

Urban mountain biking – multiple-uses of trails on the Uetliberg in Zurich, Switzerland

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Introduction

Over the last years mountain biking has grown significantly in all parts of Switzerland (Lamprecht et al., 2008). In the proximity of the city of Zurich, the Uetliberg has become one of the most important recreational areas for mountain biking. Nevertheless, running, hiking and going for a walk are also important leisure activities, which have specific demands on the recreational environment. As a result of the increase in mountain biking activities, conflicts have arisen between bikers and hikers that use the same trails at the same time (Janowski et al., 2002). In response to the vocal opposition to the growing mountain bike activities from hiking associations, the local mountain bike community founded the “Züritrails” association in 2010 in order to provide representation in discussions on mountain biking topics. To meet the challenges of the multi-use trail network on the Uetliberg, a usage concept was developed by Zurich city council in 2005. The objective was to partially separate biking and hiking activities from each other. The result was a separate bike-trail, which was built in order to relieve some of the pressure on the main trail network. During the cooperation with Züritrails, the need to define a clear strategy became obvious. This led to a joint analysis of the current situation with regard to mountain biking. The resulting baseline report on mountain biking in Zurich establishes important rules and describes further potential for improving the coexistence between mountain-bikers and hikers (Wadenpohl and Kenny, 2011).

This study measured further data concerning usage of the Uetliberg trails by bikers and hikers: A number of trails were analysed in 2012 in order to provide reliable information about the existing conflict potential between the different activities. Furthermore, the results are being used as a basis for political discussions and the implementation of additional necessary measures.

Methodology

Previous reports about the recreational use of the Uetliberg trail network show that conflicts mainly arise on the most frequented sections of the trail network (Wadenpohl and Kenny, 2011, Lannou et al., 2011). As a first step, the trails were divided into different trail segments. On three characteristic trail sections, 201 on-site questionnaires were collected. A total of 161 of these were completed by hikers and could be used to evaluate their perceptions of the trail sections. Moreover, automatic cameras recorded activity on the trails. The pictures from two weeks (June 23-29 and August 18-24, 2012) were analysed to assess the types of activities on the different trail sections. On three additional trail sections, foot and bicycle traffic was recorded by automatic counters (eco-counter.com). Data from July 1 to October 31, 2012 was used for the analysis.

Results

Visitor numbers and the composition of activities differed clearly between the trails (see figure 1 for weekend days). Mountain bikers were detected on all the trails, even when they were very narrow and steep. Especially high numbers of bikers were counted on the multi-use trails in the proximity of the one-way bike trail (e.g. Schlittelweg). This could be explained by the high number of bikers cycling up before riding down the trail afterwards. Schlittelweg had the highest share of mountain bikers (35%) whereas all the other paths had a less than 15% share.

The numbers counted on weekend days were high and the period of peak activity for hikers and bikers overlapped at around 4 pm. On weekdays the numbers were lower with the number of mountain bikers increasing in the evenings after work, whereas the peak number of hikers was observed in the afternoon.

Generally, visitor numbers are heavily dependent on weather conditions. Thus the highest numbers for all activities were recorded on sunny summer weekends when the trails were used for multiple activities at the same time.

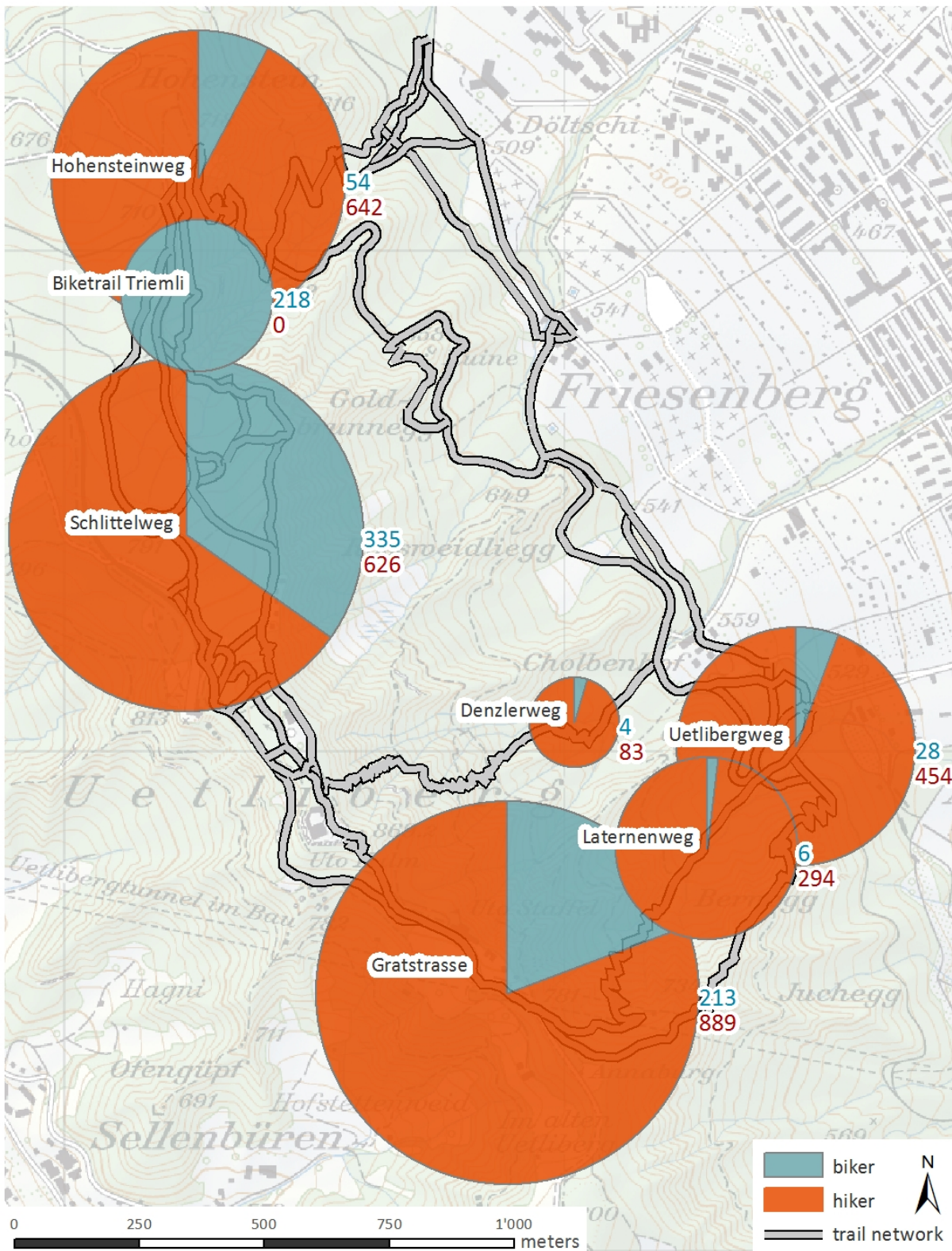


Figure 1: Average distribution of activities at the Uetliberg trail network on weekend days

In the on-site questionnaire hikers on Schlittelweg, Denzlerweg and Laternenweg were asked if they felt disturbed by other activities such as mountain biking, cycling, running, other hikers, dogs or noise on the corresponding segment of the path. The analysis showed that mountain biking (T-test, $p < 0.001$) and cycling (T-test, $p < 0.001$) had a significant effect on the interviewed hikers, whereas other activities, including other hikers, were perceived as less disturbing. On all the path

segments, mountain biking was felt to be the most disturbing factor. Other hikers or runners were not perceived as disturbing by the hikers. The respondents pointed out the difference in speed between the activities – especially between hikers and mountain bikers or cyclists as the main reason for the conflicts. On Schlittelweg, the most used trail, respondents generally felt more disturbed by people doing other activities.

Conclusions and management implications

Overall it can be said that on the Uetliberg, the potential for conflicts between hikers and bikers is high on multi-use trails on weekend days. Conflicts mainly occur due to the speed difference between the activities. Therefore the one-way bike trail takes some pressure off of the main trail network.

The local management has succeeded in easing the existing tension by implementing additional specific measures such as restrictions for bikers or sensitization campaigns. Today conflicts mostly occur because of illegal biking infrastructure, the improper use of footpaths, and home-made constructions. Despite this, the multiple usage of trails on the Uetliberg is mostly conflict free. Mutual consideration can help to calm the situation down on days of heavy usage. Providing information through different channels is therefore an important tool and can help to create a gratifying experience for everyone that uses the same paths at the same time.

The overall increase in bike sports is likely to continue not only in the city, but also in the countryside. Due to the population growth in and around cities there are likely to be increasing discussions on the provision of more infrastructure, such as official bike trails around cities. Therefore, information on the distribution of activities in recreational areas and specific trail use are a solid basis for political discussions and further monitoring of management measures.

Acknowledgements

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