

I am Scott Simon,
Director of The Nature Conservancy's Arkansas Chapter.
The Nature Conservancy is dedicated to preserving the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Conservancy has more than 1.1 million individual members. We currently have programs in all 50 states and in 30 other nations.

The Conservancy's work is grounded in the best available science, partnerships with landowners and land managers, and tangible results in local places. Because our approach is science-based, research is an important component of everything we do. Much of the highest-quality research on issues related to biodiversity conservation has been generated by the U.S. Forest Service and its regional research stations, and we view that research as an important investment in land management and conservation practices. We appreciate the work of this Committee in its oversight role.

Today, I would like to express the Conservancy's support for sustained funding for Forest Service research. We share the goal of Congress and the Forest Service to maintain the health and quality of our Nation's forests so they can provide the full range of public benefits. Research can most effectively assist in reaching this goal when it is closely tied to conservation and management activities on forested lands.

I would like to make three general points. First, Forest Service research should be aligned with, and improve, on-the-ground conservation and land management activities that reduce risk to forest health and sustainability. Second, research needs sustained support so that it can play a meaningful role in long-term conservation and threat abatement. Third, to address the complex ecological and social issues facing land managers today, and to further the goals of cooperative conservation, research partnerships between the U.S. Forest Service, other agencies, academia and private organizations are essential.

1. Research should be aligned with and improve on-the-ground conservation and management activities.

Research is most effective when it improves management, and it is therefore important to integrate research closely with land management practices. The Forest Service must evaluate potential research projects in terms of their ability to meet and measure agency goals, to reduce risk to forest health, and to transfer results and lessons learned to other places.

Restoring Forest Health in Arkansas

For example, in Arkansas where I live, the Forest Service and its partners recognized an increasingly hazardous situation building on the Ozark and Ouachita National Forests. Forest health was declining, insect and disease outbreaks were getting worse, forest fuels were growing more hazardous and land management was not addressing these challenges at a scale large enough to have an impact.

To address these problems, Forest Service researchers at the Southern Research Station are working with The Nature Conservancy and other partners to address the risk posed by changes in forest health through the development of desired future conditions, testing management regimes, and monitoring that proves that management is moving forest conditions toward the desired healthier state on more than 500,000 acres.

Using this research, land managers have been able to establish desired future conditions, identify the management activities needed to reach the desired conditions, and design ways to measure progress towards healthier forests. When land management challenges occur, researchers are able to draw from existing and ongoing watershed and ecosystem studies to assist land managers.

The resulting success is threefold: first, there has been rapid and measurable improvement in forest health; second, the research results are applicable to forests (and forest management) region-wide; and third, there has been an increase in public trust, as local stakeholders have seen the Forest Service reach the desired future conditions identified in the Forest Plan, and have participated in monitoring and management activities.

Restoring the Habitat of the Ivory-Billed Woodpecker

In the Delta of eastern Arkansas, the Big Woods Conservation Partnership is closely aligning research with on-the-ground management to address new questions raised by the rediscovery of the ivory-billed woodpecker. This includes developing desired future conditions, modeling the habitat needs of the woodpecker, and testing the implementation of activities that increase the desired habitat.

Region-wide, Forest Service researchers are currently using the information generated by the Forest Inventory and Analysis (FIA) network to assess potential habitats for ivory-bills elsewhere within their historic range. We did not expect the ivory-bill to appear in Arkansas, and it is important to use the research findings that we already have through the FIA system to direct our efforts toward other areas in which birds still might occur.

Ongoing work in the Research Stations

I would like to highlight a few other Forest Service projects across the country where research will have practical management implications:

? In Oregon, the Pacific Northwest Station is conducting a statewide landscape assessment of forest, grass and shrub vegetation by watershed, across all ownerships. The assessment will provide a basis for land management planning and priority-setting on federal and state lands.

? In Pennsylvania, the Northeast Research Station is helping public and private land managers develop strategies to increase both natural regeneration and successful planting of underrepresented species, particularly in oak forest ecosystems.

? The North Central Research Station has funded a two-year challenge cost-share position with The Nature Conservancy. Scientists will use ecological modeling to establish desired future conditions across five million acres of public land in Minnesota and Ontario. The results will be used to inform collaboratively-developed fuels treatments and land management strategies that benefit a range of users.

? The Rocky Mountain Research Station is leading a collaborative research program to better understand how prescribed fire can be used to reduce fuels and concurrently increase avian diversity in western ponderosa pine forests. Information from this study will provide managers with tools to reduce fuels, protect communities, and improve bird habitat.

? Pacific Southwest Research Station is conducting long-term population trend analysis, monitoring, and an ecological needs assessment for species in the Sierra Mountains, including places the Conservancy has identified as high-value conservation areas.

We encourage this Committee and the Forest Service to provide the leadership and resource investments to fund and support research that will further the agency's conservation goals in particular places. While research should never hold up needed action on the ground, it should be done at a scale appropriate to the land management issue and provide data and information that will assist land managers in meeting their objectives quickly and costeffectively.

2. Congress and the USFS should make long-term investments in research, in order to support effective conservation and threat abatement.

The natural resource scientific issues we face are complex and multi-faceted, and must be addressed at large scales and over long time periods. The history of research in the Forest Service is a long one, with many sustained studies of watersheds, fire, and pathogens providing data and information not apparent in shorter term studies. I'd like to address longterm investments in research in the context of two conservation issues that are of deep importance to The Nature Conservancy: the urgent need to conserve Southern Forests, and the very serious threat that non-native forest pests and pathogens pose to forest health.

Conserving Southern Forests: the Value of the Southern Forests Resource Assessment

One of the Conservancy's highest priorities is the conservation of the rapidly fragmenting forests in the Southern U.S., which provide some of the richest biodiversity in the country but which face a range of imminent threats. As we work with partners to develop policy solutions to these threats -- which is no small challenge -- we are extremely fortunate to have the Southern Forest Resource Assessment (SFRA), produced by the Southern Research Station, to provide the factual underpinnings regarding the condition of Southern Forests.

Southern Forests provide a wide range of values to the people of the South and to the country as a whole including watershed protection, environmental services such as reduction of air pollution, storage of carbon and flood mitigation, recreational opportunities, and habitat for an incredible range of plant and animal species. The southern states are home to an estimated five million family forest landowners.

However, social, environmental and economic forces are now causing a rapid change in Southern Forests: large industrial forest companies that have accumulated and managed forest land in the South for generations are rapidly divesting of their land holdings; forest based industries are being affected by global economic trends; and land prices are soaring, making traditional forest uses uneconomic in some parts of the region. Parts of the South are growing in population and urbanizing rapidly through metropolitan region expansion and recreational and retirement home development in important forested landscapes.

These trends increase the risk that the economic and environmental values provided by Southern Forests will be lost. Due to the changes in land ownership (and hence land use and management), jobs are being lost, water shortages are increasing, recreational space is declining, and habitat for many species is threatened. The Conservancy is working with the Forest Service and other partners to explore ways to understand and address these threats, in order to conserve the heritage of Southern Forests and the vitality of the Southern forestbased economy. We look forward to working with this Committee to address these issues in the context of the 2007 Farm Bill.

I want to emphasize that it would be impossible for us and our partners to find solutions to the threats to Southern Forests had the Southern Research Station not produced the Southern Forest Resource Assessment. That thoughtful and insightful assessment, developed with the assistance of experts in a range of social, economic and environmental fields, has become the single most credible and comprehensive source of economic and ecological information regarding Southern Forests. By identifying current forest conditions in the South and predicting trends for the future, it provides the data and analysis critical to development of policy solutions by Congress as well as state and federal agencies. The next step will be to develop a comprehensive strategy to conserve our Southern Forests.

We strongly encourage the Committee to support further work in updating the SFRA and conducting similar comprehensive analyses in the future. Such studies should include research on the impacts of natural disasters and global economic forces on Southern Forests, and studies that might aid in strengthening and perpetuating the Southern Forest economy. In general, we believe that this kind of long-term investment in research should be replicated elsewhere in the U.S.

Abating the Threat of Forest Pests and Pathogens

Forests today are beset by numerous threats that require long term investments. One of the most critical is non-native forest pests and pathogens. Everyone has heard of the chestnut blight, which eliminated the dominant and most economically valuable tree of eastern forests. Currently such threats as hemlock wooly adelgid, sudden oak death and emerald ash borer are degrading the health of our eastern forests. The financial impact of each new invader is enormous. For example, emerald ash borer threatens seven billion ash trees across the U.S. with an estimated value of \$282 billion, or 30 to 140 times the insured losses from Hurricane Wilma's strike on Florida. Sudden oak death is a severe threat to southern and northern red oak, the most valuable hardwood timber trees on the continent and critical components of many forested ecosystems. The threat non-native pests and pathogens pose is not new but is now putting forest health at greater risk.

With the increase in global trade, the potential for new introductions continues to rise. The World Trade Organization documented a 7% average annual rise in global trade from 1995 to 2000, more than twice the rate of growth in world GDP.

A recent study by USDA APHIS, Michigan State University and the University of Montreal estimates that 42 new insect species became established in the United States between 1997 and 2001. These may well include agricultural and forest pests.

Responsibility for control and prevention of entry rests with USDA APHIS, but Forest Service research has a critical role in addressing these threats--particularly in terms of biocontrol treatments and understanding the biology of the invasive organisms in question. While adequate funding for rapid intervention (largely through APHIS) can sometimes eradicate infestations before they become established, Forest Service research is essential in managing those infestations that do succeed in becoming established. Controls are unlikely to be cost effective until we know which mechanisms work, and how they interact with the biology of particular pests and pathogens. Yet the number of research entomologists and pathologists has declined, and Forest Service research stations are being required to address an ever-broader range of useful disciplines such as computer mapping. According to the National Research Council, funding for forest-protection research fell 56% between 1980 and 2001.

We encourage the Committee to support robust funding for Forest Health research to address forest pests and pathogens, including research on the impact of increased global trade, the effectiveness of various treatments, the biology of individual organisms, the potential economic impact of new invaders such as the emerald ash borer, and the economic tradeoffs involved in various control strategies. Sustained research can guide the implementation of activities that will help manage this risk to forest health.

3. Research should be conducted collaboratively with partners.

As I stated above, the ecological and social issues that the Forest Service confronts are complex, often long-term and large scale, and it is a rare case when one entity alone can undertake research sufficient to fully understand a particular subject. Partners bring different perceptions, experiences, resources, and insights to land management issues; partnerships are worth more than the sum of their parts. I would like to highlight two USFS/TNC research partnerships that illustrate the benefits of collaboration and may serve as examples for other collaborative research efforts.

Using LANDFIRE to Set Priorities for Restoration of Fire-Adapted Ecosystems

In July 2004, the Forest Service, the Department of the Interior and The Nature Conservancy entered into a 5-year, \$5 million cooperative agreement as part of the larger \$40 million LANDFIRE project, to develop a comprehensive set of data layers and software needed to support the National Fire Plan, the Western Governors Association's 10-year comprehensive

plan, the President's Healthy Forest Initiative, and the Conservancy's long-term conservation goals. LANDFIRE data and models will help federal agencies and their partners join forces to conserve biodiversity, reduce wildfire hazards to community and firefighter safety, assess threats to ecosystem health, and plan strategically at regional and national levels.

The Rocky Mountain Research Station's Missoula Fire Sciences Lab (the lead partner), with its long history of success in fire research and a cadre of fire researchers, is completing the majority of data analysis, modeling and mapping. The Conservancy, including a diversity of field practitioners and academic researchers, is creating reference models and helping expand the audience for the project. The U.S. Geological Survey is directing its expertise to remote sensing and map development. The result of this collaboration is that, for the first time ever, the Forest Service, DOI and other federal, state and private land managers will have comprehensive, peer-reviewed, ground-truthed data to set priorities for restoring fireadapted ecosystems in the United States. This Committee and others have identified altered fire regimes as one of the most serious ecological and safety challenges facing land managers in the U.S. today. LANDFIRE - the necessary first step in comprehensively addressing these challenges - simply could not be done by one organization alone. Partnerships between the USFS, The Nature Conservancy and Academia to Understand the Effects of Climate Change on Forest Ecosystems

The Conservancy and the Forest Service are currently engaged in two partnerships to research the effects of climate change on forested landscapes. In the Tahoe National Forest in California, The Nature Conservancy and the Tahoe NF have joined with the University of California, Berkeley, Stanford University, Colorado State University, the California Department of Parks and Recreation, and The Conservation Fund, in a research project that will 1) detect whether climate change has caused vegetation zones in the Sierra Nevada to shift in altitude, and 2) provide data on the potential of California forests to sequester carbon and reduce global climate change. The results will help improve the ability of government and private organizations to adapt forest management practices to a changing climate, and to quantify the ecosystem service of carbon sequestration. Separately, The Nature Conservancy, the Pacific Northwest Research Station, and Oregon State University are collaborating on scientific research to determine where climate change may cause the most extensive shifts in global vegetation. The research data will help inform global conservation priorities and natural resource management practices.

As with LANDFIRE, no individual organization has the resources or expertise to address these complex issues alone: each partner provides scientific expertise, state-of-the-art technology, data, and/or the necessary land base, as well as staff and funding. Additional benefits extend far beyond the Forest Service and its partners. The cutting-edge research in these projects can serve as a model to better understand the capability of forests to store carbon, and to reduce impacts of, and adapt to, global warming. And the data and methods can help the USFS develop a role for the agency in addressing climate change, in developing payments for ecosystem services, and potentially in assisting the development of a forest carbon market, in California or nationally.

As Congress and the agencies develop ways to further the goals of cooperative conservation, we encourage continued support for collaborative research projects that are geared towards meeting common missions and goals and that take advantage of the expertise of diverse organizations.

Mr. Chairman, this concludes my testimony. I would be glad to answer any questions the Committee has.