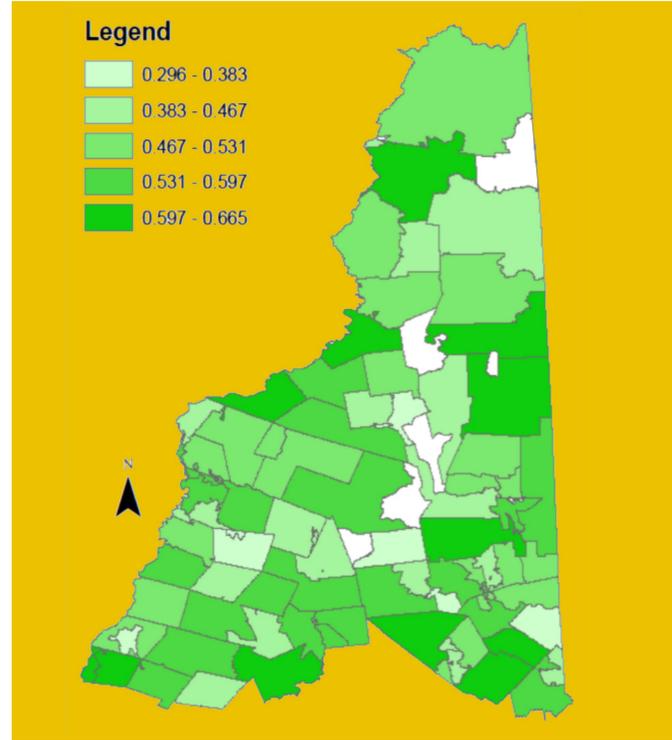


# Measuring Community Resilience in Northern Forest Communities

Shannon H. Rogers, Ph.D (UNH Extension Nature Economy Specialist and Associate Extension Professor) & Anna Stockman (UNH Community & Environmental Planning '20)



## Main Findings

After voice recording and transcribing 26 interviews that lasted from 20 minutes to over an hour, we coded the transcripts for themes. The interview participants are detailed in the table below. Our interview questions focused on asking community members about their values, how nature is utilized in their community, what their financial resources are and examples of responding/bouncing back to challenges in the past. Themes such as natural resources, community, and taxes represent some of the study's initial findings. Similar themes were shared from both economic and conservation perspectives.

The Shannon-Weaver measurements show the region has a range of industry diversity from 0.296-0.665. The infographic below explains this measurement.

Group Type	Carroll	Coos	Grafton	Total Interviews by Group Type
Conservation Commission	3	3	8	14
Economic Development Committee	3	4	5	12
<b>Total # of Interviews per County</b>	<b>6</b>	<b>7</b>	<b>13</b>	<b>26</b>

The community group type interviewees represented, the county they lived in and the total quantity of interviews completed per county and by community group type.

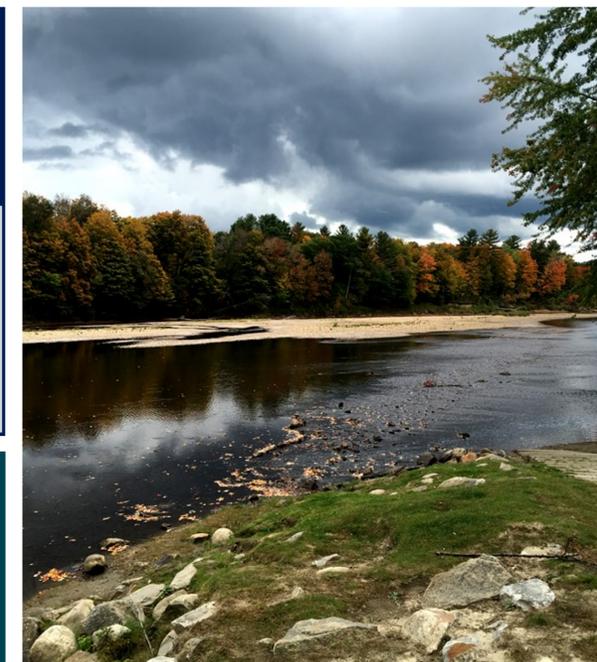
## Defining Resilience and its Connection to Community

As time progresses and communities constantly experience change, they are confronted with different challenges and opportunities. How these communities respond to these challenges and opportunities can be defined as community resilience, which is formally "a measure of the sustained ability of a community to utilize available resources to respond to, withstand, and recover from adverse situations" (RAND).



## While Important, measuring community resilience is a challenge

In the summer of 2019, in partnership with Hubbard Brook Research Foundation, UNH Cooperative Extension set out to study the relationship between community resilience and ecological resilience in the North Country. We interviewed 26 community members from economic development committees and conservation commissions about the components of resiliency in the graphic to the left, as well as calculated industry diversity using the Shannon-Weaver Index. The index is shown in the map



## Northern Forest Region of New Hampshire

Community resilience is particularly significant to consider in the context of the North Country, a region in northern New Hampshire whose past and current hardships make the area unique and important to study. With a population of approximately 170,000 residents, the region is comprised of three counties – Coos, Carroll, and Grafton – that collectively make up a third of New Hampshire's land area (U.S. Census Bureau, North Country Council).



## Implications & Next Steps

Communities in the Northern Forest region have unique challenges and opportunities when it comes to community resilience. One unique finding is that groups of volunteers working on economic development and conservation both had similar challenges and opportunities. This suggests the opportunity for further connection between these two groups that are not always coordinated. Nature is a strong component of resiliency in this region but things like schools and diverse job opportunities are also critical. We are working with colleagues to compare our data with measures of quantitative ecological resiliency, such as ecological diversity and landscape connectivity. Given the global pandemic, we will be conducting follow up interviews this summer to see how things have changed in these communities.

## References and Acknowledgements:

We appreciate the community volunteers who took the time to speak with us. This research is supported by an Advancing Informal STEM Learning grant from the National Science Foundation. DRL-1713204, DRL-1713307, DRL-1713197, DRL-1713222, DRL-1713219.

Graphic design by Molly Shanahan

For more information about this research, please e-mail Shannon Rogers, [shannon.rogers@unh.edu](mailto:shannon.rogers@unh.edu)