



New England Sustainability Consortium

DRAFT Media Release

### **New NSF EPSCoR Grant Addresses the Future of Dams in New England**

A new \$6 million grant from the National Science Foundation's EPSCoR program will fund a four-year study examining the future of dams in New England. This project marks an expansion in partners and scope for the New England Sustainability Consortium (NEST), adding Rhode Island to the existing partnership between Maine and New Hampshire launched in 2013.

NEST is designed to respond to societal challenges where economic and community development goals need to be balanced with environmental protection. Such sustainability objectives are not only of central importance in New England, they also represent major national and global imperatives.

This new tri-state collaboration will strengthen connections between scientists and decision-makers while incorporating the design expertise of faculty at Rhode Island School of Design. The project will address a range of future approaches to dams, including maintaining existing hydropower dams, expanding hydropower capacity, and removing aging dams to restore fisheries or reduce safety risks. By examining economic, environmental, and social trade-offs, the project will help individuals and communities make better decisions about dams.

This project is highly relevant given that hydropower dams offer a major source of renewable energy in the region, but hydropower and mill dams can have adverse effects on coastal ecosystems and economies, particularly because they often block the migrations of economically important fisheries. In New England, more than 50 hydropower dams are scheduled for relicensing in the next decade, requiring states to make important decisions about their futures. Meanwhile, the region is home to thousands of iconic mill dams that are an integral part of New England's industrial history and continue to provide recreational and water supply benefits for many communities. But some mill dams pose safety and liability risks due to their age and poor condition. This project will empower stakeholders to make complex decisions about dams by taking the innovative step of combining the best available science with creative forms of visualization and design to strengthen community engagement.

New England has received widespread recognition for its innovative approaches to the management of dams. "This new project will greatly enhance New England's role as a national and global leader in finding better ways to support informed decision-making about dams," explained Richard Merrick, Chief Science Advisor and Director of Scientific Programs at NOAA Fisheries.

The research is designed to support the process by which stakeholders evaluate the many trade-offs associated with potential dam decisions, including removal, relicensing, and retrofitting. Because a single watershed often contains many dams of different sizes and types, the project will focus particular attention on developing tools that facilitate coordinated decision-making. "It can be a real challenge to

balance the potential for renewable energy with concerns about fish passage, water quality, safety issues, and other possible conflicts,” noted Marion Gold, Commissioner for the State of Rhode Island Office of Energy Resources. “This study will support our office’s work to carefully evaluate multiple perspectives on hydroelectric power, and to identify both opportunities and constraints for further development of hydropower in Rhode Island.” As project researcher Caroline Gottschalk Druschke, Assistant Professor of Writing & Rhetoric and Natural Resources Science at the University of Rhode Island, described, “This project will integrate state-of-the-art modeling across watersheds with innovative stakeholder processes, allowing us not only to fill in information gaps, but also to design novel processes for making consequential decisions about questions with no clear right and wrong answers.”

The multi-state NEST team believes that solutions to sustainability challenges require a collaborative approach in which researchers from the natural sciences, social sciences, engineering, humanities, and design combine their expertise. In Rhode Island, the project includes University of Rhode Island faculty from the Department of Natural Resources Science, including Department Chair Art Gold, Caroline Gottschalk Druschke, and Kelly Addy, and faculty from the Department of Environmental and Natural Resource Economics, including Emi Uchida and Todd Guilfoos, as well as faculty from Rhode Island School of Design’s Department of Landscape Architecture, including Department Head Scheri Fultineer, Colgate Searle, and Emily Vogler. NEST’s approach to problem solving also benefits from the local knowledge and know-how of diverse stakeholders representing government, business and industry, and non-governmental organizations. One of NEST’s greatest strengths is its ability to develop customized solutions that are tailored to meet local needs and circumstances.

Funded by the National Science Foundation, Rhode Island’s Experimental Program to Stimulate Competitive Research (EPSCoR) conducts groundbreaking research and develops academic talent in the science and technology fields to increase competitiveness in research and development, build a more capable workforce, and fuel economic growth in the Ocean State. By bringing together the state’s public and private institutions of higher education, this collaborative approach creates more productive partnerships across multiple disciplines, from science to art, and draws on the strength of the state’s collective diversity.

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