

I am Dean and Professor of the College of Natural Resources, University of Idaho, and also national policy chair for the National Association of University Forest Resources Programs (formerly NAPFSC).

My situation at the University of Idaho is representative of the other members of our NAUFRP organization. I lead a college with five academic departments, seventeen B.S., M.S. and Ph.D. degrees in forestry, range, fisheries, wildlife, natural resource social science, public policy and tourism, conservation biology and forest products. We have 600 undergraduate and 250 graduate students, and our faculty generate over \$12 million in competitive external grants and contracts per year. Some other NAUFRP member colleges and departments are larger and some smaller, but all share the same challenges, commitment and vision that I will share with you today.

NAUFRP.

NAUFRP, formerly NAPFSC, was formed in 1981. The organization comprises 69 of our nation's prestigious universities and represents university scientists, educators and outreach specialists. Our purpose is to advance the health, productivity, sustainability and competitive status of our nation's forests through university-based natural resource education, research, outreach and international programs. NAUFRP's member universities consistently provide reliable, objective and innovative research on forest ecology, management, utilization and policy. Our research is relevant to end user needs, often motivated by interaction between researchers at our institutions and practitioners who own and manage working landscapes. Our education programs develop future leaders and sciencebased knowledge, create intellectual capacity and advance cutting edge technology to sustain forest resources.

NAUFRP institutions connect educators, professional managers, scientists, conservation leaders, policy makers, landowners, and forest users to jointly address diverse ecological and human challenges related to forests. NAUFRP sees investment in the research on the health, productivity and sustainability of our nation's forests as a wise investment in the quality of life in our country and in the competitive position of our nation in the rapidly evolving global marketplace. In short, we see our role as providing leadership, knowledge and technology for an adapting society on a changing landscape.

We know we're not in this effort alone, and our ability to affect the challenges of the future depends on successful cooperation and coordination with our partners in the larger system of forestry research and technology transfer providers. My goal today is to share with you some of NAUFRP's bold new vision for America's Forests and some options for reform and redesign of the forestry research and technology transfer system in our country. This research and technology transfer system is the vehicle for achieving our vision. We think this system has room for improvement, and we are exploring models for better coordination and cooperation between the USFS, universities and other partners, and more effective investment of resources in forestry research and its delivery to a variety of user publics.

Why reform and redesign the system? Forestry research and technology transfer is operating in a rapidly changing environment, with significant challenges and opportunities. There are changes in the conditions of the nation's forest resource, in society's uses and issues related to the forest, in the way research is performed, and in the fiscal environment that has traditionally funded research. Contemporary natural resource and forestry-related issues are more complex than in the past and present new types of challenges to the research and technology transfer community. For example, there are significant changes in people's relationships with the land and an increase in the public's common interest in forests as national treasures that produce fish, wildlife and water as well as wood. There is heightened concern about the role of forests in national security, natural catastrophes and international competitiveness. Forests are being converted to new and different uses. Over 38 percent of new housing starts are now in the wildland-urban interface. There are massive, recent and ongoing changes in ownership patterns and management objectives of forest owners. Responding to tax policies that disfavor vertically integrated forest corporations, the majority of forest industry players have converted from integrated corporations to Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs) supported by equity capital on shorter-term management and investment cycles. Shareholders in these new corporate structures are taxed at 50 percent or less than their predecessor companies. There are signs that traditional forest industry manufacturing will in some cases convert to bio-energy and fuel production. There is an increasing interest in sustainable management and its application to a variety of forest conditions. There is a new confidence in cooperative conservation that stimulates state and private sector leadership in conservation and balances regulation and volunteer stewardship and related interests in reform of natural resource laws and policy. There is a whole new global economy of bio-materials, a

desire to establish markets in a broad array of natural capital and ecosystem services, and significant increases in energy cost which affect forest operations, global competitiveness and interest in wood as a source of liquid fuel. All of these changes have direct effects on investments in forestry research. Significant changes in the fiscal environment include diminishing public resources to support research infrastructure and programs, the reduction in USFS income and revenues due to massive reductions in the creation of wealth from the nation's federal forests, and the advent of unusually intense and expensive natural catastrophes including fires, storms and other climate related changes consuming large amounts of discretionary government and agency resources.

We in the nation's university forest resource programs have talented scientists and educators committed to the research and outreach mission of our institutions, but we are operating under increasing demands, changing priorities and shrinking budgets. There is a lack of strategic coordination between research providers in state and federal agencies, a lack of combined flexibility to address urgent and emerging natural resource issues, and a need to better serve the public, policy makers and professional land managers through integration of research and technology transfer within and between our institutions. This sea of change calls on us as leaders to be adaptable and visionary in shaping our public institutions to serve effectively and efficiently in a new world - at least as adaptable and visionary as we educate our students to be.

In response to this challenge of change, there are adjustments we can make in our individual organizations, but any redesign will be most effective if we do it together, federal and state agencies working as full partners in a system of research providers and funders. Currently, the players are disjunct. It is wise for the players in the systems to "get together" to identify a common vision, set strategic directions for the nation's forest resources research agenda, and optimize our investment and use of precious resources. This type of coordinated planning and implementation is needed to cover the costs of short and long term research, interdisciplinary and disciplinary research, regional initiatives, basic and applied science and the application of results to people's needs and issues.

We believe there is a need for bold redesign of the research and outreach system, not just a shifting of the deck chairs, and not just a change in course or direction for any particular player. This is a call for coordinated leadership on behalf of the collective forest resources research and outreach system and the people it serves. We cannot make or find our way as an effective research and outreach enterprise of the future if our separate institutions are doing redesign, adaptation and planning as separate ships on a turbulent sea. We need to be coordinated in the design process, seeing our potential as a coordinated system, capitalize on strengths and special talents of our respective organizations and working around the threats and weaknesses of our individual organizations.

We must rally our research and technology transfer enterprise for optimal return on our nation's investments. We must define a bold, new, common vision for a richer future of America's forests and a research, outreach and education agenda to achieve it. We must redesign our institutional systems for carrying out that agenda, becoming more nimble, efficient and effective, and do this with more interdependence and complementarity between the parts of the USFS, universities and their other partners in the system.

A Bold New Vision for America's Forests.

Forests, their resilience, beauty, extensive and diverse values and significance in our lives inspire our university research and education programs. Forests sustain and enrich the well-being and quality of human life of individuals, communities, our nation and our world. We recognize the complexity of forests and the interdependency of forests and humans and the challenges these present. Our organization has developed a new vision for America's Forests that catches up to new knowledge about nature and changes in the relationship between society and our nation's forests.

NAUFRP's vision is now being released to partners nationwide has several parts. Here's a snapshot of that vision:

?? Our forests will be managed and conserved to meet changing human needs based on local knowledge plus ever-improving science and technologies,

?? They will be vibrant, resilient, dynamic ecosystems that sustain the full array of forest benefits derived from conservation and management strategies that range from preservation to highly focused production of forest resource goods and services,

?? They will be constant sources for learning about relationships between people and natural resources for the benefit of people and all life.

We will continue to work with our partners on the definition of this vision, but just as important is the redesign and implementation of a coordinated, interdependent and smart-funded research and technology transfer system that makes it possible to achieve the vision.

Designing an Effective Research-Technology Transfer Enterprise:

New Models for

Coordination, Cooperation and Funding

Leaders in the forestry research and technology transfer enterprise are taking initial steps to:

1-

identify science and information needs of forestry decision makers, professional scientists and policy makers;

2-prioritize future research topics; and

3-design new models for funding and operation of a

cooperative, interdependent system of forestry research and technology transfer.

Activities underway

include the National Forestry Research-Technology Transfer Summit, the Outlook Project, the McIntire-Stennis strategic planning project, and the RREA strategic plan and strategic assessment projects.

National Forestry Research-TT Summit. In January 2006, NAUFRP is sponsoring a National Forestry Summit titled, Forest Research for the 21st Century: Defining Strategic Directions and Rebuilding Capacity for the Research and Technology Transfer Enterprise. We have invited a group of resource professionals, educators and research scientists and stakeholders with whom we will coordinate and cooperate to achieve our new vision for America's Forests.

This summit has three major objectives:

?? Define new forest-based knowledge and science needed to advance the health of forests and the competitive position of our nation,

?? Define the new knowledge, skills and qualities needed in the next generation of natural resource research scientists and technology transfer experts to address emerging new issues and to rebuild and sustain excellent forest research and technology transfer capacity, and

?? Recommend an effective and progressive funding allocation model to ensure support for high priority research and technology transfer and the development of needed intellectual capacity and infrastructure.

The summit is designed to pull our research community together around a common forest vision and develop a research and education agenda to achieve it.

It will orient us as a community to current

and future forces of change, a common interest in our forests, and new paradigms of sustainable management. This summit is an important foundational piece for the development of a strategic forestry research and technology transfer agenda and will help to inform any redesign of our system of coordinated research programs and the resources to support them. I have attached a fact sheet on the summit with this written testimony.

McIntire Stennis Strategic Planning. This project is being funded by a grant from USDACSREES and conducted by a multi-stakeholder planning team under the leadership of NAUFRP. The purpose is to help CSREES and its affiliated land grant and public universities identify best models for the allocation of McIntire-Stennis funds to priority forestry goals in research, education and technology transfer. The planning process will address: 1-setting future research priorities, 2-models for allocating

base and competitive funds to universities, and 3-managing the assessment and accountability of the program as a whole. The last objective includes a specific charge to better integrate the reports of individual states' research programs to elucidate the full extent of program cooperation and integration across states and universities around regional research priorities.

Early stages of the McIntire-Stennis planning process have yielded some useful ideas for consideration in redesign of the research enterprise, including the following:

?? There is a need for some base funding for each of the institutions plus pools of competitive funding available to all institutions and their partners. Base funding is imperative to support research and technology transfer capacity, including personnel and infrastructure for the long term interests of the enterprise. Competitive funds are needed to support a nimble research program focused on solving current problems in the shorter term and to leverage other funding sources.

?? Competitive funding could be located in a pool or pools, generated on an annual or multiyear basis by donations/allocations from a variety of interested mission agencies and possibly other partner organizations (e.g., USFS, USGS, NOAA, DOE, DOD, EPA, etc.) and focused on specific, high priority issues with criteria appropriate to the forestry issues of the day. RFP management could be performed by a non-profit or consultant organization outside government. Criteria could require integration of research and technology transfer goals and activity in any funded project.

?? Some suggest that the USFS needs to be more nimble by reducing the proportion of its budget dedicated to permanent personnel and infrastructure, releasing more funds to support competitive programs conducted by or with their partners. Competitive funding could be placed in pools with funds from other agencies as mentioned above.

?? Funding mechanisms and allocations need to recognize and support scientists in NAUFRP member institutions who are involved in both "forestry research" as traditionally defined, and in other "bigger science" programs across the biological, physical and health sciences. Both types contribute to the sustainability of our forests for individuals, communities and our nation.

?? Funding and collaboration need to be inclusive of and attentive to priorities of Tribal and Black colleges.

?? Regional programming is underway among states, can be further expanded, can be facilitated by vehicles like Cooperative Ecosystem Studies Units (CESUs), needs to be better represented in assessment and accountability reports, and can be optimized through some redesign of the funding and other aspects of research-technology transfer enterprise.

?? Accountability and reporting can be better utilized in support of programs, including more leveraging. All funded projects must indicate intended deliverables and effective, rigorous annual assessment and certification processes. Assessment must be applied annually to justify continuation of multi-year projects.

?? The research, graduate education and technology transfer enterprises need to support and encourage research with local relevance and international significance and reach.

?? Technology transfer needs to be performed even more on a regional basis and with direct relevance to local needs and high priority research.

Other insights have emerged from initial discussions about how to improve the functional relationship between USFS Research and university research enterprises. Notable is the sharing of examples of truly impressive regional projects currently underway. These current efforts are in various formative stages and are models to support and emulate. They address major forestry issues of our time, draw upon expertise in a variety of institutions, elucidate the true values and efficiencies of partnership, transcend political boundaries and generate broad political support, and achieve significant results and

impacts if funded with sufficient base and competitive resources for appropriate lengths of time. But, each of these can be made even stronger and more effective by taking next steps in coordination and cooperation between universities and agencies. I provide four examples, among others, that deserve further support and that can give us insights to redesign of our enterprise.

?? Regional public policy and law consortia working on common issues at the science-policy interface on public and private lands,

?? Regional watershed cooperatives that cross significant and expansive ecological and cultural ranges, integrate ecological science and industrial management, and have implications for sustainable management, ecosystem services markets and migratory fish survival.

?? Fire management, ecology and restoration studies that integrate work on fuels management, carbon-water relations, pre-and post-catastrophe management and restoration regimes under different ecological, climatic and cultural conditions.

?? Web-based technologies that provide an interface between working professionals and landowners who make critical decisions about the sale and use of land and forests and the science community who generates data, information, models and other analytical tools useful in those decisions. Examples already exist in the arenas of fire ecology and management, and forest land valuation and stand modeling, among others. This type of interface is particularly useful to professional and landowners with technical skills and is increasingly relevant to one of our nation's most critical issues, namely land use decisions and deals being made by NGOs, NIPF owners, industries and consultants.

A variety of models for support of regional programming can be explored. Most agree we can do a better job of supporting this activity. Centers can be virtual or physical. They can be based at one institution where a critical mass of relevant expertise and infrastructure exists, or they can virtually exist as a core group of scientists and stakeholders from a group of partner institutions with their physical home as the target landscape on which they do their research or the cyberspace they jointly manage. Ongoing planning discussions regarding McIntire-Stennis will be embedded in the National Forestry Research-TT Summit and in other venues over the next several months. Ultimately, the results and any proposals for redesign of the research enterprise will be examined alongside results of two other planning processes I will now briefly describe, RREA strategic planning and assessment and the USFS Outlook Project.

RREA Strategic Planning and Assessment. The Renewable Resources Extension Act is up for reauthorization in the current Farm Bill. A five-year strategic plan for RREA was completed in 2005; the Extension Committee on Policy has indicated a desire to increase funding for RREA, and the Extension Committee on Organization and Policy Forestry Task Force has sanctioned a study of the assessment procedures for RREA programs. Within the coming months, we will have a detailed plan for measurement of specific intended outcomes and impacts of RREA programs under the new strategic plan. This is an opportune time to consider redesign of the funding models and program prioritization processes for RREA, in pursuit of the RREA vision and additional integration of research and technology transfer goals and activity. Similar evaluation could be conducted to determine best models for integration of programs and resources between USFS Research and State and Private Forestry and between research and technology transfer systems of the USFS and universities.

USFS Outlook Project. Another important foundational piece in identifying the research program agenda and functional models for its implementation is the USFS-sponsored Outlook Project. As mentioned by Deputy Chief Bartuska, the USFS is providing leadership for a series of Outlook workshops to "identify a broad research agenda to address decision makers' needs over the next twenty years using a multiple futures approach." This process will "identify diverse sets of decision makers' needs and key scientific data, information, knowledge and tools to address those needs." Participants include decision makers and scientists from industry, NGO's, government and universities.

As we move through the coming months, we will stay in constant contact and merge the results of these activities and processes with the several vision and planning processes initiated by NAUFRP.

In Closing...

The past 50 years have been tumultuous for America's forests and citizens who utilize them. Conflict over differing values and uses has damaged communities, weakened relationships, compromised trust, caused industry closings and left managers of public forests caught in the crossfire of competing opinions about their roles and future. Gridlock mentality fails to recognize the complexity and uniqueness of individual forests, and that at appropriate geographic scales and over time a mosaic of forests can be many things for many people.

Our nation can move toward a new paradigm and vision for forests. The path needs to be paved with common commitment to meet broad goals and shared needs through respect for different values, stewardship based on broader purposes and in consideration of global forces of change by people who live on and with the land, and agencies as facilitators of efficient production and collaborative conservation. Working toward this common vision requires a financial investment in education and research about the role, value and services forests can provide for the greater good. An investment in our nation's forests is an investment in our future.

We acknowledge that while we know much about forests, there is much yet to learn. NAUFRP is scientists and educators serving as a link in the interactions among professional resource scientists, managers and diverse forest users. NAUFRP member institutions pledge our intellectual capital to help our nation forge a new pathway for forests. We seek partners to compel a national commitment to our nation's forests and join us in the social, economic and ecological imperative to them healthy and productive. And, as universities, we recognize these efforts rely on strong science sustained through excellence in research, education and outreach. We want to explore values, share commitment and apply science to create lasting forests.

We recognize that redesign of the forestry research and technology transfer enterprise is a larger calling than can be addressed or accomplished by any one organization or provider. It is a calling to partnerships and coordination among providers like those represented in this hearing today. It will be important for our research and technology transfer community to work as one system in these deliberations and planning processes and in communication with policy makers and key stakeholders to the nation's research-technology transfer enterprise. Over the coming year, policy makers will have opportunities to affect the authorization and appropriations in support of the enterprise. We are here to help in the deliberations.

NAUFRP is leading in the design of new ships and fleets, not just moving chairs on the decks. We are eager for redesign in cases where old structures are inconsistent with current demands and conditions. We are a dexterous organization of 69 members with a highly focused agenda and sense of responsibility to current and future generations. We are willing and able to pursue prototype designs and test new models.

Our leadership for redesign of the research-technology transfer enterprise, our involvement in the process of other agencies, and our testimony today is all meant to be constructive and catalytic. We see substantial challenges and very real opportunities to better the enterprise on the behalf of science, citizens and forests. There are opportunities to affect authorizations and appropriations as we examine the Farm Bill and other natural resource legislation over the next two years. We want to continue working with Congress and the agencies to improve and enhance our enterprise. We welcome your questions and are at your service in this endeavor.

If we achieve our new vision for the nation's forests, no doubt our legacy will be one of unprecedented leadership and partnership.

Thank you for the opportunity to testify.