AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

FOREST & RANGELAND HEALTH IN NEVADA'S GREAT BASIN

OVERSIGHT FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON FORESTS AND FOREST HEALTH

OF THE

COMMITTEE ON RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

Monday, October 27, 2003, in Ely, Nevada

Serial No. 108-72

Printed for the use of the Committee on Resources

(

Available via the World Wide Web: http://www.access.gpo.gov/congress/house
or
Committee address: http://resourcescommittee.house.gov

U.S. GOVERNMENT PRINTING OFFICE
90-111 PS WASHINGTON : 2004

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON RESOURCES

RICHARD W. POMBO, California, *Chairman*
NICK J. RAHALL II, West Virginia, *Ranking Democrat Member*

Don Young, Alaska
W.J. "Billy" Tauzin, Louisiana
Jim Saxton, New Jersey
Elton Gallegly, California
John J. Duncan, Jr., Tennessee
Wayne T. Gilchrest, Maryland
Ken Calvert, California
Scott McInnis, Colorado
Barbara Cubin, Wyoming
George Radanovich, California
Walter B. Jones, Jr., North Carolina
Chris Cannon, Utah
John E. Peterson, Pennsylvania
Jim Gibbons, Nevada,
Vice Chairman
Mark E. Souder, Indiana
Greg Walden, Oregon
Thomas G. Tancredo, Colorado
J.D. Hayworth, Arizona
Tom Osborne, Nebraska
Jeff Flake, Arizona
Dennis R. Rehberg, Montana
Rick Renzi, Arizona
Tom Cole, Oklahoma
Stevan Pearce, New Mexico
Rob Bishop, Utah
Devin Nunes, California
Randy Neugebauer, Texas

Dale E. Kildee, Michigan
Eni F.H. Faleomavaega, American Samoa
Neil Abercrombie, Hawaii
Solomon P. Ortiz, Texas
Frank Pallone, Jr., New Jersey
Calvin M. Dooley, California
Donna M. Christensen, Virgin Islands
Ron Kind, Wisconsin
Jay Inslee, Washington
Grace F. Napolitano, California
Tom Udall, New Mexico
Mark Udall, Colorado
Anibal Acevedo-Vila, Puerto Rico
Brad Carson, Oklahoma
Raul M. Grijalva, Arizona
Dennis A. Cardoza, California
Madeleine Z. Bordallo, Guam
George Miller, California
Edward J. Markey, Massachusetts
Ruben Hinojosa, Texas
Ciro D. Rodriguez, Texas
Joe Baca, California
Betty McCollum, Minnesota

Steven J. Ding, *Chief of Staff*
Lisa Pittman, *Chief Counsel*
James H. Zoia, *Democrat Staff Director*
Jeffrey P. Petrich, *Democrat Chief Counsel*

SUBCOMMITTEE ON FORESTS AND FOREST HEALTH

SCOTT McINNIS, Colorado, *Chairman*
JAY INSLEE, Washington, *Ranking Democrat Member*

John J. Duncan, Jr., Tennessee
Walter B. Jones, Jr., North Carolina
John E. Peterson, Pennsylvania
Thomas G. Tancredo, Colorado
J.D. Hayworth, Arizona
Jeff Flake, Arizona
Dennis R. Rehberg, Montana
Rick Renzi, Arizona
Stevan Pearce, New Mexico
Richard W. Pombo, California, *ex officio*

Dale E. Kildee, Michigan
Tom Udall, New Mexico
Mark Udall, Colorado
Anibal Acevedo-Vila, Puerto Rico
Brad Carson, Oklahoma
Betty McCollum, Minnesota
VACANCY
VACANCY
Nick J. Rahall II, West Virginia, *ex officio*

C O N T E N T S

	Page
Hearing held on Monday, October 27, 2003	1
Statement of Members:	
Gibbons, Hon. Jim, a Representative in Congress from the State of Nevada	1
Prepared statement of	3
Statement of Witnesses:	
Abbey, Robert V., Nevada State Director, Bureau of Land Management, U.S. Department of the Interior	10
Prepared statement of	12
Hiatt, John, Ph.D., Chairman, Board of Trustees, Eastern Nevada Landscape Coalition	27
Prepared statement of	29
Johnson, Larry J., Board Member, Eastern Nevada Landscape Coalition, and Director, Nevada Bighorns Unlimited	37
Prepared statement of	38
Perryman, Barry L., Ph.D., Assistant Professor, Rangeland Ecology, Department of Animal Biotechnology, University of Nevada-Reno	32
Prepared statement of	33
Robinson, Steve, State Forester, Nevada Division of Forestry, representing Governor Kenny Guinn	23
Prepared statement of	24
Strickland, Rose, Chairman, Public Land Committee, Toiyabe Chapter of the Sierra Club, Nevada and Eastern Sierra	39
Prepared statement of	41
Troyer, Jack G., Regional Forester, Intermountain Region, Forest Service, U.S. Department of Agriculture	3
Prepared statement of	7

OVERSIGHT FIELD HEARING ON FOREST AND RANGELAND HEALTH IN NEVADA'S GREAT BASIN

Monday, October 27, 2003
U.S. House of Representatives
Subcommittee on Forests and Forest Health
Committee on Resources
Ely, Nevada

The Subcommittee met, pursuant to call, at 10:22 a.m., at the County Commission Meeting Chamber, 953 Campson Street, Ely, Nevada, Hon. James Gibbons presiding.

STATEMENT OF THE HONORABLE JIM GIBBONS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEVADA

Mr. GIBBONS. The Forests and Forest Health Subcommittee will come to order.

First I want to explain that the Chairman of the full Committee—I happen to be the Vice Chairman—but the Chairman of the full Committee was unable to make it into Ely today due to scheduling problems as a result of the fires in California. So perhaps this hearing is more timely in terms of the impact that it's having on people and people's lives today than most of us realize. But the Chairman, who was going to be here from California, is now trying to make alternative arrangements to get back to work tomorrow, as we all are, with the unsettling scheduling problems that the airlines are facing now in and out of California as a result of the fires.

First of all, I want to thank all of you for coming here today to this hearing. This is an important Congressional oversight hearing, and simply because there's only one person here, as the Vice Chairman of the Committee, doesn't mean any less importance of the information that is going to be presented. It will be brought before the full Committee in terms of the minutes of this hearing. It will be available for all members to read and hear.

So it will be put forward as part of the full Committee's hearing as well.

This is a hearing to discuss the forest and the rangeland health in Nevada's Great Basin area. The Resources Committee, if I can add this in, has made I think great strides in forest health policy, especially with the passage of the Healthy Forest Initiative that was passed through the House of Representatives. I think we're all

hopeful that we can get the Healthy Forest Initiative passed through the Senate and signed into law, and that needs to happen sooner rather than later.

Because I think like all of you, when you read the morning newspaper, you are absolutely devastated as you watch thousands of acres burn needlessly because we cannot be proactive in our forest management policy or in our wildlands management policy for that matter.

I think we're all stymied by a great deal of opposition from some of the more extreme and radical environmental groups that really object to any attempt to clear out overgrowth, of dead, dying underbrush. We're always frustrated by many of the attempts to stop these operations, and as a result, our forest and brush lands tend to be at greater risk each and every year that we fail to take adequate action. I think you are going to hear from some of our witnesses about this kind of opportunity.

I think the results are clear: Our forests remain at risk for devastating wildfires. These wildfires threaten habitat, they threaten human life, they threaten wildlife, they threaten property.

And there's no doubt about it, you only have to look at what happened over the weekend in California. Today there are 700 homes that have been burned, 13 people have lost their lives. That's uncounted dollars in terms of just pure property loss, but ultimately an unbearable and devastating loss in terms of human life that we just have a very difficult time accounting for.

So I hope this hearing will help us continue to advance and promote common-sense policies with respect to Federal land management.

And as for the issue before us today, it is my understanding that over the last century, due to what I see as inadequate fire suppression activity and the lack of thinning, the pinyon and juniper trees having encroached over six million acres of historic sagebrush lands in Nevada. This encroachment has dramatically altered the landscape by extensively reducing the habitat of the sage grouse. As we know, that is in a greater and greater threatened status these days. And it's diminished the available forage for other native species, the deer, the elk and other animals that use the forage in these areas.

Most importantly, the overgrowth of pinyon and juniper trees have put far too many families and rural communities like Ely here in Nevada in dire risk of being destroyed by wildfire. The pinyon and juniper trees have completely surrounded this small town, and having personally witnessed, as many of us have, the intensity of the pinyon and juniper fire, I can tell you that they burn exceedingly hot.

In the event of a fire, I think this overgrowth could be devastating to life and property right here in Ely. This issue is of utmost concern to me as it is to those people that are living in this area, and in fact, all the people that I represent in Nevada. So I'm anxious to hear the opinions and the ideas of the BLM, the Forest Service, State representatives, and scientists who are going to be before us today presenting information for the Committee.

Hopefully this information that they will provide today will help us to develop a better lands management policy to mitigate this

dangerous wildlife or wildfire threat. So I look forward to hearing from our witnesses. I want to thank them for their participation at today's oversight hearing.

[The prepared statement of Mr. Gibbons follows:]

Statement of The Honorable Jim Gibbons, a Representative in Congress from the State of Nevada

First, I thank our witnesses for traveling to Ely, Nevada, to testify at this important Congressional oversight hearing on ''Forest and Rangeland Health in Nevada's Great Basin.''

The House of Representatives has made great strides in forest health policy with the passage of the Healthy Forest Initiative.

I am hopeful this critical forest protection bill will be passed by the Senate and signed into law—sooner rather than later.

It devastates me, every year, to helplessly watch thousands of acres of land burn needlessly, because we cannot be proactive in our forest management policies.

Stymied by the opposition of radical environmental groups, any attempt to clear out overgrowth and dead underbrush is stopped dead in its tracks.

The result: Our forests remain at risk for devastating wildfires—threatening habitats, wildlife, property, and, ultimately, human lives.

I hope this hearing can help us continue to promote commonsense policies with respect to federal land management.

As for the issue before us today, it is my understanding that over the last century, due to fire suppression activities and a lack of thinning, pinion and juniper trees have encroached on over 6 million acres of historic sagebrush lands in Nevada.

This encroachment has altered the landscape dramatically by reducing the habitat for the sage grouse and diminishing the available forage for elk, deer, and cattle.

Most importantly, the overgrowth of pinion and juniper trees have put too many rural communities in Nevada in dire risk of being destroyed by wildfire.

The pinion and juniper trees have completely surrounded our small, rural towns.

In the event of a fire, this overgrowth could be devastating to life and property.

This issue is of utmost concern to me and my constituents, and I am anxious to hear the opinions and ideas of the BLM, the Forest Service, State Representatives, and scientists we have here today.

Hopefully, the information our witnesses provide today will help us to develop a lands management policy to help mitigate this dangerous wildfire threat

I look forward to hearing from our witnesses and thank them for their participation at today's oversight hearing.

Mr. GIBBONS. With that, let me introduce the first panel, if they wouldn't mind coming forward. Our first panel is going to be: Mr. Jack Troyer, he is the Regional Forester, Intermountain Region for the United States Forest Service; Mr. Robert Abbey, who is the Nevada State Director of the Bureau of Land Management, U.S. Department of Interior.

Gentlemen, welcome. The floor is yours. We look forward to your testimony. Jack, I don't know who is going to start, either you or Bob. Flip a coin.

Mr. ABBEY. Go ahead, Jack.

Mr. GIBBONS. The loser gets to go first.

STATEMENT OF JACK TROYER, REGIONAL FORESTER, INTERMOUNTAIN REGION, U.S. FOREST SERVICE, ACCOMPANIED BY BOB VAUGHT, SUPERVISOR, HUMBOLDT-TOIYABE NATIONAL FOREST, PAT IRWIN, LOCAL DISTRICT MANAGER, ELY, NEVADA, AND ROBIN TAUSCH, ROCKY MOUNTAIN FOREST RANGE EXPERIMENT STATION

Mr. TROYER. Congressman Gibbons, thank you.

Mr. GIBBONS. Is your mike on? I think you have to turn the switch on the top. Just to make sure everybody can hear you.

Mr. TROYER. Sound better?

Mr. GIBBONS. I don't know. I can hear you. But can the people in the back hear what he is saying?

Mr. TROYER. Congressman Gibbons, I truly appreciate the opportunity to get to come here today and testify before you. We have a lot of passion about these issues, and you are so right, it is of extreme importance. So let me again express my appreciation to be here.

My name is Jack Troyer. I'm the Regional Forester for the Intermountain Region of the Forest Service.

I'm also accompanied today by Bob Vaught, the Forest Supervisor of the Humboldt-Toiyabe National Forest; and our local district manager, Pat Irwin here in Ely; as well as Dr. Robin Tausch from the Rocky Mountain Forest Range Experiment Station, who spent I think a lifetime doing research on pinyon-juniper woodlands and is truly an expert. So he can add later on in a discussion if you so desire.

At the outset, I want to let you know that what's happening in Washington, D.C., this week is, of course, of tremendous interest to us. The President's Healthy Forest Initiative and H.R. 1904, the Healthy Forests Restoration Act, will help us improve the health and vitality and diversity of our National Forest and grasslands. A little add to my testimony here, absolutely and passionately that is important, that's an important initiative that is going on. I can't express that strongly enough.

The Intermountain Region of the Forest Service encompasses 32 million acres of National Forest and grasslands in all the parts of six States: western Wyoming, southern Idaho, Utah, Nevada, eastern California, and a little bit of Colorado. Our mission, of course, is a multiple use mission, manage these lands for multiple uses while we sustain their health and productivity and diversity. Here in Nevada, the Forest Service manages over five million acres of rangelands for a multitude of purposes, including livestock grazing, mining, recreation, watershed protection and, of course, the harvest of forest products.

Earlier this year Chief of the Forest Service, Dale Bosworth, described four threats that are seriously impacting our National Forests and grasslands. And that's really going to be the focus of my testimony today. These four threats are: Fire and fuel buildup that you so eloquently talked about to begin this hearing, invasive species, the loss of open space that is occurring, particularly throughout the West, and unmanaged recreation.

So I'd like to really talk for a minute about each one of these and why we think these are so important and what it will take as we work in partnership with local, State and other Federal agencies to do something about these. The first threat I want to talk about of course is fire and fuels. What's happening in California now, certainly as you say, brings focus to that.

Many here in Nevada will remember what happened in 1999 and 2000 with these major fires.

The underlying issue, of course, is that so many of our forests have become overgrown and unhealthy throughout Nevada and throughout our region. Additionally, Nevada has experienced five straight years now of below average precipitation. In this portion

of the Great Basin we have a specific problem of pinyon and juniper trees encroaching upon rangelands, just as you were saying.

Dr. Tausch has done extensive research into the historical distribution and density of pinyon and juniper species throughout the Intermountain West, and basically we have three to four times more pinyon and juniper woodlands than were here a hundred to 150 years ago. Dr. Tausch believes that prior to European settlement, these woodland species primarily confined themselves to rocky ridges or surfaces where sparse vegetation limited fire.

Now they are occupying more productive sites with deeper well-drained soils. Replacement of the original sagebrush communities of pinyon and juniper species is largely attributed to the reduced occurrence of the fire. So now these dense tree-canopied woodlands are so susceptible to these intense crown fires that you were talking about that they lead to dominance by exotic, undesirable species, certainly subject to cheatgrass.

So what can we do?

Absolutely it will take active management and lots of work to treat these lands that need help. If the encroachment hasn't gone too far, and there is still sagebrush and grass there, we can use prescribed fire. And that means when the fire is done, there is nothing left to restore native species there. But if on so many acres, as you talked about earlier, it has gone too far, we have got to go straight to mechanical treatment before we can do the restoration work that is necessary.

The Humboldt-Toiyabe Forest is working to reduce buildup of hazardous fuels on the forest. Many acres are going to be treated in the coming years, and much of this work is going to be centered in wildland/urban interfaces throughout Nevada, such as Holbrook Junction, Jacks Valley, Mount Rose, Shantytown and elsewhere. Here in Ely, the District Ranger Pat Irwin has successfully used the new categorical exclusion regulations already, for example, to quickly allow for the treatment of 100 acres of National Forest along the power lines. So we're getting some benefit there.

The healthy forest restoration work accomplished throughout the State is done cooperatively with the Nevada Division of Forestry, the Bureau of Land Management, who has done, in my opinion, an outstanding job of leading some tremendous, large-scale, planning efforts and work here in Nevada, and local governments. So this work has just got to cross boundaries. That is going to be key.

To assist the State of Nevada with hazardous fuel reduction work, the Forest Service has awarded grants totaling $3.7 million over the last 3 years to NDF to complete work on non-Federal lands throughout the State, and they do a great job. We appreciate it. They are very, very good at it, and I'm glad that Steve Robinson is here today.

The second threat to the National Forest is the spread of unwanted invasives, and I think we all know that is a national problem. But here in the Intermountain West, I think the most troubling invasives that we're dealing with are cheatgrass, knapweeds, yellow starthistle, salt cedar, leafy spurge, purple loosestrife. The list goes on, and the damage they do is just unbelievable. When leafy spurge takes over an area, really the value for forage and wildlife is about gone.

What can we do? Prevention and control. The good news here in Nevada on the National Forest is this has not progressed as far as it has in some other forests and States in our region. So the prevention control work has a much better chance of somewhat nipping this in the bud, if I could say it in that way.

We have again used State and private forestry grants and contributed $268,000 to support these cooperative weed management areas. Weeds like so many things don't understand when they cross State and private BLM lands. So we have to work together to treat this problem, and I cannot overemphasize how important this is.

The third threat is really the loss of open space. It sounds like, gosh, maybe also but not here in Nevada. But even here in Nevada, critical riparian farmlands, as we remember how the West was settled, owning private land and working ranches, we lose a working ranch and it converts to a residential subdivision, a lot of other problems ensue at that time. We might have a new wildland interface, or we might even lose access to the National Forest or public lands that previously existed.

So I think this is a more serious problem than we had thought.

What can we do? The Forest Service says there is a lot of things we can do. We have a lot of programs that can contribute to this solution.

Forest Legacy is a program, for example, that can lead to conservation easements on private lands administered through the States and keep working ranches working. I believe we're going to be soon transferring half a million dollars to Nevada, and I think the best success story so far close by are the Forest Legacy program in Utah that we can talk about later.

We're committed to working with ranches individually, not a one size fits all to grazing issues around the State, with the Natural Resource Conservation Service to utilize their various programs, but the real solution to this problem in the long run is to keep working ranches working.

We have a lot fewer range conservationists on the ground than we used to, and that is part of our problem. It is harder to work cooperatively with ranchers when we don't have enough range con's, it's not as good for relationships, and we're working hard to turn that around. We actually have about half as many range con's on the ground as we did 15 years ago. We have made a little progress on that the last couple years.

I think I'd like to summarize this by saying grazing on National Forest and grasslands is going to be part of the solution. It's not part of this problem.

The forest threat that I would like to quickly close on is the threat of unmanaged outdoor recreation. In my years with the Forest Service, I have seen the number of people recreating on National Forest lands, it has just exploded. We had 22 million visitor days in our region last year.

A lot of the traditional activities of forests, such as camping, fishing and hiking still occur, but lots more new ones are exploding in use, such as four-wheeling, mountain biking, snowboarding. I have just heard about geo-caching, which is sort of an organized treasure hunt, that I wasn't very familiar with until recently.

But the number and the challenges continue to grow. The challenge for us is to accommodate these needs while reducing some of the damage that we can get to sensitive areas, riparian areas, and especially working to prevent conflict amongst the user groups and learn how we can share.

One example I'd like to close with is Peavine Mountain located in Reno's backyard is a good example, and the Forest Service and Washoe County and the city of Reno have cooperatively embarked upon a course of action to deal with these issues.

Here in Ely, the Duck Creek Travel Plan started with local citizens asking the White Pine Board of County Commissioners to address the problem of OHV travel in the Duck Creek Basin. The Forest Service and the BLM, in cooperation with the county, are completing an environmental analysis on recommendations made by the county's Coordinated Resource Management Group which addresses this OHV use and sometimes misuse.

But I want the American people to recreate and enjoy their National Forests and learn to take pride in how to take care of them as well as to enjoy them.

In closing, let me just say that we will continue to address these four threats. These four threats are important. It will take the Forest Service's best efforts to make progress on each one of these working with many other people. A lot of recreational restoration work and active management to do.

That concludes my remarks. I will stop until further directed, and again, thank you very much for this opportunity.

Mr. GIBBONS. Thank you very much, Mr. Troyer. We appreciate your comments. They are very helpful to us.

[The prepared statement of Mr. Troyer follows:]

Statement of Jack G. Troyer, Regional Forester, Intermountain Region, Forest Service, U.S. Department of Agriculture

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to be with you today to discuss the health of the forests and rangelands in Nevada's Great Basin. My name is Jack Troyer. I am the Regional Forester for the Intermountain Region of the Forest Service. With me today is Bob Vaught, Forest Supervisor of the Humboldt-Toiyabe National Forest, Pat Irwin, Ely District Ranger, and Dr. Robin Tausch, Research Scientist and Project Leader for the Rocky Mountain Research Station.

At the outset, Mr. Chairman, I want to let you know that actions taking place back in Washington, D.C., are of great interest to us here in the Intermountain Region. The President's Healthy Forests Initiative and H.R. 1904, the Healthy Forests Restoration Act of 2003, will help us to improve the health and vitality of the national forests and grasslands.

The Intermountain Region encompasses 32 million acres of National Forests and Grasslands in parts of six states: western Wyoming, southern Idaho, Utah, Nevada, and portions of California and Colorado. Our mission is to manage these lands for multiple-use while sustaining health, diversity, and productivity. Here in Nevada, the Forest Service manages over five million acres of forest and rangelands for a multitude of purposes, including livestock grazing, mining, harvesting of forest products, recreation, and watershed protection.

Earlier this year, Chief Bosworth described four threats that confront the national forests and grasslands: fire and fuel build-up, invasive species, the loss of open spaces, and unmanaged recreation. I will briefly explain why each of these issues is a threat to National Forests in this Region. I will also highlight some of the efforts the Forest Service, in partnership with the local, state and other federal agencies, is taking to address the threats.

Fire and Fuels

One threat to National Forests is fire and fuels. Many here will remember the fire seasons of 1999 and 2000 when Nevada experienced many large wildland fires.

The underlying issue is that so many of our forests have become overgrown and unhealthy. Additionally, Nevada has experienced five straight years of well below average precipitation. In this portion of the Great Basin, we have the specific problem of pinyon and juniper trees encroaching upon rangelands. Dr. Tausch has done extensive research into historical distribution and density of pinyon and juniper species in the Intermountain West. Today, we have two to three times more pinyon/juniper woodlands than 100 years ago and the potential for additional encroachment by pinyon/juniper is high. Dr. Tausch believes that, prior to the European settlement; woodland species were primarily confined to rocky ridges or surfaces where sparse vegetation limited fire. Pinyon/juniper woodlands now occupy more productive sites with deeper well-drained soils. Replacement of the original sagebrush communities by pinyon and juniper species is largely attributed to the reduced occurrence of fire. These dense tree-canopied woodlands are now susceptible to intense crown fires, which can lead to the dominance of exotic, undesirable species such as cheatgrass.

So what can we do? It will take active management and lots of work to treat lands that currently need help. We can successfully treat by various methods particularly fire, the early to middle successional stages of pinyon/juniper encroachment, when woodlands contain understories of native shrubs and forbs. In addition, we need to recognize that burned areas may present land managers with the opportunity to restore forests and rangelands to more natural fire regimes that can complement or reduce fuels reduction management efforts.

The Humboldt-Toiyabe National Forest is working to reduce the build-up of hazardous fuels on National Forest System lands. Many acres will be treated in the coming years with much of the work centered in the wildland/urban interface at locations such as Holbrook Junction, Jacks Valley, Mt. Rose, Shantytown and elsewhere. In Ely, the District Ranger has successfully used the new categorical exclusion procedures to quickly allow for the treatment of 100 acres of National Forest along a high voltage power line.

The healthy forest restoration work that is accomplished in Nevada is done cooperatively with Nevada Division of Forestry (NDF), the Bureau of Land Management (BLM), and local governments—efforts that cross administrative boundaries for the purpose of improving the health of the forest and rangelands. To assist the State of Nevada with hazardous fuel reduction work, the Forest Service awarded, in grants, 3.7 million dollars over the last three years to NDF to complete work on non-federal lands throughout the state.

Invasive Species

The second threat to National Forests and Grasslands is the spread of unwanted invasive species. We used to focus just on noxious weeds. Now we know that the issue is far broader. Invasive species also include animals and even disease-causing pathogens, such as West Nile virus. Invasive species are species that evolved in one place and wound up in another, where the ecological controls they evolved with are missing. They take advantage of their new surroundings to crowd out or kill off native species. In the process, they might alter key ecological processes, such as hydrology or fire return intervals.

In the Intermountain West, some of the most troubling invasive plants are cheatgrass, knapweed, yellow star thistle, salt cedar, leafy spurge, and purple loosestrife. These plants soak up water and take up space, driving out the native plants. Areas infested with weeds like leafy spurge lose almost all their forage value for both livestock and wildlife.

What can we do to stop the spread of invasive species? Prevention and control work best, but only if they are done across ownerships on a landscape level. In the last two years, Nevada has formed 23 Cooperative Weed Management Areas that focus on the prevention and control efforts needed to stop the spread. Through State and Private Forestry grants, the Forest Service has contributed $268,000 to support Cooperative Weed Management Areas in Nevada that work across administrative boundaries and land ownerships.

Loss of Open Space/Resource Land Conversion

The third threat to National Forests is the loss of open space through land use conversion and development.

How does that affect the nation's forests and grasslands? Years ago, the national forests were buffered by miles of rural landscape. Now they are increasingly part of the wildland/urban interface. People are increasingly living close to or adjacent

to National Forests. Demands for services are growing, and so is the challenge of fire protection.

In addition, the impacts of land conversion and fragmentation can be significant. We are losing open areas of range that are important as wildlife habitat and as resource lands for livestock grazing.

When the Forest Service first started managing the land a century ago, overgrazing was a huge problem. Over time, we improved things by working closely with the ranchers. The ecological payoff has been significant. Keeping the land remaining whole and healthy benefits both wildlife and livestock.

Now we face a different issue. Our population is growing, particularly in the West. Nevada remains one of the fastest-growing states in the nation. Developers target the privately held bottomlands adjacent to National Forests. Millions of acres of open range have been converted to ranchettes and other residential uses. New challenges occur with the creation of new wildland/urban interface areas, resulting in the possible loss of access to National Forest System land, and the loss of ecological integrity of the land.

How can the Forest Service contribute to solutions? One way is to keep working forests and ranches in operation. The Forest Service has some good programs for that. Most significant of these is the Forest Legacy program that provides cost share funds to the state for use in acquiring conservation easements from willing landowners. We are committed to working with ranchers individually, rather than a one-size-fits-all approach to allotment management. We work with ranchers and the Natural Resources Conservation Service to utilize that agency's various programs. We are doing everything within our means to deploy more range management specialists on the ground to build relationships with permittees so they can work together to solve problems. Grazing on National Forests and Grasslands is part of the solution, not part of the problem.

Unmanaged Outdoor Recreation

The fourth threat comes from unmanaged outdoor recreation. In my years with the Forest Service, I have seen tremendous growth in the number of people recreating on National Forest land and in the types of activities in which people engage. Last year, the Intermountain Region had 22 million visits, which is just phenomenal. Recreationists participated in traditional activities, such as camping, fishing, hiking, and driving, for pleasure, and some rather recent recreational activities, such as mountain-bike riding, four-wheeling, snowboarding, and geo-caching—sort of a modern-day treasure hunt. The number of people and recreational activities will continue to grow. The challenge for the Forest Service is to accommodate the needs of recreationists while reducing resource damage to sensitive meadows and riparian areas and preventing conflict among different user groups.

Peavine Mountain, located in Reno's backyard, offers many recreational opportunities. The Forest Service, Washoe County, and the City of Reno have cooperatively embarked upon a course of action to manage this mountain so as to ensure people are safe while recreating and not causing undue damage to the land. Here in Ely, the Duck Creek Travel Plan started with local citizens asking the White Pine Board of County Commissioners to address problem OHV travel in the Duck Creek Basin. The Forest Service and the BLM, in cooperation with the county, are completing an environmental analysis on recommendations made by the county's Coordinated Resource Management group, which address the OHV use and misuse.

I want the American people to recreate outdoors. It gives them a stake in the land. It gives them a sense of place. It helps them understand why we in the Forest Service are so passionate about the land—why we think it is worth conserving.

Conclusion

In closing, let me say that we will continue to address that which threatens the health of the forest and rangelands. To be successful we must continue to work with all who have a stake in the management of National Forests. So much of the healthy forest restoration work that is accomplished in Nevada must be done on a landscape scale, crossing administrative boundaries.

This concludes my prepared remarks. I will be happy to answer any questions you may have.

Mr. GIBBONS. We will turn now to Mr. Bob Abbey, Director of the BLM here in Nevada.

STATEMENT OF ROBERT ABBEY, STATE DIRECTOR, NEVADA BUREAU OF LAND MANAGEMENT, U.S. DEPARTMENT OF INTERIOR, ACCOMPANIED BY GENE KOLKMAN, ELY FIELD MANAGER, BUREAU OF LAND MANAGEMENT

Mr. ABBEY. Thank you. Thank you, Congressman Gibbons. We appreciate your invitation to participate in today's field hearing to discuss forest and rangeland health in the Great Basin.

With me this morning is Gene Kolkman, who is our BLM Ely field manager.

We believe it's quite appropriate to have a field hearing here in Ely because one not only gets an opportunity to see some of the resource management challenges that we face, but we also have an opportunity to talk with people here at the local level who are working together to help us address our immediate and long-term needs. So again, we appreciate the Committee hosting this session here in Ely.

As we have testified in recent hearings on forest health before the House of Representatives and the Senate, the Department of the Interior strongly supports the President's Healthy Forest Initiative, as well as H.R. 1904, the Healthy Forests Restoration Act of 2003.

As you pointed out, the need for actions to restore our national public forests and rangelands to long-term health has never been greater. Last year wildfires burned about seven million acres of public and private lands across the Nation. This resulted in the destruction of over 800 primary residences and the evacuations of tens of thousands of people from hundreds of communities.

Although wildland fire activity this year in Nevada has been less than the average of the last 10 years, potential for destructive wildfires is currently high. In Eastern Nevada, the pinyon-juniper woodlands are growing so dense that they crowd out other plant communities and prevent a healthy mix of appropriate vegetation to support wildlife, wild horses and livestock grazing, among other uses.

Even though we have had extremely dry vegetation throughout the State this summer as well as last summer, we were fortunate that the thunderstorms that came through this State this year also brought some rain. We therefore avoided the dry lightning that has typically been the cause of many of our large wildfires.

Recognizing the existing crisis, President Bush proposed the Healthy Forest Initiative in August of 2002. This initiative is based upon a common-sense approach to reducing the threat of catastrophic wildfires by restoring forests and rangeland health.

Our goal is to ensure the long-term safety and health of communities and natural resources in our care. Our responsibility is to ensure the long-term health of our forests and rangelands for the use, benefit and enjoyment of our citizens as well as for generations yet to come.

The Great Basin landscape which encompasses much of Nevada, the western half of Utah, the southern portion of Idaho, the southeast corner of Oregon, and a narrow strip of Eastern California, has seen a severe decline in native vegetation and wildlife as a result in part of wildfires. Between 1999 and 2003, wildfires have burned more than 3.3 million acres of land across Nevada.

Years of well-intentioned but misguided acts of suppression of wildfires have led to conditions in which pinyon and juniper trees dominate many areas where they historically occupied only small portions of the habitat. In such areas the previously diverse landscape of perennial grasses and forbs, sagebrush as well as trees, has evolved into a monoculture with limited species diversity. Noxious weeds and non-native annual grasses like cheatgrass gained a foothold where fire weakened or removed native vegetation. The lack of a natural fire regime has contributed to these conditions.

As a result, entire watersheds are being impacted, water quality is being degraded, native wildlife habitat is disappearing, forage for wild horses and livestock is reduced, and as we notice throughout Nevada, local economies are also being threatened.

In an effort to address these problems, the Bureau of Land Management introduced a concept after the 1999 fire season that we called the Great Basin Restoration Initiative, which was developed with the goal of restoring and maintaining the Great Basin's diverse ecosystem through coordinated efforts between Federal, State governments and local community interests.

A key component of the Great Basin Restoration Initiative in Eastern Nevada is the Eastern Nevada Landscape Coalition whose purpose is to help implement the Eastern Nevada Landscape Restoration Project. This project is being designed to restore the ecosystem within the 10 million acres of public lands that are administered in Eastern Nevada by the Bureau of Land Management Ely Field Office and also lands managed by the U.S. Forest Service.

As you will hear from a couple members from the Eastern Nevada Landscape Coalition, they're playing a significant role in helping us propose restoration activities that if implemented would certainly improve the overall health of these lands. Currently the Eastern Nevada Landscape Coalition's partner list has over 60 members, including the Bureau of Land Management, representing a broad spectrum of users and interests like other Federal, city and county governments, tribal governments, local universities and industry, conservation and recreation groups.

In an effort to aggressively move forward under this partnership and begin implementing large-scale restoration initiatives, the Bureau of Land Management is conducting planning on a landscape basis. As part of the development of the Ely Resource Management Plan and Environmental Impact Statement, fuels reduction projects and other restoration treatments in eastern Great Basin are being evaluated. This plan is being developed with the assistance from numerous cooperating entities as well as Eastern Nevada Landscape Coalition.

When complete, the Ely Resource Management Plan will serve as the base analysis and planning guidance for the Eastern Nevada Landscape Restoration Project. And to date, project scoping has been completed and alternatives are currently being developed. We expect to complete the resource management plan in 2005.

In Nevada as a whole, the Bureau of Land Management spent nearly $6.5 million last year on 50 fuel assessment and treatment projects in at least 20 communities at risk in the wildland-urban interface.

Mr. Chairman, the Department of Interior is committed to working with Congress, the State, local and tribal officials and the public to advance common-sense solutions to protect communities and people and restore forest and rangeland health. We certainly believe that H.R. 1904 provides the much-needed authorities for the agencies to move forward with the President's Healthy Forest Initiative. We were encouraged to see the prompt action by the House. We hope the Senate takes up this measure in Congress this session.

Again, we thank you for the opportunity to appear before you today to discuss forest health and rangeland issues specific to Nevada and the Great Basin.

[The prepared statement of Mr. Abbey follows:]

Statement of Robert V. Abbey, Nevada State Director, Bureau of Land Management, U.S. Department of the Interior

Mr. Chairman:

We appreciate your invitation to participate in today's field hearing to discuss forest and rangeland health in Nevada's Great Basin. Ely, Nevada, is an appropriate setting to discuss our efforts to improve the health of our Nation's public forests and rangelands given its proximity to nearly 70 million acres of Bureau of Land Management (BLM) public lands throughout portions of five states, including Nevada, that comprise the Great Basin. As we have testified in recent hearings on forest health before the House of Representatives and the Senate, the Department of the Interior strongly supports the President's Healthy Forests Initiative and H.R. 1904, the Healthy Forests Restoration Act of 2003.

Background

The need for action to restore our Nation's public forests and rangelands to long-term health has never been greater. Catastrophic fires are just one consequence of the deteriorating state of forest and rangeland health that now affects approximately 190 million acres of public land, an area almost triple the size of Nevada. Last year, wildfires burned about seven million acres of public and private lands across the Nation. This resulted in the destruction of over 800 primary residences and the evacuation of tens of thousands of people from hundreds of communities.

Although wildland fire activity this year has been less than the average of the last ten years, the potential for destructive wildfires is high. While this fire season did not produce the extensive fires experienced in 1999, 2000 and 2001, when over 2.6 million acres burned in Nevada, the on-going drought coupled with the changing condition of the Great Basin, as more fully discussed below, has significantly increased the potential for fire activity. All indications are that, given the current conditions, the potential for large and severe fires in Nevada will continue in the foreseeable future.

Federal forests and rangelands across the country are also facing unusually high threats from the spread of invasive species. Changes in tree stand density, as well as in species composition and structure, due to decades of excluding or immediately suppressing fire, the lack of active management, and extended drought, are factors that have significantly affected the spread of invasive species. In the Great Basin, pinyon-juniper woodlands are growing so dense that they crowd out other plant communities and prevent a healthy mix of appropriate vegetation to support wildlife, wild horses, and livestock grazing.

Healthy Forests Initiative

Recognizing the existing crisis, President Bush proposed the Healthy Forests Initiative (HFI) in August 2002. This initiative is based upon a common-sense approach to reducing the threat of catastrophic wildfires by restoring forest and rangeland health. Our goal is to ensure the long-term safety and health of communities and natural resources in our care. Our responsibility is to ensure the long-term health of our forests and rangelands for the use, benefit and enjoyment of our citizens and for generations to come. The President directed Federal agencies to develop several administrative and legislative tools to restore deteriorating Federal lands to healthy conditions and assist in executing core components of the National Fire Plan, established in 2000. Since the President's announcement in August of

2002, the Secretaries of Interior and Agriculture have taken several administrative actions to implement components of HFI, which include the following:

- Endangered Species Act Guidance—On December 11, 2002, the Fish and Wildlife Service (FWS) and National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) issued joint guidance that allows multiple projects to be grouped into one consultation and provides direction on how to consider and balance potential short- and long-term beneficial and adverse impacts to endangered species when evaluating projects. The goal is to recognize that project-specific, short-term adverse impacts on species need to be weighed against the longer-term watershed level benefits to those and other species that such projects will achieve.
- CEQ Memorandum & Model Environmental Assessment Projects—CEQ Chairman Connaughton issued guidance addressing the preparation of model environmental assessments (Model EA) for fuels treatment projects that improve administrative processes. These guidelines are now being applied on both Forest Service (FS) and Department of the Interior (DOI) agency model fuels-treatment projects. The Mesquite Hazardous Fuels Project, approved this past August after a public review period, is an on-going Model EA Project that addresses tamarisk-infested stretches of the Virgin River in southern Nevada near the towns of Mesquite and Bunkerville. Under current conditions, tamarisk, a highly flammable non-native species, is establishing its dominance in burned areas and posing an increased risk of wildfire. The BLM was able to initiate this project this past September by removing five acres of tamarisk. Through a combination of mechanical thinning, hand removal, and revegetation, an additional 300 acres of tamarisk removal is targeted for completion next year, with a total planned treatment of 1,700 acres.
- Appeals Process Reform—Both the United States Department of Agriculture (USDA) and DOI made rule changes designed to encourage early and meaningful public participation in project planning, while continuing to provide the public an opportunity to seek review or to appeal project decisions. This enables issues to be resolved earlier in the project planning process, allowing for a more expedited application of hazardous fuels reduction projects.
- Categorical Exclusions (CE)—Both USDA and DOI have established new categorical exclusions, as provided under the National Environmental Policy Act, for certain hazardous fuels reduction projects and for post-fire rehabilitation projects. These new CEs shorten the time between identification of hazardous fuels treatment and restoration projects and their actual implementation on the ground.
- Proposed Section 7 Counterpart Regulation—FWS and NOAA Fisheries have proposed Section 7 joint counterpart regulations under the ESA to improve Section 7 consultation procedures for projects that support the National Fire Plan. The proposed regulations would provide, in some situations, an alternative to the existing Section 7 consultation process by authorizing the agencies to make certain determinations without project-specific consultation and concurrence of the FWS and NOAA Fisheries.

The Consolidated Appropriations Resolution, 2003 (Public Law 108-7), signed into law on February 20, 2003, contains stewardship contracting authority, which allows the FS and the BLM to enter into long-term contracts with the private sector, nonprofit organizations, local communities, and other entities to help achieve important land management objectives.

The public input period for the joint agency guidance for long-term implementation of stewardship contracting closed on July 28, 2003. The agencies are completing formal analysis of the input for consideration in the development of final agency guidance which should be available sometime later this fall. In 2004, the BLM is studying the implementation of several stewardship contracts in Nevada and across the West. These projects will focus on a range of forest and rangeland health initiatives as well as wildland urban interface fuels reduction projects and biomass utilization projects.

We believe these administrative actions will provide Federal land managers with useful tools as they work to restore public forest and rangelands to a condition where they can resist disease, insects, and catastrophic fire.

Forest and Rangeland Health in Nevada's Great Basin

The Great Basin landscape, which encompasses much of Nevada, the western half of Utah, the lower third of Idaho, the southeast corner of Oregon, and a narrow strip of eastern California, has seen a severe decline in native vegetation and wildlife as a result, in part, of wildfires. Between 1999 and 2003 wildland fires burned more than 3.3 million acres of land across Nevada's Great Basin.

Years of well-intentioned, but misguided, active suppression of wildfires have led to conditions in which pinyon and juniper trees dominate many areas where they historically occupied only small portions of the habitat. In such areas, the previously diverse landscape of perennial grasses, forbs, sagebrush and trees has evolved into a monoculture with limited species diversity. Noxious weeds and non-native annual grasses like cheatgrass, gained a foothold where fire weakened or removed native vegetation. The lack of a natural fire regime has contributed to these conditions. As a result, entire watersheds are being impacted; water quality is being degraded; native wildlife habitat is disappearing; forage for wild horses and livestock is reduced; and local economies are being threatened.

In an effort to address these problems, the Great Basin Restoration Initiative (GBRI) was developed with the goal of restoring and maintaining the Great Basin's diverse ecosystem through coordinated efforts between Federal and state governments and local community interests. A key component of GBRI is the Eastern Nevada Landscape Coalition (ENLC) whose purpose is to help implement the Eastern Nevada Landscape Restoration Project (ENLRP), a restoration initiative designed to restore the ecosystem within the 10 million acres of public lands that are administered in eastern Nevada by the BLM Ely Field Office.

The ENLC is playing a significant role in restoration activities, assisting with project planning and implementation by establishing broad-based goals and objectives and providing the best available science for restoration projects. The Coalition's purpose is to develop a consensus on the Great Basin's overall health in eastern Nevada and to assist in the implementation of projects that restore the Great Basin to desired conditions. Currently, ENLC's partner list has over sixty members, including the BLM, representing a broad spectrum of public land users and interests like other Federal, city and county governments, tribal governments, local universities, and industry, conservation, and recreation groups.

In an effort to aggressively move forward under the ENLC partnership and begin implementing large-scale restoration initiatives, the BLM is conducting planning on a landscape scale. As part of the development of the Ely Resource Management Plan and Environmental Impact Statement (Ely RMP/EIS), fuels reduction projects and other restoration treatments in the eastern Great Basin are being studied. This Plan is being developed with assistance from numerous cooperating entities, and ENLC is playing a large role in formulating the proposed actions and alternatives relative to restoration and maintenance of ecological health. When complete, the Ely RMP/EIS will serve as the base analysis and planning guidance for the ENLRP for restoration in the eastern Great Basin. To date, project scoping has been completed and alternatives are being developed. We expect to complete the RMP/EIS in the spring of 2005.

In other geographic regions of the Great Basin, the BLM has been an important partner with local entities in restoration efforts under the GBRI. One example of a cooperative project is the Markleeville Fuels Treatment Project:

- Markleeville Fuels Treatment Project—During the fall of 2002 and winter of 2003, the BLM Carson City Field Office completed a fuels treatment project in a forested area southeast of Lake Tahoe, Nevada. The Markleeville Fuels Treatment Project targeted public land adjacent to Marklevillage, a subdivision of Markleeville, California, with the aim of reducing crown fire potential and enhancing fire suppression capabilities. The treated area was adjacent to existing residences, as well as new residential development currently under construction. The BLM thinned the smaller trees and removed excess biomass on 45 heavily forested acres in an effort to clear "ladder" fuels and open up the overstory canopy for the growth and health of the remaining larger trees.

Conclusion

Mr. Chairman, the Department of the Interior is committed to working with Congress, State, local and tribal officials, and the public to advance commonsense solutions to protect communities and people, and to restore forest and rangeland health. We believe that H.R. 1904 provides the much-needed authorities for the agencies to move forward with the President's Healthy Forests Initiative. We were encouraged to see prompt action by the House on H.R. 1904. We hope the Senate takes up the measure this Congress. Thank you again for the opportunity to appear here today to discuss healthy forests and issues specific to Nevada and the Great Basin. We will be glad to answer any question you may have.

Mr. GIBBONS. Thank you very much, Mr. Abbey, for the enlightening comments that both you and Mr. Troyer have presented to

our Committee here, and we're very glad that you are able to be here today to talk to us.

I have a question I think both of you need to address because it's one which I think is clear on its face when we in Congress talk about the issues of management of our public lands and how they are doing. You talked about the need for active forest and non-forest land management out there. Describe for us the regulatory challenges you face in just getting these management projects through the various analysis, the appeals process, the lawsuit process, et cetera. Explain the process, how long it takes, and why you have concerns with the lengthening process in this.

Mr. ABBEY. Let me start, and then Jack certainly can augment whatever I may say.

First and foremost, I think it's as much an educational component as it is a regulatory component that we face as far as challenges. People love trees, and rightly so. People love rangelands, and rightly so.

When we propose actions that may result in thinning of some of the woodlands that we see here in Nevada, or taking actions of mechanical treatments or even chemical treatments on the rangelands, certainly people are concerned about exactly how extensive those treatments are going to be and what are the long-term impacts of our actions of today. So again, I think as we look at the resource base that we're working within, we need to do a better job of informing the public of why such actions are needed.

I think if we can lay the groundwork for a better understanding among all the interest groups, then I think we have a better opportunity to go through the planning process, which we're required to do, to identify what the projects are, to identify the likely consequences of the actions of implementing those projects on the ground, and then to assess again whether or not progress is made toward achieving the goals that we're setting, and that is to improve the overall health of these forests and rangelands that we manage on behalf of the American public.

Now given the fact that we might not have done a very good job in the past of informing and certainly educating the public for the needs for some of these actions, then we are faced with some of the challenges through the protests, appeal and litigation processes that are available to any member of the public to pursue. As we go through our own planning process to identify the projects, to do the analysis, and then to issue a record decision, then any member of the public can protest, appeal or litigate those actions.

Thankfully here in Nevada, at least under the National Fire Plan, we have had very few of our actions that have been litigated.

Unfortunately, we did have a large-scale fuel reduction project that was proposed in Eastern Nevada that has been litigated. We have worked through a settlement agreement with the people who did file the lawsuit to allow us to address our most immediate needs, and that's to reduce the hazardous fuels around local communities. Here at Ward Mountain just outside of Ely and also the Mount Wilson Guest Ranch which is near Pioche.

Again, this is just a band-aid approach. Our fear is that if we do have large-scale fire in any of these areas, that we're going to have our hands full relative to suppression.

So there is some issues relative to the time frames that it takes us to complete some of the planning, the analysis that is required, and then again, to go through any protest or appeals or litigation before we're able to take those actions on the ground.

Mr. GIBBONS. What would be your estimate of the time delays in all of this, by the time you have gone through from the identification phase to the actual phase of actually having somebody on the ground beginning the process of thinning and taking out some of the unneeded fuels?

Mr. ABBEY. Congressman Gibbons, that could vary from project to project. To give you kind of a hip-pocket assessment, I would say it would take us anywhere between a year to 18 months once a project is proposed.

Mr. GIBBONS. Jack, do you have anything to add in there? But if you would, take this part and add it to your question. How much time does your agency have to invest in the process of planning, analysis and defense of a planned fire treatment area?

Mr. TROYER. I believe on a national level that the Chief has to find that up to 40 percent of our resources can be devoted to planning, the entire planning part, doing the EIS's. But I need to—if that's wrong, I'll get back with you. But it is a significant number.

But I would like to take a minute to answer your question because it is my favorite question to answer.

Mr. GIBBONS. OK.

Mr. TROYER. We have a process predicament problem. We absolutely do. The Chief testified before Congress little over a year ago, committed the Forest Service to do something about that, and with the help of the Administration, we have done that. The new categorical exclusions are helping us.

Mr. GIBBONS. By the way, I do want you to go through categorical exclusion and help us better identify what that is, how it applies, what are its limitations, et cetera. Because that's something that is commonly used, and I don't think many of us have a perfect understanding of it.

Mr. TROYER. I would be happy to do that. But to maybe finish my first point, we do have a process predicament problem. It was worse a year-and-a-half ago. It's better because of the efforts. We still have more work to do. It still takes too much time to do analysis and procedural requirements that take us beyond the point where we can already make a sound resource decision.

Second point I'd like to make is none of our process predicament work has anything to do with making bad decisions faster. It is making good decisions faster. It has nothing to do with having less public involvement. I think it has to do with more public involvement.

But I don't believe appeals and litigation are really public involvement. Once we get to that point, somehow we have already gone beyond the point where we can constructively work together with everybody involved.

The third point I do want to reemphasize that Bob said is that we have a little less of the appeals litigation environment in Nevada than in most States. We have some but we have a little bit less.

On the categorical exclusions, normally a project, we do an environmental analysis, we do scoping, we do a draft, and then we do a final, and we go through a process, and then it could be appealed, and as Bob says, it could be weeks, months and 18 months while that process moves along. But there have always been certain tools, they are called categorical exclusions, exclusions to doing full-blown NEPA documentation. We lost some of those tools years ago in various court decisions. We did a lot of work and just a few months ago restored some of those various categories.

So, for example, we can do fuels projects now that there are certain acreage limitations, but we don't need to do an EIS or an EA. We can do a categorical exclusion.

Mr. GIBBONS. What are the acreage limitations?

Mr. TROYER. 1,000, 4,000.

Mr. GIBBONS. Acres?

Mr. TROYER. Acres. For limited—there is another one for just limited tree removal where we can go up to say 50 acres if there is a small insect or disease outbreak. So we can move faster.

There are—well, we just had an example that I worked through in Utah, Western Nevada, where we had a blow down, kind of a tornado like affair that came through and knocked over a couple hundred trees. That was before these categorical exclusions. So the district to get that project through NEPA, litigation, they had to do a 90-page environmental analysis. We then got a 20-page appeal, 20 different points on appealing a project that was going to remove 200 trees that were sort of knocked over along roads.

So a similar thing happened recently, and using the CE, we were able to get through that in a couple months. So that is really a key point that I really wanted to say these are very, very important.

Last point I guess I wanted to make on all of this is that we need to be more efficient and use more of our resources on getting dollars to the ground to treat more acres because that is really what it is about.

Mr. GIBBONS. Let me ask a question, because I know there is always going to be those who are skeptical of any legislation that Congress passes, and indeed, everything we do is not always perfect. That is a surprise to many of us.

The Healthy Forests Initiative requires public involvement. It especially requires parties to be engaged in the early process if you want to preserve your opportunity to appeal and litigate it at the end. So in other words, if you want to be one of those Johnny-come-latelies that usually step in after the planning processes, after the decision and analysis have already been made and sue, you are going to find yourself being forced into it in the early part.

Is being brought in in the early management or decision phase better? Does it result in a better product, or does it result in a better product to wait till you have all completed your analysis and sue you in court? That's kind of a directed question, I'm sure.

Mr. TROYER. I absolutely believe that early public involvement is key to what we do. When we involve people from all points of view together, working with us, up front, we can normally reach consensus about taking action and doing something. But unfortunately, if you get 19 out of 20 or you get the local environmental groups and the local industry groups and everybody together, it

really only takes one procedural error to lead to litigation that we might lose.

So I think that's why these reforms have been helpful. Early public involvement is the key. We want more of it, not less.

Mr. GIBBONS. Bob, I don't mean to be ignoring you on all of these questions either.

Mr. ABBEY. You and I have a chance to talk quite often.

Mr. GIBBONS. Yes, we do, and I appreciate that.

Mr. Troyer, you may have to ask Dr. Tausch to answer these questions. But when you talk about healthy forests, talking in pinyon trees and that kind, the coverage, what is the percentage or number of trees per acre that is considered healthy for this kind of an environment out here? What do we currently see today in terms of coverage in trees?

Mr. TROYER. I can go ahead and answer that, but I would love to give Dr. Tausch a chance to give you about a 2-minute summary of his research on this, if you wouldn't mind.

Mr. GIBBONS. Sure. I would be happy if he wants to come up.

Mr. TROYER. He's traveled here. Come up here.

Mr. GIBBONS. As long as you use the mike, introduce yourself.

Mr. TAUSCH. My name is Robin Tausch. I'm a supervisory range scientist with the Rocky Mountain Research Station. My lab is on the University of Nevada, Reno campus.

To start, to give you a little bit of a general background, there is critical watershed and critical wildlife habitats that are at risk from increasing tree dominance and the intense crown fires that often follow in the woodlands, as you already mentioned. This is putting a lot of ecological, social and economic values at risk, and those areas should be highly prioritized. But there is also many other areas that are involved that are not close to homes or communities.

And Jack Troyer has already expressed the agency's concern about invasive species. From an ecological perspective, we can't overemphasize the importance of planning restoration treatments that help prevent the spread of invasives, and how you do those can make a big difference in promoting them.

To be ecologically successful we need to identify the critical habitats that have been lost to pinyon-juniper invasion and restore those lost habitats with our restoration treatments. And I say, in addition, prior to treatment each area needs to be evaluated for the potential success of that treatment. We have limited resources, and we need to focus what we have on accomplishing the most.

We need to consider whether the understory of desirable native plants and the kind of soil and its depth are adequate on each site and maximize the benefits of the treatment. If the understory isn't adequate, but it is a site that needs to be treated, the restoration treatments need to be designed to prepare the seedbed and plant the missing native plants to restore a functioning community.

It makes sense to prioritize areas both with high values at risk and where we are confident we will get a good ecological return.

And then to kind of address your question there, there is some confusion between pinyon-juniper woodlands and ponderosa pine woodlands or forests, and to prescribe fire rather than mechanical treatments that we do for ponderosa or Jeffrey pine on the east

slope. And basically fire should not be used for the initial restoration treatments on tree-dominated sites because pinyon and juniper lack the thick bark the ponderosa has and are not ecologically adapted to fire.

So it is not a matter of how many trees there are. Generally when a fire comes through, it will usually kill all the trees, particularly if it has become a closed canopy forest. Basically diversity within pinyon-juniper woodlands is having a diversity of areas that have and do not have trees rather closely intermixed than open stands of trees like are typical with the ponderosa pine. So it requires a little different approach, little different management goal.

And generally, mechanical restoration treatments have much less negative impact on these tree-dominated ecosystems than the intense crown fires that are now increasingly becoming the alternative. And one of the major of these is if you can avoid the chance for conversion to cheatgrass, which we're increasingly seeing. With mechanical treatments land managers can design treatments to leave areas untreated where they are desirable for ecological reasons. And after the conditions of a more diverse system, particularly understory or restore, a prescribed fire can then be used in many cases to maintain these desirable conditions.

Mr. GIBBONS. How prevalent is the closed canopy system you are talking about in this area?

Mr. TAUSCH. There are two parts to that.

Mr. GIBBONS. You came prepared, didn't you? It's like we had already talked about this.

Mr. TAUSCH. It is a certain set of common questions that always come up. So I tried to take care of that.

Mr. GIBBONS. While you are looking for that, answer this question as well. You are talking about the fact that if there is a fire in this juniper canopy or this pinyon-juniper habitat, all the trees are going to die from that.

Mr. TAUSCH. Almost entirely. There will be skip spots, fire jumps around, but the places it burns, almost universally every tree is taken out.

Mr. GIBBONS. So what is a healthy—what are the coverage? What is the coverage percentage of pinyon-juniper per acre for a healthy pinyon-juniper forest, if you would say?

Mr. TAUSCH. Again, I'm going to need to provide some background on that because we're getting mixed up again with ponderosa pine. I'll try to illustrate the difference.

Mr. GIBBONS. OK.

Mr. TAUSCH. Again, it is not how much coverage and how many trees per acre. It is how much coverage in a percent of the landscape is trees versus sagebrush.

Mr. GIBBONS. That is what I'm trying to get at. I didn't ask the question properly.

Mr. TAUSCH. OK. I just need the clarification on that.

Two parts to your question. First, about half the area where encroachment has already occurred, and these are areas where seedlings become established but still largely sagebrush dominated, are going to potentially become tree dominated over the next 40 years.

And then as far as beyond that, I have been involved in a recent cooperative study that has involved the Pacific Northwest Research

Station, the U.S. Geological Survey, the Rocky Mountain Research Station, where my part is, and this has been funded by the Bureau of Land Management, has investigated the potential for additional encroachment into new areas as a risk map. The initial results of that indicate that woodlands potentially increase by about another 20 percent over the next 30 years.

I would say the majority of the expansion has already occurred over the last hundred, hundred-fifty, but there is potential for additional in the Great Basin of Nevada. You get up into the Great Basin of Oregon, they could potentially double or triple over what is there now. So it kind of depends on where you are.

Geological Survey has published a map that shows these areas at risk for encroachment. And I can give you the website on that, and if you are interested, I can show you the first pass of the map, if you want to see it.

Mr. GIBBONS. If you want to submit it, we will take it for the Committee record as well.

Mr. TAUSCH. OK. The base of this map is the gap map, which is a remote sensing map of vegetation, and the only areas in the Great Basin where we felt the gap map of pinyon-juniper woodlands was accurate for this map happen to be this area, the three ecological provinces of the high central, where Ely is, and the western part of Nevada. And the areas on this map in red are those in this initial stage are estimated high risk for further encroachment. I'll turn it around so you can see it.

A significant part of that red, the trees have already encroached. They have seedlings in. This is remote sensing from satellite, and if the tree covers below a certain threshold, then it doesn't pick up. They are still registered as sagebrush. That is included on that.

And we have the website where you can see all the background information on that.

Mr. GIBBONS. The red area is where the trees are crowding out the sagebrush.

Mr. TAUSCH. The red area is currently sagebrush that has already seedling trees in it or seedling trees could become established over the next 30 years. The yellow is areas of moderate risk. Due to higher elevation generally or other conditions, there is less of a chance of the trees coming in. And the dark green is areas that are already woodlands.

Mr. TROYER. Correct me if I'm wrong, Robin, but I think the key point here is the red need to be treated; we don't get busy and treat that, it is going to head the wrong direction, we are going to have more of the same. Where already the trees are touching each other, we have already lost the understory. If we don't mechanically treat those lands, we are going to have more intense crown fires with more cheatgrass. I think that's the key point we wanted to make.

Mr. TAUSCH. The red kind of helps identify areas where the treatments can be focused.

Mr. GIBBONS. How many acres are you talking about there that are in the red?

Mr. TAUSCH. I didn't bring that data with me. It's on the website.

Mr. GIBBONS. Is it more than 5,000?

Mr. TAUSCH. For that whole area as a whole it's over a million acres.

Mr. GIBBONS. So if you were limited to 5,000 acres at a time before you had to start doing EIS's and all that, you are talking a hundred years before you'd ever get there. By that time you would have the rest of it filled in.

Mr. TAUSCH. In some ways, though, that is also only half the problem. As Jack Troyer said, we presently have about three or four times the amount of woodland we did a hundred to 150 years ago. But only currently 20 to 25 percent of that expansion woodland areas is tree dominated. Another half of that is going to become tree dominated potentially over the next 40 years, just as the trees are already there grow up, just as they mature.

Mr. GIBBONS. Very briefly, because I want to make sure we have time for the next panel as well, the pinyon-juniper trees that are in this area, what use is there commercially for them? I mean, you can't take them out and log them like traditional people believe forests are going to be logged. But these trees don't have that same kind of value. What value is there in a juniper or pinyon pine?

Mr. TAUSCH. In pinyon in particular, of course, there is firewood and Christmas trees. But work that has been done, apparently they have some very high quality chemicals such as turpentine in them, and they are potentially valuable as a source of fuel.

But what has always interfered with that is transportation costs and the low level of productivity per acre. Although there is a lot of standing biomass out there now, it has taken over a hundred years to grow. There is a very long rotation time as you are trying to harvest and sustain some kind of industry. There are some real challenges in using them, even though there is a number of products that are fairly high quality.

Mr. GIBBONS. I'm just trying to figure out how to reduce the cost to the taxpayer for the mechanical treatment of this by using some commercial application of the product once it's removed from the ground.

Mr. TROYER. Congressman, maybe the BLM has made progress on this as well. But I think a key point here, it is going to take something at a larger scale to make a significant dent in this huge problem.

To me personally, somehow the word biomass has to be a piece of the problem. There is a lot of biomass research for cogeneration plants going on around the West, and figuring out how to do that, or maybe the concept of a mobile cogeneration plant.

Somehow I think to do the acreage that needs to be treated, we have got to be thinking landscape level, big solutions like that. I was wondering, Bob—

Mr. ABBEY. Certainly the Congress has also provided us a tool recently, and that is through rechip contracting. Again, that provides us an opportunity to go out and encourage people to come in and help us through financial incentive to remove some of the woodlands that are going to be thinned.

If I may, Congressman Gibbons, and I know you are short for time, but Robin talked about the threats of loss of woodlands to catastrophic fire and the need for thinning of some of the junipers. The biggest threat in addition to the loss of the woodlands and some of the rangelands associated with wildland fires is the threat of flooding, after we lose the effectiveness of that watershed.

And all you have to do is travel here in Ely to see what might happen to this town should we lose the woodlands that are surrounding this town. And if we happen to have a fire, we're going to have some significant flooding, and that is where most of the damage will likely occur.

Mr. GIBBONS. Plus the influence of soil and runoff that gets into the water systems, clogs up municipal water systems. I mean, the end result is always a lot more catastrophic than the initial fire itself seem to be.

One quick question before I let you go. Talk to me about the cost of treating land before a fire versus cost of treating the land after fire.

Mr. ABBEY. It is certainly a lot cheaper and more cost effective to be proactive in order to go forward and take the actions that are required in order to improve the overall health of these lands. I don't have the specific costs in front of me today, but I can certainly share that information with you and the members of this Committee.

But I tell you, we really need to be investing in our natural resources, because we're going to spend the money one way or the other. I'd much rather spend the money up front to be proactive than to spend the money afterwards through suppression and rehabilitation activities.

Mr. GIBBONS. One final question for you, Mr. Troyer. You are not talking clearcutting anything, are you? You are just talking about thinning and removing of underbrush rather than clearcutting forests.

Mr. TROYER. This is not a clearcutting forest issue; this is a thinning issue.

I also neglected to mention one other sample program that can be part of the solution, one here in Nevada called Fuels for Schools where this material can be chipped up and used to burn and put into boilers and heat schools. So those are the examples of some of the innovative programs.

And if I can add one thing on the pay-me-now, pay-me-later question, is here in the Forest Service, this is the fourth time in our history we have spent a billion dollars in fire suppression. Huge amounts of money. It absolutely can be spent better up front.

Mr. GIBBONS. Looking down at California today, I think you are going to spend a lot of money down there as well.

Well, knowing that the Forest Health Bill does have the biomass utilization provision in it, which is important in things like you have just discussed, I think that's an important issue that we're going to try to push through as well in Congress.

Gentlemen, I know there is a lot more we can sit here and talk about, and Dr. Tausch, thank you for your presentation. We will include your map up there for the record.

And we want to excuse this panel and call up our third panel who will be bringing us additional information. The second panel, if we can call them up today, is: Mr. Steven Robinson, he's the State Forester, Nevada Division of Forestry; John Hiatt, Dr. John Hiatt, he is the Chairman of Board of Trustees of Eastern Nevada Landscape Coalition; Barry Perryman, Dr. Barry Perryman, Assistant Professor, Department of Animal Biotechnology, University of

Nevada-Reno; Larry Johnson, who is part of the Eastern Nevada Landscape Coalition, board member; Rose Strickland, Chairman, Public Lands Committee, Toiyabe Sierra Club, Eastern Sierra Chapter for the Toiyabe Sierra Club.

We have two mikes. You have to share the mike for everybody. I guess we can just start down in the same sense of presentation as I brought out.

So Steve, it's a pleasure to see you again, and the floor is yours. Welcome. We look forward to your testimony.

STATEMENT OF STEVE ROBINSON, STATE FORESTER, NEVADA DIVISION OF FORESTRY

Mr. ROBINSON. Thanks, Mr. Chairman. My name is Steve Robinson. I'm the Nevada State Forester. And I'm here today to represent Governor Kenny Guinn's views and policy on Nevada's forest and rangelands health crisis.

There is no question that the Federal and State governments are at a crossroads—either we take action to reduce the dangerous fuels buildup in our forests and rangelands or we ready our citizens for decades of enduring summers of choking air, reduced use of our public lands, mass evacuation of populations, homes destroyed and human lives lost. And yes, this can happen in Nevada.

Specifically to address today's topic, Nevada's forest and rangeland health, the health of Nevada's rangelands and forests is not well, and it is deteriorating. We are, as you know, Mr. Chairman, a fire-prone State. In '99, almost 1.8 million acres burned in Nevada alone, 1.4 of that in less than a week, and that is the single largest total acres burned in the lower 48 since the Montana-Idaho fires of 1910.

Now some might say that it's just sagebrush, scrub pines, pinyon-juniper, and so what. But the negative effects of that fire year, '99, and an additional three million acres over the last 4 years, have made us more fire prone, as has been testified to, reduced our sagebrush habitat, added to the encroachment of pinyon-juniper, restricted public lands use for everyone, and if this trend is not stopped, we'll lose our sagebrush lands as we know it.

Here in Nevada, 92 percent of our forests are currently composed of pinyon-juniper species, and that is growing. And as an illustration, Mr. Chairman, somebody showed me an overflight photograph of an area in the Douglas/Lyon County area, and my first fire was there about 30 years ago, as a college student, and they showed the density comparison of the pinyon-juniper about that time of the fire, 30 years ago, and the way it is today. Incredible density, a complete canopy over the forest. And I think that is just what you were talking about. That is what we face, unfortunately, all over the State.

The distribution of Nevada wildfires for the last 20 years really show that the majority of the acreage occurs in pinyon-juniper and sagebrush communities. And again, these acres on a national basis are thought of as second-class resources. As a State, we have to fight for fire suppression resources among some of the other Western States, which are thought of to have more valuable resources.

The toll on Nevada wildlife has been severe, tremendous damage to biological resources and environmental qualities. At the end of

the '99 fire storms, for instance, the Department of Wildlife, our Department of Wildlife, estimated habitat losses at almost a million acres of mule deer habitat, 700,000 acres of pronghorn antelope range, and 350,000 acres in the sage grouse habitat area. While at the same time we're trying to fend off a listing of the sage grouse as you mentioned.

In spite of these trends, and I want to assure you that much activity is taking place by the State and local and Federal agencies. These gentlemen that were just up here want to do something. They want to get something done. I work with them on a daily basis, and I can assure you of their sincerity.

Hundreds of fuels projects around the State have been accomplished over the last two or 3 years, and more are planned. But the Federal agencies simply have to accelerate how they do business on their land. The present condition just won't suffice.

On a related subject, or the related subject, at least in my opinion, are fire fatalities, both civilian and firefighter. I have served on the board of directors of the National Firefighters Foundation for about 10 years now, and each year approximately a hundred firefighters die in the line of duty. This year almost 30,000 of those fatalities were in wildland fire, and the numbers are increasing.

Clearly, even with the increased emphasis on safety, and we have fixed how we fight fires over the last few years, we fight them better and more safely, but the advent of these larger, hotter, longer duration fires cost lives. I'm absolutely certain of it. There is a change between how many we have lost 20 years ago and what we're losing now.

I know you, Congressman Gibbons, made an effort, a very vigorous effort to supply us with an air fleet more suitable for modern fire suppression, and I can assure you the fire service appreciates your efforts, sir.

But this issue of restoring forest health, reducing unplanned catastrophic fires is not just a debate among competing land interests whether you can use the land or can't use the land. For firefighters it gets down to a life and death issue. And in your deliberations, I would just request that you consider that also.

That concludes my testimony, Mr. Chairman.

Mr. GIBBONS. Thank you very much, Mr. Robinson.

[The prepared statement of Mr. Robinson follows:]

Statement of Steve Robinson, Nevada Division of Forestry

Mr. Chairman:

My name is Steve Robinson—I'm the Nevada State Forester and am here today to represent Governor Kenny Guinn's policy on Nevada's forest health crisis.

There is no question the Federal and State governments are at a crossroads—either we take action to reduce the dangerous fuels buildup in our forests and rangelands or ready our citizens for decades of enduring summers of choking air, reduced recreation lands, mass evacuation of populations threatened by wildfire, homes destroyed and human lives lost, and the severe reduction of our sagebrush environment.

Here in Nevada 92% of our forests are currently composed of pinyon and/or juniper species. Forests in the State of Nevada have fluctuated dramatically in their composition and geographic position. Currently, these forest types appear to be expanding, while other forest types, such as aspen, are decreasing. The impact of pinyon-juniper expansion is also impacting the brush and grassland areas in the state. This is a direct result of the interruption of fire as a natural disturbance regime.

Insect-caused mortality combined with other diseases and the interruption of normal fire cycles have resulted in overstocked and/or over-mature forested stands. These stands, when faced with now over 13 years of drought, are showing significant increases in mortality.

Consequently, these conditions lead to large, catastrophic wildfires which are devastating the natural ecosystems in Nevada and other western states.

From 1999 to 2001, over 2 million acres of federal land and 124,000 acres of state and private land have been surveyed by the U.S. Forest Service and Nevada Division of Forestry, to determine forest health conditions and trends. This report is included in your packet. The effects of long-term drought and increased insect activity has become extremely evident throughout Nevada.

Insect and disease caused tree mortality in Nevada has increased from under 50,000 trees in 1988 to over 250,000 trees in 1993. Unfortunately, forest mortality in Nevada is continuing to increase and, of the counties surveyed in 2001, almost 26,000 trees covering 12,000 acres have died from insect and disease outbreaks. In White Pine County alone over 14,000 trees totaling 5,000 acres have died from insect and disease outbreaks in just the year 2001.

This area, along with Elko County, have a Douglas Fir tussock moth outbreak, as well, on over 4,000 acres. Fir engraver beetle activity is heavy in the Ely, Nevada area, and the Mt. Pine beetle has caused tree mortality to increase from 11,000 trees in 1998 to over 43,000 in 2000 in the intermountain region.

Because the aerial survey could not fly the entire Pinyon-Juniper forest cover type in 2001, the extent of pinyon pine mortality is assumed much larger than the recorded coverage. This poses an increasing threat to populated areas in the urban interface.

The distribution of Nevada wildfires from 1981 through 2000 shows that the majority of the wildfire acreage occurs in Pinyon-Juniper and sagebrush communities. These areas are often thought of as second-class resources, but, in fact, are the key to the Great Basin environmental future.

From 1999 to 2001, almost 3,800 fires burned approximately 3.25 million acres in Nevada. At the same time, expanding development of rural/small towns in these Pinyon-Juniper woodlands is increasing dramatically.

These Nevada towns are surrounded by public lands. Allowing for greater flexibility in forest management of the Great Basin forests by the public land management agencies is the answer to treatment within the urban interface and across the landscape. We need every tool in the tool box to begin this effort which comprised millions of acres.

Conifer forests along the western edge of the state along the Sierra also continue to experience bark and engraver beetle epidemics. This epidemic began in the late 1980's in response to eight year drought and heavily stocked forest stands. These beetles killed over 1.2 million trees from 1985 through 2000.

Especially troubling is the cumulative, long-term cultural and natural resource threats and losses caused by the greater intensity and number of large wildland fires in recent years.

These fires threatened and took human life, killed livestock and destroyed structures, such as homes, fences, water developments, bridges, ranch buildings, and power lines. Clearly public policy must address this problem.

The toll on wildlife in Nevada has been catastrophic. Tremendous damage to biological resources and environmental quality caused by the extraordinary wildfire behavior shows no signs of abating.

- At the end of August 1999 fire storms, the NDOW estimated habitat losses for some game species in the Pinyon-Juniper woodland and rangeland ecosystems:
- 340,000 acres of deer winter range;
- 305,000 acres of deer summer range;
- 668,100 acres of pronghorn antelope range;
- 45,500 acres of bighorn sheep range were seriously impacted; and
- Estimated almost 350,000 acres sage grouse habitat burned.

These catastrophic fires clear the way for invasion of non-native invasive and noxious weeds. Cheatgrass, a flammable nonnative annual grass, is just one of the invasive weeds taking hold of the understory of shrub and Pinyon/Juniper communities, eventually forming monocultures.

Weeds such as white top, cheat grass, tamarisk, and Russian knapweed are only a few of the well-known noxious and invasive weeds threatening our state's natural resources.

This invasive and noxious weed crisis is one of the most aggressive threats to agriculture, wildlife and our public wildlands that Nevada has seen. Make no mistake, we are losing this battle.

In spite of these alarming trends, I want to assure you much activity has taken place by your state, local and federal agencies, especially since the 2001 Congressional Fire Plan legislation. There are several efforts in the State of Nevada to address and reverse these negative trends in forest and rangeland health.

Nevada State Plant Production nurseries and native Seedbank: Nevada Division of Forestry, Nevada Department of Agriculture, U.S. Forest Service, and the Bureau of Land Management and others, have joined together to improve the current Nevada native plant materials program. The goals are to increase and improve the current native plant and Seedbank program to help meet the upcoming needs for native and adapted plant materials. These materials will enable agencies, counties, and individuals to have easier, more efficient and affordable access to native plant materials for restoration of streams, forests, agricultural lands and rangelands impacted by weeds, insect and disease, and disasters, such as flood, fires and drought. Working groups between all public and State land management agencies is occurring.

Noxious and Invasive Weed Control: All branches of the Department of Natural Resources, and the Federal Land Management agencies are working diligently with weed action groups, local governments and private individuals to put the stop to the increasing spread of these devastating weeds.

The Nevada Department of Agriculture, Cooperative Extension services have been the lead in developing Weed Action groups and Cooperative Weed Management areas throughout our state.

Biomass utilization: Efforts to reduce the fuels, thin the forest and remove dead trees from the forests have been inhibited by disposal or use of the remaining slash and wood. Small wood products industries are being explored as well as utilizing the wood chips and fuel for public buildings' heating source.

Fuels For Schools, a program partnership between the City of Ely and Nevada Division of Forestry, is beginning its first pilot project. This project is in the feasibility assessment stage at a local grade school and holds great promise.

Fuels Reduction efforts: In partnership with these federal agencies, the Nevada Division of Forestry through the National Fire Plan has issued over 300 grants to communities, individuals, organizations and volunteer fire departments for the reduction of fuels, fire safe planning and wildfire response.

Over 300 acres in Wilson Canyon and Mt. Charleston area are being treated in efforts to protect over 600 homes and private parcels. Multiple smaller towns in Northern Nevada are currently working on fire protection and fuels reductions in the interface including: Ely, Baker, Austin, Pioche, Manhattan, and Jarbidge, just to name a few. Nevada Division of Forestry is also working with Glenbrook and Incline Village in Lake Tahoe and others across the Sierra front.

Nevada's forests, rangelands and agriculture are at risk. These resources face high risk of catastrophic fire and weed infestations which may not be reversible if we continue at our current rate of treatment and land management funding levels.

Decades of an accumulation of dense undergrowth and brush, along with drought conditions, insect infestation and disease and invasion by exotic species leave our state highly vulnerable to these environmentally destructive disasters. The long-term effects of these threats to lives, property and economics is clear. We must support actions to expedite high-priority fuel reduction and forest and rangeland restoration projects in our State and in our Nation.

Finally, on the subject of fire fatalities, and if I might, Mr. Chairman, I have served on the Board of Directors of the National Fallen Firefighters Foundation for 10 years. Each year approximately 100 firefighters die in the line of duty.

This year, almost 30% of those fatalities are in wildland fire—and the numbers are increasing. Clearly, even with an increased emphasis on safety—the advent of larger, hotter, longer duration range and forest fires are killing an increasing number of young men and women. And I know, Congressman Gibbons has made much an effort to supply us with an air fleet more suitable for modern fire suppression. The fire service appreciates his efforts, sir.

But this issue of restoring forest health and reducing unplanned catastrophic fire is not just a debate among competing ideologies—it is one of life and death to firefighters and I would ask you to consider that in your deliberations.

Thank you for the opportunity to appear before you.

References:

Nevada Natural Resources Status Report—Nevada Department of Conservation and Natural Resources.
Boise Interagency Fire Center website.
Western Great Basin Coordination Center website.

Insects and Disease in the Intermountain Region, 2001, S. Munson, USFS Entomologist.
Nevada Forest Health Highlights—2001, USDS, USFS.
2001 Forest Insect and Disease Conditions in Nevada; USDA, USFS, Nevada Division of Forestry.

[NOTE: An attachment to Mr. Robinson's statement entitled "2001 Forest Insect and Disease Conditions in Nevada; USDA, USFS, Nevada Division of Forestry," has been retained in the Committee's official files.]

Mr. GIBBONS. We turn now to Dr. Hiatt. Welcome.

STATEMENT OF JOHN HIATT, CHAIRMAN, BOARD OF TRUSTEES, EASTERN NEVADA LANDSCAPE COALITION

Dr. HIATT. Good morning. Thank you, Mr. Vice Chairman. My name is John Hiatt, and I'm Chairman of the Eastern Nevada Landscape Coalition, also known as ENLC.

ENLC is a partnership of over 60 citizen groups, including the Nevada Cattlemens Association, the Nature Conservancy, Nevada Bighorns Unlimited, the Sierra Club, Fraternity of Desert Bighorn, Red Rock Audubon Society, and many others. These disparate groups have set aside their philosophical differences to work together to solve the very critical problems in the Great Basin. This is a precedent-setting endeavor.

The problems of the Great Basin can and will be solved by a basic two-pronged approach. One, the collaboration of citizen groups with land managers; and two, the application of good science.

The problems we are facing include: The increasing dominance of woody plants, such as pinyon and juniper trees, and decadent sagebrush, the increasing catastrophic fires that threaten both people and vegetative communities of the Great Basin, invasive exotic plants replacing native plants, loss of fertile topsoil, decreasing water quality and surface availability of that water, decreasing productivity of the lands for a variety of uses.

I need to stress that all of these problems strongly affect the people now living in the Great Basin. Just as importantly, this unique ecologic treasure is being stolen from this and future generations. Allow me to expand upon the natural systems at work.

Fire has historically played a critical, beneficial role as the major disturbance factor in maintaining healthy landscapes in the Great Basin. However, fire has become a catastrophic threat rather than a tool to improve landscape health. Climate variation, changes in disturbance regime due to improper grazing, fire suppression, not aggressively controlling invasives, and the failure to adapt our management have all contributed to our worsening situation.

A collaborative approach is the key to dealing with these problems. Mr. Vice Chairman, people solve conservation problems by getting involved. In Eastern Nevada we are marshalling the combined forces of the management agencies, conservation organizations, and academic scientists, as well as community leaders and permittees, to solve these problems. The solution is management based on science. Several points in regards to management and science must be stressed.

One, management must take a large-scale approach. Management must be implemented with the understanding that all components of landscape are linked and that evaluating health, not pro-

duction, will result in management benefiting this and future generations. In the words of Bob Abbey, BLM Nevada State Director, it's about outcomes rather than outputs.

Two, research must be usable. Research needed to support management must be applied research. For instance, we need to better understand the role of fire, climate, and other disturbances in the dynamics of Great Basin vegetation regimes to enable the systems to manage themselves. We have to concurrently implement management and research in an adaptive process.

Three, analysis must tell us condition rather than what we can use. In an innovative move, the Ely BLM is using State and transition models in understanding the changes that have and are taking place. State in this context means vegetative State or community, and transition refers to an event in which an existing plant community is replaced by a different one. For instance, pinyon-juniper going to cheatgrass.

When a threshold is crossed, it is difficult to return to the previous state.

Four, we must resist invasive weeds. We need to increase our knowledge and develop tools for dealing with invasive non-natives and also support the Tri County Weed District.

Five, there is a need for a research facility to facilitate research, coordinate research efforts, and act as a central point for research and restoration information in the Great Basin. This effort would have both national and international implications.

Six. Mr. Chairman, the Vice Chairman, the Great Basin is slipping away as we speak. We cannot afford to allow things to go on as usual. For instance, we are losing about 50,000 acres per year of sagebrush to pinyon-juniper dominance.

Seven, pertaining to the Healthy Forest Initiative, unlike in the forest of the Northwest, in the Great Basin there is no sustainable commercial product in sufficient quantity to sustain funding for restoration for management in the Great Basin. It is one potential method for supporting restoration, and while it may be sustainable over time, the Great Basin will not produce wood products of sufficient value on a per acre basis to provide more than a moderate percentage of the funds needed.

Eight. Funding for these efforts is needed so we may slow and then reverse the decline of the Great Basin condition.

Mr. Larry Johnson will talk about wild horses, but I would like to use wild horses to make an analogy. 1971, Congress passed the National Wild and Free Roaming Horse and Burro Act. In the year or two after that there was an opportunity for ranchers to claim horses. Just a little bit of bureaucratic hassle involved, but they could claim those horses. In Utah, that happened, and most of the horses were removed from the range at that time.

It did not happen in Nevada, and it didn't happen in most of the rest of the West. The result is that today between 30 and 35 million Federal dollars are spent every year managing wild horses, and there is no light at the end of the tunnel. This is a black hole that we will be spending money on forever unless we significantly increase funding.

We're in the same kind of position with regard to managing our wildlands in the Great Basin. We can either act now and spend

some money or we will spend huge amounts of money indefinitely in the future.

In closing, the ENLC is an imaginative approach to solving the problems in the Great Basin. The region's problems are landscape in scope, and the health of these landscapes is slipping away. The ENLC is a partnership of those who care for and work the land working side by side with those who manage the land with the people of our country. The tools being used are both management and the best science, both from existing information and applied research, with input from many sources to support that management.

We are grateful to this Subcommittee for recognizing the serious problems facing both this region and the Nation, and thank you and the members of this Subcommittee for the opportunity to share our views. I would be happy to answer any questions.

Mr. GIBBONS. Thank you very much, Dr. Hiatt.

[The prepared statement of Dr. Hiatt follows:]

Statement of John Hiatt, Ph.D., Chairman of the Board of Trustees, Eastern Nevada Landscape Coalition

INTRODUCTION

Thank you, Mr. Chairman. My name is John Hiatt and I am Chairman of the Board of Trustees for the Eastern Nevada Landscape Coalition (ENLC, the Coalition) with headquarters in Ely, Nevada. The coalition is a partnership whose mission is to restore ecological health to the Great Basin. We appreciate your invitation to participate in today's field hearing to discuss forest and rangeland health in Nevada's Great Basin. The Coalition supports the concept of the President's Healthy Forest Initiative and H.R. 1904, the Healthy Forest Restoration Act of 2003 and sees them as one conduit to bring awareness and assistance to the precarious situation faced by the ecological systems in the Great Basin.

It is our intent today to provide you with information on

- The Eastern Nevada Landscape Coalition, and our perspective on the natural resource challenges in the Great Basin (particularly in Nevada),
- The natural systems within the Great Basin
- The significance of our collaborative approach
- The science base for our activities
- Specific needs for eastern Nevada and
- A brief summary statement.

THE EASTERN NEVADA LANDSCAPE COALITION

The Eastern Nevada Landscape Coalition is a community-based partnership of 60-plus diverse non-federal members whose goal is to support the restoration of the Great Basin landscapes, initially in eastern Nevada. ENLC partners include agricultural, conservation, cultural and environmental interests, plus members from private enterprise and the broader general public. It is a unique collaboration which has come together to address the very critical problems in the Great Basin. We have set aside philosophical differences to work together in this precedent-setting endeavor. In short, it is diverse collaboration ranging in perspective from the Toiyabe Chapter of the Sierra Club to the Nevada Cattlemen's Association.

Allow me to share a little bit about needs in the Great Basin.

The Great Basin Desert epitomizes the American West. It's 135,000 square miles of expansive, rugged, harsh, arid land ... and yet at the same time, beautiful, inspiring and reassuring. It is a unique heritage site, unlike any other in the world. It covers a large portion of Nevada and extends into Utah, Idaho, Oregon and California. In its confines, rivers surface and disappear, monsoonal rains both replenish and devastate areas living under the annual specter of drought, wild horses run free, and north-south running mountain ranges, sometimes referred to as sky islands, are separated by seas of sagebrush and grasses. It is home to mule deer, desert bighorn sheep, antelope, elk and other less well known species of wildlife. The Great Basin is home to Native Americans, descendants of pioneers and recent emigrants, all who choose this panoramic region as a place to live. Simply put, it is a unique national treasure whose diversity is threatened.

The Great Basin, as we have known it, is changing; in fact, it is slipping away. Catastrophic fires, invasive-exotic weeds and grasses and domination by woody

plants, are the lead problems facing the region, and are stealing from future generations. Historically, fire was a relatively frequent agent of renewal and rejuvenation, both on the valley floors and in the mountains releasing sagebrush, native grasses and wildflowers from competition. This renewal provided a healthy mosaic of vegetation and habitat for wildlife and livestock. These resilient conditions have been replaced by less frequent, larger and more intense fires that encourage the invasion of exotic plants, lower water quality, increase erosion and dramatically reduce wildlife habitat. Because of this reduction in the natural resource base, recreational opportunities are declining and local economies are negatively affected.

The people of the Great Basin are facing the following problems:

INCREASING DOMINANCE OF WOODY PLANTS SUCH AS PINION AND JUNIPER TREES.

Pinion and Juniper (P/J) are an integral component of the sagebrush/grass/pinion/juniper complex while at the same time there are distinct P/J woodland communities. However, because of past management and fire suppression, woody species (including sagebrush) have begun to dominate sites of healthy sagebrush and perennial grasses. This results in increasingly closed canopy shading out native perennial grasses. This has the effect of reducing the traditional disturbance regime, which was renewing the various landscapes. That primary disturbance is fire.

FIRE IS A NATURAL EVENT.

Fire has historically played a critical, beneficial role as the major disturbance factor in maintaining healthy landscapes in the Great Basin.

But increasingly, fire has become a catastrophic threat rather than a tool for maintaining health. Climate variation, changes in the disturbance regime from improper grazing, fire suppression, not aggressively controlling invasives as well as the failure to adapt our management have all contributed to our current degraded condition.

This has resulted in the domination of woody species in the herbaceous/sagebrush/pinyon-juniper complex as well as elevated fuel accumulations in woodlands. As a result, the naturally recurring, relatively benign, wildland fires of yesteryear, which rejuvenated the land and released native grasses and wildflowers, giving them competitive advantage over shrubs have largely disappeared. The reduction in fine fuels (grass) and increase in woody fuels has increased the danger of large, dangerous fires that threaten both people and the Great Basin itself. These fires burn with such heat that the seed sources below them are destroyed. The resulting decrease in ecological resiliency to fire favors: accelerating erosion, invasion of exotic vegetation, reduced diversity, limits habitat for certain high profile species and, the almost unrecoverable alteration of vegetative communities.

INVASIVE EXOTIC PLANTS REPLACING NATIVE PLANTS.

Exotic invasives tend to be more adapted to frequent fires and seize every opportunity to replace perennial grasses. The rapid expansion of noxious weeds and non-native annual grasses (which are more fire adaptable), i.e., cheatgrass, have replaced the widespread native perennial bunchgrasses, wildflowers and shrubs. Entire mountainsides and/or valleys have lost their ecological diversity as well as potential for wildlife habitat. Water quality has been degraded and water quantity decreased. Forage for wild horses and livestock has become reduced and undependable. Because of this reduction in the natural resource base, recreational opportunities are declining, traditional cultural values are at risk and local economies are threatened. As a result of denuded landscapes, critical topsoil resources are lost.

I need to stress that all of these problems strongly affect the people now living in the Great Basin. But, just as importantly, these problems are also stealing the heritage of this and future generations which is this unique national ecological treasure. The problems of the Great Basin can and will be solved by a basic two pronged approach, (1) the collaboration of citizen groups with land managers and (2) the application of good science. These problems are being addressed through improved management supported by collaboration and better science.

OURS IS A COMPREHENSIVE APPROACH to a Basin-wide problem. A collaborative approach is the key to the solutions to these threats. People solve conservation problems by getting involved. In eastern Nevada we are marshalling the combined forces of the management agencies, conservation organizations, wildlife groups, and academic scientists as well as community leaders and permittees to solve these problems.

These problems will not be solved without management and that management must be based on science. The BLM Eastern Nevada Landscape Restoration Project (ENLRP) is supported by the first four points found below. The four points that fol-

low are recognized by the Coalition as critical to achieving the goal of restoring ecological health to the Great Basin.

1. MANAGEMENT MUST TAKE A LARGE-SCALE APPROACH. The management must be implemented with the understanding that components of the landscape are all linked and that evaluating health, not production, will result in being able to implement management for long-term benefits for this, and future generations.
2. RESEARCH MUST BE USABLE. Research needed to support management must be applied research. For instance, we need to better understand the role of fire, climate and other disturbances in the dynamics of Great Basin vegetation regimes to enable the systems to manage themselves. We have to concurrently implement management and research in an adaptive process. Currently, there is ongoing applied research looking at the topics of birds and small mammals, hydrology and cheatgrass control but more is needed.
3. ANALYSIS MUST TELL U.S. ABOUT CONDITION AND HEALTH RATHER THAN WHAT WE CAN USE. In an innovative move under the ENLRP, the Ely BLM is using vegetation state and transition models in understanding the changes that have and are taking place. BLM is also implementing adaptive management in compliance with legislation and regulations to improve the management of resources.
4. WE MUST RESIST INVASIVE WEEDS. We need to increase our knowledge of techniques and develop tools for dealing with invasive non-natives and support the Tri County Weed District. We also must increase funding to curb the increase in invasives.
5. A RESEARCH FACILITY. The problems faced in the Great Basin have commonality with those faced in arid environments throughout the world. Problems people commonly face include desertification, inadequate knowledge of landscape scale restoration practices, maintaining water quality and quantity and developing a perspective of long-term management goals. Moreover, people often are confronted with major problems in attempting to attain a level of sustainable land use because of inadequate knowledge. Acquiring adequate knowledge for managing the Great Basin is needed and it can come from two sources, adaptive management (with appropriate monitoring) and applied research. There is a crying need for a research facility located in Eastern Nevada to facilitate research, bring research into coordination with management and act as a central point for Research and restoration information in the Great Basin. We envision a facility that not only provides much-needed testing and innovations for restoring the Great Basin, but also acts as a conduit to share knowledge with other locations as well as visiting scientists from throughout the globe.
6. THE GREAT BASIN IS SLIPPING AWAY, NOW. We cannot afford to allow things to go on "as usual." Please see Perryman et al's paper on the Ecological Cost of Doing Nothing.
7. Pertaining to the healthy forest initiative; unlike in the forested northwest, in the Great Basin there is no sustainable COMMERCIAL forest PRODUCT in sufficient quantity and of great enough value to sustain funding for restoration or management IN THE GREAT BASIN. It is one potential method for supporting restoration, and while it may be sustainable, the Great Basin will not produce wood products in sufficient quantity or quality to support more than a moderate percentage of the funds needed.
8. FUNDING FOR THESE EFFORTS IS NEEDED so we may slow and then reverse the decline of the great basin condition.

In CLOSING: The ENLC is an imaginative part of the approach to solving the problems of the Great Basin. The Great Basin's problems are landscape in scale, and the health of these landscapes is slipping away. The ENLC is a partnership of those who care for and work the land, working side by side with those who manage the land for the people of our country. And the tools being used are both management and the best science (both from existing information and applied research) with the input from many sources to support that management.

We are grateful to this subcommittee for recognizing the serious problems facing both this region and the nation and thank the Chairman and members of this subcommittee for the opportunity to share the views of the Eastern Nevada Landscape Coalition.

Mr. GIBBONS. Turn now to Dr. Perryman. Welcome. The floor is yours.

STATEMENT OF BARRY PERRYMAN, ASSISTANT PROFESSOR, DEPARTMENT OF ANIMAL BIOTECHNOLOGY, UNIVERSITY OF NEVADA-RENO

Dr. PERRYMAN. Thank you. Appreciate it.

Mr. GIBBONS. If you want to pull that microphone just a little bit closer.

Dr. PERRYMAN. How is this? I thank the Committee for the opportunity to be able to speak today, and what I'd like to do really is try and frame what we have already been talking about in reality a little bit more and deal with the scope of the problem.

Land managers have over the past several decades suppressed fires effectively allowing succession, that is the change in plant community species over time, to proceed to a point where we now have millions of acres supporting plant communities that are in very late seral stages, dominated or encroached by woody species. Many of these sagebrush communities, and that's what we're talking about today primarily are sagebrush communities that have trees on them now, have crossed successional thresholds. The loss of perennial herbaceous understory, that will require additional inputs of energy and dollars to accelerate and direct succession in a way that society desires.

We have created a homogenous landscape that now threatens to limit our management options, reducing our ability to provide ecosystem services valued by society. We suppressed fire for the past several decades with the approval of society because we wanted what the landscape gave us at that time.

In the past we were influenced by the pristine management paradigm, the idea that ecological systems were static entities that could be held in a static condition if we protected them from burning and other disturbances. We desired a condition that resembled the landscape at the time of European settlement. We now know that this was an impossible goal. We cannot go back to the conditions of 1850. However, active, dynamic, disturbance regimes prior to European settlement created the landscapes that fostered the values so highly prized by our society.

Plant communities do not develop to a point and become static. They continue to develop and change until some disturbance like fire sets the successional process back to earlier stages. If we are talking about successional time scales, recovery and change may be inevitable. However, centuries and millennial time scales are not acceptable to society. We must intervene in the successional process on millions of acres before succession develops stages that are too expensive or beyond our technological abilities to mitigate in a reasonable time scale.

We must manage the landscape instead of taking the protection course that we have been pursuing for the past several decades. By protecting it from disturbance we severely limit or destroy our options for the future.

To be successful in this endeavor we as a society must begin to initiate a paradigm shift with respect to our management of these lands. Past management approaches have generally been reactive. For example, large burn areas in recent years have received concentrated, intense rehabilitation efforts. The merits of fire rehabilitation are unchallenged and should continue.

However, reactive management activities have dominated land management practice while little attention has been given to proactive management. We must begin to intervene in the successional process rather than rely entirely on reactive activities and their associated funding.

We must overcome the institutional inertia within our society, government, and land management agencies that is dedicated to the reactive management approach. We must allow disturbances to be active and manageable on the landscape. In order to achieve this paradigm shift, we must be more proactive in our management strategies. In our management strategies certainly we have to take into consideration the scope of the problem.

BLM—and Bob can correct me on this—BLM gets about one dollar an acre to manage lands in Nevada. About a dollar an acre. Ten dollars an acre would be a good start.

The scope of the problem is amazing. Robin alluded to the process that's going on out there. We probably—and Robin could probably give us better figures than I can right now—but we could probably treat a million acres this year and not gain anything. The problem is that large behind us. If we treated a million acres this year, we might just break even.

In 1999, there were approximately 1.8 million acres that burned in Nevada. Out of that 1.8 million acres, about 400,000 acres received rehabilitation practices, and out of that 400,000 acres, about 80,000 acres received 100 percent native seed rehab. That's because all of the native seed on the market was purchased.

We don't have the resources to do what we need to do now. It's not there. And the process is just continuing to grow and grow.

What is good habitat today, excellent habitat today, will not be excellent habitat in 40 years. It changes on the landscape. And we have to recognize that fact, and I don't think we do a very good job of that in society as a whole.

But the magnitude of the problem is just immense, and the seriousness of it, the timeliness of it is strategic. Three generations from now, two, three generations from now, if we don't do something on a large scale, we will not see the Great Basin as we know it today.

That's not my opinion; you can look it up. That's reality. So thank you.

Mr. GIBBONS. Your opinion is very valuable to this Committee. I was just thinking about the one billion dollars.

[The prepared statement of Dr. Perryman follows:]

Statement of Barry L. Perryman, Ph.D., Assistant Professor, Department of Animal Biotechnology, University of Nevada-Reno

VIEWPOINT

EASTERN NEVADA LANDSCAPE COALITION POSITION

THERE ARE CONSEQUENCES OF DOING NOTHING IN NATURAL RESOURCE MANAGEMENT. WHAT ARE THEY?

By Barry L. Perryman, Robert E. Wilson, and William I. Morrill

Fire disturbance has played an integral role in the ecology and development of semi-arid plant communities throughout western North America. Altered fire intervals and regimes since European settlement have led to pervasive alterations in species richness, diversity, fuel loads, and associated processes such as nutrient cycling and biogeochemistry within native rangeland plant communities.

Disruptions have occurred at multiple spatial and temporal scales. Consequently, values prized by society such as water quality and quantity, minimal soil erosion, wildlife and domestic animal habitat (including sagebrush and other obligate species), and ecological integrity have been compromised to varying degrees. This is particularly true in the sagebrush ecosystems of the western U.S.

Fire intervals and regimes changed in the late 1800s during European settlement as a result of newly imposed grazing systems for domestic animals, introduction of exotic plant species, construction of fire breaks (e.g., roads, crop agriculture), and fire suppression activities. Consequently, fire frequency, severity, seasonality, and spatial extent have changed.

For example, at the higher elevations and moisture levels (e.g., sagebrush-grassland communities), lengthened fire intervals have resulted in pinyon and/or juniper encroachment. This has led to progressive decreases in fine fuels while increasing woody fuel loads.

Species richness and diversity decline dramatically as overstory canopies close. In contrast, the lower elevation, drier communities (i.e., Wyoming big sagebrush-grasslands and salt desert shrub communities) have been invaded by exotic annual grasses (e.g., cheatgrass) resulting in increases in fine fuels, decreases in woody fuels and increased fire frequency.

Cumulative non-ecological results in both of these situations are an increased risk to human life and p r o p e r t y, and incredibly high fire management costs.

Two Primary Concerns

Two major problems resulting from past fire suppression activities are common to the sagebrush ecosystem:

1) Longer time periods between fires (lengthened fire intervals) at higher elevations (higher precipitation zones) have allowed various junipers and/or pinyon pines to encroach into mountain sagebrush grassland communities.

In the Great Basin, juniper and pinyon are relatively long-lived species (approximately 1,000 and 600 years, respectively). Depending on specific location, U.S. Forest Service researcher Robin Tausch estimates that 66 to over 90% of individual trees are less than 130 years old. Fire return intervals have increased from 12-25 years to over 100 years.

These communities lose the perennial herbaceous and shrub understory as the canopy closes in large part due to competition from the encroaching conifers. This encroachment further leads to unmanageable fuel loads and very intense fires resulting in final loss or elimination of perennial understory species, and loss of the original sagebrush habitat.

Without a healthy understory, these disturbed communities become susceptible to annual brome or other invasive species establishment, further reducing habitat quality for sagebrush obligates and other species both wild and domestic, that utilize sagebrush habitats.

2) At mid and lower elevations, longer fire intervals have created decadent, climax sagebrush systems that dominate very large areas on the land scape.

These communities have lost the perennial herbaceous understory in large part due to competition from dense competitive sagebrush plants. The shrub overstory in these systems is continuous and contiguous leading to fuel continuities that burn hotter and more extensively than normal.

These areas have also been invaded by the introduced annual brome, "cheatgrass." This species is very successful since there are no perennial, herbaceous species to compete with. After extensive fires in these systems, cheatgrass proliferates even more because fire removes sagebrush (and other shrubs), the only competitor in the system. As fire intervals become shorter due to the fuel loading of the annual brome, areas that a single generation ago were sagebrush grasslands, can be converted to annual grasslands dominated by non-indigenous species.

The geographic scale of these problems is overwhelming. Millions of acres are currently in need of fire/fuel management and rehabilitation/restoration treatments. These problems are common to much of Nevada, including much of White Pine County.

Consequences Today

Plant community succession is a dynamic process that occurs even in "hands-off" management situations. The endpoint of the successional process is not a static condition, it is in reality a cliff from which the community can fall, leading to disastrous ecological results. Consequences of doing nothing are not acceptable societal values.

Intervention in the successional process allows society to maintain options for the future. For instance, if we continue to allow encroachment and canopy closure of

pinyon/juniper communities into sagebrush communities, understory species (including both sagebrush and herbaceous species) will disappear because they cannot compete with the conifers for water, nutrients, and light.

As these plants die off, bare ground increases under the conifer canopy. Bare ground is highly susceptible to erosion. A single, major precipitation event will move millions of tons of topsoil into stream and riparian systems, reducing water quality everywhere downstream of the source.

Bare ground is also highly susceptible to invasion by annual brome grasses and other noxious weeds. Disturbed areas are always colonized by weedy species, and when there are no native perennial species to act as a competitive buff e r, introduced annuals (cheatgrass) will proliferate to a point where only inputs with extremely high economic costs (reseeding etc.) will mitigate the situation. In both scenarios, management and value options are limited.

Without topsoil, we cannot expect the area to return to a similar sagebrush ecosystem without extreme mitigation measures (unless a several thousand year time period is acceptable to our society!).

An annual grassland will not recover and return to a sagebrush ecosystem without tremendously expensive inputs and several decades of time. If the ecological potential of a site is lowered, management and value options are decreased. For example, we cannot manage for some types of sage grouse habitat if we have no topsoil on a given area or if the area is an annual brome grassland.

Intervention in the successional process through management of introduced fire or other means allows society to maintain management and societal value options for the future.

The Successional Process

Natural resource or land management is the manipulation of the successional process so the resource can provide the qualities, products, and values society desires. As land managers we can only accelerate and direct succession. We accelerate it by introducing propagules into disturbed areas rather than waiting for natural processes such as seed rain to occur.

We direct succession by introducing disturbances such as fire and herbivory to achieve plant community compositions that provide products or services determined by society.

Ecologists and land managers understand that a diverse landscape (in terms of the mix of different plant community types and species within those communities) provides more opportunities to achieve the objectives that society desires. In the sagebrush ecosystem, we currently have a homogenous situation rather than the heterogeneous one we desire.

Current conditions are a result of many past management practices, in particular fire suppression. Fires have been passively suppressed since European settlement by alterations in fuel loads and establishment of roads, and actively suppressed since about 1940 when motorized vehicles and aircraft with capacities to haul large quantities of water became available. For the previous 2.5 million years (since the beginning of the Pleistocene), fire was prevalent on the landscape, initiated by both natural and for the last several millennia, anthropic ignitions by Native Americans. Fire was a "natural" intervening disturbance in the successional process, periodically removing woody vegetation such as sagebrush and pinyon/juniper, effectively setting the successional process back a few stages. Succession would then move back to stages that supported more woody vegetation, and so the process continued with this cyclic nature providing a heterogeneous landscape.

Land managers have, over the past several decades, suppressed fires, effectively allowing succession to proceed to a point where we now have millions of acres supporting plant communities that are in very late seral stages, dominated or encroached by woody species. Many of these sagebrush communities have crossed successional thresholds (e.g., loss of the perennial, herbaceous understory) that will require additional inputs of energy and dollars to accelerate and direct succession in a way that society desires. We have created a homogeneous landscape that now threatens to limit our management options, reducing our ability to provide ecosystem services valued by society.

We suppressed fire for the past several decades with the approval of society because we wanted what the landscape gave us at that time. In the past we were influenced by the pristine-management-paradigm, the idea that ecological systems were static entities that could be held in a static condition if we protected them from burning and other disturbances.

We desired a condition that resembled the landscape at the time of European settlement. We now know this was an impossible goal.

We cannot go back to the conditions in 1850 AD. However, active dynamic disturbance regimes prior to European settlement created the landscape that fostered the values so highly prized by our society.

Plant communities do not develop to a point and become static. They continue to develop and change until some disturbance (e.g., fire) sets the successional process back to earlier stages. If we are talking about successional time scales, recovery and change are inevitable. However, centuries and millennial time scales are not acceptable to society.

We must intervene in the successional process on millions of acres before succession develops stages that are too expensive or beyond our technological abilities to mitigate in a reasonable time scale.

We must manage the landscape instead of taking the protection course we have been pursuing for the past several decades. By protecting it from disturbance, we severely limit or destroy our options for the future.

To be successful in this endeavor, we as a society must begin to initiate a paradigm shift with respect to our management of these lands. Past management approaches have generally been reactive. For example, large burn areas in recent years have received concentrated, intense rehabilitation efforts. The merits of fire rehabilitation are unchallenged and should continue.

However, reactive management activities have dominated land management practice while little attention has been given to proactive management. We must begin to intervene in the successional process rather than rely entirely on reactive activities and their associated funding.

We must overcome the institutional inertia within our society, government, and land management agencies that is dedicated to the reactive management approach. We must allow disturbances to be active and manageable on the landscape. In order to achieve this paradigm shift, we must be more proactive in our management strategies.

Between 1994 and 1999, the U.S. taxpayer paid $2,972,473,600 in fire suppression costs. Reducing fire suppression efforts by only 25% would have provided a savings of approximately $743 million over the 6-year period. Funds that could have been invested in restoration activities to further reduce fire management costs. Over 19 million acres burned during the period. As a result, many of these acres were converted to annual grasslands that will require additional funds for rehabilitation and restoration activities.

The Nature Conservancy and others list invasive species as the second leading cause of species endangerment nationwide. About 42% of all federally threatened or endangered species are listed because of threats from invasive plants. Neil West, Utah State University, estimates that 25% of the original sagebrush ecosystem is now an annual cheatgrass/medusa-head rye grassland, and an additional 25% of the sagebrush ecosystem has only cheatgrass as an understory constituent. Annual grass invasions may only be the first wave; perennial invasive species are already making serious inroads into adjoining states and Nevada as well. Potential subsequent domination by perennial invasive species will virtually eliminate any resource values for society.

Other costs of not changing our management approach, or the costs of doing nothing include: accelerated loss of topsoil, reduced water quality and quantity, riparian zone degradation, loss of riparian zone and wetland area, loss of wildlife and domestic animal forages and habitats, loss of wildlife and plant species, loss of species richness and abundance in general, loss of aesthetic appeal, loss of recreation potential, loss of western and Native American cultural values and life ways, loss of civic communities, economic depression in rural areas, loss of carbon sequestration potential, opportunity costs of fire suppression activities, lowered air quality, perhaps loss of life and property, loss of a source of national pride and environmental influence in the world community.

This trend cannot continue if we wish to preserve our options for the future. We must change our management paradigm, we must intervene in the successional process across millions of acres on our western rangelands or future generations will inherit a landscape devoid of many of the values we now enjoy.

Note: Viewpoints expressed are those of the individual authors and not the entire SRM membership.

Other Reading

Tausch, R.J. 1999. Historic pinyon and juniper woodland development. In: Monsen, S.B. and Stevens, R., comps. Proceedings: ecology and management of pinyon-juniper communities within the Interior West; 1997 Sept 15-18; Provo, UT. Proc. RMRS-P-9. Ogden, Ut: USDA Forest Serv., Rocky Mountain Res. Stat.

West, N.E. 1999. Synecology and disturbance regimes of sagebrush steppe ecosystems. Pp. 15-26 in Entwistle, P.G., A.M. DeBolt, J.H. Kaltenecker, and K. Steenhof, compilers. Sagebrush Steppe Ecosystems Symposium. BLM Pub. No: BLM/ID/PT-001001+1150. Boise, Id. $$

Mr. GIBBONS. We will turn now to Mr. Larry Johnson, Eastern Nevada Landscape Coalition, Board Member. Mr. Johnson, welcome. Pleasure to have you and see you again. The floor is yours.

STATEMENT OF LARRY JOHNSON, BOARD MEMBER, EASTERN NEVADA LANDSCAPE COALITION

Mr. JOHNSON. Vice Chairman Gibbons, thank you very much for the opportunity to provide testimony on forest and rangeland health in Nevada's Great Basin.

I'm a Board member of Eastern Nevada Landscape Coalition as a wildlife representative, and as such, I'm also very heavily involved in a number of wildlife conservation organizations around the State, predominantly, Nevada Bighorns Unlimited and the Coalition for Nevada's Wildlife, although I'm a member of every other sportsman organization you ever heard of.

These wildlife conservation groups are entirely volunteer entities that raise money, and put in thousands of man-hours every year for a common goal, and that is to enhance Nevada's wildlife resources.

We're extremely successful in bighorn sheep and elk and mule deer, antelope, sage grouse, fisheries type programs around the State.

We're heavily involved in big game reintroductions, water development, habitat improvement, wildfire reseeding, education, research and land planning. Although we're pretty good at what we do, and proud of our successes, we're faced with many challenges which at times almost seem overwhelming, and I have to echo essentially what Dr. Perryman said. Our challenges are great.

Most notable of these challenges from a wildland standpoint is our rapid loss of habitat. And in Nevada, this destruction of wildlife habitat is primarily due to wildfire followed by an invasion of non-native plant species such as cheatgrass, pinyon-juniper intrusion into sagebrush and native grass communities, and third, overpopulation of wild horses. Major problem in the State of Nevada since we have between half and two-thirds of the population of all wild horse and burros in North America that reside here. And vastly over-appropriate management levels.

The alarming result of our last loss of habitat has been steady decline of sagebrush-obligate species. Now we monitor those that are of most importance to sportsmen very carefully through our State Department of Wildlife. So we have biannual surveys of mule deer as well as other big game animals. Tremendous interest in sage grouse. A lot of effort and funds that are going into monitoring, trying to figure out why we have a steady decline of these species, not only in Nevada but essentially across the West as well.

But these species of mule deer and sage grouse really are just reflecting what is happening to the myriad of other species that are dependent upon healthy sagebrush communities as well.

As has been stated several times here today, we lose over 50,000 acres annually to pinyon-juniper invasion. Springs dry up because

these woodlands use the water that would be available to wildlife. The closed canopy chokes out the understory of shrubs and grasses necessary to support wildlife, and entire watersheds are degraded. The pinyon-juniper canopy becomes so dense that the inevitable lightning strike starts a wildfire that is uncontrollable and burns so hot that it sterilizes the ground of its native seed bed. Guess what? We get cheatgrasses, we get invasive species coming back in.

Since inadequate funding or manpower exists to adequately restore the huge burns, and we saw, just heard the very, very small percentage of land that was restored after the '99 burn, groups like Nevada Bighorns Unlimited threw practically all of our annual budget into purchasing seed that year. We almost did nothing else but purchase seed.

But a losing battle. The end result is a steady decline in the wildlife, and of course, the extreme danger to humans from both fire and the subsequent flooding. We don't mention loss of grazing for domestic livestock.

This is a loss to the public in general.

At the Eastern Nevada Landscape Coalition, our board has long recognized the need to reverse this alarming trend. We urge a proactive and much more cost effective approach of thinning pinyon-juniper in contract to the present costly ineffective reaction of fighting fire and reseeding afterwards. Our volunteer board, which represents ranching, environmentalists, wildlife, small business, local government and others takes away from their businesses and private lives for common goal and that is to create a better Nevada. We're strong supporters of the multiple uses of our public land. We know that all of our special interests must work together for this common goal.

We recognize our efforts will not be realized immediately but will greatly benefit future generations. However, our biggest mistake would be to do nothing. Thank you.

Mr. GIBBONS. Thank you very much, Mr. Johnson.

[The prepared statement of Mr. Johnson follows:]

Statement of Larry J. Johnson, Board Member, Eastern Nevada Landscape Coalition, Director, Nevada Bighorns Unlimited—Reno, Chairman, Coalition for Nevada's Wildlife

Chairman Pombo and Committee Members:

Thank you for the opportunity to provide testimony on the forest and rangeland health in Nevada's Great Basin. I am a Board Member of the Eastern Nevada Landscape Coalition as a wildlife representative. I am also heavily involved in wildlife conservation organizations across the state. I am a director of Nevada Bighorns Unlimited—Reno and Chairman of the Coalition for Nevada's Wildlife. These wildlife conservation groups are entirely volunteer entities that focus on the enhancement of our wildlife resources through big game reintroduction, water development, habitat improvement, wildfire reseeding, education, research, and land planning. Nevada Bighorns Unlimited, for instance, in partnership with our state Department of Wildlife and federal land management agencies, has reintroduced bighorn sheep back into over 50 mountain ranges in Nevada. (Bighorn sheep faced extinction by man only a century ago.) We believe this is the most ambitious and successful big game reintroduction program in the world—largely funded by private donations and volunteer efforts.

In spite of our successes, we are faced with many challenges which at times seem overwhelming. Most notable of these challenges is our rapid loss of wildlife habitat—not only in Nevada, but across the Great Basin. In Nevada this destruction of wildlife habitat is primarily due to:

1. Wildfire followed by the invasion of non-native plant species, such as cheat grass;

2. Pinion/juniper intrusion into sagebrush and native grass communities; and,
3. Wild horse overpopulation.

The alarming result has been the steady decline of sagebrush-obligate species—notably the mule deer and the sage grouse. These species are heavily monitored and are indicative of the adverse impacts on a myriad of other wildlife species depending on healthy rangeland.

We lose over 50,000 acres annually to pinion/juniper invasion in the BLM Ely District alone. Springs dry up, the closed timber canopy chokes out the understory of shrubs and grasses necessary to support wildlife, and entire watersheds are degraded. The pinion/juniper canopy becomes so dense that when the inevitable lightning strike starts a wildfire, it is uncontrollable and burns so hot that it sterilizes the ground of its native seed bed. Since inadequate funding or manpower exists to adequately restore the huge burns, a permanent loss of wildlife habitat results. The end result is a decline in wildlife, extreme danger to humans and wildlife from fire and subsequent flooding, loss of grazing for domestic livestock—a loss to the public in general.

At the Eastern Nevada Landscape Coalition our board has long-recognized the need to reverse this alarming trend. We urge a proactive and much more cost-effective approach of thinning pinion/juniper in contrast to the present costly and ineffective reaction to fighting fire and reseeding afterward. Our volunteer board (representing ranching, environmentalists, wildlife, small business, and local government) takes time away from their businesses and private lives for a common goal—to create a better Nevada. We are strong supporters of multiple uses on our public lands, and we know that all of our special interests must work together for this common goal. We fully recognize our efforts will not be realized immediately, but will greatly benefit future generations; however, our biggest mistake would be to do nothing.

Thank you for your consideration.

Mr. GIBBONS. We will turn now to Mrs. Rose Strickland. It is always a pleasure to see you, Rose. Welcome. She is the Chairman of the Public Lands Committee of the Toiyabe Sierra Club for the Nevada Eastern Sierra Chapter.

Welcome, Rose. The floor is yours.

STATEMENT OF ROSE STRICKLAND, CHAIRMAN, PUBLIC LANDS COMMITTEE, TOIYABE SIERRA CLUB, EASTERN SIERRA CHAPTER

Ms. STRICKLAND. Thank you, Mr. Gibbons. Thank you for inviting me to testify today on forest and rangeland health in the Great Basin.

My name is Rose Strickland. I'm a citizen, conservationist in Nevada. As a Resource Advisory Committee member I helped develop the Nevada standards for healthy rangelands. I was appointed to the Governor's sage grouse team which developed our State's conservation strategy, selected to participate in our Western Governor's Association panel on how that strategy is working.

Great Basin ecosystems are threatened with a number of risks, as you have heard today from other panel members. These are not new problems. Aldo Leopold wrote about the cheatgrass problem in Sand County Almanac in 1949. But our collective efforts since 1949 have not been sufficient to stop cheatgrass invasion or other problems.

We have come a long way. We have big horn sheep in most of our ranges in Nevada. And the elk are coming back. So we are making some progress.

The BLM's Great Basin Restoration Initiative is a good start at assessing resource conditions and prioritizing restoration efforts. Restoring healthy rangelands and forests is a powerful idea. Everyone can support this.

But we have yet to fully agree on what restoration is. Is it presettlement conditions, more livestock forage, more elk or sage grouse? Are pinyon-juniper woodlands invading shrub lands or simply responding to unwise land management practices which help the trees out-compete shrubs and grasses?

Developing restoration goals and objectives through the current forest and public land use planning processes will give us a chance to build common definitions in a restoration vision based on the best available science as well as to help us resolve our differences on specific sites. Conversely, making restoration an internal agency process with little or no community or public participation will result in very obvious future environmental disasters, a colossal waste of taxpayer funds, and continued polarization rather than widespread public support for restoration.

Mr. Abbey mentioned the only lawsuit in Nevada challenging a legally flawed fuels reduction project, and the settlement which resolved the environmental and legal issues, and the smaller more effective project was authorized to proceed, and I believe it has. The Eastern Nevada Landscape Coalition was involved in this project, but its role in its design is unclear. The Sierra Club has recently joined the coalition to support its collaborative approach to restoration but expects the proposals to be effective and environmentally sound.

Many Nevadans participated in an earlier collaborative process called CRMP but were disappointed in the lack of results. However, the coalition is a new effort which we will help to succeed.

An integral part of restoration planning is determining why conditions are not healthy and correcting the causes of the problems. These include, for example, fire policies which result in excessive fuels buildup. In Nevada, total fire suppression is the problem.

On the other hand, short-term, expensive, band-aid solutions may be exactly what is needed in situations where human lives and property, critical watersheds, or invaluable wildlife habitat are at risk from wildfires.

Because we don't know exactly what healthy conditions look like in Great Basin ecosystems, our approach should be conservative. Using pilot projects we can answer the many scientific questions about restoration on specific sites.

For example, Partners in Flight has identified nine bird species dependent on pinyon-juniper woodlands on its North American continental watch list. Pinyon-juniper woodlands in the Great Basin support over 20 percent of the world's populations of these birds. Our restoration efforts should not accelerate declining trends of these species which would lead to the need for more listings.

What can we do in the long term to achieve our restoration goals? Fully implementing forest plan standards and the BLM standards for healthy rangelands would greatly accelerate progress toward restoration.

In conclusion, many of us are urging Congress to respond to the serious threats to Great Basin ecosystems by providing more funds for restoration efforts being initiated by the Forest Service, the BLM, and Western States and communities.

The growing urgency to address these threats is uniting all Nevadans. Whether we enjoy the public lands for hunting, fishing

or bird watching, for making our livelihoods from grazing, minerals, or energy, for relying on its clean water supplies, for experiencing wilderness, for providing scenic beauty and spiritual inspiration, all of us recognize that our future well-being depends on the restoration of healthy Great Basin national forests and public lands.

Thank you for providing an opportunity for Nevadans to express to you today our deep concerns about the need for restoration and describe many of the ways we are addressing restoration challenges and opportunities in the Great Basin.

Mr. GIBBONS. Thank you very much, Rose. We appreciate your comments as well.

[The prepared statement of Ms. Strickland follows:]

Statement of Rose Strickland, Chairman, Public Lands Committee, Toiyabe Sierra Club, Nevada Eastern Sierra Chapter

Mr. Chairman, thank you for inviting me to testify today on forest and rangeland health in the Great Basin.

I am Rose Strickland, a citizen conservationist in Nevada. As a member of BLM's Nevada Resource Advisory Committee, I helped develop standards and guidelines for healthy rangelands. Currently, I am the appointed environmental representative on the Nevada Governor's Sage Grouse Conservation Planning Team, and participated on a Nevada panel at the Western Governor's Association meeting in Salt Lake City last year to discuss how the process is working. I also am a member of the Washoe-Modoc local planning group which has completed conservation plans for 6 Sage Grouse population areas in Northwestern Nevada and Eastern California.

Great Basin ecosystems are threatened with a number of risks, as you've heard today from other panel members. Increasing catastrophic wildfires, expanding noxious weed invasions, increasing loss and fragmentation of sagebrush communities and wildlife populations dependent on them, declining conditions of riparian areas are also adversely affecting our communities dependent on public resources and also dependent on clean water supplies from public watersheds. These are not "new" problems. Aldo Leopold wrote about the cheat grass problem in SAND COUNTY ALMANAC in 1949. But our collective efforts since 1949 have not been sufficient to correct cheat grass invasion or other problems.

The BLM's Great Basin Restoration Initiative is a good start at identifying our resources, assessing their conditions, determining which are at risk, and prioritizing restoration activities based on need and potential effectiveness. Restoring healthy rangelands and forests is a powerful idea—everyone can support this. But we have yet to fully agree on what restoration is: Is it pre-settlement conditions? More forage for livestock? More elk or Sage Grouse? Are pinyon-juniper woodlands "invading" shrub lands, or simply responding to unwise land management practices which help the trees out-compete shrubs and grasses? Developing restoration goals and objectives through the current forest and public land use planning processes will give us a chance to build common definitions and a restoration vision based on the best available science, as well as to help resolve our differences on specific sites. Keeping the public out of the restoration process, not assessing environmental impacts, and not basing agency actions on the best available science will result in very obvious future environmental disasters, a colossal waste of taxpayer funds, and continued polarization, rather than widespread public support for restoration.

I know of only one lawsuit in Nevada challenging 2 legally flawed fuels reduction projects. An out-of-court settlement resolved the environmental and legal issues and the smaller, but more effective, projects were authorized to proceed. The Eastern Nevada Landscape Coalition was involved in these two projects, but its role in their design is unclear. The Sierra Club has joined the Coalition to support its collaborative approach to restoration, but expects its proposals to be effective and environmentally sound. Many Nevadans participated in an earlier collaborative process called CRMP—cooperative resource management planning—but were disappointed in the lack of results despite hundreds of hours of meetings, plans, etc. But the Coalition is a new effort, which we hope will succeed.

An integral part of restoration planning is determining "why" conditions are not healthy, and correcting the causes of the problems. Rather than spending scarce restoration funds on "band aid solutions," projects which treat symptoms, the Forest Service and the BLM should address the underlying management problems which

are putting our ecosystems at risk. These include, for example, livestock grazing practices, indiscriminate off-road vehicle and other recreational uses, and fire policies which result in excessive fuels buildup. In Nevada, total fire suppression IS the problem and, unfortunately, national forests and BLM offices are being forced to take their fuels reduction budget to pay the costs for total fire suppression. To continue programs which are causing the need for restoration is not sound public policy.

On the other hand, short-term, expensive Band-Aid solutions may be exactly what is needed in situations where human lives and property, critical watersheds, or invaluable wildlife habitat are at risk from wildfires. These emergency measures should be restricted to areas of greatest risk. The Forest Service and the BLM should analyze which areas in Nevada have experienced the greatest number and severity of wildfires in the last decade and concentrate their resources on these areas first. In Nevada, most recent fires have occurred in sagebrush communities which are then trapped in the cheat grass-fire cycle, less so in our pinyon-juniper woodlands.

Because we don't know exactly what healthy conditions look like in Great Basin ecosystems, our approach should be conservative, using experiments and demonstration projects which will answer the many scientific and social questions of where, how much, how, and what we can "restore" on specific kinds of sites and using project monitoring for adaptive management. For example, Partners in Flight have identified 9 bird species, dependent on pinyon-juniper woodlands, on its North American continental watch list. Pinyon-juniper woodlands in the Great Basin support over 20% of the world's populations of these birds. Our restoration efforts should not further jeopardize the existence of these species, leading to more listings under the Endangered Species Act. Utilizing the Nevada Sage Grouse Conservation Plan, the Nevada Bird Conservation Plan, and other plans to restore healthy wildlife populations and habitats should help us avoid future train wrecks for birds and wildlife in our restoration efforts. The Forest Service has published two conference proceedings on Pinyon-Juniper ecology and management from which Best Management Practices can be developed.

What can we do, in the long-term, to achieve our restoration goals? Fully implementing Forest Plan standards and the BLM's Standards for Healthy Rangelands would greatly accelerate progress towards restoration. While we've come a long way from historic, unmanaged livestock grazing which so altered Great Basin plant communities, we still have a long way to go. From the 2002 Public Land Statistics, healthy riparian-wetland goals are still to be achieved: only 7.4 percent of riparian areas in Nevada is meeting management objectives; only 7% is at potential natural community; and only 48% of wetland/riparian areas is in proper functioning condition.

In conclusion, many of us are urging Congress to respond to the many threats to healthy Great Basin ecosystems by providing more funds for restoration efforts being initiated by the Forest Service, the BLM, and Western states and communities. Many federal funds are currently being matched by state and community funds and volunteer hours. While additional funds will help, our land management agencies must use those funds wisely by addressing the management problems causing ecosystem health problems. The growing urgency to address these threats is uniting all Nevadans. Whether we enjoy the public lands for hunting, fishing, or birdwatching, for making our livelihoods from grazing, minerals, or energy, for relying on its clean water supplies, for experiencing wilderness, for providing scenic beauty and spiritual inspiration, we all recognize that our future well-being depends on the restoration of healthy Great Basin national forests and public lands.

Thank you for providing an opportunity for Nevadans to express to you today our deep concerns about the need for restoration and describe many of the ways we are addressing restoration challenges and opportunities in the Great Basin.

REFERENCES:

Governor Guinn's Sage Grouse Conservation Planning Team Nevada Sage Grouse Conservation Strategy, edited by Larry A. Neel, October 2001.

Leopold, Aldo Sand County Almanac, 1949.

BLM Out of Ashes, An Opportunity, November 1999.

BLM The Great Basin: Healing the Land, April 2000.

Rich, T. D. et al Draft Partners In Flight North American Landbird Conservation Plan, 2003.

Nevada Partners in Flight Working Group Nevada Partners in Flight Bird Conservation Plan, edited by Larry A. Neel, November 29, 1999.

USDA: Forest Service, Rocky Mountain Research Station Proceedings: Ecology and Management of Pinyon-Juniper Communities within the Interior West, June 1999.
USDA: Forest Service, Intermountain Research Station Proceedings—Pinyon-Juniper Conference, January 1987.
USDI, BLM Public Land Statistics, 2002.

Mr. GIBBONS. I'm going to start off and begin by asking each of you to sort of pull out your crystal ball and look 50 years into the future. I know that's going to be difficult. I know some of you are probably saying that's an impossible task. But I just want you to give me your opinion of what you would expect Nevada to look like if we were to continue down the road of status quo. In other words, doing what we're doing today, what would we look like 50 years from now? I know that a lot of you don't want to answer this question because it's a pretty vague question.

But let me start with Steve and see what your comments are.

Mr. ROBINSON. Well, I'll try to sort of answer your question, Congressman.

I think there will be, if things are maintained as they are now, suppression efforts with fire the way they are, the deterioration of the landscape the way it is, the immensity of the fires that we will have to fight over the next decade, for instance, I think will lead to a public reaction that will force us into doing something, to force us into taking more radical action than probably we're prepared politically to do now.

So I guess my thinking—I think fairly optimistic about the long-term condition because I think in the shorter term, people, the public, will force us to do something if we don't do it very quickly.

Mr. GIBBONS. OK. Dr. Hiatt.

Dr. HIATT. I guess I would look back and see what some of these areas looked like 50 years ago and see what they look like today. And having seen many photographs taken in those times and looking at those same areas today, I see areas that had scattered trees and were mostly sagebrush and grasslands at that time now being heavily dominated by trees.

So if I had to guess what it would look like in 50 years, I would guess that we will probably have somewhere at least five million more acres of tree-dominated land than we have today, but not all of that would just be the case. We would also have fire. Those areas where we have fire will probably turn in large part to things like cheatgrass and other noxious weeds.

So we will have an area that's degraded in a little bit different fashion than it is today. We will have areas that today are sagebrush and grass that will be pinyon and juniper, and those areas that are pinyon and juniper will be cheatgrass or other noxious weeds.

And I think that it's not going to be a picture that we're going to be very happy about 50 years from now if we don't change our management strategy.

Mr. GIBBONS. Very good.

Dr. Perryman.

Dr. PERRYMAN. We're going to have a whole lot of more bare ground, I think. And bare ground is a place where invasive weeds

can get. It's a place where erosion occurs. It's where water quality goes down. And we're going to have a lot more bare ground.

There may be an intervening period where we continue a refuels buildup, but at some point in time there is going to be a fire year or sequence of fire years, and we haven't taken fire out of this system. We have only kind of pushed it back a little bit. It's going to get hotter, and it's going to get greater in scale.

At some point there's going to be a fire event, whether it's 1 year or a group of years, and we're going to be left with bare ground, and once that happens, you begin to lose topsoil, then you have lost your options of what you can and can't do. And that's really what it boils down to here I think.

Mr. GIBBONS. Mr. Johnson. Fifty years down the road, bigger sheep?

Mr. JOHNSON. Skinnier sheep.

No, I want to take a little bit different twist. Although I agree with everything that has been said, the impacts of those results are what I probably would like to address.

There has been in the past 30 years reduction in grazing AUM's. They have been cut in half in the last 30 years. The results of what has been forecasted here, we have got a lot of ranchers who are barely hanging on today that this will put under. That industry is going to go away for us.

From a wildlife standpoint, the effects again will be devastating to us, but on the local communities, the outdoor recreation, the agriculture dollars, all of this that goes away will so strongly impact these small local communities that they are going to be fighting for their very existence, in my opinion. And that is what I see will be the long-range effect of all this.

Mr. GIBBONS. Rose.

Ms. STRICKLAND. Mr. Gibbons, there are—

Mr. GIBBONS. Make sure you use the mike.

Ms. STRICKLAND. There are two possible scenarios. On the good end of the scenario, we will pull ourselves together and our resources together, and we will make significant progress toward restoring health and sustaining our natural systems we have been talking to you about. Even with our limited resources.

The bad scenario, I think, what we'll see is landscapes dominated by cheatgrass and other weeds. We're going to see a tremendous loss of our wildlife and our birds. And we're going to see the livestock industry collapse, and we're going to see a lot poorer communities, if they are still here, and I'd say just briefly, Nevada will look like the wasteland that the rest of the country thinks that we are. And we know that we're not.

Mr. GIBBONS. And that's true.

I guess my question, of course, goes to when you talk about $10 an acre as a nice start, it is a nice start. And I think we're spending now just with the Forest Service about $200 million just for the planning and other purposes that go on for management of our forest alone. When you start talking about restoration dollars, management dollars, and you start talking in the billions of dollars, of course, then we're asking does the taxpayer foot this bill or should we be looking at other ways to manage government better so that we are more efficient with the dollars we spend.

To that end we have a process in this State where lands that are sold in Las Vegas produce hundreds and hundreds of millions of dollars of resources. Should those dollars be spent on the operation and management of the public lands rather than on the acquisition of more lands that add to the problem of not being able to manage the ones we have? What's your opinion on that? Yes, Dr. Hiatt.

Dr. HIATT. As one who was actually involved in the original design of Southern Nevada Public Lands Management Act, the design at the time was the thought was we really need to purchase some lands which are going to disappear, some privately held lands which have very, very high wildlife values primarily. These are the unique areas where water is found. Kind of a scarce commodity in Nevada. And what we're now faced with is a twofold issue, if you will.

We're seeing monies raised which are larger than we had anticipated from the Southern Nevada, from the sale of lands there, and we're also looking very probably at one of the old truisms and that is that spending always expands faster than income. And so there will be no problem getting rid of this money, if that is what people are really worried about. People are lined up at the door in Clark County figuring out ways to spend that.

One of the original inclusions in the Act was for expenditure of those funds outside of Clark County as well as within Clark County. And I thought then and I still think that that's appropriate.

And various things may be—various projects may be certainly worthy of funding, but when we look at the magnitude of the problem over Nevada and to think that we're going to be able to generate the amount of funds on a multi-decadal basis to fund all the restoration efforts is probably over-optimistic.

If I might make another statement. Robin Tausch said something that was kind of quietly stated in his normal fashion. But he indicated that we're going to have to basically bring all of our collective wisdom to bear on ways to design projects which will, while implemented on a small scale, have effects far beyond that in terms of what they lead to, in terms of how we can control fire on a large basis.

In other words, fire as we have heard is not necessarily bad per se. If we have immense fire and it burns very, very hot, that is a big problem. But if we can break up fuels such that over time we can reduce the fuel loading and have natural benign fire again, we will go a long ways toward solving the problems that we have.

The idea that just mechanical thinning will do it I think is naive. If you go out to the places where mechanical thinning has and is taking place, if you look at places where they have had fuel wood cuttings, if you look at where they are working right here outside of Ely today, you will see that those areas are full of little trees. They are six inches to a foot high. And in 20 years we will be back where we are today without fire.

Fire is a great leveling effect, and it basically brings everything back down to ground zero, if you will. And grasses and sagebrush which grow faster than trees will have an advantage in that case. But if all we do is remove the big trees and we leave the little trees, we're going to be right back where we started before you know it.

Mr. GIBBONS. I was interested in your comments, but I was also aware that Dr. Tausch indicated that the use of fire in the pinyon-juniper environment was not advisable.

Dr. HIATT. I think he can certainly speak for himself. And what was indicated was that fire alone in a dense closed canopy system is going to be a catastrophic problem, but with some tree thinning reduction and then use of fire, we can bring fire back into its natural sequence.

Mr. GIBBONS. OK. Well, you have clarified in my mind what he said. I thank you for that.

The State of Nevada, Mr. Robinson, what's the State of Nevada's expenditures today in terms of working to create healthy forests? What does the State of Nevada put out in terms of its total resources?

Mr. ROBINSON. I don't have a total figure for you. I know that as has been mentioned, the National Fire Plan, Federal funds that we bring in are about three-and-a-half million dollars a year to help fund a lot of those projects on State and private lands throughout the State.

But returning to your question, I think it's connected, the use of some of those funds from the Southern Nevada sales, one of the things we'd like to encourage and one of the things the Governor has bought into is the BLM, Bob Abbey's idea of the Great Basin Initiative and utilization of some funds there which the State could buy into and could be part of. We're convinced that's the type of thing that needs to be done.

And it's not a tremendous amount of funds that we'd be talking about out of that total percentage that comes out of the Southern Nevada act. Probably of the hundreds of millions we're talking about there, I think some of the initiatives that BLM has come up with are in the 10 to 20 million dollar area. We could really start to make a difference outside the Clark County area, and we'd like to begin to do that and encourage that that be done.

Mr. GIBBONS. Let me ask a different question. We have got about 1 minute left before we have to yield this room back up.

Dr. Perryman, let me interrupt your deep thinking process there.

Dr. PERRYMAN. Not hard.

Mr. GIBBONS. I want to ask a question. When you talk about the urban wildland interface or the urban forest interface, a lot of people talk about a setback of distance that is usually less than a quarter of a mile or somewhere in there. What should that interface be in a pinyon-juniper environment?

Dr. PERRYMAN. That's a good question. If the urban interface—this is how I would answer the question. In the urban interface, if the urban area is actually located in what has been a sagebrush system for the last several hundred if not several thousand years, then it should be quite a large setback because it should not be a pinyon-juniper system, it should be a sagebrush system. And that's what we're really talking about here. The encroachment of P-J is down the hill into the sagebrush and up the hill into the traditional woodlands. So we're running the risk of losing our traditional woodlands and the sagebrush system.

So I would—my position on that would be if the urban interface area is sitting in what should be a sagebrush system, there

shouldn't be very many trees there at all. And so it shouldn't—the question should be moot really.

Mr. GIBBONS. Let me go back to Mr. Robinson there because I want to talk about fire in the urban wildland or urban forest interface. How far back should that interface boundary be in a pinyon-juniper environment?

Mr. ROBINSON. Congressman, if you are talking about defensible space, which I think you are referring to, traditionally on flat land we talk about like 30 feet around residences. Landscaping that is not necessarily fire—at least fire resistant.

If you are on a slope, if you are on a hill, the margin and the distance has to be greater, of course. But all of that, as you know, depends on the density of the forest year round, the conditions that happen to be there.

What we have started to do, by we, I mean the Federal and State agencies both, and we use the local fire departments, too, we will go out to a subdivision before it is built and take a look at it and make suggestions on how it should be landscaped and those kind of things before the homes are built. And that service is being taken advantage of now. Whereas 10 years ago it wasn't used at all.

Mr. GIBBONS. I wanted to ask Dr. Hiatt, and I have asked so many questions, I can't remember whether I have done this or not, did I ask you in your opinion, from your testimony, what your impression of what a large-scale approach would be to this treatment? What are you talking about in terms of when you say large scale? Is it 5,000 acres, is it a hundred, is it a million?

Dr. HIATT. In terms of the overall number of acres that need to be dealt with?

Mr. GIBBONS. Right.

Dr. HIATT. It is hundreds of thousands to millions. Does that mean that that's all in one place one at one time? No, it doesn't mean that.

It's sort of think globally, act locally, type of situation in which we would look at individual watersheds, individual drainages, to see what worked there and what would enhance habitat and reduce fuel loadings. We think about this on a landscape scale.

Mr. GIBBONS. If we are losing 50,000 acres a year, we have just got to do 50,000 a year.

Dr. HIATT. I said hundreds of thousands to millions.

Mr. GIBBONS. That is a year, per year?

Dr. HIATT. That is what we need to do I think starting in the near future. In other words, if we only did 50,000 acres a year, as you have heard from me and other people here, we would just sort of be like the drowning man keeping his mouth above water but never making it closer to shore. We want to get closer to shore.

Mr. GIBBONS. Rose.

Ms. STRICKLAND. Mr. Gibbons, working on the sage grouse teams both at the State level and at the local level, our prime objective is to keep the good habitat that we have, don't lose it to fires or to other kinds of fragmentation, and we are—we also have a large and optimistic goal. It is about a hundred thousand acres a year doing restoration projects in the sagebrush to restore the values for sage grouse.

I actually see that we can be combining some of these different programs and needs and working together so that we can actually—50,000 sounds like a lot, but if you think 50,000 over the entire State and some of it is being done for urban interface, some of it is being done for sage grouse, some of it might be done for elk, we may be able to make those kinds of goals.

Mr. GIBBONS. It is a big project, big problem. It is going to require big outlays of resources for a solution that's going to be a long time in the coming, and I hope that we haven't started too late.

As I mentioned earlier, we were recently in Lake Arrowhead, California, which is San Bernardino County, and the forest there is dead. It is a massive forest and it is dead. Maybe one out of ten trees is alive in that forest. It is just standing there, and unfortunately, today it's probably on the verge of being burned, and all those homes and people's lives are just at risk.

And I see that as an indicator that we have waited too long in some areas to take the appropriate steps to do the things that we needed to do years ago to prevent the forest from dying. And it will take a century if not longer for that forest to return, which is the real tragedy that I see.

And I don't want to see us, the State of Nevada, the people who live and love this land, to suffer the same consequence. In other words, by being timid and not taking bold aggressive steps to do what we need to do or should have done earlier, lose a great part of our State the way I see California going in that regard.

Ladies and gentlemen, we have run out of time. I did want to mention to the people in the audience who want to have an opportunity to submit testimony, you can if you have it written today submit it or you can within the next 10 days submit any kind of written testimony to the Committee that will be included in the remarks of this Committee's hearings as well. We would hope that you take the time to write and include those remarks for our Committee's effort.

Mr. GIBBONS. But most importantly, I want to thank all of you for coming here today. I want to thank our witnesses who have traveled far distances and taken time to write up and prepare remarks to be able to deliver to this Committee today.

We will and probably expect written questions to be made available to some of the witnesses here today, and if we send you written questions to help us better understand your testimony or direction of the information that we want to have for this Committee, we'd ask that you answer the questions and submit them back to us also in a timely fashion so that they can be included in the record as well.

With that, I want to once again thank everyone for their participation. I want to thank the audience for staying through this, and with that, we will call this hearing closed and see you the next time.

[Whereupon, at 12:10 p.m., the Subcommittee was adjourned.]

fi