

Oral Presentations

Session #1 – Methods and Measurements

Conceptualization and Implementation of the Appalachian Trail Visitor Use Study

A. L. Ginn, University of Georgia
S. J. Zarnoch, USDA Forest Service
J.M. Bowker, USDA Forest Service
H. K. Cordell, USDA Forest Service
G. F. Green, University of Georgia and USDA Forest Service
T. M. Owens, USDA Forest Service

Abstract

The 2,175 mile Appalachian National Scenic Trail (A.T.) traverses numerous local, state, and federal jurisdictions between its southern and northern terminuses. The complex management patterns, coupled with the sheer length of the trail, make estimating recreational use of the A.T. difficult. In 2006, the Recreation Research Unit of the USFS Southern Research station undertook the task of creating a standardized, repeatable and updateable counting methodology for estimating recreational visitor use of long distance trails. Challenges include modification of existing visitor estimation methods, the logistics of sampling in multiple-use areas, selection of a pilot study area, and the coordination of long-distance interviewer recruitment and training. This paper will describe the conceptualization, scope, feasibility, limitations, and implementation of the Appalachian Trail Visitor Use Study. Preliminary results suggest that visitor use estimation by the employed methods is feasible and accurate.

Introduction

The 2,175 mile long Appalachian National Scenic Trail (A.T.) traverses 14 states, 21 Wilderness areas, and multiple public land units at the federal, state and local level. Though most National Parks are required to report the number of monthly visits, the A.T., like all long-distance trails, does not currently have a statistically valid and reliable counting methodology in place. Estimates between three to four million annual visits have been reported since the creation of the National Park Service Appalachian Trail Office in 1970. However, in order to properly plan for and manage the A.T., accurate visitor use estimations are vital.

Objectives

In 2006, the Recreation Research Unit of the USDA Forest Service Southern Research Station, began the development of a data collection and reporting program to assess recreational use of the Appalachian Trail. Although various methods exist for counting or interviewing visitors and visits, a science-based attempt to calculate use of long-distance trails has rarely been undertaken. Hence, this study's objectives included the designing of a statistically valid counting methodology for recreational use of long distance trails, estimating pilot study area baseline use levels and providing a methodology for obtaining future estimates. This paper will explore the experimental study design of the Appalachian Trail Visitor Use Study, with reference to its conceptualization, scope, feasibility, limitations, and implementation.

Methodology

The Appalachian Trail Visitor Use Study modified elements of the National Visitor Use Monitoring (NVUM) program, currently implemented to estimate visitation in National Forests. A key concept is the identification of exit sites where research staff may intercept and interview last exiting hikers. An exit site is defined as a location where the A.T. intersects a trail or road (TR sites), or provides access to a parking area (P sites). Additionally, complex sites where the A.T. experiences opportunities for access to multiple-use areas, including trail towns and national or state parks, were designated as multiple-use (M sites). Using a geographic information system, GPS points, road and trail maps, and information from the Appalachian Trail Conservancy, more than 2200 exit sites were identified along the A.T. These potential exit sites were sent to trail section managers for review. Managers removed sites where hikers were not expected to exit during an average year from the list. Individuals familiar with use patterns of the A.T. also assigned approximate high, medium or low use level estimates at the remaining exit sites for each day of the calendar year. Researchers were then able to stratify each site day of the year by site type and estimated use level. This stratification will increase the accuracy of estimates of visitor use and allow the pilot study area findings to be extrapolated to the entire trail.

One of the most challenging components in the study design was attempting to accurately estimate use in the complex, multiple use sites. Two problematic issues stand out in the complex areas- 1) Identification of a trail "user," which is clear in the woods, but not necessarily in M sites and 2) attempting to count and interview those "users."

Selection of a Study Area

Originally, research staff intended to conduct interviews along the entire length of A.T. entire trail. However, the logistics, human resource and financial requirements associated with conducting a full-trail scientific study proved enormously complex. A pilot study area was chosen based on a number of criteria selected by research scientists, as well as recommendations from trail managers and stakeholders at the National Conservation Training Center.

The pilot study area is a 109-mile section of trail extending from Harpers Ferry, West Virginia to the Scott Farm, an Appalachian Trail Conservancy property located just north of Boiling Springs, Pennsylvania. The complex management patterns of the area are representative of the trail as a whole. Additionally, the relative proximity of the National Park Service Appalachian Trail Park Office and Appalachian Trail Conservancy Headquarters and Mid-Atlantic Regional Office provide ground support for study coordinators. The region's Trail Clubs have a history of strong club affiliations and volunteer support, which was essential for the recruitment of field interview volunteers.

Sampling

A 75 day sampling period began on June 1, 2007. A statistical program selected a designated number of site sampling days at random and assigned them to the study's sampling calendar. Two full-time research staff members were hired with assistance from the Appalachian Trail Conservancy to conduct field interviews and count last exiting hikers. The assistance of volunteers was necessary to account for all assigned sampling dates. The volunteer interviewers were trained via telephone, e-mail and postal correspondence. Visitors were intercepted at exit sites; only users that were aware that they used the

At palachian Trail and were exiting for the day were administered the entire questionnaire. All exiting visitors were counted. Intercepted users that were continuing on the trail were recorded, but not included in the total. The questionnaire related to user demographics and their experiences. The methodological and logistical challenges along with preliminary results (available in January 2008) of this study will be presented.
