Trail degradation and organized sporting events in Hong Kong

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Extended Abstract

Trail degradation has been a common management challenge in protected areas (Marion et al., 2016), this challenge can be aggravated by increasing demands and emerging forms of public use. A case in point is trail degradation concerns in protected areas that accommodate organized sporting events and extreme sports.

The growing phenomenon of organized sporting events in protected and natural areas in different continents have prompted calls for research, policy and management responses (Newsome, 2014). Similar to other protected areas around the world, extreme sports are becoming popular in Hong Kong and more park users expect the government to open up more protected areas to meet their demands. Although extreme sports are believed to produce very intense impacts on trails and their surrounding environments, limited research exists to quantify and characterize these impacts to inform policy and management responses. This study was intended to fill this knowledge gap by empirically examining and evaluating trail degradation effects generated by extreme sports in Hong Kong (Ng et al., 2018).

We adopted a before-and-after approach to assess trail conditions associated with the "MSIG HK50 – 2015" trail running competition (Action Asia, 2015) in Tai Lam Country Park. Trail conditions were assessed 3 weeks before the event, and 1 day, 1 month and 7 months after the event. A parallel set of measurements was conducted in a nearby, environmentally similar control trail. We applied systematic point sampling and census-based problem assessment methods (Marion & Leung, 2001) to record tread morphology, surface composition, soil compaction, soil texture, soil aggregate size, topographic variables, and trail degradation features (e.g., rills, gullies, etc.).

The results revealed that the intensity and rate of trail impacts by the organized running event were significant as compared to the controls. Significant problem of soil compaction was found at the tread center only. Surrounding vegetation appeared to play an important role in the process of recovery. Not only did vegetation prevent the trail from further widening, it also contributed materials (i.e., litter) for the recovery of the trail. Among the trail degradation features, moderate and severe exposure of tree roots persisted longer than 7 months (Figure 1).

The findings of this study point to the need for cautious permitting, planning, and management of organized sport events in protected areas with respect to event size (e.g., number of participants), trail routes, environmental conditions, and appropriate actions to contain traffic and assist in recovery. It is recommended that organized sporting events and extreme sports be regulated and trail maintenance is crucially important for keeping the protected areas in good condition.

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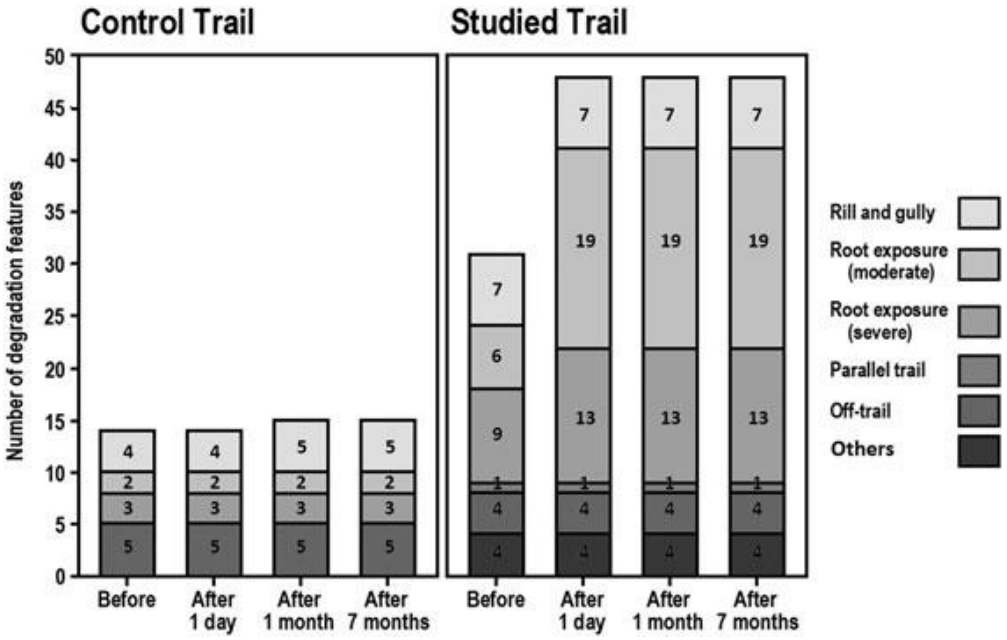

Figure 1. The occurrence of trail degradation features in control and studied trails, 3 weeks before the organized event, and 1 day, 1 month, and 7 months after the event (Source: Ng et al., 2018).