



NSRC Funds 18 Forest Research Projects

Applied Forest Science to Sustain Health of the Northern Forest

Burlington, VT; Durham, NH; Orono, ME; Syracuse, NY — [Northeastern States Research Cooperative \(NSRC\)](#) Directors are pleased to announce 18 grants totaling nearly \$4.5 million of federal funding and close to \$2 million of matching funding for research that will focus on areas of concern identified by [forest stakeholders](#) in the Northern Forest region: State of the Forest, Measuring & Quantifying Impacts, Developing Tools for Response, and Rural Community & Economic Development.

Research goals for the program, as stipulated in the 2020 NSRC Congressional Authorization, are to sponsor research to sustain the health of northern forest ecosystems and communities, develop new forest products, and to improve forest biodiversity management. The NSRC's research priorities are guided by an External Advisory Committee (EAC) representing the communities, businesses, industries, and agencies in the Northern Forest region.

The new projects include research into long-term monitoring of rare plant populations, climate-smart biodiversity conservation practices, socio-ecological dimensions of forest management, production of bioplastics from forest biomass, forest climate adaptation and resilience, seedling establishment, and tools for rehabilitative silviculture to enrich habitats and restore productivity.

"I am grateful for the efforts of the Northeastern States Research Cooperative to support vital forest research in Vermont and the Northeastern region. This type of research is essential to our understanding of sustainable forest management, recreation impacts, and new opportunities for the economies of the rural communities that they surround," said Senator Peter Welch (D-VT).

The 2023 RFP elicited a strong response from regional researchers. NSRC received 49 project proposals requesting more than \$14 million in funding. All proposals were evaluated by two technical reviewers with specific expertise in relevant science and public outreach. Based on the technical reviews, the NSRC Executive Committee recommended the 28 highest ranked proposals for review by the full proposal review panel to decide on the final slate of funded proposals. Based on the proposals themselves, the external expert reviews, considerations as described in the [RFP](#), and the panel's review and funding recommendations, the Executive Committee then committed the final set of proposals for funding.

The majority of the projects include collaboration with US Forest Service Northern Research Station scientists, as well as researchers from throughout the region led by project investigators from six colleges and universities and three nonprofit organizations.

“These collaborations between US Forest Service research and University scientists are valuable and allow us to work on complex problems and priority issues facing forest landowners and communities in the Northeast – together we can accomplish much more than we can working alone,” noted Dr. Daniel Dey, Assistant Director of Research, US Forest Service Northern Research Station.

NSRC also manages the Indigenous Forest Knowledge Fund (IFKF) program to support traditional ecological knowledge (TEK) for Indigenous communities alongside other applied forest research. The program supports the education and training of Indigenous youth in forest-related TEK, new applied forest research that advances Tribal priorities, as well as the synthesis and translation of forest research to advance outreach and economic programs for Tribal Nations and Indigenous communities. An RFP for the 2024 IFKF competition, with \$1.6 million in funding, will be released in the coming weeks.

Problem-driven, engaged research with solid communications to stakeholders are prioritized by the NSRC. Partnerships between researchers and practitioners are strongly encouraged, as are projects that aim to inform and align with the timeframes of management and policy decisions. The projects funded in this round cover a broad range of concerns related to forest health, climate change and forest adaptation, biodiversity and connectivity, invasive pests and diseases, and innovative forest product technologies.

The following research projects, led by researchers from all four states, will begin in 2024:

Social, economic, and ecological dimensions of forest management for climate change adaptation and resilience. *PI Jeanette Allogio, University of Maine.*

Using a functional trait approach to inform assisted migration for climate adaptation in the Northern Forest region. *PI Heidi Asbjornsen, University of New Hampshire.*

Satellite monitoring of eastern white pine (EWP) health through assessing the forest structure. *PI Pulakesh Das, University of Maine.*

The effects of seed dispersal and seedling establishment limitations on climate-driven tree species range shifts in the northeastern U.S. *PI Martin Dovciak, SUNY-ESF.*

Tools for rehabilitative silviculture to enrich habitat and restore productivity in degraded hardwood stands. *PI John Foppert, Paul Smith's College.*

Assessing the future Northern Forest through the lens of seedling survival and sapling recruitment. *PI Lucas Harris, University of Vermont.*

Northern Forest historical atlas project. *PI Daniel Hayes, University of Maine.*

Assessing eDNA as a monitoring tool for forest arthropod biodiversity and pests. *PI Jason Johnston, University of Maine.*

Sustainable co-production of bioplastics and hydrochar from forest residue biomass. *PI Ankita Juneja, SUNY-ESF.*

Private forest landowner engagement in forest management programs for carbon sequestration. *PI Danielle Kloster, SUNY-ESF.*

Post-release non-target impacts of hemlock woolly adelgid biocontrol. *PI Angela Mech, University of Maine.*

Decadal-scale trends in northern forest carbon storage in relation to nutrient availability and rising carbon dioxide. *PI Scott Ollinger, University of New Hampshire.*

Assessing fire-dependency in natural red pine forests of the Northeast. *PI Simon Pendleton, Plymouth State University.*

Digital species-site-suitability systems for regenerating northern forests. *PI Michael Premer, University of Maine.*

A predictive scaling framework of forest structure and functional diversity in a non-equilibrium world. *PI Sydne Record, University of Maine.*

Mapping canopy height model and aboveground biomass of northeastern forests annually at 25 m resolution through remote sensing data fusion and machine learning. *PI Bahram Salehi, SUNY-ESF.*

Long-term monitoring of rare plant populations in the Adirondack alpine. *PI Kayla White, Adirondack Mountain Club.*

Climate-smart biodiversity conservation practices for managed forest landscapes. *PI Andrew Whitman, Manomet.*

About the Northeastern States Research Cooperative

NSRC (<https://nsrcforest.org>) is a competitive grant program for Northern Forest research, authorized by Federal legislation (Public Law 105-185), with allocations to the program directed by the USDA Forest Service. Since its inception, the NSRC has funded more than 345 projects, engaging 50 different institutions, agencies, and organizations across the northeast. Federal funding comes from Congressional appropriations through a partnership with the research and development arm of the USDA Forest Service. The private sector, states, and other organizations offered matching funding to support the research on the Northern Forest and its 26 million acres in Maine, New Hampshire, New York, and Vermont.

NSRC is jointly directed through the U.S. Department of Agriculture Forest Service's Northern Research Station and a designated institution in each of the four Northern Forest States (Rubenstein School of Environment and Natural Resources at the University of Vermont, the University of New Hampshire in cooperation with the Hubbard Brook Research Foundation in New Hampshire, 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). These institutions are all equal opportunity providers.

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