderosa pine forests effective restoration may result from cutting small-diameter trees in overly dense stands. However the benefits can only be realized and maintained in the long term through an aggressive post-restoration prescribed fire program that removes surface fuels. The value of thinning to address fire risks in other forest ecosystems is still poorly understood. Although a few empirically based studies have shown a systematic reduction in fire intensity subsequent to some actual thinning, others have documented increases in fire intensity and severity. Models and theories have been advanced to explain these results, but reliable data remain scarce.

In some areas the use of prescribed fire without any “thinning” would be the best restoration method. Indeed, many forests in the West do not require any treatment. These are forests that for thousands of years have burned at long intervals and only under drought conditions, and have been altered only minimally by 20th century fire suppression. These forests are still “healthy” and thinning would only disturb them, not “restore” them. In short, the variation among our forested landscapes is much too great for one treatment to be appropriate everywhere.

Where thinning is used for restoration purposes in dry forest types, removal of small diameter material is most likely to have a net remedial effect. Brush and small trees, along with fine dead fuels lying atop the forest floor, constitute the most rapidly ignited component of dry forests (young forest stands regenerating after timber harvest often burn with the greatest intensity in western wildfires). They most surely post-date management-induced alteration of dry forest fire regimes. And their removal is not so likely to increase future fire intensity, for example from increased insolation and/or the drying effects of wind.

In contrast, removal of more mature trees can increase fire intensity and severity, either immediately post-logging or after some years. These trees provide “insurance” because they often survive surface fires and can speed post-fire recovery. Even if they are diseased, dying or dead, large and old trees and snags are important to many wildlife species and ecosystem functions. Building or re-opening roads to facilitate thinning will also heighten fire risks, since roads correlate with increased numbers of human-started fires. Removing more than small trees and constructing roads will also make collateral damage to forest ecosystems more likely (e.g., through effects on water quality, fish populations, and the spread of invasive spe-

cies). Therefore, where done, this kind of thinning needs particularly careful planning and implementation. The results require faithful monitoring and analysis before any effort to extrapolate the practice to other segments of the forest landscape.

Forests are dynamic biological systems and their management requires integration of approaches over time and space. Thus, whatever remediation or restoration is undertaken in dry forests, close attention must be paid to the future management of the treated forests. Because of the inevitability of fire in these systems, the goal of restoration has to be landscapes in which we can better control the fires we do not want and promote the ones we do. However, without a thoughtful post-treatment prescribed fire management program, the forest will likely return to its current highly flammable state within a decade or two, losing—among other things—the public investment made in treating it.

The location of management treatments is similarly important. Strategic placement of management activities such as thinning and burning within landscapes is critical to accomplishing the most benefit with minimal ecological impact. As an important example, protecting buildings, powerlines, and water supplies will be most effectively accomplished by reducing fuels near them.

In summary, fire threats in western forests arise from many causes, and solutions will require a suite of treatments adjusted on a site-by-site basis. Enough experience exists to suggest areas such as the semi-arid ponderosa pine forests where we can, now, undertake corrective action. However, neither the magnitude of the problem nor our understanding of treatment impacts would justify proceeding in panic or without thorough environmental reviews. Moreover, whatever treatments we undertake must include provisions for long-term maintenance, integration of fire, and robust monitoring.

Very truly yours,

Norman L. Christensen, Jr., *Dean Emeritus and Professor of Ecology, Nicholas School of the Environment and Earth Sciences, Duke University*; Thomas W. Swetnam, *Professor of Dendrochronology & Watershed Management and Director of the Laboratory of Tree-Ring Research, University of Arizona, Tucson*; Don C. Erman, *Professor Emeritus, University of California-Davis*; David Perry, *Professor Emeritus, Ecosystem Studies and Ecosystem Management, Oregon State University*; *Affiliate Professor, University of Hawai'i, Hilo*; Penelope Morgan, *Professor of Forest Resources, University of Idaho*; Scott Stephens, *Assistant Professor of Fire Science, Department of Environmental Science, Policy, and Management, University of California, Berkeley*; Philip N. Omi, *Professor of Forest Fire Science, Colorado State University*; Lisa Graumlich, *Professor of Land Resources & Environmental Sciences, Montana State University*; William H. Romme, *Professor of Forest Sciences, Colorado State University*; Paul H. Zedler, *Professor of Environmental Studies, University of Wisconsin, Madison*; J. Boone Kauffman, *Professor of Fire Ecology, Department of Fisheries and Wildlife, Oregon State University*; Dr. William L. Baker, *Professor of Fire Ecology and Landscape Ecology, University of Wyoming*.

Senator LINCOLN. Great. Thank you, Mr. Lawrence. Mr. Gross, is that right?

Mr. GROSS. Gross.

Senator LINCOLN. Gross.

**STATEMENT OF HOWARD GROSS, EXECUTIVE DIRECTOR,  
FOREST GUILD, SANTA FE, NM**

Mr. GROSS. Thank you. Senator Lincoln and also thanks to the other members of the committee for the opportunity to testify here today about Forest Landscape Restoration Act.

My name is Howard Gross, and I'm the Executive Director of the Forest Guild.

The Guild is a national organization of more than 600 foresters and allied professionals who manage our country's forestlands and advocate for forestry as ecologically, economically and socially responsible.

Other organizations endorsing the Guild's testimony today are all partners in the Rural Voices for Conservation Coalition, Sustainable Northwest, American Forests, Watershed Research and Training Center, Wallowa Resources, and Northwest Connections.

The Forest Guild supports the Forest Landscape Restoration Act. The need for the bill and the landscape scale approach it takes is well founded. The committee's heard excellent testimony from other witnesses today and over the years about the degraded conditions of our public lands and the lack of adequate on-the-ground progress in addressing these issues.

So, I won't to elaborate further on that, other than to reiterate the projects and the learning that would be funded by this bill are greatly needed.

Regarding the programs the bill would create for infused project eligibility criteria to endeavor to move beyond a focus on fuels reduction and various multiple forest values, build local business capacity and benefit rural communities.

Such criteria require that projects under this bill use a collaborative approach, address ecosystem issues, such as wildlife habitat, water quality, invasive and exotic species and roads, utilize woody biomass and small diameter trees to offset treatment costs, and develop small business incubators and provide employment training opportunities.

The dedicated funding and 10-year program timeline defined by the bill are critical to providing the consistent supply of restoration byproducts for businesses to justify their investment.

There are a number of opportunities that the Forest Guild and its partners see for strengthening this legislation. The first, the focus on collaboration in the bill is welcome and very needed, but the collaborative language in the bill is a little overly restrictive.

We recommend it be modified to allow submission of projects from new collaborative efforts. These individuals have significant collaborative restoration success but maybe haven't worked together in the exact partnership that's making application under the program.

Second, the bill does not define how a regional forester would select proposals to nominate for this program, and we recommend that the bill be modified to require an open and competitive process at the regional level for selection of proposals.

Third, we feel that the bill's eligibility criteria and the selection criteria need to be more tightly linked. The eligibility criteria identify several ecological and rural economic and social objectives the project should plan to achieve and this is really positive, but the selection criteria should more specifically call for their consideration in the selection of projects.

Fourth, the bill currently identifies the scientific advisory panel that is required and a technical advisory panel that is optional, and we recommend combining these two panels into one required national advisory panel whose members have the diverse scientific backgrounds that represent all the bill's eligibility and selection criteria.

Then last but not least, we very much support the bill's focus on multiparty monitoring and on performance measures and outcomes, rather than simply on traditional outputs, such as acreage

treated, but these objectives would be better supported, as would the overall purposes of the bill, if there were greater clarity in the bill that funds can be used for effectiveness and implementation monitoring.

I think all of the testimony today from my fellow panelists has been really good. I haven't heard anything really contradictory to what this bill is trying to achieve, and I feel the committee has a strong consensus from the diverse stakeholders that this bill, with a couple of minor modifications, is very much needed and has a lot of support.

So with that, again thanks for the opportunity to testify. I hope this bill does become law and I would be happy to answer your questions.

[The prepared statement of Mr. Gross follows:]

PREPARED STATEMENT OF HOWARD GROSS, EXECUTIVE DIRECTOR, FOREST GUILD,  
SANTA FE, NM

Good morning Chairman Bingaman, ranking member Domenici, and other members of the Committee. I thank you for the opportunity to testify today about S. 2593, the Forest Landscape Restoration Act. My name is Howard Gross and I am the Executive Director of the Forest Guild.

The Forest Guild is a national organization of more than 600 foresters, allied professionals, and supporters who manage our country's forestlands and advocate for ecologically sound forest practices. Our mission is to practice and promote ecologically, economically, and socially responsible forestry—"excellent forestry"—as a means of sustaining the integrity of forest ecosystems and the human communities dependent upon them. The Forest Guild's roots in New Mexico go back 24 years in building, developing, and managing forestry-related programs with rural, forest-based communities and partners. In addition to our headquarters in Santa Fe, we maintain staff in Massachusetts, California, and Tennessee, and have volunteer coordinators in five other states.

The Forest Guild is also a member of the Rural Voices for Conservation Coalition (RVCC). RVCC is a coalition of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. Other RVCC partner organizations that endorse this testimony are Sustainable Northwest, American Forests, Watershed Research and Training Center, Wallowa Resources, and Northwest Connections.

On behalf of the Forest Guild and these organizations, I want to thank Senators Bingaman and Domenici, as well as other co-sponsors of S. 2593, for their leadership on forest restoration issues, for their hard work and thoughtfulness in developing this legislation, and for recognizing the connections between forest restoration, a sustainable small-scale timber-based economy, and the well-being of rural communities. Addressing complex ecological forest issues, improving agency effectiveness and efficiency, and promoting rural well-being are not easy tasks. We appreciate the opportunity to provide our input into this process and look forward to working with you to further develop this legislation to ensure it achieves its worthwhile goals.

The Forest Guild supports the Forest Landscape Restoration Act's intent of encouraging ecosystem restoration at the landscape level with a focus on reestablishing natural fire regimes, reducing the risk of uncharacteristic wildfire, leveraging local and private resources with national resources, and demonstrating how wildfire management costs can be reduced through the use of restoration by-products while achieving ecological objectives.

We are particularly enthused to see eligibility criteria that address a range of process concerns and values that are important in moving beyond a limited focus on fuels reduction and toward a more comprehensive approach to forest restoration. For example, several key eligibility criteria require:

- a collaborative approach to developing and implementing restoration projects (Section 4(b)(2)),
- plans to use woody biomass and small-diameter trees from restoration projects (Section 4(b)(3)(F)),

- plans to develop small business incubators and provide employment and training opportunities as means of providing economic and capacity building benefits for rural communities (Section 4(b)(3)(H)), and
- plans that specifically address other forest values such as wildlife habitat, water quality, and invasive and exotic species (Section 4(b)(3)(B, C, D)).

#### THE NEED FOR GREATER FEDERAL INVESTMENT IN FOREST RESTORATION

The conditions on our western forests dictate the need for a restoration program that takes a landscape-scale approach. The confluence of a number of factors—particularly a century of land use and management practices, including fire suppression, and a warmer climate and drought over recent decades—have helped make our forests prone to fires that are more extreme and far-ranging than historically experienced and that are causing profound changes to our forested ecosystems. These fire-prone conditions exist across millions of acres, presenting the need for strategies that address both high-priority areas such as Wildlands-Urban Interface (WUI) areas as well as larger landscapes.

While fire plays a necessary and important role in most forested ecosystems, many of our forest ecosystems need to be restored to more fire-adapted conditions before fire can play that role. The fact is that more forestland has burned in the last decade than in any ten-year period since record keeping began in 1960. These wildfires are consuming the U.S. Forest Service budget at an ever-increasing rate, while the agency's overall budget has remained relatively flat. As a result, the agency has had to allocate funding from other resource management programs to wildland fire management in order to keep pace. Over the last 18 years, funding for wildland fire management has increased from 13 percent to 45 percent of the agency's budget.

Furthermore, an increasing portion of the funding for wildland fire management is being allocated to wildfire suppression relative to fuels reduction and forest restoration activities. A major strength of the Forest Landscape Restoration Act is that it provides new strategies to focus federal financial resources on restoration in high-priority landscapes, to provide greater assurances that funding will be available over a ten-year period (allowing for a consistent program of restoration work on the land), and to provide greater incentives for private sector investment to build local business capacity based on the use of restoration byproducts, thus providing job opportunities and other economic benefits to rural communities.

In recent years, Congress has taken several actions to address growing wildfire and forest restoration concerns through federal collaborative efforts with states and local communities. Each of these legislative actions, such as the National Fire Plan, the Secure Rural Schools and Community Self-Determination Act, the Healthy Forest Restoration Act, and the Community Forest Restoration Act for New Mexico, has provided model approaches and demonstration projects through which lessons have been learned. Another one of the strengths of the Forest Landscape Restoration Act is that it has been informed by these models and lessons. It is addressing a major need identified through other projects to direct resources toward collaborative landscape-scale restoration projects and it is adopting a number of provisions that have been useful in other programs. Thus, this legislation is building from earlier programs and taking the next step in developing a model to address longer-term, landscape-scale restoration, primarily on federal lands. This is an important step towards our vision of developing a comprehensive forest restoration program that invests in ecosystem health across public and private forest lands, addresses a broad range of environmental values, and creates economic opportunities and benefits for rural communities.

We would also like to call attention to the challenge of providing long-term funding for Collaborative Forest Landscape Restoration Program projects. While we are very supportive of S. 2593 authorizing significant funding for the Collaborative Forest Landscape Restoration Fund, that level of funding is still subject to the annual appropriations process. If this bill becomes law, the resulting project proposals would be much stronger if there were greater certainty of a long-term funding commitment from Congress and the agencies so that businesses and communities would have greater incentive and less risk in investing in this program.

#### OPPORTUNITIES TO STRENGTHEN S. 2593

As stated earlier, we commend the Senators sponsoring this legislation for recognizing the need for landscape-level restoration linked with economic and social sustainability. We also appreciate the opportunity to provide the constructive input that follows regarding how this legislation can be strengthened.

1. Collaborative requirements need improvement.—We agree with the need to clearly define the type of programs that will be eligible under S. 2593, and we specifically support the focus on projects that have been developed collaboratively. However, Section 4(b)(2)(C) as currently written, requiring that collaborators proposing a project must have “an established record of successful planning and implementation of ecological restoration projects on National Forest System lands,” may be overly restrictive. Does this mean that a collaborative must already be in existence and the “record of success” must be that of the collaborative? What about entities that come together to make application under this legislation that individually have had significant collaborative restoration success but have never worked together in the exact collaborative that has come together to propose a project?

While we understand the importance of collaborative partners having experience and a track record, we also believe it is important for this program to encourage new collaborative efforts. We recommend that the project proponents’ collective collaborative experience be included as a weighted criterion in the selection process, but we do not believe that it should be an eligibility criterion.

2. Ensure the program is an open and competitive process.—We support S. 2593’s focus on landscape-scale and a 10-year horizon for planning, implementation, and monitoring. However, we believe the bill would be strengthened considerably if the following components were added. (a) The process that leads to a Regional Forester nominating proposals for selection by the Secretary (Sec. 4(c)(2)) should be an open and competitive process whereby new and existing collaboratives are given the opportunity to propose projects. (b) Every two years there should be request for new proposals that can be submitted to the Regional office through an open and competitive process. (c) The Regional offices should be encouraged to use a multi-stakeholder proposal review committee (similar to that used by the Collaborative Forest Restoration Program in New Mexico) to ensure broad regional agreement on priority landscapes and increase chances to leverage private, state, and other resources.

Incorporating the above will (a) ensure that projects are achieving their goals and/or adjusting to new circumstances, allowing true adaptive management to occur; (b) ensure adequate monitoring of the progress of collaborative efforts, and (c) provide added incentives for collaborative groups to approach restoration from a landscape-scale and to achieve ecological, economic, and social sustainability.

3. Proposal eligibility criteria and evaluation criteria need to be linked.—Connected to our recommendation 2 above to make the selection of projects under this program an open and competitive process, and to accomplish the landscape-scale objectives of S. 2593, we believe that the criteria spelled out as part of the selection process must mirror the eligibility criteria. Currently, the selection criteria (Sec. 4(d)(2)) don’t clearly match up with the eligibility criteria (Sec. 4(b)), especially criteria (B), (C), (D), (E), (H), and (I) spelled out under Sec. 4(b)(3) that identify multiple ecological and rural economic and social objectives that projects should plan to achieve. These are important criteria for comprehensive restoration projects, and if they are listed as eligibility criteria than they should be included in the selection criteria.

In addition, as S. 2593 now reads, Sec. 4(d)(2)(A) and Sec. 4(d)(2)(E) of the selection criteria are very similarly; the latter section could be modified to ensure that the selection criteria consider the eligibility criteria of Sec 4(b)(3) above.

4. Improve and streamline the Advisory Panel structures. The current bifurcation of the Scientific and Technical Advisory Panels (Sec. 4(e)), and requiring the Scientific Advisory panel (“The Secretary shall establish . . .”) but not the Technical Advisory Panel (“The Secretary may establish . . .”) doesn’t seem to support the integrative nature of S. 2593 (encouraging “ecological, economic, and social sustainability” (Sec. 2(1))). Thus, we have three relevant recommendations: (a) combine the two panels into one National Advisory Panel; (b) ensure the composition of the National Advisory Panel has diverse scientific backgrounds, include those with expertise in collaboration and community capacity building; and (c) enlist the National Advisory Panel to review progress being made and reported by projects funded through this program.

5. Clarification of use of funding for monitoring.—We support the focus on development of performance measures and outcomes, rather than simply traditional outputs, as well as the strong requirements for multi-party monitoring. We would like there to be greater clarity that funds can be used for effectiveness and implementation monitoring. It is not sufficient for the agencies to simply monitor process or to just collect traditional information based on old forest

management priorities. We need make it possible to collect meaningful information that will let the American public know that environmental conditions are improving and that local businesses are thriving by working to restore public lands.

6. Consider delivery mechanisms for technical assistance to projects.—This bill is extremely innovative in many ways. The projects selected will be pioneering new approaches to landscape-scale restoration and the development of value-added enterprises that will support this restoration work. There will be a need for on-going technical assistance related to collaboration, project design, business development, and other dimensions of implementation and monitoring. With the loss of the Economic Action Programs, the Forest Service has no way to deliver this assistance in a coordinated or effective manner. We strongly encourage the exploration of how to address these technical assistance needs proactively. Delivering such assistance will contribute to the success of projects funded through this legislation and will help build a robust program of work around comprehensive restoration across priority landscapes.

Senator LINCOLN. Thank you, Mr. Gross. Thanks to all of you all for being here and along with the first panel to assist us in trying to get it right. That's the whole purpose of these hearings and certainly our work, is not to create necessarily a work of art or at least one that we have too much pride in authorship in but one that is a work in progress and that's going to be beneficial to everybody and that is particularly those constituencies that we all have that thoroughly enjoy the forests and, of course, I grew up in the forests of Arkansas.

I grew up as a farmer's daughter but although my dad's profession was being a rice farmer, his love was turkey hunting in the St. Francis National Forest, and so I spent many a day walking through that forest with him and he knew every inch of it and loved every single inch of it. He grew up in it and as many Arkansans, we all very much appreciate the natural resources that we've been blessed with in our State, and I say that not just as someone who uses them for recreation but also, Mr. West, from our forest products industry and all of the different groups that work very, very hard.

I was proud of the emblems there to indicate the collaborative effort that we see and I have always been proud of the best management practices that have come about because everyone involved in using the forests comes to the table in Arkansas and that's important. Whether it's our loggers or our Forest Service, the National Forest Service, the State group or our Nature Conservancy and all of the other different groups that are affected come to the table and try to figure out the best way to both preserve and use our forests in a way that's going to be productive and sustainable for future generations because, as I said, most of us have grown up there and so we want to pass it on to future generations.

I have twin boys that are 11 years old and let me tell you, if there's anything they love, it is being out there in the woods, whether it's on the Buffalo River floating and camping, whether it's fishing on the Little Red or the White or out in the forest turkey hunting or just enjoying it.

So, we appreciate your input into what we're trying to do here and very grateful for your ideas.

Just a bit of housekeeping. Just in case, want to make sure that you all are definitely aware that there will be members of the committee that might like to submit questions to you and hope that you'll be prepared to answer the committee in writing and that's

something certainly we want to make sure that all members have the opportunity to do.

I also want to thank the chairman. Chairman Bingaman is a wonderful individual to work with and takes very seriously our opportunities here in the committee to be able to do good things and be progressive, and I appreciate the opportunity to talk about this bill and again some of the successes in my home State of Arkansas that we've had in implementing similar types of measures and again want to thank Scott Simon, our Arkansas State Director of the Nature Conservancy, for not only being here today but all the leadership he provides at home.

Our office has worked a great deal with Scott on a number of issues, including the Ivory-Billed Woodpecker, which my brother is still looking for. My father swore that that bird was still out there and so we're all still looking to get that photograph.

But we're very appreciative of your tremendous expertise and dedication to wildlife issues, Scott. We really appreciate that. We're truly lucky to have you in Arkansas and appreciate it and look forward to continuing to work with you on this and other pieces of legislation. We've got a lot to do.

As Scott had noted in his testimony, Arkansas undertook a similar effort in response to an outbreak of the Red Oak bore insects and, you know, it was amazing to me when I toured those forests to see the devastation that could happen just from that infestation of insects and what may have caused that in terms of the design of the forests and not being able to keep it in the appropriate manner that it needed to be kept in order to avoid those types of insect infestations.

The restoration project has been a success and it proves, I think, an important point, that forest health and fire management is not just a western issue. I spoke about that continually here in Washington to the extent that I got the attention of Senator Crapo who is delightful to work with on that and many other issues that I worked with him on and so hopefully we've been able to put to rest the common assumption up here that it's just a western issue.

Our forests are precious to us in the South. We're very proud of our forestlands in the South and we want to do all that we can to preserve it and so we do feel like we have equal opportunities in terms of the way that we can work collaboratively both as Westerners or Southerners or Easterners or anything else to ensure good practices that will sustain our forests for future generations.

So, we appreciate your testimony here today and certainly your interest in working with us.

I would like again to ask Scott, if you could share with us a little bit more some of the challenges that you faced in the project that we had in Arkansas, you know, if there were any challenges specifically that you want to make sure that we're aware of here that we don't have to repeat, and maybe if there are any other large cooperative restoration projects, like what we did in Arkansas, around the country that you might reference.

Mr. SIMON. Thanks, Senator Lincoln. Thanks for your always kind words.

The challenge is it really came down to, and it still happens today, it's just a challenge in prioritization with all the agencies,

and it also is, you know, wanting to spread the money around, but that when there's major fire suppression issues, borrowing the money from all of the projects and that's why we really support this bill because it would address much of that.

Another neat thing which we've learned over the past few years as we've developed and worked on our projects is that there are many of them around the country and approximately 80 that are similar to this.

The Forest Service and the Department of the Interior developed a process with the Nature Conservancy called The Fire Learning Network which has been very successful and it brings people together that are teams that are working on projects, like this one, in other parts of the country so they don't have to learn in a vacuum. They don't have to learn on their own. They develop plans and their teams will have State agencies, Federal agencies, private non-profits, tribes, timber companies, and then they evaluate each other's work, so that the plans are themselves successful and solid, and then they evaluate each other's progress as the projects develop.

So that in Arkansas, that's been really key to our success, is that we were able to get great feedback from New Mexico or Florida or California, so we didn't have to learn it all starting from scratch.

Senator LINCOLN. Which is great, as you said, and if we can learn from one another, it makes all the difference in the world. We don't have to go back to ground zero.

The stewardship contracting was mentioned, I think actually it may have been Mr. West that mentioned it or brought it up, but you might, Scott, mention if the contracting is working or if it didn't work or why it may have had complications in particularly the Ozarks when we were in this effort.

Mr. SIMON. Yes, ma'am. It's a really—the Conservancy believes that it's a very good idea, but it's been—there's been some challenges in implementing it. So, great idea, but on the ground a lot of the potential contractors are not bidding, and I think it's because of the bureaucratic rules related to it.

Even though the Forest Service staff are working very well with them, at least in Arkansas, but our small contractors look at that process and they just say that's just too much for me to handle. So, I don't think we have very many stewardship contracts in Arkansas because of that.

Senator LINCOLN. So, it's come to the hoops and whistles and everything else that they have to deal with on the smaller scale that's not even—doesn't make it that productive for them to engage in it?

Mr. SIMON. Yes, Senator.

Senator LINCOLN. Great. We've been joined by Senator Craig. So, my colleague, if you'd like to ask a few questions and I'll save a few of mine for later.

**STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR  
FROM IDAHO**

Senator CRAIG. Senator, thank you very much. I'll be brief. You gentlemen have been here awhile and I am late in coming, but let me thank all of you for coming and giving your thoughts as we struggle with this issue of how we manage our public lands in light

of some of the situations we've obviously begun to experience over the last good number of years.

I've been involved in the forestry issue here from a public land perspective for about 28 years, having chaired the Forestry Subcommittee on a variety of occasions. I'm now teaming up again with Senators Feinstein, Domenici, and Bingaman on this Act, not unlike we did to create Healthy Forests, and that has worked to some extent, and it has given us greater access to our forests in the environment in which we find them to begin to do remedies.

I would like to think that Mother Nature is kind and effective steward of her land, but when we hand it back to her after we've shaped it in the human image for decades upon decades, we've created extraordinary situations and in the West and in the Great Basin West that I'm most sensitive to, we have a phenomenal overpopulating of trees. We have sick, dead and dying forests as a result of a weakening health condition of these trees, based on drought, as a problem of over population per acre, therefore bug kill.

Senator Lincoln, a good number of years ago, in fact in the mid 1990s, a group of our best experts in the country gathered in Idaho just as a point of gathering and reviewed the forests of the Great Basin West and these were the best that the Forest Service and our colleges and our universities and land grant schools and our forestry colleges had to offer and they concluded that our forests were sick, dead and dying as a general statement and that if we did not engage in active management of those forests, that we would reap the whirlwinds of wildfires and for the last decade, that is exactly what we are reaping.

My State last year lost two million acres of forested lands, of watershed and wildlife habitat. We very fortunately avoided loss of property, but the grand old ski resort of Sun Valley was for a period of 2 weeks threatened by wildfires and as a result of those fires coming off from lands that are public, forested lands, just this last week, I was out there, and that city is now being handed a bill of \$5 million for the threat that the public lands and the stewardship of those lands that brought about a wildfire.

It's a bit of an irony. Now that we've saved you from ourselves, let us bill you. Pretty unique. Now we were pretty thankful at the time, obviously, but it is kind of a new reality today that we're experiencing that is very difficult in part to understand and, of course, as someone on the Appropriations Committee and the Authorizing Committee, we have for the last good number of years tried to figure out a way to change the old paradigm of funding because the old revenue flow's gone from our public lands, especially our forested lands.

It once was the cash cow that funded everything and put money in the treasury. It was called green sales. It's called cutting trees. But we've decided that's no longer a popular and politically correct thing to do and as a result Mother Nature's decided to cut them herself, but we get no revenue in return. We just spend a lot of money trying to stop her.

Last year in my State of Idaho, well known for its beautiful clear skies, there were probably more days of smoky valleys and high schools that started up in the fall whose kids couldn't go out on the

field and recreate because of the forest fire smoke settling into our valleys.

Now if that had been a private landowner burning, he would have been stopped by the EPA, but because it was Mother Nature burning, it was just OK, and Idahoans grow very frustrated by all of that and so we here collectively have struggled to try to decide how different to do that and how to deal with a variety of ways to not only reduce the overall costs, change the commands, do it in an appropriate way, make money go further, a whole combination of things that are tremendously important that we do, and, of course, this bill is another step in our effort to increase the treatments of the Federal lands in order to decrease the intensity or the severity of forest fires, decrease pests and disease, such as bark beetle, and provide for a defensible space for fire fighters, increased tree growth and regeneration.

Last year, in our effort to try to understand what we did or didn't do, this will give you an interesting perspective because I and the senator are involved directly now in the great debate over climate change and what is and what isn't and this Congress can do something. We've got three Presidential candidates out there at the moment that all hold a similar position that they will bring to the presidency and we're going to make some hard decisions about climate change.

Last year, the Federal lands released carbon into the atmosphere to the extent equivalent to 12 million automobiles on the road. It's a rather interesting figure, isn't it? Yet do you hear it talked about? Is this a great concern in climate change? I wasn't even allowed to bring a forestry amendment to the climate change bill for purposes of sequestration. Healthy forests, young forests are great carbon sinks. Old, dead and dying forests aren't because they already stored blocks of carbon and yet we're now ready to let that carbon be released back into the atmosphere.

It's an interesting dichotomy that we're all facing at this moment and, finally, after all these years of shutting down and locking up, we're beginning to recognize that, yes, management, stewardship, wise and reasonable approaches to these forest environments are something we ought to get about the business of doing and I guess we have to kind of crawl back into it slowly to regain the credibility that maybe we lost with the American public over the issue of forest management down through the years.

Hopefully that's what this Forest Landscape Restoration Act will allow us to do. I don't suspect that it's going to be sweeping if it becomes law and it probably shouldn't be, but maybe it's a few steps again down that path that allows the public to begin to understand what we all need to do collectively and that we really do need to allow our professionals to manage instead of to tie them up in court and keep them preoccupied with the legal process simply because some group just totally disagrees and has the power of the court to stop.

While we will do nothing in this bill about that particular situation, Senator Lincoln, hopefully we put it all together and over another decade or two, we'll by then have burned probably another 25 or 30 million acres. We will be able to get back to the business of reasonable management.

Now I don't mean to sound cynical, it's just simply a reality of where we are and what's going on out there, and last year, a tremendously difficult year fire-wise, billions of dollars spent and properties lost beyond control, beyond amazement, and lives lost, brave fire fighters always out on the edge of risk.

So, it's a struggle we deal with. You've all been here a long while offering your expertise and we need it as we collectively put together policy that hopefully moves us in the right direction to sustain this phenomenally valuable asset that we have as our Nation's forested lands and what it does for us.

Thank you.

Senator LINCOLN. Thank you, Senator Craig. Did you have any questions? I have a few more.

Senator CRAIG. I do, and I'll ask staff after a lot of questions have been asked, some of them may have been answered. If not, I'll submit them for response.

Senator LINCOLN. Great. All right.

Senator CRAIG. Thank you, all.

Senator LINCOLN. Thank you, Senator Craig. I just had a couple of quick questions I kind of wanted to get to and see if we couldn't throw them around.

I think it's been suggested both in your testimony here today and others that instead of having two technical advisory panels focused on specific aspects of the proposal, we should have one advisory panel to consider proposals in their entirety.

Any of you all have comment on that that you'd like to take further or express anything on?

Mr. GROSS. I did address that in my comments, and, you know, the required scientific advisory panel has more of the forest scientists on it, ecologists, and that's an important part of evaluating the projects proposed.

The technical advisory panel is stated as being optional in the bill, but I think the expertise that would be represented on that panel is also important in evaluating whether or not proposals under this bill truly take that comprehensive approach and have long-term business benefits and benefit the communities, too.

So, you really need that wide range of expertise—

Senator LINCOLN. But you'd still combine them?

Mr. GROSS. If you combine them, I think you'd get that.

Senator LINCOLN. Also, I think Mr. Lawrence and Mr. Gross, you both expressed concern about the bill's requirement that a collaborative group have an established record of success in planning and implementing forest restoration projects, and I think Mr. Simon, on the other hand, mentioned that provision as an important enabling condition or an indicator of success.

Maybe if the three of you all expand on those thoughts just a little bit?

Mr. GROSS. Sure. OK. The way the language is written now, it requires that a collaborative proposing a project have an established track record and my point was that there are a lot of entities out there, organizations, businesses that have worked in collaboration but maybe haven't worked together in the specific collaborative that would be making a proposal under this bill and I don't want to see them penalized or excluded.

So, if the evaluation or the selection criteria would look at the broad collaborative expertise that the partners have, maybe not necessarily in working together, you know, partner A and partner B have worked on this project and have proven they can collaborate and be successful and partner C and D have worked on another one and proven they can be successful, allow them to come together as a new collaborative and don't penalize them for that in this bill, so that this bill can encourage new collaboration.

Senator LINCOLN. OK. Mr. Lawrence.

Mr. LAWRENCE. Senator, it's NRDC's view that this is a provision that could create—could turn into a friction point that could create some controversy and some dispute among various groups and processes that are competing for scarce dollars here.

It's not hard to show that you have successfully collaborated on something and it's not terribly hard to show that you have, say, removed X number of miles of road or improved stream conditions by putting in X number or Y number of in-stream structures or created a forest structure that you started out to create by going out and measuring that.

But forest restoration, as I suggested in my testimony, is a tricky and experimental process and it's not something that you can measure in one snapshot in time. You may undertake a restoration project and get good results the first year after you did it but bad results 10 years later or vice versa and for that reason, I think that it's a little bit of an illusion to—and maybe just sets the bar too high to suggest that collaboratives come in and show that they've got a successful track record at restoration.

I think these groups ought to be evaluated on their ability to work together, on how good their plan is, whether they have addressed, you know, in hard-nosed fashion the requirements of having a business plan and so forth, but I think that it's probably not helpful and probably ultimately sends people off in a fruitless effort to show that they have actually successfully restored forests.

That's something that I think we have to judge years from now and not at the outset of the process.

Senator LINCOLN. Scott.

Mr. SIMON. Yes, Senator. The Nature Conservancy, based on what we've seen in Arkansas and other places around the country, just feel that collaboration and both experience were key factors in successful projects.

So, in some way, shape or form, in the proposed legislation, having that be part of it would satisfy our interests which could be done in many ways, and since it's a competitive process, the best proposals would win, would come forward.

Senator LINCOLN. Right off the top. Just a couple last things.

Mr. West, I think you mentioned the ability to use the fuel or whatever's left on the forest floor. I know the last several years in the budget that has been sent to us and that ends up coming out, lot of times the Forest Service is requesting resources that doesn't even meet half the need of what their management plan actually is, and I know that we've had difficulty because we get our mouths washed out with soap up here if we use the word "earmark" or we ask for anything special and yet we hear from our, you know, Forest Service industries, our forests, our national forest folks and oth-

ers that, you know, there's a lot more that could be done there that's not only productive for the economy but also productive for the Forest Service because the money that comes back as well as productive for the sustainability of the forests.

So, I hope that we can continue to work on that. It is definitely a place to make an investment, and I for one kind of keep bugging them over there and they know me when I call.

But your testimony mentioned that we need to restore our forests to more sustainable and resilient conditions, not only in the context of wildfires but also in the context of climate change, and certainly Senator Craig brought up the issue of climate change.

My view is that the best climate change strategy in the context of forest management is also to manage a healthy ecosystem. I mean, clearly, you know, the overall ecosystem is critically important to the forests and the forests to the system, and I think the bill reflects that.

We would certainly want your comments on that, what you think, and do you think the bill's on the right track from a climate change perspective, and would love to hear from the rest of you all on that as well.

Mr. WEST. We think it is, Senator, and I think to some of the other questions, too, I think we need to focus on the priority landscapes. That's where our first effort needs to look at. Where are the areas that need the most immediate work, triage-wise, and, second, do we have the resources in terms of people and collaborative efforts to do that?

I don't want to see us get bogged down in going and creating collaborative groups to create that and not focus on what we really need to do.

In terms of climate, just last week at our annual meeting, which was held outside of Portland, Oregon, we had one of the Nation's top bioclimatologists, and what that is, I believe, a person that studies the reaction or the relationship between the biota and climate, and he talked about using all the different projections of climate change from the range of a lot of temperature change into a moderate temperature change with different rainfalls and all those sorts of things.

His bottom line conclusion is that if we're going to have resilient forest ecosystems in the western part of the United States to deal with this unknown change that we're going to get, we need to make sure that the leaf area and needle area of our forests is related to the amount of moisture that we're going to have in those areas and what that tells me, for most of the inner West and parts of the South, is that we're going to have to reduce that leaf area and needle area to survive, to have forests that survive.

Part of that is going to be doing the things that this bill talks about, reducing as was done in Arkansas, reducing those thickets and getting it to a sustainable level, and when we do that, we can be putting carbon into long-term storage in terms of building products. We can be using some of this material into a renewable energy source that has a very low carbon signature and can offset those other energy sources that we're digging up from under the ground.

Senator LINCOLN. That's great. We hope so. It is kind of the unknown until we start taking some action up here.

Anybody else want to comment on the climate change?

Mr. GROSS. Sure. The Forest Guild has put quite a bit of time in the last year into educating ourselves and our members about the role of forests in sequestering carbon and also what we should be thinking about in the management of our forests, so as Chris is getting at, so we have forests 50 years, 100 years from now that reflect the climate.

I have a copy of that report I'd like to leave with you here.

Senator LINCOLN. Sure.

Mr. GROSS. OK. I think, you know, if the bill is successful in achieving the goals it sets out, achieving its purpose, then obviously we're going to have forests that are restored to a condition where they will persist, so that's carbon that's not released into the atmosphere, so that's positive for climate change, and continuing to have forests that can sequester carbon into the future is critically important.

There's a lot of other pieces of the puzzle out there, you know, regarding preventing forestland from being converted to non-forest use because we lose that carbon sequestration potential.

So, it's a complicated issue and I'd love to see the Senate and House really take it on.

Senator LINCOLN. Hopefully this bill will help us in terms of the overall climate change issue as we move forward.

Any other comments from the panel?

Mr. LAWRENCE. Just briefly. Sooner or later, I'll get this button.

You know, you're absolutely right that climate change is the X factor. You know, as much as we have to learn about forest restoration in general, we have vastly more to learn about climate change in terms of the scale of climate change, the pace at which it's going to take place, the impacts that it's going to bring, and we don't even know, you know, for much of the West whether we're going to get warmer forests or wetter forests as a result of climate change.

Certainly in terms of how to respond to and hedge against climate change, there's a huge amount that we really don't know. I think the best scientific thinking that I have seen on the subject suggests two things that are worth bearing in mind in the context of this bill.

The first is that forests that are more resilient will probably fare better as the climate changes. So that to the extent we can do it, that rolling back management problems, management abuses and creating forests that better accommodate natural disturbances, including fire, is a smart thing to do.

The second is that if we have parts of the landscape that will help us hedge against climate change, those are the large undisturbed areas that we still have remaining principally in the West. Those are the places which are best able to serve as bank accounts for species and for ecological processes to safeguard them and accommodate climate change over time where there's little loss of kind of key components as we can hope for.

Senator LINCOLN. From all the indications we seem to be getting, particularly most recently, I suppose, it seems as if the repercus-

sions of climate change are coming closer and closer to us as opposed to the 20 or 30 years we thought we had before we start seeing some real effects, whether it's the melting of the caps or the glaciers and everything else.

So, it seems to be speeding up and certainly these are the types of initiatives, I think, and programs that we need to get started that are going to help us curb some of that. So, we look forward to working with you.

Are there any other comments from the panel?

[No response.]

Senator LINCOLN. We appreciate again your expertise. We look forward to working with you. My hope is that we will move forward on something and as we do, we'll certainly need your input on that.

As I said, growing up walking through the St. Francis National Forest, one of the things—I was with the Forest Service when I did, and my dad was with me, and we left and I looked at him and I said, “Did they leave anything out?” and he said, “Well, the only thing they left out was this was pastureland about a hundred years ago.” He said, “You know, forests are to be managed and that's the way that you keep them healthy and that's the way that you keep them going.” He said, “Pioneers came through here and cut them down and used them for pastureland and then we all decided it was important to have them back in forestland and we managed it properly and we've got an unbelievable hardwood forest now back again and we can continue that, but it has to be managed.”

So, we'll look forward to working with you and again for your expertise in moving forward, making sure we get it right because it is definitely an integral part of the bigger picture of what we want to see happening, too, and I will remind you that, as Senator Craig and other members may have questions, we'd love to ask you to be prepared to answer any of those questions they may submit.

Thank you again for your time and interest. The committee's adjourned.

[Whereupon, at 4:30 p.m., the hearing was adjourned.]

[The following statement was received for the record.]

MONTANA LOGGING ASSOCIATION, MONTANA WOOD PRODUCTS ASSOCIATION,  
INTERMOUNTAIN FOREST ASSOCIATION, ASSOCIATED LOGGING CONTRACTORS.

*April 4, 2008.*

Hon. JEFF BINGAMAN AND PETE DOMENICI,  
304 Dirksen Senate Office Building, Washington, DC.

Re: Federal Landscape Restoration Act (S. 2593)

DEAR SENATORS BINGAMAN AND DOMENICI: We are writing on behalf of the Montana Logging Association, the Montana Wood Products Association, the Intermountain Forest Association and the Associated Logging Contractors of Idaho, representing more than 1000 independent logging contractors and professional forest practitioners. Our collective members represent loggers, wood product manufacturers, biomass energy producers/users and forest landowners that are committed to both the ecological and economic viability of our region's forest communities. Therefore, we appreciate this opportunity to offer our collective comments on the above referenced legislation.

First, we would like to applaud your efforts. As you know, there are millions of acres of Forest System Lands that are need of landscape scale restoration efforts. The goals of the Federal Landscape Restoration Act—even though ambitious—reflect an appropriate approach to forest restoration. To that end, we would like to offer the following comments:

In order for restoration activities to be successful, adequate funds must be appropriated in addition to the current national timber program capacity levels.

- An assessment of the Agency's current capabilities to implement such a program must be analyzed. It would be inconsistent to require the establishment of programs that require a certain level of capability, capacity and utilization if those critical components are absent or marginal.
- While we understand the focus on wildland fire mitigation, we also note that the emphasis on restoration of fire-drive ecosystems largely preclude other important restoration projects from consideration. Insect and disease infestations, weed and species encroachment, soil disturbance, age-class distribution all play an important role in restoring an ecosystem. Also, ignoring larger tree removal will not achieve restoration and will only drive up the cost of implementation. Therefore, we urge the expansion of the selection criteria to include these concerns.
- Restoration efforts should require monitoring with an emphasis on adaptive management as a result of monitoring.
- A risk assessment should be completed by the Agency and site selection criteria should compliment data found in current Forest Inventory Analysis or other fine spatial data.
- Also, we strongly recommend inclusion of pre-decisional appeals and expedited judicial review language, as provided in the Healthy Forest Restoration Act of 2003 (HFRA) Sections 105 and 106.
- Since this bill promotes restoration activities with an emphasis on biomass and small diameter tree removal, the economies needed to achieve this goal will require a broader landscape scale approach. As many of the pilot projects and/or future landscape scale restoration activities may use the Stewardship Contracting toll for implementation, we recommend giving permanent authority to the Stewardship Contracting tool that is currently due to sunset on September 30, 2013. Legislating permanent authority offers land managers and contractors necessary assurances that restoration activities will be sustainable. In addition, more emphasis must be given to utilizing current local workforce and infrastructure.

Again, we commend your efforts and appreciate this opportunity to provide comment, and look forward to working with you as this bill progresses through congress.

Sincerely,

KEITH OLSON, EXECUTIVE DIRECTOR,  
*Montana Logging Association,*  
 JIM RILEY, PRESIDENT,  
*Intermountain Forest Association,*  
 ELLEN SIMPSON, EXECUTIVE VICE PRESIDENT,  
*Montana Wood Products Association,*  
 SHAWN KEOUGH, EXECUTIVE DIRECTOR,  
*Assoc. Logging Contractors of Idaho.*



## APPENDIX

### RESPONSES TO ADDITIONAL QUESTIONS

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#### RESPONSES OF SCOTT SIMON TO QUESTIONS FROM SENATOR DOMENICI

Mr. Simon you mention 300,000 acres of oak dieback. I know there have been other major examples of forests being killed and damaged by weather events, but also insects and disease.

I know some in the public get nervous when the Forest Service proposes large-scale salvage projects when these events occur.

*Question 1.* Are you comfortable that the authorities proposed in this bill can be carried out quickly enough to address these catastrophes before the damaged forest products lose too much value?

Answer. The dead trees on the 300,000 acres in Arkansas affected by the oak dieback were not salvageable so the issue did not come up. Categorical exclusions were used on a couple of restoration units on the Ozark National Forest's Pleasant Hill Ranger District that had not gone through NEPA previously. The decision was faster but not necessarily better.

Our experience in Arkansas is that projects are held up when there is a lack of trust and that collaboration builds the trust needed to expedite project implementation. The authorities in this bill will be sufficient to get ahead of catastrophes if the collaboration is as strong as the bill requires.

*Question 2.* Might there be additional process-streamlining that we should consider in order to improve the ability of this legislation to help restore our federal forests?

Answer. The Nature Conservancy's experience is that process-streamlining is typically not needed when there is strong collaboration and the best available science is used to design projects. We believe that the eligibility requirements for the Forest Landscape Restoration Act will screen out controversial projects that might get tangled up in process requirements, and that additional process streamlining should not be needed to implement this Bill.

*Question 3.* You've heard Mr. West express his concerns about the pending termination of the stewardship contracting authority and the need to address the Forest Service's stewardship contracting liability issue.

Do you hold those views and would The Nature Conservancy support attempting to address both of these issues in this legislation?

Answer. The Nature Conservancy shares Mr. West concerns on the termination of the stewardship contracting authority and the need to address the USFS stewardship contracting liability.

The Forest Service's written testimony on FLRA described their best example of a stewardship contract to date, the 150,000 acre White Mountain Stewardship Project. The stewardship contracting authority created a tool to address forest health needs over landscapes of this scale—the scale necessary to make significant progress in addressing national forest health needs. We note that Region 3 was only able to fund that one large stewardship contract and that none of the other stewardship contracts nationally have exceeded 40,000 acres. It is our understanding that the need for the Forest Service to set aside funds for contingent liability is a significant barrier to large scale stewardship contracts. We therefore see that it is possible that loss of the stewardship contracting authority and the contingent liability for stewardship contracts could limit the Forest Service's ability to fully implement the Forest Landscape Restoration Act.

While The Nature Conservancy believes that these issues need to be addressed, we are not confident that the Forest Landscape Restoration Act is the best vehicle to address them. It is not clear that federal legislation is needed to address the contingent liability problem, versus modifying the Forest Service's policies for the Federal Acquisition Regulations, or whether simply reauthorizing the stewardship contracting authority as a sidebar to passage of the Forest Landscape Restoration Act

will encourage discussion on how to improve the mechanism and make it a more viable tool for restoring forest health.

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RESPONSES OF GAIL KIMBELL TO QUESTIONS FROM SENATOR DOMENICI

Chief Kimbell, one of the witnesses on the next panel is going to address the government liability issue regarding stewardship contract cancellations and the funding of these cancellations. We are hearing that some Regional Foresters and Forest Supervisors are leery of 10 year stewardship contracts because of the current contract cancellation liabilities.

*Question 1.* Do you think that the current system for satisfying the cancellation of multiyear stewardship contracting is reducing the field's willingness to utilize this contracting authority?

Answer. Stewardship contracting fosters federal contributions to the development of sustainable rural communities, maintenance of healthy forest ecosystems, and continuing sources of local income and employment. The Forest Service is exploring ways to foster greater use of stewardship contracting in a manner that also protect taxpayers from exposure to unfunded contingent liabilities. Currently, a National Forest seeking to conduct a stewardship contract must fund cancellation requirements within its base allocation. This creates competition with other land management activities on that National Forest that also require funding.

*Question 2.* Considering the limitations of the biomass definition found in the Energy Independence and Security Act of 2007; what impacts will this have on your agency's ability to do large scale forest restoration?

Answer. Renewable fuel produced from biomass removed from National Forest System (NFS) lands generally may not be counted towards meeting the Renewable Fuel Standards (RFS) because of the limitation in the definition of "renewable biomass" in EISA.

*Question 3.* If the agency were to have the maximum number of contracts under this authority all be 10-year contracts, and using the stewardship contract currently being implemented on the Apache-Sitgreaves National Forest as a guide:

How much funding might the agency have to withhold to cover its contract liability costs for these new contracts?

Answer. Every contract is unique. The liability cost depends on the terms of the contract, including any amount of capital investment needed to do the work that may be included in the cost of the contract. There could potentially be from two to six new contracts that may or may not have contract liability requirements.

*Question 4.* Given the requirements for collaboration in this bill, what other existing authorities, other than stewardship contracting, does the Forest Service have that would optimize the authorities this bill provides?

Answer. As stated in our testimony, we believe that the actions we are currently taking will be enhanced by various provisions of S. 2593, particularly if combined with the provisions of our FY 2009 ecosystem services demonstration projects legislative proposal. The legislative proposal will engage partners in forest restoration that restores, enhances, and protects multiple ecosystem service benefits.

Use of the streamlined NEPA procedures in the Healthy Forest Restoration Act of 2003, the collaborative opportunities in the Tribal Forest Protection Act; as well as Public Law 106-291, section 331 and Public Law 108-447, section 337, which respectively authorize the Forest Service to enter into contracts to perform watershed restoration and protection services on National Forest System lands in the States of Colorado and Utah, could also be used to optimize the authorities in the bill.

In carrying out projects using stewardship contracting authorities, the agency has used the hazardous fuel reduction categorical exclusion (HRFCE). That categorical exclusion could have been used to carry out ecological restoration treatment under the bill. However, on December 5, 2007, the Ninth Circuit Court of Appeals declared the HRFCE invalid based on the record before the court. The Circuit indicated that it would order the district court to: (1) issue a nationwide injunction against further use of the HRFCE, and (2) determine which activities approved after October 8, 2004, under the HRFCE should be enjoined. On March 24, 2008, the government petitioned the panel to revise its opinion to clarify the scope of the injunction that the district court is authorized to grant; that petition is pending before the court. While the Circuit's order did not immediately enjoin use of the HRFCE, the Chief of the Forest Service has issued instructions limiting use of the category while the agency pursues reconsideration of the scope of the injunction.

*Question 5.* What impacts will this stewardship contract liability issue have on the ability of this legislation to carry out its purpose?

Answer. Please refer to the response to Question 1.

*Question 6.* What would you recommend be done to address this problem?

Answer. We have no specific recommendations at this time, but would be willing to work with you on a more in depth review of the situation.

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RESPONSES OF HOWARD GROSS TO QUESTIONS FROM SENATOR DOMENICI

Mr. Gross, I can understand your reasoning for encouraging a more open and competitive nomination process for these restoration projects. However, as I said in my opening statement I do have some concerns with some of the intent of this bill being lost to process.

*Question 1.* Is there a way for your suggestion to include more stakeholders and project proposals to be incorporated in the legislation while still maintaining a streamlined nomination process?

Answer. I appreciate the interest in keeping the process created by this bill to a minimum so that the maximum amount of the funding can go into on-the-ground restoration work. I feel that including language in S. 2593 to ensure an open and competitive process at the regional level will result in a stronger suite of proposals nationally because such a process will stimulate innovative thinking and collaborative discussions, and help ensure that selecting regional proposals benefits from diverse viewpoints and ideas in addition to those within the agencies.

Furthermore, the process by which proposals are solicited, reviewed, and selected can be an important part of the learning that goes on at the regional level among diverse stakeholders. While an open and competitive process might take a bit longer at the outset of the program—as all programs require start-up time and encounter growing pains—it can lead to greater discussion and innovation among stakeholders regarding restoration projects, which results in greater capacity within the participating communities and, over time, greater effectiveness in developing and reviewing strong projects, as stakeholders come to understand and support the process.

Perhaps one way to have a more streamlined process at the regional level, instead of using a Collaborative Forest Restoration Program-like selection process, would be to use a process akin to a pre-proposal process that is more conceptual in nature but still ensures all interested stakeholders have an opportunity to interact with the agencies regarding potential projects. A limited number of selected pre-proposals could then be developed into full-blown proposals submitted by the Regional Forester to the Secretary.

Also related to ensuring that the program foster an open process (and is broadly supported and successful in leveraging additional resources), it is important that the Regional Forester seek stakeholder input and reach consensus of establishment of priority landscapes. This process need not be burdensome or resource intensive. Also related to streamlining the process, combining the Scientific and Technical advisory panels into one National Advisory Panel that includes diverse representation would be more efficient than keeping them as two separate panels.

*Question 2a.* Could you elaborate on your recommendation to clarify the use of funding for monitoring? While monitoring will certainly be an important part of these restoration projects, I do not want monitoring to consume too much funding and therefore detract from the implementation of these projects?

Answer. As in my answer above, I appreciate the interest in maximizing the funding that goes into on-the-ground restoration work. However, I think that funding from the Collaborative Forest Landscape Restoration Fund should not only be permitted to be used for monitoring but that having a monitoring component should be a required eligibility criterion of proposed projects. Monitoring is important not only from the standpoint of ensuring that the work committed to was actually performed, it is also needed to assess project effectiveness and understand if the work performed actually achieve project goals.

I believe that we all acknowledge and truly appreciate that the landscape-scale restoration program this legislation would establish is cutting-edge and the projects it would fund would be innovative and require a certain degree of experimentation. As such, long-term effectiveness of funding spent for projects under this program and similar ones in the future will be enhanced by ensuring that the results of projects enabled by S. 2593 are monitored and the data collected are made public and used for adaptive management.

*Question 2b.* Mr. Gross, are you at all concerned with the definition of biomass found in the renewable fuels section of the energy bill we just passed last year?

Answer. Yes. The definition excludes woody biomass derived from federal lands as a feedstock from the Renewable Fuels Standard (RFS). This exclusion could restrict options for and thus the ability of collaborative efforts in rural communities surrounded by federal forests to engage in ecological management activities.

*Question 3.* If this definition, as some believe, will restrict forest restoration opportunities on federal land; how might the potential effectiveness of this law be impaired?

Answer. The definition limits the biomass utilization options collaborative groups can use to support forest restoration on public lands. The success of S. 2593, if passed into law, centers on the ability of collaborative efforts within rural communities to build capacity around forest restoration and stewardship. Excluding woody biomass derived from federal lands from the Renewable Fuels Standard could limit the growth potential of community-scaled forestry enterprises and undermine the investments some forestry enterprises have already made. Producing feedstock for renewable fuels may not be a viable option for all collaborative groups that could benefit from S. 2593. However, for those collaborative groups where it is viable, the restriction could be a barrier to success.

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RESPONSES OF CHRISTOPHER I. WEST TO QUESTIONS FROM SENATOR DOMENICI

*Question 1.* Mr. West, we continue to lose mill infrastructure in the West—this reduces the ability to restore landscapes in a cost effective manner. What can be done to reverse this trend? How will this bill help?

Answer. You are correct, we continue to lose mill infrastructure and without loggers, sawmills and cogeneration facilities, it will be very difficult to address the forest health crisis facing our federal forests. The most important solution to reversing this trend is making sure there is a predictable, sustainable and comprehensive supply of federal land management projects on which companies can operate. S.2593, with its proposed large scale projects, would supply a predictable and sustainable level of work.

*Question 2.* From an industry perspective, can you tell us what components of a landscape restoration project are necessary to ensure local mill infrastructure stays in business?

Answer. Large scale projects to remove hazardous fuels and restore forest health can be planned in way in which receipts for merchantable timber can help pay for the removal of unmerchantable small diameter trees or biomass. These types of projects make the most of taxpayer dollars and allow more projects or more work to get done on the ground. This would also result in multiple years of work, feeding local mills, biomass plants and ensuring loggers and other employees in the communities have good family-wage jobs. The big unknown is whether the funding will be appropriated and/or allocated to these projects.

*Question 3.* Mr. West, regarding your concerns over stewardship contracting; what do you believe the consequences will be if the stewardship contracting authority sunsets in 2013?

Answer. Since the expiration date is just slightly over 5 years away, many if not all projects that would be planned and executed under the provisions of this Act (assuming passage this calendar year) would just be commencing on the ground activities. Therefore if the stewardship contracting authorities are not extended, most if not all of the landscape restoration projects would be service contracts. These projects would cost the federal government more per acre, waste valuable resources that could be used to make wood products and/or renewable energy and would result in decreased employment opportunities in rural communities.

*Question 4.* Do you believe that the current procedure for stewardship contracting liability is satisfactory for implementing this legislation?

Answer. Not at all. S.2593 must be amended to include the language contained in Senator Kyl's S.2442, which addresses the serious problem associated with the antiquated Federal Acquisition Regulations.

Another problem exists in the private sector bonding arena, where surety companies tend to avoid underwriting performance bonding for more than seven years. At this time, we don't have a legislative solution to this predicament; it will have to be something that potential federal contractors will have to work out with their bonding companies.

*Question 5.* What would you recommend be done to improve this process?

Answer. See answer to question number 4.

*Question 6.* What will be the consequences if the government liability and stewardship contract cancellation issues are not resolved?

Answer. Fewer federal dollars would be available to plan, prepare and implement restoration projects and therefore fewer at-risk landscapes will be treated.

*Question 7.* Do you have any recommendations for us to consider regarding what to do about the current definition of biomass in the Energy Independence and Security Act of 2007?

Answer. The biomass definition inserted by the House of Representatives precludes all federal forests and most non-federal forests from the Renewable Fuel Standard (RFS). We would support Congress passing legislation that would amend that definition with the one that the Senate passed last summer in its version of the Energy Independence and Security Act.

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[Responses to the following questions were not received at the time the hearing went to press:]

QUESTIONS FOR HENRI BISSON FROM SENATOR DOMENICI

Mr. Bisson, I know the BLM would like a larger role in the implementation of this bill and has expressed concerns about trying to expand its focus beyond forested federal lands.

*Question 1.* Would it be possible for the Bureau of Land Management or even other agencies within the Department of the Interior to request sufficient funding for landscape restoration line items so that if authorized the Bureau of Land Management could play a larger part in federal land restoration envisioned by this bill?

*Question 2.* Given your agency's concerns about expanding the scope of this bill to increase its focus to the grassland and sage ecotypes, as well as dealing with the invasive species issues those ecosystems suffer; are there specific modifications to this bill that your agency can recommend to improve it?