Use of game cameras and interviews to monitor visitors: is there crowding in the Iguaçu National Park - Brazil?

Jasmine Cardozo Moreira, Ponta Grossa State University (UEPG), Brazil jasmine@uepg.br
Robert C. Burns, West Virginia University (WVU), USA
Kemmely Guedes de Carvalho, Ponta Grossa State University (UEPG), Brazil

One of the priorities of the Ministry of the Environment of Brazil is the strengthening of the National System of Conservation Units, and the number of visitors is an important indicator for the public policies of visitation in the PAs. Of the more than 300 federal conservation units, only 71 record or estimate their number of visitors (ICMBio, 2017). Data on the satisfaction of visitors are also scarce, as well as their perception regarding crowding.

Since 2014, with the support of USAID and USFS, West Virginia University (USA), in partnership with the State University of Ponta Grossa (Brazil), has been developing the Project "Tourism, public use management and visitor perception," in protected areas of the Amazon, such as Tapajós National Forest and Anavilhanas National Park (Burns et al, 2017). The Iguaçu National Park (PNI) has one of the most impressive waterfalls in the world. Named a national park in 1939, it is important not only for biodiversity but also for the landscape of rare scenic beauty. PNI is located in southern Brazil state of Paraná, and it shares the title of World Heritage Site with the Iguazu National Park located on the opposite side of the river in Argentina. Three-quarters of the 275 waterfalls are on the Argentina side, which makes the Brazilian side more suitable for observation (Moreira, 2012). The PNI received in 2017 around 1,600,000 visitors, and is the second most visited National Park in the country (ICMBIO, 2018), second only to the Tijuca National Park in Rio de Janeiro (Christ the Redeemer Statue).

The objective of this effort was to collect data with cameras and to verify the satisfaction of the visitor and their crowding perception. The methodology involved interviews with 920 visitors and on-site data collection using a Plotwatcher camera. Camera images were collected each day, between 09h and 19h. Visitors were asked about their perception related with the number of people who were on the park at that time. The interviews took place between December 2017 and January 2018. Photos were also presented with 3 different scenarios to obtain visitors' perceptions of the number of other visitors in the park. The three options were pictures with few people, with many people and a vast number of other people, so the visitor could answer which photo he preferred.

Of the interviewees, 70.9% were female and 29.1% were male. A little more than half (50.9%) had a Bachelors degree, 32% had a high school education, 9% had primary education and 8.2% had a postgraduate degree. Most of the visitors (71.2%) were Brazilian, with interviewees also visiting from Argentina (17.3%), Paraguay (4%) and Chile (1.1%). Another 20 countries were also represented in smaller amounts. A little less than half of the visitors (44.1%) classified the visit as perfect, 34.9% rated the visit as excellent, 13.2% as very good, 7.5% as good and only 0.3% as reasonable. Respondents were asked to express how the number of people at the site affected their satisfaction using a scale of -4 to 4, with 0 being the neutral point. For more than half (59.8%) of the respondents, the number of people in the place did not reduce or increase their satisfaction (0). Just over one-quarter (26.6%) of respondents said that the number of people on the site reduced their satisfaction (-4); 11.8% said that the number of people on the park partially reduced their satisfaction (-2) and 1.5% of the respondents said that the number of people in the area increased their satisfaction (+3 and +4).

In the scenarios presented through photos, more than half of the interviewees (55.7%) preferred scenario 2, with many people; 27.7% of respondents preferred scenario 3, crowded and 16.6% of respondents would prefer scenario 1, with few people.

Figure 01 – One of the boardwalks at Iguaçu National Park, on a crowded day

Conclusions

This research assists in the monitoring of the visitation in the Iguaçu National Park, with the goal of developing appropriate public use planning in protected areas. Regarding crowding, most respondents (61.2%) were unaffected or said that the number of people at that time increased their satisfaction. In further analysis, data were compared across several segments, the images collected, and related to specific places. Results will be used by managers to alleviate possible crowding.

References

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