

Differences among hikers, runners and mountain bikers in a peri-urban park

Sebastian Rossi, Griffith University, Australia, s.rossi@griffith.edu.au;

Catherine Marina Pickering, Griffith University, Australia; **Jason Byrne**, Griffith University, Australia

Introduction

Conflict can occur when people engage in different recreational activities on the same trails within parks. But which activities create conflict, and why do some visitors have issues with some users but not others? Peri-urban parks provide a good model to investigate these issues. Such parks often have high visitation due to their proximity to rapidly growing urban areas, and the increasing demand for outdoor recreation that this growth generates (Arnberger and Brandenburg, 2007). Popular activities in such parks include: walking, bird watching, mountain biking, horse riding and running. These activities typically occur on multiple use trails, where conflict among visitors can arise, especially during periods of peak usage (Arnberger and Haider, 2005). Managers of multiple use trails often have to cope with multiple types of user conflict (Bury et al., 1983) that can diminish visitor satisfaction (Moore, 1994). While researchers in the United States have examined conflict on multiple use trails in various types of parks, limited research has occurred elsewhere, despite the growing popularity of outdoor recreation in many countries, including Australia. This study assesses park-user interactions within a peri-urban park in South East Queensland, the fastest growing metropolitan area in Australia.

Study area

D'Aguilar National Park is close to Brisbane City, the capital of Queensland, and is a popular destination for a range of outdoor recreational activities. The Park was declared in 2009, and protects 36,000 ha of open eucalypt forest and rainforest. An extensive network of multiple use and single use walking trails in the southern section of the Park offers visitors a wide range of recreation opportunities. Common activities include mountain biking, hiking, horse riding, running and bird watching. Three high use locations within the southern section of the Park were selected to conduct visitor surveys.

Methods

Information on visitor demographics, park usage patterns and visitor perceptions about other park users was collected using an on-site self-completed visitor questionnaire. The instrument included 24 questions (yes/no, likert scale and multi-option measures) to obtain information about demographics (gender, level of education and age), park usage patterns (activity, motivation, frequency and duration of visit, encounters with other users, group size and type, time and distance travelled to the park, and mode of transportation). Information about user perceptions of their own and other's activities and/or behaviours was also assessed. Participants were asked to identify how positively,

neutrally, or negatively a range of activities impacted upon them, and whether they perceived environmental or social impacts from these activities. The survey was conducted over six days during a peak period of visitation – the Easter holidays and a following long-weekend. Two interviewers approached all people arriving or leaving the Park at each of the three locations and asked them to complete a questionnaire. Once data were entered electronically and validated, descriptive statistics and chi-square analyses were performed.

Results

A total of 288 visitors were surveyed resulting in a response rate of 78%. Visitors participated in 14 different activities: bushwalking (121 people), mountain bike riding (95), running (39), dog walking (6), horse riding (5), bird watching (4), nature encounter (4), and others (11) such as volunteering. More men (71%) than women (29%) used the Park with most visitors between 25 to 54 years old (86%). Most respondents (63%) were frequent users of the Park, visiting on a weekly basis (40%), or more than 5 times a year (23%); only 21% were visiting the Park for the first time. Nearly all respondents (85%) visited the Park on weekends. Motivations for the visit were: getting exercise (71%), engaging in recreational activities (41%), enjoying nature and outdoors (39%), and for adventure or challenge (40%). Nearly all respondents (92%) encountered other visitors. Most respondents (60%) were not affected by other users, their activities, or their behaviours. Of the 40% of respondents who were affected, 84% of these (98 people) were positively affected, with no significant differences based on gender or activity. The only activities consistently negatively affecting users were motorized activities (Figure 1), which are currently banned in the southern section of the Park. Nevertheless, 20% of respondents reported encountering trail bike riders and 2% of respondents encountered four wheel drive vehicles. All other activities were considered to be neutrally, positively or strongly positively affecting visitors' experience (Figure 1). Although some respondents reported neutral or positive perceptions of non-motorized activities, they nonetheless considered that these activities had some negative impacts, including: damaging plants or habitat, frightening wildlife, startling people, making too much noise, and potentially causing collisions.

Discussion

Contrary to the findings of many other studies, there was very limited conflict among user groups in D'Aguilar National Park, even for activities that have been reported in other studies as a source of conflict, such as horse riding, dog walking and mountain biking (Figure 1). However,

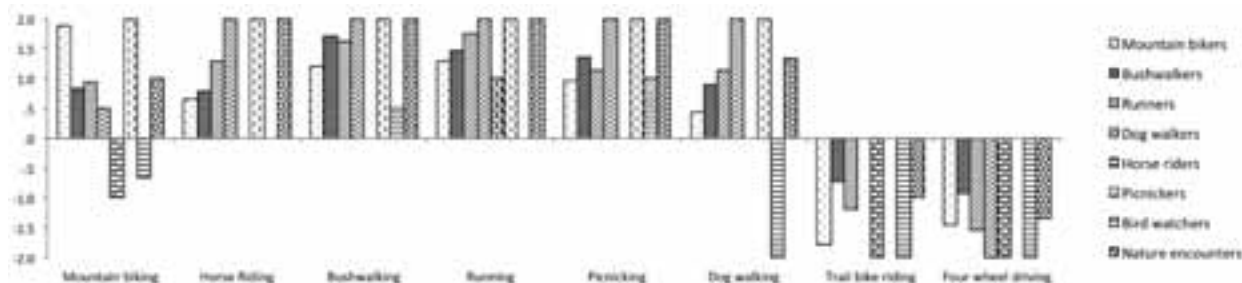


Figure 1. User groups perceptions about how positively or negatively the different activities impact upon them in D'Aguilar National Park, Australia (2 = strongly positive, 0 = neutral, -2 = strongly negative).

25% of respondents held negative attitudes towards motorised activities, corroborating prior research (Gordon, 2003, Horn, 1994). Previous encounters with other types of users had a significantly positive effect on interactions for a wide range of non-motorised activities, as has also been found in other parks (Gordon, 2003). Survey results highlight that user-interactions do not necessarily generate conflict. However, as the study was conducted on a wide trail in a high use peri-urban park, this does not mean that conflict may not occur on narrower trails with lower use in more remote locations, in this and other parks in the region. Also, the peri-urban setting, and sampling over a particularly popular time for visiting the Park, could have resulted in temporal or spatial displacement, rationalization, or product shift (Arnberger and Brandenburg, 2007).

- Arnberger, A. & Brandenburg, C. 2007. Past On-Site Experience, Crowding Perceptions, and Use Displacement of Visitor Groups to a Peri-Urban National Park. *Environmental Management*, 40, 34–45.
- Arnberger, A. & Haider, W. 2005. Social effects on crowding preferences of urban forest visitors. *Urban Forestry & Urban Greening*, 3, 125–136.
- Bury, R. L., Holland, S. M. & McEwen, D. N. 1983. Analyzing recreational conflict. *Journal of Soil and Water Conservation*, 38, 401–403.

- Gordon, C. 2003. Perception and reality of conflict: walkers and mountain bikes on the Queen Charlotte Track in New Zealand. *Journal for Nature Conservation*, 11, 310–316.
- Horn, C. 1994. Conflict in Recreation: The Case of Mountain-bikers and Trampers. Unpublished Master Thesis, Lincoln University.
- Moore, R. L. 1994. Conflicts on Multiple-Use Trails: Synthesis of Literature and State of the Practice. Washington D.C.: Federal Highway Administration.