

# Report to the Secretary of Agriculture

Forestry Research Advisory Council<sup>1</sup>

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America's forests have unrealized potential to address major National issues such as energy security and climate change. To tap that potential the United States Department of Agriculture (USDA) must develop an integrated portfolio of long- and short-term research including technology development and transfer to support sustainable forest-derived services and products to meet the needs and quality of life requirements for the American people. To that end, the Forestry Research Advisory Council (FRAC) requests the following information and recommends the following actions to increase the value and effectiveness of USDA's forest research portfolio.

***FRAC requests the following information be provided by June 1, 2007 for consideration at its summer meeting. The responses should include a detailed statement of USDA's research strategy in each identified area, current efforts and commitments, including plans for working with other agencies or groups in and outside USDA who are engaged in complimentary research.***

- ***Ecosystem Services.*** Forest ecosystems provide a large variety of direct and indirect benefits. Managing forest ecosystems requires an understanding of the full range of these benefits, their interaction, and methods of valuation that only research can provide. Capturing these benefits requires the development of new and existing markets for all ecosystem services. Understanding and finding value in these multiple resources, all arising from the same lands, requires the development of critical new tools to sustain forests ecosystems in a changing world.
- ***Addressing the Impacts of Climate Change on Forest Ecosystems, alternatives for adapting to and mitigating for its effects, as well as addressing the role of forests in mitigating carbon imbalances.*** Understanding how climate change affects the structure and functioning of forest ecosystems is critical to effective management, both to anticipate climate-induced changes and to capitalize on the value of forests in maintaining carbon stores and mitigating potential global warming in a rapidly changing world. Addressing these threats and changes requires building on prior research and collaborating with others in the climate-change research community.
- ***Forest Bio-fuels and Bio-products in support of the President's Advanced Energy Initiative.*** America's forests can be a major source of materials to produce renewable and sustainable fuels if we can overcome the technical barriers to the cost effective production, collection and conversion of forest biomass to bio-fuels.

## ***FRAC Recommends:***

- ***Nanotechnology: USDA should continue to conduct pioneering research and proof of concept work in Nanotechnology and coalesce the user community to build the base of support needed to advance the state of the science.*** Nanotechnology has the potential to reinvent forest products in the 21<sup>st</sup> Century and enhance US competitiveness in international markets. USDA should maintain its leadership role by investing fully in the key pre-competitive enabling technologies that exploit the full potential of wood as a nanomaterial.
- ***Pine Genome: USDA should lead the user and research communities in sequencing the loblolly pine genome.*** Successful sequencing of the loblolly pine genome will provide the foundation for enhanced conifer productivity and production of bio-based products and fuels.

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<sup>1</sup> The members of the Forestry Research Advisory Council (FRAC) are: Gregory Johnson (Chair), Weyerhaeuser Company; Masood Akhtar, CleanTech Partners; Jeb Barzen, International Crane Foundation; Richard Brinker, Auburn University; William Crapser, Wyoming State Forestry Division; Bov Eav, USDA Forest Service Pacific Northwest Research Station; Malcolm Guidry, Consulting Arborist LLC; John Hagan, Manomet Center for Conservation Sciences; Scott Jones, Forest Landowners Association; Patricia Layton, Clemson University; Alan Lucier, National Council for Air and Stream Improvement; Catherine Mater, Mater Engineering, Ltd.; Joseph McNeel, West Virginia University; James Rakestraw, International Paper Company; David Reed, Michigan Tech University; Theodore Wegner, USDA Forest Products Laboratory; and John Wiens, The Nature Conservancy

<sup>2</sup> The Forestry Research Advisory Council to the Secretary of Agriculture met in Madison, WI, January 23 - 25, 2007.