

Report to the Secretary of Agriculture

Forestry Research Advisory Council¹

September 2011²

The urban and rural forests of the United States remain integral to the health and well being of our society as a renewable natural resource of physical material value, environmental/ecological service, societal identity and citizen connection with their natural world. However, future urban and rural forest health is increasingly at risk as a result of environmental change, resultant disease and pest impacts (native and exotic), increased biomass demands in the development of energy security, and increasing population and associated developmental pressures. Research focused on the sustainable management of rural and urban forests is critical to address these concerns. We commend the USDA for their consideration of the FRAC recommendations from 2010, and we highlight the need to continue the focus on linking technology transfer with research, consideration of social science contributions to research questions, and developing intellectual capacity to address the competing demands on forests for the myriad products and services they provide. We advance the thematic priorities which were developed at our August 2011 meeting to develop strategies for rural and urban forest resilience. A living resource and ecological system set aside for specific purpose but not managed or understood is doomed to degradation by negligence. While we understand the difficult financial times, it is imperative that we do not condemn future generations to land resource poverty in the current efforts to avoid passing a debt burden on those same generations.

1. In light of the 50th anniversary of the McIntire-Stennis Act, we recommend that the USDA **undertake an assessment** of the effectiveness of the Cooperative Forestry Research Program and how it could be strengthened or updated to address changes in sustainability needs of forestland/watershed lands; now and into the future. In this assessment, we suggest that human population distributions, environmental challenges for forest species, and targeted environmental markets and services be formalized as **appropriate areas of investigation**.
2. We endorse the PCAST³ call for ecosystem assessment and data integration which will require a unified system of terms, benchmarks and evaluation criteria to catalog projects and management efforts. As such, we recommend that NIFA and the USFS **assess the existing research record** on ecosystem services within the context of defined broad categories, such as provisioning, regulating, supporting, and cultural⁴ services, and **prioritize proposals in identified systems**, particularly as they relate to bio-fuel harvesting in natural and managed systems. Once established, the unified system should be used to evaluate forest management practices to develop empirical evidences of impacts, tradeoffs, and consequences on ecosystem components such as biodiversity, soil and water resources and their sustainability. We further suggest an **investment in, and harvest of, social science and decision-support research** to expand understanding of governance, collaboration, and partnerships to improve forest and watershed management in a context of increasing complexity, and changing climate; from rural community economies, and globalization.
3. The USDA's unique expertise in evaluation of ecosystem functions and services should be recognized in its engagement with other federal agencies on issues that involve tradeoffs and unintended consequences of state and federal policies and programs regarding forest pest and invasive species, and of biomass, bioenergy, and biofuels policies in natural or managed systems. **Current internal USDA and interagency policies and programs** regarding forest invasive species research and action should be **evaluated and amended to maximize effectiveness and impacts**. **Additionally**, national **policy decisions** such as the assessment of the carbon neutrality

of wood-based biofuels by the EPA must **be made with the full technical and scientific input** of the USFS and NIFA as part of the review committee.

4. The USFS experimental forest system is worth protecting to ensure continued long term research capacity. Funding needed to adequately maintain this system and associated data continuity is modest relative to that required for rebuilding such infrastructure. We support continued investments in this system and suggest **increased USFS system collaborative relationships with non federal partners**⁵ to develop efficiencies and enhancements of shared research infrastructure and capacity by coordinated development. Through increased collaborative efforts, the awareness and relevance of the USFS research components will develop into a larger research community.
5. We recommend **expanded use of USFS synthesis reports** and technology transfer programs to enable the translation and transmission of research findings and decision tools for use by natural resource professionals through internal programs and the existing and extensive Cooperative Extension partnerships, and to strengthen linkages between Forest Service and Agriculture and Food Research Initiative (AFRI) K-16 education programs.
6. The recently developed Feedstock Readiness Level Tool (FSRT) for tracking progress of new feedstocks towards commercial production provides an excellent framework for strategic evaluation of USDA technology development and feedstock programs for bioenergy and advanced biofuels. **We recommend use of the FSRT by USDA and DOE to prioritize** both internal and cooperative research investments and technology transfer programs.

The Council requests that the USDA Forest Service R&D and the National Institute of Food and Agriculture (NIFA) prepare a report for our 2012 meeting on progress made to address these recommendations.

¹ *The members of the Forestry Research Advisory Council (FRAC) are: Masood Akhtar (Chair), Bioenergy Deployment Consortium; Jason Grabosky (Chair-elect), Rutgers University; Joyce Berry, Colorado State University; George Brown, Agenda 2020 Technology Alliance; Melissa Cook, Sustainable Development Institute; Daniel Dructor, American Loggers Council; Bov Eav, USFS; Alexander Evans, Forest Guild; J. Keith Gilles, University of California, Berkeley; Eoan Hjerpe, The Wilderness Society; Scott Josiah, Nebraska Forest Service; Cassandra Moseley, Institute for a Sustainable Environment; Carlos Rodriguez-Franco USFS; Robert Smith, Virginia Tech; Mark Tjoelker, Texas A&M University; Eric Vance, NCASI; Charles Vandersteen, Louisiana Forestry Association.*

² *The Council met in Washington, DC on August 16-17, 2011.*

³ *PCAST report: Sustaining Environmental Capital: Protecting Society and the Economy*

⁴ *Millennium Ecosystem Assessment Reports: <http://www.maweb.org/en/index.aspx>*

⁵ *State Forests, Agricultural Experiment Stations, Experimental Watersheds, NGOs and Tribal lands, enhanced NSF LTER and STEM programming*