

# Organized mountain biking events within peri-urban protected areas. How many are too many?

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## Introduction

Recreational activities within Protected Areas (PA) are growing in use intensity and diversity with special emphasis in does close to metropolitan areas. This fact is related not only by the increasing numbers of practitioners but also due to modern life-styles where out-doors activities are, among others, almost synonymous of healthy lifestyles.

Such demand and consumption of recreational activities within these areas has open space to several leisure typologies, from touristic tours to local sport events that can attract “extra” several dozens to a few thousand visitors/practitioners within very short periods (from a few hours to a few of days) to these PA. In Arrábida Natural Park, like in other PA in Portugal sport events like Mountain Biking (MTB), Trail Running, Orienteering or Open Water Swimming races that can easily attract up to 1000 users plus staff have become popular events within the last decade. Due to the management plan in action all sport events required a formal authorization from the Natural Park. Being usually organized by local or regional entities and strongly supported by local municipalities seeking the fulfillment of its youth and sports policies, they raise no major concerns besides the final definition of the race route vs. the zoning plan, and depending on the event type, the total number of participants that should be allowed.

In this paper we discuss some of the aspects that could be take into account in order to deal with such events, with special emphasis on extra use intensity that this races can represent taking as an example the development of an organized MTB event that involved 750 participants and over 150 staff members.

## Material and methods

### *Study area*

Arrábida Natural Park (with 12.391 ha of terrestrial area) is located within Lisbon metropolitan area (with 2,8 million inhabitants), nearly 1h south from Lisbon. It holds 7410 residents, which represent 3% of the total population of Sesimbra, Palmela and Setúbal municipalities. MTB within the park has been monitored with TRAFx counters since 2010 and present results have estimated 60~72000 users /Year. Daily averages are of 160 mountain bikers with peak uses that can reach 1100, and Weekly averages of 1345 for the entire area of the Park. Sundays followed by national and local holidays, and Saturdays are the most used days of the week, and 2/3 of these uses happen between 8h00 and 13h00.

### *X BTTascaDuXico Marathon*

On April 17<sup>th</sup> 2016, X BTTascaDuXico Marathon took place in Pinhal Novo (within Palmela municipality) organized by a local MTB club involving 700 bikers, split by 2 distances with 41.7 and 60.7 km, with 597 and 103 participants respectively. Route race for both distances started 14.1 km off the park limits and has crossed the park for 11.3 and 31.2 km (shortest/longest distance) through the Park road network, followed by 15.3 km back to Pinhal Novo, in a round trip. TRAFx counters set to record timestamps were installed in the race track at km 15.9, 43.6 and 45.0 (equivalent to 25.9 km for the shortest distance) as it can be seen in Figure 1 to measure time displacements in order to measure use intensity.

This race is not part on any official calendar of the Portuguese Cycling Federation and it also included guided tour that didn't reach the park limits that gathered 50 participants.

Final time for each biker (available by the organizers) was used to infer Park crosses displacement and residence locations was used to measure the race attractiveness (residents v.s. visitors from other places in Portugal).

An on-line questionnaire regarding Arrábida and MTB with 30 Questions was sent to a random selection of 400 participants received 139 valid submissions was used to profile biker's preferences, behaviors and expectations.

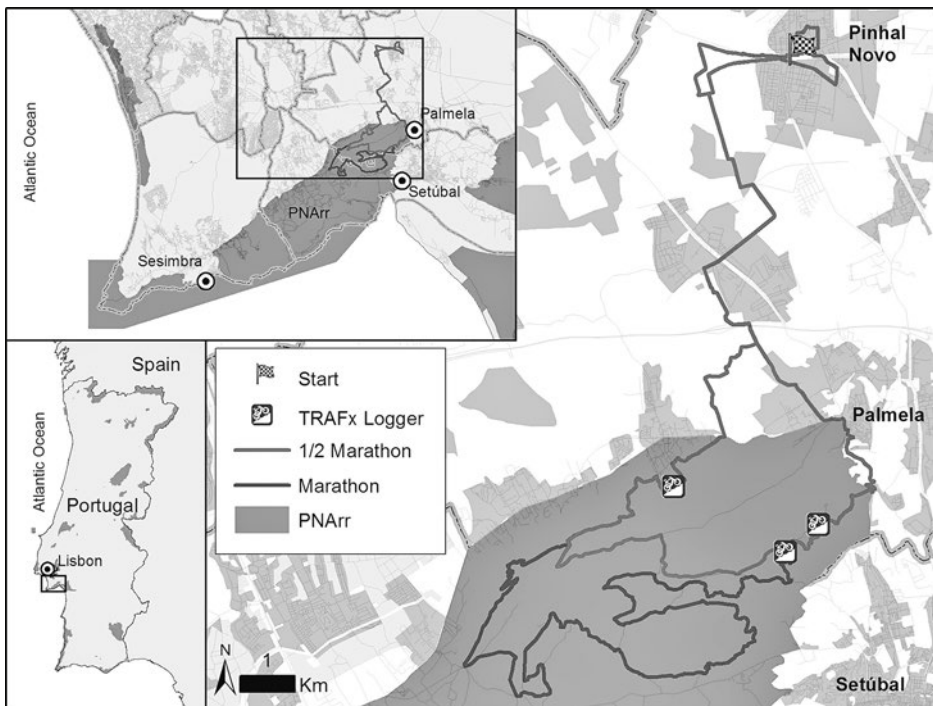


Figure 1. Location of X BTTascaDuXico race event.  
Note: PNAr stands for Arrábida Natural Park

## Results and Analysis

The race was concluded by 22 Females and 678 Males (21F/576M for the shortest distance and 1F/102M for the longest with an average speed of 14.1 and 16.5 km/h for the women and men respectively.

According to the collected questionnaire's average speeds of the race in both distances were slightly higher (1.5 km/h faster on average) when compared with the "perfect" MTB ride (inferred from the questionnaires) suggesting that the race by itself is just another excuse for a normal ride. Despite some faster racers more committed with their personal achievements, 52% of the bikers run at their average MTB speeds.

Other important issue regarding the use intensity that this event might represent is that according to the questionnaires 56% of the participants are regular bikers of Arrábida. 60% of the race participants live within 25 km from park limits – a distance suitable for most users to ride their bikes directly from home. Participants that live within a circle of 25 to 50 km that also often ride in Arrábida are other 20% suggesting that what could at been taken as an "extra" amount of use of 700 bikers actually represents only 200~250 more bikers that what could be expected for the same day without the race. From these, 118 participants live more than 100 km away from the park.

Regarding use intensity, the race concentrates users on the race trail, but it also relieves use in other more sensitive areas. While entrance in the park limits is concentrated in two peaks of 30 and 40 minutes (for the marathon and the half-marathon respectively), differences on speed averages among participants relieve the pressure at the end of the park crosses to over 2,5 hours according to the Counters data.

## Conclusions

Management of race and sport events within PA should consider environmental/conservation/security but also social aspects in order to deal with users' demand/expectations. For many practitioners these events are just another recreational moment. Use intensity, in terms of MTB/hour can multiply the maximum records depending on the total participants, but starting away from the park limits, performing the race in small groups, following the road network instead of using single tracks and avoiding raining seasons could minimize such impacts. On other hand these events are perfect awareness and surveys opportunities, which could help to manage recreational uses within every PA. Nevertheless, attention should be given to the current dissemination of unofficial or informal sport events spread around social networks, such as Facebook that can attract over 150 participants, challenging the park managers and local authorities in terms of conservation, security and social aspects.

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