

# **Northeastern States Research Cooperative: *Research for the Northern Forest* 2010 Grant Competition**

## **PRE-PROPOSALS DUE FEBRUARY 26, 2010**

The USDA Forest Service Northern Research Station, The Rubenstein School of Environment and Natural Resources at the University of Vermont, The University of New Hampshire Department of Natural Resources and the Environment, The Center for Research on Sustainable Forests at the University of Maine, and The State University of New York College of Environmental Science and Forestry are pleased to announce a special grant competition to support the Northeastern States Research Cooperative (NSRC).

### **Research Areas / Themes**

The 2010 NSRC grant competition will support four broad areas of research that are relevant to the Northern Forest region. Theme One focuses on integration of social, economic, and ecological issues, Theme Two focuses on sustaining ecosystem health, Theme Three focuses on forest productivity and products, and Theme Four focuses on biodiversity and protected area management.

A primary goal of NSRC-supported research is that it have relevance and benefit to those interested in the Northern Forests, including other scientists, community members, government bodies, users, businesses, educators, and other stakeholders. Pre-proposals are solicited that will develop and implement outreach activities utilizing the important findings that have been developed within each Theme. Pre-proposals that involve multiple investigators, institutions, agencies, and/or states are strongly encouraged. The NSRC will consider all relevant pre-proposals and for the 2010 RFP invites pre-proposals – to any of the four themes – that focus on energy from biomass or climate change impacts.

Detailed instructions on how to submit a pre-proposal are included in the following sections. Briefly, pre-proposals may be submitted to any theme, but the same pre-proposal (or substantively similar pre-proposals) may not be submitted to more than one theme. We recognize that there is some overlap among the interest areas described for the four NSRC themes. Investigators should select the theme to which they think their pre-proposal is most relevant and are encouraged to contact any of the theme managers if they have questions about which theme is most relevant to their interests.

### **Background / Mission of NSRC**

The 26 million-acre Northern Forest, home to one million residents, stretches from eastern Maine through New Hampshire and Vermont and into northern New York State. Extensive changes in the patterns of land use and ownership in this region during the 1980s prompted the formation of the Northern Forest Lands Council (NFLC) in 1990. The NSRC grant competition is a research program based on recommendations of that council's 1994 report, *Finding Common Ground: Conserving the Northern Forest*, which led to Public Law 105-185 and the formal creation of the research cooperative. A key theme in the NFLC report, which is also reflected in the mission of the NSRC, is the importance of the Northern Forest to society and the need for research activities to have relevance and benefit to “the people who live within its boundaries, work with its resources, use its products, visit it and care about it.”<sup>1</sup> The NSRC interprets this mission broadly. Thus, research on the Northern Forest Lands is a central focus, but pre-proposals relevant to the economy, ecology, forest products, and biodiversity of northern forests in the northeast are encouraged. The NSRC is committed to practical applications of supported research. Thus, we disseminate general project and contact information for funded projects via the web and through other outreach mechanisms. This document, information about past and ongoing NSRC awards, and the NSRC Charter of Administration and Governance can be found at <http://www.nsrcforest.org>.

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<sup>1</sup> *Finding Common Ground: Conserving the Northern Forest. The recommendations of the Northern Forest Lands Council. September 1994.*

## **THEME ONE: Sustaining Productive Forest Communities: Balancing Ecological, Social, and Economic Considerations**

The Rubenstein School of Environment and Natural Resources at the University of Vermont seeks research pre-proposals for NSRC's 2010 Theme One grant competition. Theme One supports research focused on sustainable and integrated solutions to the social, economic, and ecological challenges of the communities, businesses, and working landscapes in the Northern Forest. Pre-proposals will be accepted from diverse sources, including public and private research institutions, non-profit organizations, businesses, and industry interests. Pre-proposals must contain a clear research focus and an explicit methodology to be considered. Priority will be given to projects that will produce clearly defined outcomes within a one to three year timeframe.

Pre-proposal submissions to **Theme One** may include, but are not limited to, one or more of the following broad research topics:

- **Sustainable Forest Management**  
Research to define, demonstrate, and/or evaluate sustainable approaches to Northern Forest management, including the social, economic, and ecological challenges facing Northern Forest watersheds, communities, businesses, biota, and working landscapes. Example projects include studies of land use change, carbon sequestration, easements, effective regional communication, and other long-term forest management issues.
- **Community and Economic Development**  
Research to support plans and programs for rural community and economic development in the Northern Forest. Example projects include study and assessment of social, economic, and ecological changes in Northern Forest communities, analysis of conflict resolution strategies, studies of challenges unique to Northern Forest businesses, studies of community connectivity, and assessment of Northern Forest resource markets for both wood and non-wood products and the development and viability of a new carbon trading market for the Northern Forest.
- **Ecological Economics and Ecosystem Services**  
Research to quantify and understand the value and importance of ecosystem services and resources in the Northern Forest. Example projects include assessments of the region's wood resources, recreation and tourism resources, energy potential, social capital, carbon sequestration, greenhouse gas mitigation, and overall ecosystem services.
- **Nature-based Tourism**  
Research to better understand the benefits and challenges associated with past, current, and planned recreation and tourism in the Northern Forest and its predominantly rural communities. Example projects include studies of Northern Forest culture, values, and tradition and their roles in recreation and tourism, studies of transportation challenges unique to the region, and studies of how best to encourage local entrepreneurship and Northern Forest "image" branding.
- **Watershed Planning**  
Integrated research designed to enhance scientific information needed for long-term planning and decision making aimed at sustaining productive forests, clean water, and strong, economically-viable communities within and between Northern Forest watersheds. Example projects include studies to utilize and/or value forest lands to protect water resources, assessments of past planning activities, and demonstrations of innovative new approaches to planning. Proposals to implement a specific solution for a local problem will generally *not* be considered unless there is a strong research and/or monitoring component that could clearly lead to regional implementation of the solution.

## THEME TWO: Sustaining Ecosystem Health in Northern Forests

The University of New Hampshire seeks research pre-proposals that will improve understanding and management of forests and associated aquatic ecosystems in the Northern Forests. As a recipient region for pollutants produced throughout central North America, the continuing health of the Northern Forest depends on a better quantitative understanding of the impacts of these pollutants on forest health and water quality. In addition, the Northern Forest is seen increasingly as a potentially significant regional energy source, and/or as a carbon sequestration buffer against climate change. Better understanding of the impacts of these alternative demands on forests in the region is important for sustaining forest integrity into the future and supporting sustainable development in the region.

In response to this need, pre-proposals are solicited that:

- Identify and increase our understanding of the potential for significant changes in forest health and productivity, and water resources due to:
  - Important pollutant vectors
  - Utilization of forest lands for energy production
  - Climate change
  - Other regional phenomena
- Develop quantitative methods for estimating and predicting changes in carbon storage over time in ways relevant to emerging carbon credit markets and policies

Proposals may take one or more of several approaches to addressing these needs, including:

- New research projects
- Synthesis of existing data
- Increasing the level of communication among researchers, resource managers, policy-makers, regional businesses and residents, and other stakeholder groups.

Scientific issues to be addressed primarily involve **hydrological, biogeochemical, biomass production and carbon cycling processes** in forested ecosystems and surface waters as affected by pollutant vectors and forest management for biomass or carbon.

Priority will be given to projects that:

- Will produce clearly defined outcomes within a one to three year timeframe
- Have a direct relationship to the health, productivity, and management of forest and aquatic ecosystems in the Northern Forest, and
- Reflect the needs and interests of stakeholder groups in the region

Proposed outcomes should advance our understanding of ecological processes and relationships affecting the structure and function of forest and aquatic ecosystems, and demonstrate the value of this new understanding in addressing the issues of ecosystem health or carbon and energy management in the Northern Forest Region.

In addition to contributing to the research mandate of the Northeastern States Research Cooperative, projects funded under **Theme Two** may also participate in the Northeastern Ecosystem Research Cooperative (NERC), an initiative to promote collaboration among ecosystem research scientists in the northeastern U.S and eastern Canada (<http://www.ecostudies.org/nerc/>).

## THEME THREE: Forest Productivity and Forest Products

The Center for Research on Sustainable Forests at the University of Maine is seeking research pre-proposals that will **quantify, improve, and sustain productivity** of the 26 million acre Northern Forest, a working forest landscape covering the area from eastern Maine through New Hampshire, Vermont, and into northern New York State. *Forest productivity for purposes of this RFP includes all aspects of forest production that are most important to the future of the wood products-based economy of the Northern Forest. Aspects of primary interest include underlying biological processes, management practices, and methods of prediction that will influence future wood supplies and forest conditions.*

Pre-proposals will be accepted from a variety of sources-including public and private research institutions, non-profit organizations, businesses, and industry interests-and must contain a strong central research focus.

Research pre-proposals to be considered for funding under **Theme Three** must address one or more of the following topics:

- **Biological Processes:** Increased understanding about the underlying biological processes driving current and future net primary productivity of Northern Forest ecosystems, including:
  - Ecophysiological responses of commercial tree species to silvicultural practices
  - Influence of harvesting practices on genetic variation of commercial tree species
  - Influence of management practices on long-term site productivity.
  
- **Management:** Increased understanding about the influence of management practices on productivity of Northern Forest stands, including:
  - Influence of current partial harvesting practices on future regeneration and growth
  - Low-cost silvicultural systems to improve the species composition of natural hardwood regeneration
  - Intensive and extensive management silvicultural systems for production of commercial hardwood and softwood species
  - Influence of silvicultural practices on wood formation and quality
  - Practices to support production of biofuels and other bioproducts.
  
- **Prediction:** Improved prediction of how changing management and environmental conditions will influence future wood supplies and forest conditions, including:
  - Influence of thinning and other partial cutting methods on future growth & yield of stands and forest-level wood supplies
  - Decision-support systems for large-scale pest outbreaks
  - Influence of forest practices on stand and forest-level carbon dynamics
  - Forest growth and species response to climate change.

## THEME FOUR: Biodiversity and Protected Area Management

The SUNY College of Environmental Science and Forestry seeks research pre-proposals that focus on **Biodiversity and Protected Area Management** of the 26 million acre Northern Forest, a working forest landscape covering the area from eastern Maine through New Hampshire, Vermont, and into northern New York State. The Northern Forest provides jobs, clean water, and recreational opportunities and protects biological diversity for millions of our citizens. Sustaining this region requires vision and the ability to synthesize new knowledge about the forest, the citizens who live near and in them, and the economic and policy choices that shape our future. Important changes in forestland ownership and the economy require timely consideration of strategies to secure the continuing conservation of these lands and communities. Public investment in forestry research and outreach ensures the conservation and protection of these values. Protecting and enhancing the economic and ecological integrity of the northern forest is a critical issue for the region.

Theme Four supports research focused on **Biodiversity and Protected Area Management** in the Northern Forest. Pre-proposals will be accepted from diverse sources, including public and private research institutions, non-profit organizations, businesses, and industry interests. Pre-proposals must contain a clear research focus and an explicit methodology in order to be considered.

Pre-proposal submissions to **Theme Four** may include, but are not limited to, one or more of the following broad research topics in Northern Forest areas:

### **Biodiversity**

- Forest biodiversity conservation topics related to the interactions between plant and animal species, populations, communities and ecosystems such as species loss, human development pressures, or invasive plants, animals, insects, and diseases that have the potential to affect large areas of forest and change their ecological functions and biodiversity
- Natural variability in species, communities, and ecosystems in the Northern Forest
- Maintaining biodiversity and ecological integrity while providing wood products and other ecological services, as well as providing for human values and needs within managed forest areas.

### **Protected Area Management**

- The need for protection of sensitive areas, unique habitats, wilderness areas, and ecological reserves within forested landscapes to provide biodiversity and connectivity at various scales within a landscape or region
- Ecological services and human values and needs provided by protected areas and reserves
- Recreation opportunities and experiences provided by protected areas and reserves for residents and visitors.

## 2010 NSRC PRE-PROPOSAL AND PROPOSAL INFORMATION

### **PRE-PROPOSALS DUE FEBRUARY 26, 2010**

**Special note: Principal Investigators who currently have NSRC awards and are delinquent with terms of their current award, such as reports, are not eligible to apply for NSRC funds until award terms have been met.**

Each pre-proposal may be submitted to only one Theme. Lead investigators are discouraged from submitting more than one pre-proposal to any Theme. Preference may be shown to young investigators or to investigators who are not currently funded by the NSRC. Research pre-proposals may be submitted for projects up to 3 years in duration with budget requests ranging from small seed grants to a maximum total award of \$150,000. Because the USDA Forest Service provides funding for the Northeastern States Research Cooperative, indirect charges may not be charged on project budgets submitted by PIs from land grant institutions. In accordance with USDA guidelines, indirect charges will be limited to 20% for non-land grant institutions.

Participation in this cooperative is open to scientists, resource managers, policy makers, and other individuals pursuing Northern Forest research. Projects involving collaborative research are especially encouraged. Matching funds, e.g. provision for graduate student research assistantships, are desirable, but not required. Submissions will be reviewed through an anonymous peer-review process, as outlined in the NSRC Charter (<http://www.nsrcforest.org>).

**Pre-proposals are due by 5:00 pm on Friday, February 26, 2010 and should be sent to the appropriate NSRC Theme Manager:**

#### **THEME ONE**

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#### **THEME THREE**

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**Notification of acceptance or denial of pre-proposals will be made by March 30, 2010.**

# 2010 NSRC COMPETITION

## PRE-PROPOSAL SUBMISSION GUIDE

**Format** Pre-proposal submissions shall be on 8.5” x 11” paper with 1” margins, typing on one side only, and 12-point font with no more than 6 lines per inch (standard line spacing for 12-point font). **Six hard copies plus an electronic version (Microsoft Word via email) must be sent to the appropriate NSRC Theme Manager, to be received on or before the February 26, 2010 deadline.** Required information includes:

### Cover Page

- NSRC Theme (Each pre-proposal may be submitted to only one Theme.)
- Project Title
- Lead Principal Investigator\* (Name, Institution, Address, Phone, FAX, E-mail)
- Co-PIs, Cooperators, and Other Participating Institutions (with contact information)
- Total Amount Requested and the Amounts Requested per Project Year

### Project Narrative (two pages)

- Focused “Project Goals and Supporting Objectives”
- Logical “Project Justification and Relevance”
- Clear “Research Approach and Methodology”
- Explicit “Expected Products and Outcomes”

### Project Budget (one page)

Budget Table (with annual line items including salary by type, student support, travel, equipment, supplies, etc.) and budget justification.

### Supporting Documentation

One page Curriculum Vitae (CV) of Lead Principal Investigator and each Co-PI (but not all cooperators).

*\*ADMINISTRATIVE NOTE: The “Lead Principal Investigator” will be the sole contact for NSRC managers throughout the competition. Responsibility for forwarding NSRC informational updates to Co-PIs rests with the Lead PI.*

## **FULL PROPOSALS DUE APRIL 30, 2010**

Detailed guidelines will be provided with requests for full proposals, in response to successful pre-proposal submissions. In general, full proposals will include further detail about the rationale, objectives, methodologies, and deliverables of the proposed research, allowing peer-reviewers to assess the scientific, social, and economic need and merit of the project. Funding recommendations will be made by a peer-review panel under the direction of the Theme Managers. Recommendations will be based on a ranking of standardized scores for requested information, reviewer comments, project cost, and available funds. Final decisions for awards rest with the Theme Manager.

**Full proposals will be due April 30, 2010. Final decisions on successful projects will be made by May 28, 2010.**