Trail Forks and Merges: Exploring Social Impacts from Recreational Mountain Biking in Northern Forest Communities

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Project Abstract

Nation-wide, mountain biking is growing in popularity. This trend is mirrored in the Northern Forest and intensified during the COVID-19 pandemic. For many rural communities, the growth of mountain biking represents an opportunity to build a new economy centered on forest-based recreation. However, questions remain about the impact mountain biking has on forests and forest-dependent communities. Researchers will explore the social impacts of mountain biking on the Northern Forest. They will investigate social impacts already identified and discussed in science literature and on social media. They will determine what social impacts of mountain biking are currently being experienced by communities in the Northern Forest and how the social impacts are similar or different to what is discussed beyond this region. They will then assess how these comparisons inform management and expectations of trends within the region. The research team will conduct a systematic literature review, social media analysis, content analysis of regional news stories, and community surveys to illuminate social impacts at the global, national, regional, and local levels.

Results of this study will shed light on a range of social impacts from mountain biking that are affecting Northern Forest communities now and into the future. These results will be of immediate practical use to land managers and communities considering enhancing mountain biking as a recreational and economic opportunity and will help inform decision-making about planning and managing forest-based recreation in the region.

PI Kim Coleman on a trail in the Adirondacks.

Progress in 2022

We proposed a four-part, multi-scalar approach to our work. We have completed Stage 1, a systematic literature review to identify previously studied impacts of mountain biking globally. The results of our review were compiled and synthesized into a manuscript, which is currently in review. Informed by this review, the project team facilitated two meetings with a wide range of stakeholders to gain a foundational understanding about interests, concerns, and perceptions within the Northern Forest Region. Dr. Coleman recruited a M.S. student, Emily Reinhardt, who is using the themes that emerged from these stakeholder meetings to develop surveys to be completed by land managers, bike shop owners, community leaders, and other relevant stakeholders during summer 2023 to understand what social impacts are experienced by Northern Forest communities. The research team also submitted a

successful request to Strava Metro to access aggregate data about trail use within specific mountain bike trail networks. Emily will work with this dataset throughout the spring semester 2023.

Problems or Changes

We had originally proposed to conduct national-level analysis using Twitter data and the regional-level analysis using news stories. However, with transitions at Twitter, this became difficult, especially as Twitter is ending the Twitter Academic API. Thus, the research team decided to conduct national-level analysis of news stories, and to conduct regional-level analysis of data from Strava, a social media platform that allows users to track runs, hikes, bike rides, and other activities and share those activities with friends. Strava has 95 million users and is popular with cyclists, including mountain bikers, making it an excellent data source for this project. Further, Strava Metro allows researchers and municipalities to access aggregated data to make informed decisions about the management of transportation and recreation resources. Thus, we believe using Strava data will be fruitful for this project.

Plans for 2023

In 2023, we plan to complete Stages 2 and 3, the national and regional scale project elements, respectively. Dr. Sonya Sachdeva will lead a national-level analysis of news stories about mountain biking. Dr. Coleman's Geography of Recreation and Tourism class will create a database of relevant new stories as part of a class project. Student researchers with Dr. Bess Perry at Michigan State University will then confirm the validity of stories included in the database, and Dr. Sachdeva will use natural language processing to analyze the text of the stories. We will write and submit a paper about the results of this analysis. Emily Reinhardt will work with data from Strava Metro to examine regional trends in trail use, before and after the onset of the COVID-19 pandemic. Emily will lead a paper that focuses on the results of this analysis as part of her M.S. thesis work. Emily will also begin Stage 4 of the project by conducting community-level interviews during the summer of 2023. She will lead the completion of Stage 4 in 2024, also as part of her M.S. thesis with Dr. Coleman.

Collaboration

Dr. Sonya Sachdeva, a computational social scientist with the Northern Research Station of the USDA Forest Service, will serve as co-PI on the project, will co-advise Emily Reinhardt at SUNY Plattsburgh, and will lead the news story analysis portion of the research project. We are also collaborating with several community partners: Maura Adams, Program Director at the Northern Forest Center; Abigail Long, Executive Director of Kingdom Trail Association; and Joshua Tauses, Bike Trails Manager for the Town of Carrabassett Valley, Maine.