

Recreation monitoring in Brazil conservation units: a preliminary examination of trip characteristics, opinions, crowding, and satisfaction levels

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Background

Managing for high quality recreation experiences typically involves the use of traditional social carrying capacity variables; crowding, conflict, satisfaction, expectations and trip experience Shelby, (Graefe, Kuss & Vaske, 1990; Manning, 2011; Shelby & Heberlein, 1986). The purpose of this study was to conduct a pilot study on outdoor recreation use on Brazil Conservation Units using the social carrying capacity paradigm. Unlike the US, where many federal land agencies are split under either the Department of Interior or the Department of Agriculture, all Brazil Conservation Units (CU's) are managed by one single agency named the Chico Mendez Institute (ICMbio). There are over 320 CUs located within Brazil, offering a diverse supply of parks, protected areas, and reserves (Burns and Moreira, 2013). This pilot study includes data from the first year of a five year effort to develop an initial baseline of recreation monitoring data for Brazil's CU's. In future years, additional data will be collected in a systematic effort, using the same methodology. Data were collected in two Brazil CU's, the Tapajos National Forest, located in the Amazon region of Brazil, and the Campos Gerais National Park, in the state of Parana, in the south of Brazil. Campos Gerais NP (CGNP) is a newly designated national park, located in a highly productive agriculture area. The Tapajos NF (TNF) is located along the Tapajos River (a large tributary of the Amazon River). Data were collected over a period of three months (January—March 2014), which is the summer season in the southern hemisphere. Face-to-face data were collected using both clipboard and paper surveys and electronic tablet surveys. The interviewers were trained in data collection methodology by the co-authors. The survey days were stratified across weekday and weekend periods, as well as morning, mid-day and evening timeframes. A total of 145 surveys are included in this preliminary analysis (CGNP n=96 and TNF n=49).

Results.

A great deal of variation was seen in trip characteristics and trip quality across these two CUs. Though still significantly different, fewer differences were noted across the socio-demographic and "crowding" variables. Respondents at both CUs were more likely to be female (CGNP=55% female, TNF=59% female). TNF visitors were much more highly educated (80% bachelor's degree or higher) than CGNP visitors (29% bachelor's degree or higher). The mean age of respondents at both CUs was about 33-34 years. TNF visitors were much more likely to be first time visitors (75%) than CGNP visitors (50%), and respondents from both visited the CU an average of three times per year. The year of the first visit was more recent at the CGNP mean=2009) than at the TNF (mean=2004). Respondents at both areas were asked if they were aware they were on a federal CU. Nearly all of the TNF respondents (94%) knew they were visiting a national forest compared to just 47% of CGNP visitors knowing they were visiting a national park. Trip planning, however was very different, with nearly all (90%) of CGNP visitors planning their trip the day of or within three days

of their trip. Just 51% of TNF visitors planned their trip within three days of the trip, while 27 percent planned between 1—3 months or more. Group size was higher at CGNP (5 people per group) than TNF (3 people per group), and virtually all visitors (97%) were in family/friends groups, compared to 78% of TNF respondents. Campos Gerais visitors were typically participating in only hiking/walking or swimming, while TNF respondents varied quite a bit in their activity participation (swimming, hiking, canoeing visiting communities, etc.).

When asked about their primary reason to visit, two different scales were used, thus creating a situation where they were not comparable. Nonetheless, this decision highlighted the great differences between an Amazon CU and a CU from the south of Brazil. Over half (58%) of CGNP visitors' primary reason to visit was *to have contact with nature*, and 31% to enjoy the place itself. Nearly half (45%) of TNF respondents, however, indicated their primary reason for visiting was *to learn about the Amazon River culture and environment*. Overall trip quality varied as well, with CGNP visitors rating their experience as 3.96 and TNF respondents rating their experience as 4.57 (using a 6-point quality scale). CGNP respondents also rated all of the quality indicators (cleanliness, trail condition, safety, etc.) significantly lower than TNF visitors. Finally, the perception of the numbers of other visitors was asked. In this case we made use of a scale that allowed respondent to report that the number of other visitors had a positive impact, neutral or a negative impact, rather than using the traditional 9-point crowding scale. Indeed, the numbers of other respondents resulted in a positive impact on 61% of TNF visitors and 39% of CGNP respondents. CGNP visitors were more likely to report the number of other visitors was a negative impact (18%) than TNF visitors (10%).

Discussion.

We will discuss the differences noted between the recreation users in both locations in depth. While these data and corresponding findings are preliminary, they begin to lay a foundation of baseline data for future visitor monitoring. Campos Gerais visitors are very different than Tapajós National Forest visitors, in many ways. The settings are quite different, and the users themselves are quite different. Preliminary findings indicate that Campos Gerais visitors are more likely to be day users than over night users. Future data will be collected in both CUs that will allow us to develop user profiles; one of the strong desires of managers. We will also benchmark scales used in the surveys with other similar scales in the US and in central Europe.

References.

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