

The Northeastern States Research Cooperative:

Providing scientific information to address the social, economic and environmental challenges of Northern Forest lands and communities

By MELODY BROWN BURKINS

Abstract

The Northeastern States Research Cooperative (NSRC) is a competitive research grants program specifically created for studies of the 26-million acre Northern Forest — a working landscape of largely rural communities spanning the states of Maine, New Hampshire, Vermont, and New York. Authorized as an official entity by Congress in 1998, the NSRC supports cross-disciplinary, integrative, and collaborative research of ecosystems, economic development, community development, forest products, and conservation efforts to benefit the Northern Forest. Since 2001, the NSRC has distributed more than \$6.3 million in competitive research grants to 77 projects and 24 institutions throughout the northeast, including funds to universities, non-profit organizations, USFS researchers, state agencies, and small businesses. Management of the cooperative is through the US Forest Service Northeastern Research Station in coordination with forestry research institutions in each of the four Northern Forest states.

History of NSRC

The history of the Northeastern States Research Cooperative (NSRC) traces back more than two decades. In the 1980s, the Northern Forest region — a rich, working landscape with timber-based communities, unique recre-

ation opportunities, vast, forested watersheds, and a diversity of northern wildlife (see Figure 1) — was elevated as a priority for national protection when local and regional concerns arose that the largest, contiguous land parcels of the northeast and their timber were a focus of aggressive real estate speculation and unplanned fragmentation. These concerns became most pointed during and after the “Diamond Sale” of 1988 when almost 970,000 acres of Northern Forest land, once wholly owned by Diamond International Corporation for timber production, were made publicly available for sale to timber and non-timber interests alike (Reidel, 1990).

The governors of Vermont, New Hampshire, Maine, and New York were understandably concerned about the effect such “Diamond-type” sales might have on long-term, sustainable local and regional economies and ecosystems — especially as they also recognized that the largely privately-owned Northern Forest lands were home to almost one million citizens, employed more than 86,000 in forest-based industries and 140,000 in recreational industries, contained more than 2.5 million acres of wetland and other important wildlife habitat, and were within a day’s drive of more than 70 million people in the northeast (Land, 2003). As such, the governors collectively turned to the region’s congressional delegations for federal assistance to better study the overall economic, social and ecological impacts changes in Northern Forest land use might have on their states.

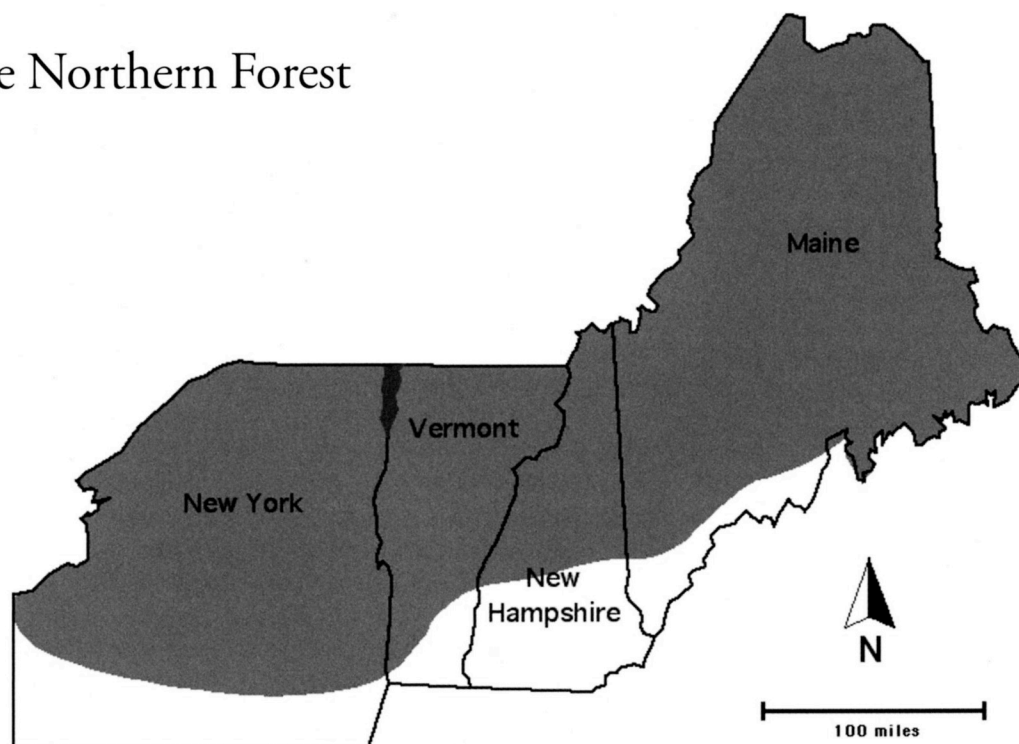
In response, US Senators Patrick Leahy (Vermont) and Warren Rudman

(New Hampshire), with the support of US Senate Majority Leader George Mitchell (Maine), introduced and passed a bill directing the US Forest Service to conduct a study of the region in coordination with a four-state Governor’s Task Force (Dobbs and Ober, 1995). Completed in 1990, this initial Northern Forest study next recommended that Congress create a federally-funded Northern Forest Lands Council (NFLC) to specifically address the pressing land-use change and community economic concerns in the region and to recommend a series of local, state, and federal policies to ensure long-term economic and ecological viability of the Northern Forest.

The Northern Forest Lands Council developed as a diverse group of forest landowners, environmentalists, state conservation agency officials, and local community leaders from all four states dedicated to working through the complex, and often controversial, public and private forest lands issues of the Northern Forest. As a group, the NFLC held numerous public meetings and hearings throughout the region between their establishment in 1991 and their congressionally-mandated sunset in 1994. Weathering many difficulties as they sought input from competing Northern Forest land and community interests, at the end of its term the NFLC had found enough consensus to publish “*Finding Common Ground: Conserving the Northern Forest*.” The 37 recommendations of this report, taken to Congress, resulted in two proposed bills in 1997: the “Northern Forest Stewardship Act” (S. 546) introduced by Leahy with 10 regional cosponsors in the Senate and the

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The Northern Forest



MAP CREATED BY M.B. BURKINS, UNIVERSITY OF VERMONT

Figure 1.

"Family Forestland Preservation Act" (S. 552) introduced by US Senator Judd Gregg (NH) with six regional Senate cosponsors. In the House, HR 971 (also entitled the "Northern Forest Stewardship Act") was introduced by Representative Charles Bass of New Hampshire and cosponsored by 51 other representatives.

A Growing Research Cooperative

While neither the Northern Forest Stewardship Act nor the Family Forestland Preservation Act successfully became law, in 1998 Congress did act upon one of the 1994 NFLC recommendations that called for Northern Forest research support and the "Northeastern States Research Cooperative," or NSRC, was authorized and passed in the 1998 Agriculture Research Act (Public Law 105-185). Originally drafted as a subsection of research language in the larger Northern Forest Stewardship Act, the NSRC language in the agriculture bill specifically outlined the NFLC's stated

priorities and goals for needed Northern Forest research priorities as follows:

Northeastern States Research Cooperative Public Law 105-185; Title II, Section 253

"The Secretary may cooperate with the northeastern States of New Hampshire, New York, Maine, Vermont, land grant colleges and universities of those States, natural resources and forestry schools of those States, other Federal agencies, and other interested persons in those States to coordinate and improve ecological and economic research relating to agricultural research, extension, and education including:

- (A) research on ecosystem health, forest management, product development, economics, and related fields;
- (B) research to assist those States and landowners in those States

to achieve sustainable forest management;

(C) technology transfer to the wood products industry of technologies that promote efficient processing, pollution prevention, and energy conservation;

(D) dissemination of existing and new information to landowners, public and private resource managers, State forest citizen advisory committees, and the general public through professional associations, publications, and other information clearinghouse activities; and;

(E) analysis of strategies for the protection of areas of outstanding ecological significance or high biological diversity, and strategies for the provision of important recreational opportunities and traditional uses, including strategies for areas identified through State land conservation planning processes."

This legal language for NSRC remained in public law for three years before the Hubbard Brook Research Foundation of New Hampshire and the USDA Forest Service successfully worked with Senator Gregg to fund the NSRC and, in 2001, a first piece of the research cooperative was created in New Hampshire. Managed by the USDA Forest Service Northeastern Research Station Hubbard Brook Project in coordination with the Hubbard Brook Research Foundation, this initial NSRC program focused on supporting projects that coordinated forest ecosystem health studies — one of several research areas prioritized in the 1998 language.

New Hampshire NSRC managers also set the tone of the research cooperative by choosing to distribute the bulk of NSRC funding through a peer-reviewed, competitive grants process intended to promote funding allocations to a diversity of institutions and high-quality research proposals throughout the region. In the summer of 2002, the first 11 NSRC award recipients were named, including several top forest researchers within the similarly-named Northeastern Ecosystem Research Cooperative, an already-existing network of scientists that had formed within the northeastern ecosystem research community.

The following year, Senator Leahy joined Senator Gregg to extend NSRC management and funding to the University of Vermont in the next phase of NSRC's development. This expansion furthered the congressional mandate of NSRC by adding funding support to research focused on the broad topic of integrated social, economic, and ecological studies of the Northern Forest. The Rubenstein School of Environment and Natural Resources at the University of Vermont, a national leader in natural resource management programs and sustainability research, specifically focused on promoting regional support for collaborative and publicly-accessible studies of sustainable forest management, economic development, community development, invasive pests and forest watershed planning.

With the NSRC program now running in two states, the individual research grant competitions were named "Themes" for clarity. "Theme 1" became the competitive grant support of integrated social, economic, and ecosystem studies managed at the University of Vermont and "Theme 2" became competitive grant support of ecosystem health studies managed by the USDA Forest Service Hubbard Brook Project. At the end of NSRC's second year, Theme 1 and Theme 2 of NSRC had successfully funded 18 new studies and posted a public website with NSRC history and award information (www.uvm.edu/envnr/nsrc). In the fall of 2003, the University of Vermont also hosted the first NSRC Conference — in coordination with New Hampshire's Northern Forest Center's Second Annual Northern Forest Leadership Exchange — at the Radisson Hotel in Burlington, Vermont. This event brought in more than 150 diverse participants for discussions of Northern Forest research, issues, and future plans.

The NSRC program has now been active in both Vermont and New Hampshire for over three years, with successful competitive grant cycles in both Themes 1 and 2 distributing funds to new research on Northern Forest issues and NSRC-supported publications, oral presentations, public workshops, and university courses being held throughout the region. However, with these accomplishments, NSRC recognizes that the congressionally-authorized goal of the program remains the creation of a true four-state cooperative working with the USDA Forest Service. To that end, the NSRC programs in Vermont and New Hampshire have both been in strong support of increased funding for NSRC that will include new research themes and competitions in both New York (managed by SUNY-ESF) and Maine (managed by University of Maine).

To give NSRC more direction in this effort, all four institutions, in coordination with the USDA Forest Service, have developed a charter to define NSRC's long-term purpose, structure, and governance.

Available for view on the NSRC website, the NSRC charter identifies program partner institutions, executive officers, and state program managers as well as each state's developed research "Theme" (see Table 1). Complementing the Vermont and New Hampshire themes, the University of Maine has chosen to focus its future program specifically on forest productivity and forest product development and SUNY-ESF will support research into the application and evaluation of adaptive management in northern forests. Two areas identified in PL 105-185, dissemination of information to a wide group of interested parties (landowners, natural resource managers, policy makers, etc.) and research on strategies to protect the biological diversity of the Northern Forest, are considered cross-cutting issues and will be components of each Theme.

The four-state charter also outlines the peer review process used for annual grant competitions and coordinates the four state programs to common annual timelines, when possible. The charter also recognizes that all NSRC competitive funding opportunities must universally be open to a diversity of applicants — from academic institutions to small businesses with research ideas — and ensure common eligibility requirements that proposals (1) show relevance to Northern Forest land and community benefit, (2) have a strong foundation in established research methodology, and (3) focus on research of Northern Forest issues rather than advocacy.

NSRC Grant Awards

Since 2001, the NSRC has received requests for more than \$35 million in research proposals for studies in the Northern Forest and, in response, NSRC has distributed more than \$6.3 million in competitive research grants to 77 projects in 24 institutions throughout the northeast. This includes funding for research at universities, non-profit organizations, USFS research centers, USGS scientists, state agencies, and small businesses. Grants have ranged from \$5,000 to

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NSRC Partners	NSRC State Institutions (Grants Program Manager)	NSRC State Research "Themes"	NSRC Advisory Committee Members
USDA Forest Service			Michael Rains Director, USDA Forest Service Northeastern Research Station
New Hampshire	USDA Forest Service Northeastern Research Station Hubbard Brook Project (Dr. Chris Eagar)	Ecosystem Health	David Sleeper, Executive Director, Hubbard Brook Research Foundation
Vermont	George Aiken Center School of Natural Resources University of Vermont (Dr. Melody Burkins)	Integrated Social, Economic and Ecological Research	Dr. Don DeHayes, Dean, School of Natural Resources University of Vermont
Maine	College of Natural Sciences, Forestry, and Agriculture University of Maine	Forest Productivity and Forest Products Development	Dr. Bruce Weirsmas, Dean, College of Natural Sciences, Forestry, and Agriculture University of Maine
New York	College of Environmental Science and Forestry State University of New York	Application and Evaluation of Adaptive Management to Northern Forests	Dr. Chad Dawson, Chair, Forest & Natural Resources Management College of Environmental Science and Forestry State University of New York

Table 1.

\$275,000 and many are multi-year. A full list of awards can be found on the NSRC website, with some examples of NSRC-supported research including topics such as:

- Effects of acid deposition on Northern Forest soil and watershed health
- Sustainable forest management research and silviculture demonstration programs
- Analyses of historical litigation and appeals processes on Northern Forest land use decisions
- Economic effects of branding and marketing sustainably-harvested and/or certified Northern Forest wood products
- Analyses of conservation easement implementation and impacts in Northern Forest
- Biodiversity conservation and land-use change in the Northern Forest
- Transport and fate of mercury in Northern Forest soils and waters

- Wildlife management options and decisions in the Northern Forest
- Northern Forest recreation and tourism dependency, sustainability, and community needs
- Models of successful community discourse on Northern Forest land-use decisions
- Studies of nitrogen saturation in Northern Forest ecosystems
- Evaluation of economic potential and social impacts of wind power generation in the Northern Forest
- Studies of introduced pests and other exotic species threats to Northern Forest
- Improved collaboration among scientists working on significant environmental disturbance issues (e.g. climate change and nitrogen deposition).

If and when funding is available for the entire four-state research cooperative, the breadth of research topics supported

will also expand, including more focus on forest products and technology through the University of Maine effort and on adaptive management studies through SUNY-ESF.

Beyond simply funding individual research ideas, NSRC is also moving to coordinate its annual RFPs to ensure coverage of all congressionally-authorized NSRC priorities, including ensuring public information access and adequate data coordination. To keep administrative costs low, NSRC currently requires that individual researchers stipulate specific public outreach and education aspects of their research plan and include costs in their own funding requests. However, it is also imperative that, as the program grows, the NSRC program itself maintains a level of data coordination, management, and public information access both for historical records and to ensure NSRC is constantly self-assessing and, if necessary, changing, to on-the-ground needs of Northern Forest

communities and ecosystems. A small workshop on spatial data and GIS protocol coordinated by NSRC, for example, is expected to suggest common standards for GIS-based research so that future study results involving spatial data may most easily be cross-referenced and useful to Northern Forest interests.

Conclusion and Future

The Northeastern States Research Cooperative, a competitive grants program for Northern Forest lands and communities, is a developing, dynamic, and active piece of the original 37 recommendations for programs and legislative actions that came out of the 1994 Northern Forest Lands Council's report, "*Finding Common Ground: Conserving the Northern Forest.*"

Supported at the federal level by the region's congressional delegations and implemented by the USDA Forest Service and forest research institutions in each of the four Northern Forest States, NSRC has successfully funded more than 75 Northern Forest-based research proposals with almost \$6.5 million in funds over the past four years of its operation. The proposals, submitted to a peer review process, have been chosen for their high-quality methodology, overall scientific merit, and potential to contribute broadly beneficial results and solid scientific data to Northern Forest interests. Topics of studies that have been funded over the past four years of the NSRC program range from research into acid deposition in northeast forests and mercury transport through ecosystems to economic analyses of new silviculture techniques, forest products marketing, invasive species and sustainable tourism.

The NSRC program leaders do not seek to provide definitive answers to public policy questions. These decisions are the responsibility of appointed and/or elected Northern Forest decision-makers. However, the NSRC program leaders do intend the program to be an information provider, enabling research to be done with solid scientific methodology and producing testable results that may be

used by Northern Forest decision-makers in their final analyses of local, state, and regional forest and rural community initiatives throughout the Northern Forest.

The NSRC will continue to fund strong and relevant research efforts, with the intent to expand funding and research opportunities as its Maine and New York partners develop active grant programs. NSRC also recognizes that its programs must always continue to evolve, staying flexible to on-the-ground Northern Forest needs as well as remaining open to suggestions and ideas for new research into the economic and ecological sustainability of the region.

With three years of research under way, the NSRC is also working to do more to let regional interests know about the program and to encourage and promote NSRC awardees to make publicly-accessible presentations of their studies and results. A publicly-available website will continue to be hosted, and further developed to enhance content and usefulness, by The Rubenstein School of Environment and Natural Resources at the University of Vermont and a second NSRC Conference, which will be open to the public, is being planned for the Fall of 2005.

Acknowledgment

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