

Theme: Cross-cutting | Human Dimensions and Biophysical Research

Title: Resilience indicators for natural resource and conservation land dependent communities

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Importance

Nearly 90% of Maine is forested, and about 20% if its area is designated as conservation land. Together, these lands are large contributor of ecosystem services (ES) to the state. Most of the state's communities are reliant on one or more ES to support their local economies. The abundance of forests and conservation land in Maine can be a blessing and a curse because many communities are dependent on a single ES and the tax revenue that related industries provide. Several communities in Maine have been dependent on a single industry or ES for decades, facing hardship when sudden lack of demand for that service or resource has emerged (e.g., recent mill closures), and some are struggling with the potential change to their identity due to shifts in how these ES are utilized (e.g., new manufacturing, recreation). Furthermore, the recent shifts in land ownership trends and a four-fold increase in conservation area since 1990 has raised questions about how these changes are affecting communities. As a result, the goal of this project is to use a mixed methods approach to measure and enhance the socio-economic resilience of natural resource and conservation land dependent communities of Maine.

Approach

This research program will a) use publicly available data to construct a time series of socio-economic resilience indicators for rural communities throughout Maine; b) administer qualitative-focused surveys to assess both the current perception and future aspirations of residents and visitors to these communities; c) conduct statistical analyses to compare the resilience indicators collected for these communities against other places in the US with similar issues and geographies to identify which metrics have the most significance in terms of building socio-economic resilience and community development; and d) integrate steps a-c into a framework to identify and communicate possible pathways that Maine's rural communities could take to build resilience and promote economic development. This framework will be built in an iterative manner that incorporates feedback obtained through community meetings, factsheets, and an interactive website.

Broader Impacts

This project utilizes social science and biophysical theories and methods to quantify socio-economic resilience in rural communities. The project is integrated across Forest, Freshwater, and Coastal Socio Ecological Systems given the prevalence of conservation land in rural communities throughout the state. This project directly addresses NRT Core Areas in "Rural Livelihoods", "Resilience and Climate Change", "Spatial Analysis & Modeling", and indirectly relates to "Citizen Science, Engagement and Attitudes" and "Governance".