

When Is A Visit Really a Visit? Public Use Reporting Study at Acadia NP

By Kenneth Hornback and Robert Manning

"The Government (is) very keen on amassing statistics. They collect them, add them, raise them to the nth power, take the cube root, and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman, who just puts down what he damn well pleases."

— Sir Josiah Stamp, 1880-1941

Despite the cynicism of the above epigraph, the National Park Service places considerable emphasis on measuring and reporting public use. In fact, the NPS has collected information regularly about public use since 1904. In the early days when park visitation was low and sporadic, superintendents themselves counted park visitors and recorded where they came from and how they got to the parks. In today's world, where visits to the national parks number in the hundreds of millions annually, this system will no longer suffice! Public use reporting has become more sophisticated.

Public Use Reporting is governed by NPS-82 and is administered by the Socio-Economic Studies Division (NPS Denver). The public use reporting system's objective is to design and implement a statistically valid, reliable, and uniform method of collecting and reporting public use data for each independent unit administered by the NPS. Public use statistics serve a variety of purposes, including measuring the impact of park visitation, gauging monthly work load requirements, and tracking visitation history and trends. Among the most important components of the public use reporting system are definition of terms, counting and reporting instructions, surveys, and audits.

Definitions

A visit is the central unit of analysis in the public use reporting system. A visit is defined as the entry of any person, except Service personnel, onto lands or waters administered by the NPS. However, there are three kinds of visits which must be counted and reported separately: *Recreation visits* [visits for recreation purposes]; *Nonrecreation visits* [visits for nonrecreation purposes, including (1) persons going to and from inholdings; (2) commuter traffic; (3) other through traffic; (4) trades-people with business in the park; (5) any activity a part of or incidental to the pursuit of a gainful occupation; (6) government personnel other than NPS employees with business in the park; (7) citizens in the park to discuss or hear about park business (e.g. public hearings)]; and *Nonreportable visits* [visits by (1) NPS employees, (2) their families, (3) concessioner employees, (4) members of Cooperating Associations, (5) activities associated with NPS cooperative agreements, (6) tenants of NPS property if not crossing significant NPS territory for access, (7) persons engaged in pursuit of specific legal rights of use (e.g. subsistence hunting and fishing), and (8) NPS contractors.]

Finally, *duplicate counting* (multiple entries on a single day) must be avoided. The major forms of duplicate counting are associated with (1) commuter traffic back and forth through the park, (2) visits to more than one area of a park with discontinuous boundaries, (3) visitor traffic back and forth to visit outside vendors, and (4) visitors residing outside the park making morning and afternoon visits.

Counting and Reporting Instructions (CRIs)

CRIs are prepared to reflect the unique site characteristics of each park. CRIs contain the procedures for measuring, compiling, and recording public use. For very straightforward and small scale areas, CRIs can be prepared informally. For larger and more complex areas, formal audits are needed.

Audits

Audits of each NPS unit are periodically conducted by the Statistical Office. Audits constitute detailed looks at the public use complexities of each park unit.

Surveys

Measurement of public use requires some knowledge of and about park visitors. This information is derived from periodic surveys. Visitor surveys produce multipliers or conversion factors used in public use reporting. Surveys are conducted (usually at three year intervals) to keep up with local economic, transportation, and demographic changes.

A Case Study: Acadia National Park

Acadia NP is exceptionally complex from the standpoint of public use reporting. It occupies about half of Mt. Desert Island, Maine, and consists of a patchwork of public lands interspersed with private lands. Numerous uncontrolled entrances and exits and park roads are traveled by large numbers of visitors, local residents, and others.

Acadia was audited by the Statistical Office in 1989 and, because of its complexity, a survey was deemed necessary in order to develop new Counting and Reporting Instructions. The emphasis of the public use reporting system was to be based on a "double sampling" procedure. This technique is commonly used where visitation is highly dispersed and difficult and expensive to count directly. A second more easily measurable variable is created and statistically related to visitation. Visitation then can be estimated by means of this new variable. In automobile-oriented parks such as Acadia this new or second variable often is automated automobile traffic counters. A traffic counter at Sand Beach, a principal park attraction, was designated as the focus of the double sampling system at Acadia.

The survey was begun in summer 1990 and conducted in each of the four major use seasons. Chosen for sampling were 30 park sites, representing the diversity of visitor attractions. Sampling was done on 70 days, and 2,873 visitors were given a short questionnaire. Variables of principal interest included reason for visit (recreation, nonrecreation, nonreportable), persons per vehicle, length of stay, and whether or not the visitors tripped the Sand Beach traffic counter on the days they were interviewed.

Survey findings are presented in Table 1. The first variable, the Sand Beach traffic counter multiplication factor, was calculated on the basis of the percentage of visitors who tripped the Sand Beach traffic counter. For example, during the summer season 46.9 percent of visitors sampled did not trip the counter on the day they were interviewed. This means the traffic counter is underestimating the number of visitor vehicles in the park and its reading must be adjusted upward accordingly. A majority of visitors (51.2%) tripped the traffic counter once, thus no adjustment is needed for these visitors. However, 1.8 percent of visitors tripped the counter twice, and an additional .1 percent tripped it three times, requiring an appropriate downward adjustment of the counter reading.

Aggregating all these adjustments, Sand Beach traffic counter readings should be adjusted upward using a multiplication factor of 1.81 for the summer season. Other variables needed to estimate public use are persons per vehicle (2.99 for the summer season) and type of visit (recreation visits=96.6%, nonrecreation visits=2.8%, non reportable visits=.6% for the summer season). Finally, length of stay can be factored in to further quantify public use. It is interesting to note the seasonal differences found among several of these variables.

Conclusion

Based on the above survey findings, a new CRI has been prepared by the Statistical Office and implemented at Acadia. The survey has provided an information base that substantially enhances the validity and reliability of public use reporting and ensures that the public use reporting system is in conformity with NPS guidelines.

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Table 1. Variable	Season			
	Summer	Fall	Winter	Spring
Sand Beach traffic counter multiplication factor	1.81	1.73	5.88	4.02
Persons per vehicle	2.99	3.01	2.42	3.75
Type of visit				
Recreation	96.6%	97.8%	97.1%	99.2%
Nonrecreation	2.8%	2.0%	1.2%	0.8%
Nonreportable	0.6%	0.2%	1.7%	0.0%
Length of stay				
Recreation, day use	5.05 hrs	6.54 hrs	6.57 hrs	5.79 hrs
Recreation, overnight use	101.47 hrs	54.67 hrs	42.71 hrs	56.31 hrs