



## A Research Program for the Northern Forest



### TO LEARN MORE:

[www.nsrcforest.org](http://www.nsrcforest.org)

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### HOW TO APPLY FOR FUNDING:

A Request for Proposals (RFP) is announced by February each year, with pre-proposals due in March. Investigators are asked to submit pre-proposals to the appropriate Theme Manager. Approved pre-proposals advance to the next competitive round of full proposals due in May. Details and the RFP can be found on the NSRC website.

The Northeastern States Research Cooperative (NSRC) is a competitive grant program, supporting cross-disciplinary, collaborative research in the Northern Forest — a 26-million acre working landscape that is home to over a million residents and stretches from eastern Maine through New Hampshire and Vermont and into northern New York. A central component of the program is the importance of the Northern Forest to society and the need for research activities to have relevance and benefit the people who live within its boundaries, work with its resources, use its products, visit it, and care about it. The NSRC funds a range of projects that fit into four research themes.

### RESEARCH THEMES:

#### **Theme One Sustaining productive forest communities: Balancing ecological, social, and economic considerations.**

Theme One supports research focused on sustainable solutions to the integrated social, economic, and ecological challenges of communities, businesses, and working landscapes in the Northern Forest. Topics include sustainable forest management, community and economic development, ecological economics and ecosystem services, nature-based tourism, and watershed planning.

#### **Theme Two Sustaining ecosystem health in northern forests.**

Theme Two supports research that will improve understanding of the health and productivity of forest and associated aquatic ecosystems in the Northern Forest. 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.

#### **Theme Three Forest productivity and forest products.**

Theme Three supports research that will quantify, improve, and sustain productivity of the products-based economy of the Northern Forest. Topics of primary interest include underlying biological processes, management practices, and methods of prediction that will influence future wood supplies and forest conditions.

#### **Theme Four Biodiversity and protected area management.**

Theme Four supports research focused on protecting and enhancing the ecological and economic integrity of the Northern Forest. Topics include forest biodiversity, conservation, ecological services to society, and protected area management.

**To learn more about each theme, view the most recent RFP on the NSRC website <http://www.nsrcforest.org>.**

## Examples of Funded Research Projects



### **Communities in Transition: Recreation, Tourism, and Resource Dependency in the Northern Forest**

Rodney Zwick, Lyndon State College, Vermont

This project explored the economic, social, and environmental impacts of land use change on resource dependent communities in Maine, New Hampshire, and Vermont. Case studies and interviews of residents in three representative communities offered a glimpse of the relationships among residents, the land, and development. (Theme One)

### **Can a Diverse Forest Produce Economical Timber Yields?**

Charles Canham, Institute of Ecosystem Studies, New York

Investigators are using long-term data from the U.S. Forest Service Forest Inventory and Analysis (FIA) program and a state-of-the-art computer model of forest dynamics to explore the effects on timber yield of managing for diversity of both composition and structure within northern forests. (Theme Three)

### **Elevated Nitrogen Deposition May Alter Fine Root Systems in Northern Forests**

Lindsey Rustad, USDA Forest Service, Northern Research Station, New Hampshire

Experimentally-elevated forest nitrogen resulted in a generalized syndrome of decline in tree fine root length and biomass, changes in fine root chemistry, and parallel changes in soil chemistry at three long-term research sites in northeastern North America. (Theme Two)



### **Stakeholder Perceptions of Boating in the Saranac Lakes Region of New York**

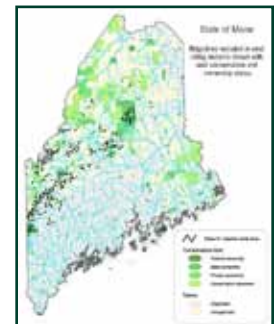
Diane Kuehn, SUNY College of Environmental Science and Forestry, New York

Researchers discovered important differences and similarities concerning beliefs and attitudes towards participation in non-motorized and motorized boating among landowners, campers, and business owners in the Saranac Lakes Wild Forest area of New York's Adirondack Park. Results were presented to state land managers and used in creation of the Saranac Lakes Unit Management Plan. (Theme One)

### **Evaluating Potential Conflicts between Wind Power Siting and Natural Resource Values**

David Publicover, Appalachian Mountain Club, New Hampshire

Findings provided the public and policymakers with analytical information on potential conflicts between wind power development and significant natural resource values at ridgeline sites in Maine and New Hampshire. (Theme One)



### **Comparing Two Management Schemes for Eastern White Pine**

Robert Seymour, University of Maine

Researchers will use data from a long-term study on Maine's Demeritt Forest to compare contrasting silvicultural systems for management of eastern white pine. Results could encourage more widespread application of intensive pine silviculture to benefit landowners and the pine sawmill industry. (Theme Three)



### **Adding Calcium to Forest Soils Improves Growth, Health, and Wound Healing of Sugar Maple**

Paul Schaberg, USDA Forest Service, Northern Research Station, Vermont

Scientists explored connections between calcium nutrition and tree stress response by assessing mature, wounded sugar maples growing on plots receiving 10 years of fertilization with calcium or aluminum or on unfertilized plots. Findings supported evidence that calcium deficiency is an important limiting factor in sugar maple health. (Theme Two)

### **Relationships between Nonnative Invasive Plant Distribution and Land Use History**

Laura Kenefic, USDA Forest Service, Northern Research Station, Maine

Scientists compared forest stands managed using various long-term silvicultural treatments with unmanaged stands on former agricultural sites. Invasion by nonnative plants, such as European buckthorn, Japanese barberry, Oriental bittersweet, and others, seems to be strongly related to a land use history that is common throughout the Northern Forest region. (Theme One)