STATEMENT OF
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BEFORE THE
UNITED STATES SENATE
SUBCOMMITTEE ON FORESTRY, CONSERVATION,
AND RURAL REVITALIZATION
COMMITTEE ON
AGRICULTURE, NUTRITION, AND FORESTRY
CONCERNING
FOREST AND RANGELAND RESEARCH PROGRAM

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Mr. Chairman and Members of the Subcommittee
Thank you for the opportunity to testify before you today on the Forest Service's Forest and Rangeland Research Program.

Background
Research has been part of the Forest Service mission since the agency's inception in 1905. From the Incident Command System to the oriented strand board used in home construction, Forest Service research provides the information and solutions to sustain forest and rangelands and the values they provide for people. Our research programs have a wide geographical and temporal scope, an interdisciplinary emphasis, and a steady focus on solving problems and providing science for policymakers, whether the science addresses invasive insects, degraded river ecosystems, or sustainable forest management practices. Our broad program areas are: science policy, planning and inventory; vegetation management and protection; wildlife, fish, water and air research; and resource valuation and use.

Our research studies take into account the interconnectedness of the ecological, economic, and social landscapes, even as they examine parts of it to add to the general sum of knowledge.

We have programs in all 50 states, U.S. territories, and commonwealths including long-term research on 83 experimental forests and ranges, and 370 research natural areas. The enacted FY 2006 Interior and Related Agencies Act included approximately $282 million for research. We employ approximately 575 permanent scientists and dozens of post-doctoral fellows who work across a range of biological, physical, and social science fields to promote sustainable management of the Nation's diverse forests and rangelands.

Science You Can Use
Forest Service Research and Development scientists carry out basic and applied research to study biological, physical, and social sciences related to very diverse forests and rangelands. Public lands that make up the National Forest system comprise 1/20 of the entire land base in the United States. Our research promotes ecologically sound

management of these vast natural resources. We also serve the Nation's private forest landowners, and we investigate new ways to process and recycle wood into products.

One of our major focuses is large scale disturbances. Large-scale disturbances, whether fire, hurricane, climate change, or invasive species, are a fact of life and a significant concern for resource management. We need to understand these changed patterns and provide the science to practitioners so they can manage the effects of disturbances more effectively. Some of the questions we are exploring include: What are the desired conditions for landscapes that have undergone a large-scale disturbance? How effective are alternative treatments for restoration and recovery? How do we integrate disturbance into our near and long term management?

The ongoing hurricane response serves as an example of our attention to large scale disturbances. There have been 93 hurricanes of Category 3 or greater that have made landfall on the Gulf Coast since 1851. In addition to the extensive human and economic damage caused by the hurricanes, they are also a major disturbance factor in the areas ecosystems. Both Hurricanes Katrina and Rita caused extensive forest damage. Our Southern Station worked with Louisiana, Mississippi, Texas and Alabama State Foresters and forestry associations to assess the extent and volume of timber damaged by the hurricanes. The Station prepared a directory of all the mills in the area so private landowners can identify to whom they can sell down and damaged wood. The Station is also organizing teams of scientists that can help landowners reestablish forest, repair damaged streams, restore urban forests, and recycle and dispose of damaged lumber and debris. Using knowledge gained from research conducted on past major hurricane events such as Hugo, our scientists are providing science and technology information to assist in rapid forest recovery and regeneration, fire risk reduction, habitat recovery, woody biomass utilization, and economic recovery. Our researchers also often work with managers to conduct rapid sciences assessments that help to guide restoration activities and monitoring following major wildfire events, such as the Hayman Fire in Colorado in 2002, or the Southern California fires of 2003.

As more and more communities develop and grow in areas adjacent to fire-prone lands in the wildland/urban interface, wildland fires pose increasing threats to people and their property. With support from the Joint Fire Science Program and funding support through the National Fire Plan, our fire researchers work closely with managers in the Forest Service and other agencies in identifying and restoring fire-adapted ecosystems and rehabilitating burned areas. Other results include models that evaluate effects of thinning and burning treatments to reduce the risk and severity of wildfires, and improved methods for predicting emissions and smoke dispersal. We are mapping the wildland-urban interface. Many of the tools in FIREWISE were developed by our fire scientists. FIREWISE shows homeowners how to protect their homes with a survivable, cleared space and how to build their houses and landscape their yard with fire resistant materials.

The threat of invasive plants and animals has become a significant environmental and economic issue. Research is underway to understand these species and to develop integrated management tools and to monitor the introduction, spread, and damage to

ecosystems. The Forest Service has established two Threat Risk Assessment Centers for invasive species in the East and the West. These Centers address the goal of Title VI of Healthy Forest Restoration Act to have an integrated national Early Warning System to identify, detect and rapidly respond to environmental threats. The centers are focusing on multi-scale assessments, monitoring, and evaluation of forest health threats.

Research programs in recreation are looking at risks, trends, and emerging issues in recreation use. Recently we completed an inventory of the amount and condition of forested recreation lands and developed education programs to encourage outdoor recreationists to treat the outdoors with respect.

Our forest bioenergy and biomass program addresses many elements of the National Energy Strategy, Healthy Forest Initiative, Healthy Forest Restoration Act of 2003, National Fire Plan, and Energy Policy Act. We are looking at developing cost-effective methods for using the large amounts of forest biomass thinning materials from fire-prone forests which is a key to making healthy forest management practices more economical. We are evaluating new uses for small diameter trees and underutilized tree species. For example, researchers at the Forest Products Laboratory in Madison, WI, have developed a playground surface material using inexpensive wood chips and polyurethane that could make playgrounds, paths, and other recreational facilities accessible to people who use wheelchairs or other mobility aids.

We are looking at the links between land use and water. Forest Service scientists are evaluating ways to protect streams from accelerated erosion after a severe wildfire. They are exploring alternative land uses including increased planting of trees along streams to improve water quality along the Mississippi River. Scientists are collaborating with Federal, State, and local agencies and universities in the Great Basin watersheds to help landowners restore degraded riparian areas.

Forest Service Research- A National Asset

For almost 75 years the Forest Inventory and Analysis (FIA) program has been the nation's forest census. FIA is the only program delivering continuous and comprehensive assessments of our forests in a nationally consistent manner across all landownership. At the end of fiscal year 2004 FIA implemented annual inventories in every region in the country, covering 76% of the Nation's forests. Inventory results and core tables are available to users through Internet applications enabling individual landowners to assess their forest investments.

The Forest Service manages a series of Experimental Forests and Ranges as authorized by statute. Almost all of the Experimental Forests are located on National Forests and they represent regional landscapes over a very broad range of environmental conditions, some having continuous data collection for nearly 100 years. In several cases, the Experimental Forests serve as anchors for national forest system long term ecological research sites. Taken as a national network, the resulting long-term datasets are

invaluable in looking at environmental changes over the last century and in answering many of today's pressing questions at landscape and global scales.

Partnerships

To fully realize the benefits of public investments in research, the Forest Service is finding better ways to effectively translate science findings and technological advances into on-the-ground accomplishments. We are looking at models for a more integrated and streamlined approach to enable FS R&D to accelerate the application of science findings and technological innovations. A new initiative on science application will use new communication techniques and technologies to connect research users with science findings and will adopt a performance-based model for evaluating the impact of science findings and tools.

We work extensively with cooperators to deliver user-friendly products and services to the public. We have more than 1,000 cooperative research agreements with partners across the country. We are looking at innovative partnerships with universities and exploring new models for cooperation including establishing competitive grants program within Forest Service research.

Agenda 2020 is a partnership between the forest products industry, government, and academia with the goal of addressing important natural resource issues, including: advancing the global competitiveness of the forest products industry by building technological leadership; improving the sustained management of forest resources; improving the economics of energy self-sufficiency and taking advantage of biomass as a fuel source; increasing the economic viability and use of recycled wood and paper materials. One example of an Agenda 2020 project is funding the research into the collective, landscape-wide effects of diverse management objectives in upper Michigan that includes two industrial owners, state and federal lands, and many private owners with the goal of developing techniques for cooperative strategies aimed at sustainable forest management.

Effective and efficient application of science findings is a critical factor in improving government performance and credibility. We are working to implement the Research and Development criteria from the President's Management Agenda. This has given the Forest Service a great opportunity to reemphasize, streamline, and invigorate the critical processes of science application.

Summary

I see Research and Development's relationship within the Forest Service growing ever stronger in this new century as we continually seek ways to live in harmony with our dynamic environment. We can no longer afford to view the human community as something separate and apart from natural resources. The interconnections between society and the environment are profound and must be the basis for our future endeavors.

Our Nation depends on our forests and rangelands to meet a multitude of needs -- wood fiber for paper and structural wood products for housing and furniture, clean water to

drink, recreation, and a wide variety of other benefits. Our goal is to provide the scientific knowledge and tools necessary to manage, restore, conserve and increase the productive capacities of forest and range systems. The outcome of our research will enable healthy ecosystems to sustainably produce needed outputs and minimize environmental risks, to maintain and enhance forest health and productivity.

This concludes my statement, I would be happy to answer any questions that you may have.