Landscape preferences of tourists hiking in the trails of S. Miguel Island (Azores, Portugal): importance for conservation

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In the last decade, the Azores archipelago turned from an almost unknown region to a highly awarded tourist destination. Furthermore, in April 2015 the local air space was opened to low cost flights, leading to an increase in the number of national and international arrivals. Since nature-based activities have been the main reason for tourists to visit the Azores (Queiroz et al. 2014), most of them developed within the Azorean protected areas, the fragile balance between recreation and conservation may be compromised. One must not forget that these are small oceanic islands that need particular attention when it comes to plan and manage their protected areas (Calado et al. 2014). On the other hand, these tourists' interest on the Azorean nature, may be used to call local authorities' attention upon the importance of ecosystems' conservation, required to fulfill the cultural services they provide.

The Azores are part of the Macaronesian biogeographic region, which has in the primordial forest remains its main asset. The Azorean trails were designed to maximize the tourists' contact with nature and the Azorean landscape, including agricultural areas (mainly pastureland) and different forest types dispersed along the trails. We selected São Miguel Island (SM) as a first case-study, because it is the larger and more populated island and is also the one receiving more tourists (SREA 2017). In order along the visited trails, we applied a structured questionnaire to a sample of 185 trail users in four trails to understand (i) the tourists' motivations for hiking, and (ii) their landscape preferences in SM, with different land cover patterns, during the summer of 2017: "Mata do Canário" (MC); "Vista do Rei" (VR); "Salto do Cabrito" (SC); "Lagoa do Fogo" (LF) (Figure 1). The questionnaire was divided into several sections; one of them allowed us to characterize the tourists' profile, another was designed to evaluate their main motivations to visit the Azores and hike on trails, and yet another meant to rate their experience on the trails and ask them about their perceptions concerning the trails' use by hikers like them. All of these are important issues for future recommendations to be included on management plans for the areas visited.

The gender distribution was almost equal and the mean age ranged 40 years. The most represented nationalities were German, Dutch, French, Spanish and Portuguese, corresponding to employed workers with college or postgraduate degrees, with relatively high income, which visit nature destinations relatively often; they used the internet to organize their walks, rented a car, were accompanied by their partner, and stayed at a hotel.

By large, the main motivations to visit hiking trails in the Azores were "nature" and "landscape". Trail conditions were evaluated between average and good, with higher scores for accessibility, safety, natural beauty, amount of waste, behavior of visitors, and maintenance.

To evaluate landscape preferences along the trails, tourists were asked to pin-point their preferred trail sections in an orthophotomap covered with a geo-referenced grid, whose cells were then used to calculate the percent cover preferences for each type of vegetation cover. We then compared the trail vegetation cover that we have on our SIG's database with the tourists' preferences, in order to understand the importance they gave to the presence of forest or other types of soil uses, along the trails. The main results are summed in figure 1.
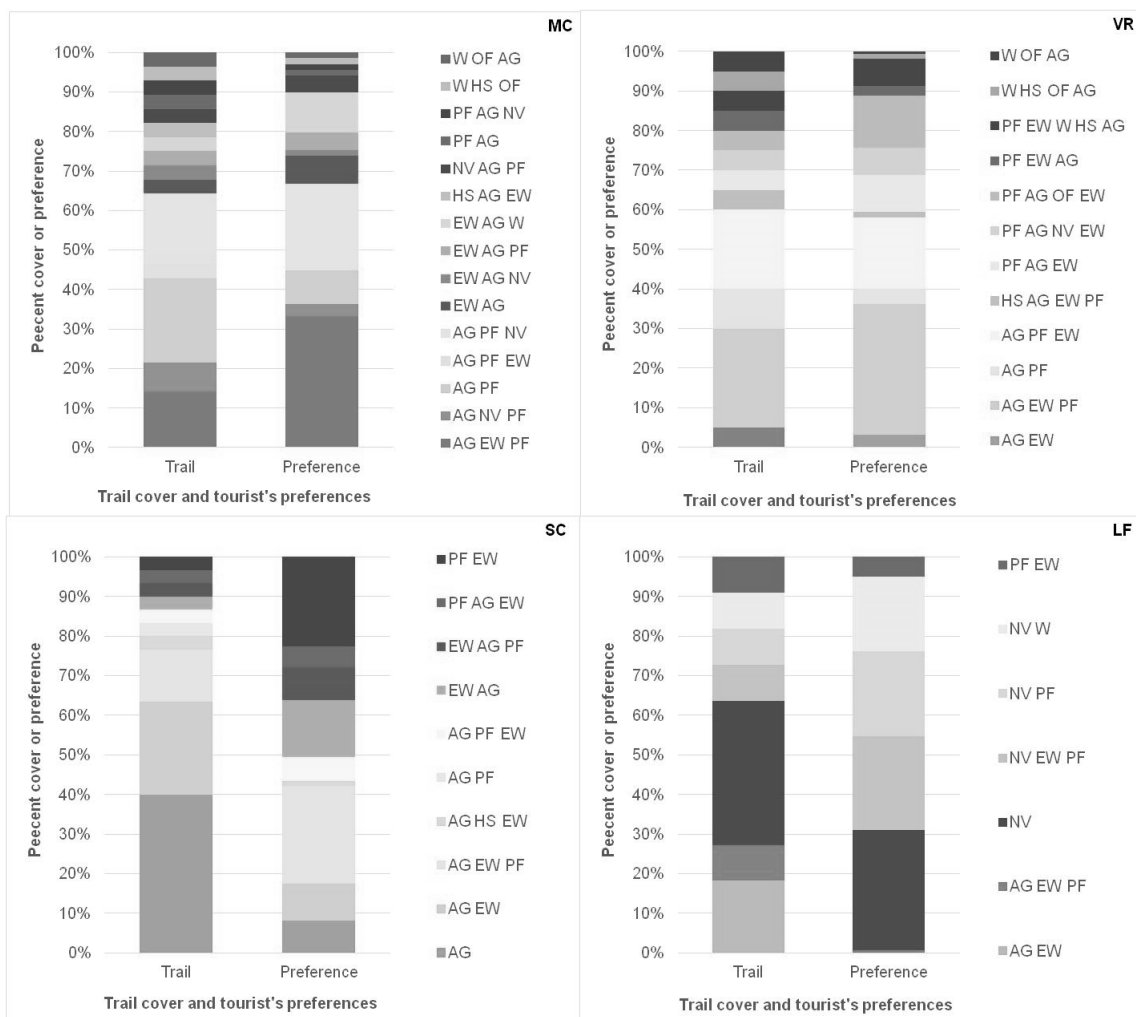

Fig. 1 – Match between vegetation percent cover along each of the 4 trails (MC – Mata do Canário; VR – Vista do Rei; SC – Salto do Cabrito; LF – Lagoa do Fogo), and tourists' preferences for certain sections of the trail; Vegetation codes: AG - Agriculture (mainly pastureland); EW - Exotic woodland (mainly *Pittosporum undulatum* and *Acacia melanoxylon*); HS - Human settlement; NV - Natural vegetation (mainly scrubland and forest); PF - Production forest (mainly *Cryptomeria japonica* and *Eucalyptus globulus*); W - Water bodies; OF - Other forest types.

When we look at trails MC and VR, where pastures (AG) are dominant along the trail, these seem to match the visitors' preferences however, when we turn into SC trail that has also a large dominance of agricultural areas, tourists demonstrated a greater preference for the

sections with forest (PF and EW), maybe because these lay close to a big waterfall. As for LF trail, and since it lays mostly within a protected area (SAC of Natura 2000), we find a larger percent cover of native vegetation (NV) but the tourists' preferences for the sections of the trails passing through these type of vegetation, greatly surpass the other sections of the trail, showing that in fact preserving the natural ecosystems is a great way also to increase their touristic potential. The global results and the tourists' preferences are discussed within a sustainability framework, allowing the valorization of the different landscape components.

References

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