Monitoring and Management of recreationists along long-distance National Scenic Trails

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Recreational visits to public lands in the United States have increased over the past decades in part due to population rise and in part due to increased participation in outdoor activities by Americans and tourists from other countries. Unless managed carefully, recreation visitation inevitably degrades natural resources, creating tension between recreation provision and resource protection mandates. Use along two U.S. based long-distance National Scenic Trails, the Appalachian National Scenic Trail (AT) and the Pacific Crest National Scenic Trail (PCT), have increased significantly placing unique pressures on these trails' corridors and managers. These trail corridors span a multitude of public land managing agencies' boundaries, are managed through cooperation of NGO partners and volunteers and interface with federally designated Wilderness areas.

Significant concerns over recreational impacts to natural resources as well as experiential conditions along these trails have created a need among trail managers for relevant and actionable information.

However, conventional approaches for collecting and analyzing monitoring and assessment data are challenged by the geographic scope of the AT and PCT as well as the unique combination of varied and high use levels and extensive trail infrastructure.

This combination of circumstances has spurred independent and ongoing research studies, conducted by the authors, along the AT and PCT. These studies have evolved data collection, analysis, and modeling approaches to fit the high use, long distance, and multi-jurisdictional challenges of these trails and their use. New and novel methods employed by these studies include:

- Smartphone-based data collection.
- Spatially explicit visitor surveys.
- Near real-time and context sensitive delivery of visitor information.
- Integration of watershed- and viewshed-scale data for trail sustainability and experience assessment.

The findings of these studies have led to ongoing collaborations with NGO partners and the federal land managing agencies responsible for both the AT and PCT.

This session will present a brief overview of the monitoring and assessment data generated from the ongoing studies, discuss implications for management, and focus on a suite of new tools and methods for application of the findings. Discussion will focus on issues, obstacles, and limitations of these new approaches in their current state, while focusing on the potential for broader future use with proper development and strategic deployment.