Visitor structure in the Kellerwald-Edersee National Park (Hesse, Germany)

Jochen Schaub, Georg-August-University Goettingen, Germany. jschaub@gwdg.de

The Kellerwald-Edersee National Park (KW-ES-NLP) founded in 2004 is one of the youngest National Parks in Germany. One of the goals is to offer the possibility for calm recreation and education without harming flora and fauna. Therefore the KW-ES-NLP administration needs to know which kinds of recreation are performed within the area. To answer this question, the administration of the National Park and the Dept. Nature Conservation & Landscape planning implemented a first visitor monitoring approach in 2013.

Kellerwald-Edersee National Park

Description of the National Park

The extent of the KW-ES-NLP is 5724ha. 1.467ha are part of the UNSECO WORLD NATURAL HERITAGE "Ancient Beech Forests of Germany". The area has a long tradition with different kinds of usage and protection (hunting area for the sovereign of Waldeck, Wildlife Reserve and at last Forest Reserve). According to this history, there are disturbance sensitive species in that area, e.g. black stork (*Ciconia nigra*) and different kind of bats. In the whole area, visitors have to stay on the paths.

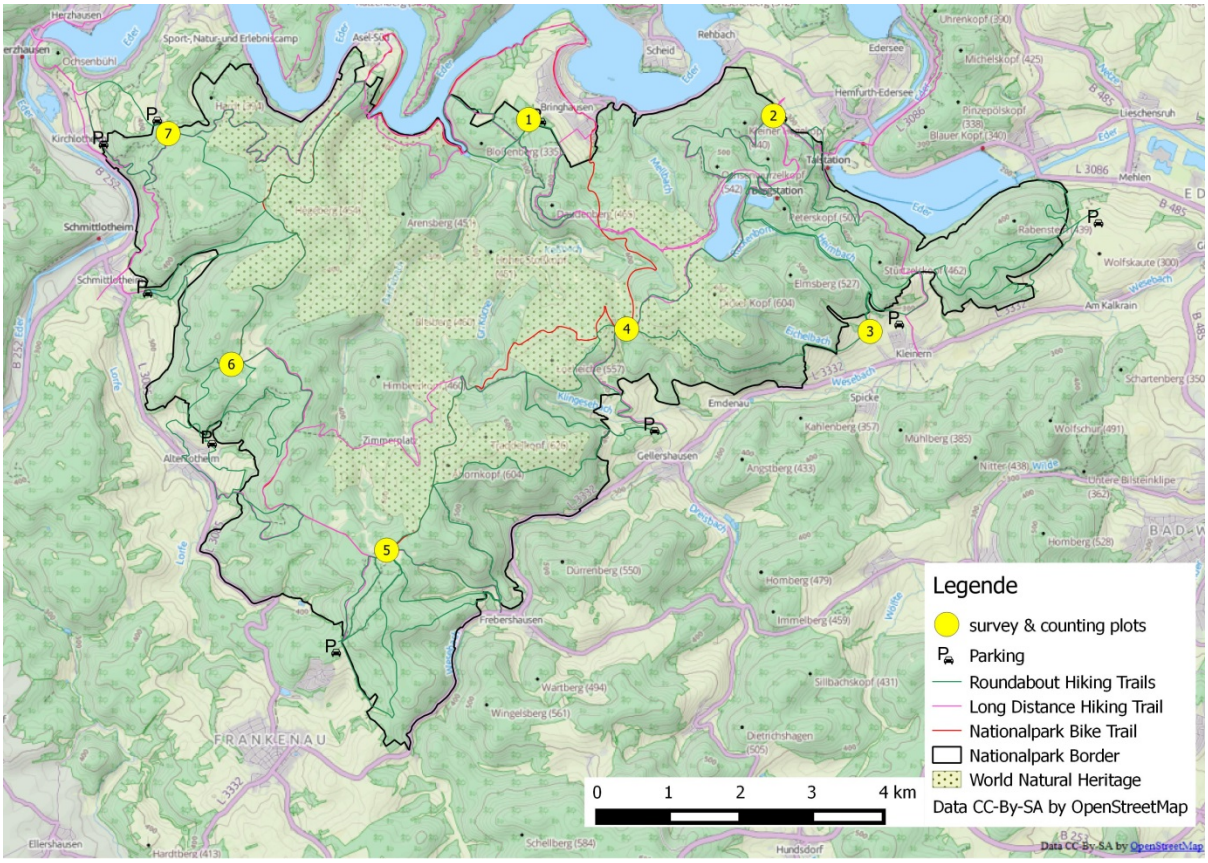

Fig.1: Kellerwald-Edersee National Park. Survey Plots and overview of the roundabout hiking trails and bicycle trails

The north of the park borders to the Edersee which is an attraction for fisherman, sailors and other forms of water recreation. There are 10 Parking lots directed to the park, 20 roundabout hiking trails, 7 long distance hiking trails, one National Park Bike-Trail and one bike-trail, which touches the park on the shores of the Edersee.

Method

The KW-ES-NLP has multiple entrances, which made it impossible to observe every one of them. Therefore 7 points were chosen with the goal of registering most of the visitors. These survey and counting places were at entrances with a considerable number of trails crossing or starting at them (Fig. 1: Points 1, 2, 3) and at crossings inside the area with importance for connection or near points of interests (Fig. 1:4, 5, 6, 7). At these points the observers counted hikers (promenaders & hikers), runners, bicyclist, equestrians and coaches (number of coach-guests). Also they counted the number of dogs which are calculated one dog on x-visitors. At the same time the observers carried out a survey. To conduct these two approaches with one person the counting has to be easy so that a more distinguished form of counting was not applied.

The research design was planned as four dates in low season 1 (15.03.2013-14.06.2013) but it was shortened 2 days due to bad weather in spring. 8 dates in the main season (15.06.2013-14.09.2014) and first planned four days in low season 2 (15.09.2013-14.11.2013), which was extended about two days missed in spring. In consultation with the park administration the winter season was not included in the monitoring process.

Results

6.394 people were counted. The yearly percentage of recreation forms shows that there are 79.3% hikers, 15.2% cyclists, 3.7% coach-guests, 1.2 % runners and 0.5% equestrians. Over all seasons the group of hikers constitutes the biggest fraction of recreation forms. The ranking for every season over all places is the same as over the year. But an examination of the places shows that there are differences in the distribution of recreational usage. The points 4 & 6 in Fig.1 show a change in usage over the different seasons. In low season 1 the hikers were the biggest fraction (4: 32.4% & 6:35.2%), this changed into the bicyclists in the main season where they had 74.5% (4) and 48.1% (6). At point 6 also the percentage of coach-guests were high in the low seasons and reduced in the main season. The ranking of the recreation forms in sum over all counting places over all seasons did not change. But one point was obvious that in the main season the percentage of bicyclists increased. Runners and equestrians appeared only in small percentages.

The number of people per dog, which is an indicator of the conflict parameter 'disturbance through dogs', was highest at point 4. For example 25 dogs per 372 visitors were counted at this place, which says that you can meet 14.8 persons and then you meet one dog at that place. Point 6 with 7.4% came at the second place. Point 3, which is a place near the village, is at the end of the ranking. Here you meet 2.4 persons and then a dog.

Conclusions

The results show that most visitors are hikers. In seasons overall, the ranking of recreation forms did not change, except for an increase of about 10% of bicyclists in the summer. A comparison of the different survey plots shows that at places, which are not directly on points of interests, the distribution of recreation forms changed into an increasing percentage of bicyclists. Remarkably, these points are crossings were roundabout hiking trails came together. It seems that these trails are not that popular for the visitors as roundabout hiking trails near points of interests. As mentioned above hikers are the biggest visitor group. It is well-known that there can be conflicts between different kinds of recreation groups. To assess the potential of conflicts it has to be examined how or if the structure of recreationists changes in the future.

The number of persons per dog shows that there are areas with high frequency of people who hike or promenade with their dogs. If dogs were leashed was not considered in this monitoring. This factor should be determined in further visitor monitoring approaches in regard of the sensitive wildlife in the park. The percentage of unleashed dogs will be observed by the park rangers on their patrols, which will give hints for the administration about possible conflicts with national park goals. Another step, which will be made in the following months is a cross-calculation of the visitor numbers with the help of some automatic devices installed in 2012. The first step was made with the implementation of a visitor monitoring but to assess changes and possible conflicts the monitoring has to be continued.