

**TESTIMONY
OF
DR. PETER DAUGHERTY
ON BEHALF OF
THE SOCIETY OF AMERICAN FORESTERS
AND
THE OREGON DEPARTMENT OF FORESTRY
BEFORE
THE SUBCOMMITTEE ON NATIONAL PARKS, FORESTS, AND PUBLIC LANDS
OF
THE COMMITTEE ON NATURAL RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVES**

Chairman Grijalva, Ranking Member Bishop, and Members of the Committee, my name is Peter J. Daugherty, and I am the Director of the Oregon Department of Forestry's Private Forests Program. I am pleased to have the opportunity to provide testimony on an issue critical to the sustainability of our Nation's forest. I am providing this testimony on behalf of the Society of American Foresters, the Oregon Department of Forestry (ODF), and myself. The Society of American Foresters (SAF) is the national scientific and educational organization representing the forestry profession in the United States. It is the largest professional society for foresters in the world. The mission of the Society includes advancing the science, education, technology, and practice of forestry to ensure the continued health and use of forest ecosystems and the present and future availability of forest resources to benefit society. The Oregon Department of Forestry serves all Oregonians by practicing and promoting sustainable forestry intended to produce a wide range of benefits. The department offers on-the-ground guidance and other services to private landowners, helping them to improve and maintain forest health and productivity. ODF protects 16 million acres of private and public forestlands from wildfire.

Historical practices have created vast areas of unhealthy forest ecosystems in the western United States. The overly dense conditions, exacerbated by drought, have increased bark beetle mortality and the size and frequency of stand-replacing crown fires. These interconnected symptoms warn society of the jeopardy of losing these forest ecosystems.

Although it has become increasingly apparent that an ounce of prevention activity is worth a pound of suppression funds, federal land-management agencies continue to allocate vastly more funds to suppression activities than to prefire hazard reduction. Without large-scale implementation of fire-hazard reduction treatments, the costs of uncharacteristic crown fires in western forests will continue to increase.

In a study conducted with Ph.D. candidate, Gary Snider, and Dr. Brent Wood, we examined the economic rationality of continuing the policy of emphasizing fire suppression activities over restoration-based fire-hazard reduction treatments. We conducted an avoided-cost analysis to answer the question of how much can we invest in prevention to avoid the continued cost of large fire suppression and rehabilitation.

We compared treatment plus fire suppression costs to the cost of fire suppression without treatments over 40 years for southwestern forests. This avoided-cost analysis estimates the amount one could invest in treatments to avoid future suppression costs for large fires. We only included the variable costs directly associated with large fire suppression; we assumed that fixed preparedness cost would continue. We assumed no increase in average number and size of large fires or in average per-acre fire suppression cost. We did not include losses and damages associated with structures, private land value, and other infrastructure associated with the wildland-urban interface in the avoided costs. We did not include changes in ecological and social values associated with restoration-based treatments. We essentially assumed that there is no difference between the value of a burned and restored forest.

Using these very conservative economic values, we found that avoided future costs justifies spending \$238–\$601/acre for hazard reduction treatments in the southwest. We conclude that the policy of under funding hazard reduction treatments does not represent rational economic behavior, because funding hazard reduction would pay for itself by lowering future fire suppression costs.

In Oregon, the current policy has resulted in analogous conditions. On federal lands, there are 13 million acres of over-dense forests outside of wilderness and inventoried roadless areas that are a high priority for treatment in Oregon. The majority of these acres are now outside their historic range of variability in terms of stand density and fuel loads, and are at risk of losing key ecosystem components to uncharacteristically severe wildfire or uncharacteristic vegetation succession. The current forest conditions constitute an extremely large problem that continues to get worse with time.

The lack of active management on federal lands is also putting many private forestlands at risk. Fires and insect outbreaks are moving from federal forestland into private forest and associated communities. The current conditions in Oregon's forests are not sustainable with respect to fire and insects, and can only be corrected with active management. The lack of active management allows current conditions in these forests to worsen, leading to a train wreck that will affect many ecological, economic and social values.

There are no risk-free management actions. Indeed, under present forest conditions, the no-action or go-slow alternative may very well be the most risky of all. Our results indicate that the ever-increasing ecological and economic costs resulting from high-severity, ecosystem scale fires in the southwest far exceed the cost to society of proactive restoration-based thinning treatments. The current sociopolitical condition of continuing to spend dollars on fire suppression while implementing limited treatment of high-risk forest areas represents an irrational ecological and economic decision.

We no longer face the question of whether society will spend the money or not. We are going to pay, one way or another, unless we make the unlikely choice not to spend money trying to fight and contain unnatural crown fires. We now face the choice of how we are going to spend the money and what are we likely to obtain from that expenditure.

If we invest in restoration-based hazardous fuel treatments, we invest in the future; we invest in healthy, sustainable ecosystems for our children and grandchildren. By not investing in restoration-based fuel treatments, we continue the depreciation of our forests, increasing the risk of radical shifts in their structure and function because of uncharacteristic crown fire. This lack of investment indicates that our nation lacks a clear vision and policies that promote the sustainable management of the nation's public and private forests as an integrated and high priority.

Given these choices, it makes a great deal of economic sense to conduct forest restoration on a large scale today to retain future ecological and economic values. Our analysis shows that the fire suppression costs that can be avoided in the future are sufficiently large by themselves to justify restoration-based fuel treatment expenditures today.

Recommendations

Significantly increase the investment in active forest restoration and management to achieve healthy, sustainable ecosystems for our children and grandchildren.

Increase active management on Federal forestlands in collaboration with state and private forest lands to promote sustainable forestry.

Develop a national policy on sustainable forests to clarify and enhance the roles of federal, state, and local governments in relation to sustainable forests, promoting regional collaboration, joint planning and coordinated action.

Peter Daugherty

Peter Daugherty joined the Oregon Department of Forestry (ODF) as the Director of the Private Forests Program on January 1, 2007. Prior to joining ODF, Daugherty was an associate professor of Forest Management and Ecological Economics at Northern Arizona University (NAU), where he worked from 1991 through 2006. While at NAU, Daugherty served as the Graduate Coordinator and Chair for the School of Forestry. He also took leave on two occasions to work as a research forester at the U.S. Forest Service, Pacific Northwest Research Station and as a forest economist for the Campbell Group, an Oregon-based timberland investment management organization. Daugherty received a Bachelor of Science in forestry and Ph.D. in Forest Management and Economics from the University of California at Berkeley. Daugherty has research experience in management science, forest economics, forest operations, and policy. His most recent research has focused on the economics of forest restoration and hazardous fuel reduction, and the forest biomass energy potential from fire hazard reduction treatments in Oregon and Northern California.

DISCLOSURE REQUIREMENT Required by House Rule XI, clause 2(g) and Rules of the Committee on Resources

A. This part is to be completed by all witnesses:

1. Name: Peter J. Daugherty
2. Business Address: Oregon Department of Forestry, 2600 State Street, Salem, OR 97310
3. Business Phone Number: Office (503) 945-7482; Cell (503) 689-6884
4. Organization you are representing: I will be representing myself, as coauthor of the study, The Society of American Foresters, and the Oregon Department of Forestry.
5. Any training or educational certificates, diplomas or degrees or other educational experiences which add to your qualifications to testify on or knowledge of the subject matter of the hearing:

Ph.D. Wildland Resource Science 1991. Field of study: Forest Management and Economics. University of California, Berkeley.
6. Any professional licenses, certifications, or affiliations held which are relevant to your qualifications to testify on or knowledge of the subject matter of the hearing:

2004. Best Paper in the Forestry Sponsored Sessions Award. Jeremy Fried and P. J. Daugherty for their talk entitled "Optimization of fuel treatment selection

and processing facility siting for fuel hazard reduction." Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting Denver 10/24-10/27/2004. Forestry Applications Cluster. Denver CO.

7. Any employment, occupation, ownership in a firm or business, or work-related experiences which relate to your qualifications to testify on or knowledge of the subject matter of the hearing:

2007- pres. Director, Private Forest Program, Oregon Department of Forestry, Salem, OR.

2005 Forest Economist. The Campbell Group, One SW Columbia Suite 1700 Portland, Oregon 97258.

2004-2005. Research Forester. Environmental Analysis and Research Team of the Forest Inventory and Analysis Program, located at the Forestry Sciences Laboratory, Pacific Northwest (PNW) Research Station, Portland, OR.

1998- 2007. Associate Professor, School of Forestry, Northern Arizona University. Area of Teaching and Research: Forest Management and Ecological Economics.

1992-1998. Assistant Professor, School of Forestry, Northern Arizona University. Area of Teaching and Research: Forest Management and Ecological Economics.

8. Any offices, elected positions, or representational capacity held in the organization on whose behalf you are testifying:

2002-2003. Interim Chair, School of Forestry, Northern Arizona University.

2000 Chair, Southwestern Section. The Society of American Foresters.

1999 Chair-elect, Southwestern Section. The Society of American Foresters.

1997 Chair, Peaks Chapter, Society of American Foresters

B. To be completed by nongovernmental witnesses only:

1. Any federal grants or contracts (including subgrants or subcontracts) from the Department of the Interior and Department of Agriculture which you have received since October 1, 2000, including the source and the amount of each grant or contract:

2001 Analysis of costs and benefits of restoration-based fuel reduction treatments vs. no treatment. Bureau of Land Management; Ecological Restoration Institute. \$30,000.

2001 Watershed and soil assessment on Prescott N.F. USDA Forest Service Challenge cost-share agreement. With R.A. Valencia, Co-principle investigator. Modification in 2001. Total contract. \$74,545.

2000 Total economic value of the wildland-urban interface fire risk reduction and ecological restoration. USDA Forest Service, Rocky Mountain Research Station, Research Joint Venture. With D. Larson, Co-principle investigator. \$30,000.

2. Any federal grants or contracts (including subgrants or subcontracts) the Department of the Interior and Department of Agriculture which were received since October 1, 2000 by the organization(s) which you represent at this hearing, including the source and amount of each grant or contract:

2007 Cooperative Forestry Assistance grants, USDA Forest Service grants to the Oregon Department of Forestry.

Forest Stewardship/Resource Management (SPST)	\$ 401,000
Seedling, Nurseries, and Tree Improvement (SPST)	\$ 60,000
Urban and Community Forestry (SPUF)	\$ 222,000
State Forestry Resource Planning (SPCF/SPCH)	\$ 12,000
Cooperative Forest Health (SPCH)	\$ 80,000
Forest Health Monitoring (SPCH)	\$ 77,000
Western Bark Beetle Mitigation (SPCH)	\$ 268,000
Sudden Oak Death (SOD) (SPCH)	\$ 200,000
Additional SOD Allocation (SPCH/SPS4)	\$ 200,000
State Fire Assistance	
Recurrent Program (SPCF)	\$ 764,000
National Fire Plan (SPS2)	\$ 560,650
Fire Prevention Workshop (SPCF)	\$ 5,700
Volunteer Fire Assistance	
Recurrent Program (SPVF)	\$ 97,000
National Fire Plan (SPS3)	\$ 304,500

3. Any other information you wish to convey which might aid the members of the Committee to better understand the context of your testimony:

No