

# Outdoor Recreation: Connecting Rural Youth with STEM Careers

**“I feel accomplished because I feel like my visions and overall look at life have improved since starting this project. I am more motivated, and I am thinking more about careers in STEM and outdoor recreation. This makes me wonder what my future will look like, and if it will look different now that I’ve done this project.”**

— 10th grade co-researcher

Outdoor recreation, such as hiking and camping, now significantly contributes to the economy, with an estimated \$862 billion (2023, Outdoor Foundation) in economic output. It’s even outpacing industries like farming, mining, electronics manufacturing, and utilities in contributing to the U.S. GDP.

For many rural communities, outdoor recreation is an integral part of the STEM learning ecosystem that connects rural youth with STEM and STEM career pathways. For example, landowners and forest managers use drones to keep track of resources. Fish hatcheries monitor fish populations for people who like to fish. And skiers need to understand snow and avalanches to stay safe.

CAST partnered with the University of New Hampshire to understand if outdoor recreation that youth in rural communities in northern New Hampshire are currently engaging in could be sources of opportunities and experiences for cultivating their STEM identities and career aspirations.

**Find out what the youth had to say:**



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## What we found

- **Youth participated with enthusiasm.**  
Initially we wanted to recruit 30 youth but ended up with 54. We had a 96% retention rate throughout the 10-month research period.
- **Positioning youth as co-researchers fosters engagement.**  
Youth went out in the field to document their activities, report on their findings, reflect on connections to STEM, and identify how these activities foster their future STEM pathways. Youth were named as “co-researchers,” becoming an integral part of the effort and “paid” for their time and expertise (each received gift cards for their completed challenges).
- **Youth see STEM in outdoor recreation.**  
Throughout the study, youth remained engaged and thoughtful about the impact the study had on their perceptions of STEM. “Before this project, I didn’t want anything to do with STEM, but now I want my future to involve STEM.” – 10th-grade co-researcher
- **Participants shared their ideas using a universally designed, mobile-first tool.**  
Youth used ORfolio, developed by CAST, to collect data and upload images, videos, text and/or audio on their phones in response to challenges posed by researchers. Researchers, in turn, gave feedback to the youth through the tool and captured usage data.

Reach out: For more information about this project and plans to expand the work to other communities, contact Dr. Amanda Bastoni at [abastoni@cast.org](mailto:abastoni@cast.org).

## Learn more



[Connected Science: Strategies for engaging rural youth as co-researchers in STEM](#)



[Science Direct: Outdoor recreation shows promise as an equitable context for youth informal STEM learning in amenity-rich rural areas](#)

## Connect with CAST

CAST leads, inspires, and convenes a global community to design equitable and inclusive learning experiences through our Universal Design for Learning framework. Visit [cast.org](http://cast.org).



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