



REPORT ON MONITORING WORKPLAN IMPLEMENTATION

D.T2.4.3 - Naturpark Sölktales... (PP04)

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1. Introduction

The basic idea is to get an idea of the tourist flows. Tourism is growing enormously in our region and therefore it is important to develop anticipatory measures to protect nature in the best possible way. In addition it is necessary to create awareness about the special habitat and to draw attention to where the tourists go. There are three main goals set which are reducing the impacts of humans while traveling, in particular with visitor stream management measurements, the raising awareness and maintaining the alpine pastures. Since the alpine pastures have a very important tourist role and are therefore an economic factor, it is important that they are in good and well-maintained condition. After all, they are the flagship and tourist attraction of a region.

2. Pilot Action(s) Implementation

The monitoring program should evaluate the human impact on valleys and leading species of several sensitive habitats (div. grouse species) and find the relative frequency in the different valleys using counting visitors as a method. Additionally the abundance of the wildlife should be verified and constantly reviewed, even the different impacts on different species.

3. Monitoring design and setup

3.1. Monitoring Activities

In principle, the count is intended to provide an overview of the number of visitors. Electronic visitor counters, which were installed on four main hiking trails, serve this purpose. In addition, the entries from the summit books will be counted. The data enable comparisons of days, seasons and years, which can then be compared with the tourism hotspots of the region (Schladming-Dachstein). From this, the frequented paths can be identified and appropriate measures can be taken.

The counting with the electronic visitor counters takes place in the following periods: August to November 2018 and July to November 2019. The summit books each cover a period of one year, sometimes longer (2018 to September 2019).

3.2. Monitoring Equipment

Electronic visitor counters from Elektro Wolf were used. These are similar to a light barrier and count the movements through this light barrier. A distinction is made in the direction of the movement. In other words, it is possible to differentiate in which direction the visitors go - very interesting, as there are some hikes in the Sölktaier Nature Park that can be walked from different directions as well as summit crossings are possible.

The counting boxes are uniformly black and quite small, so that they are hardly noticeable in nature.



Figure 1: mounted visitor counters

3.3. Monitoring Systems Setup

The positions of the counters were installed on the four most frequented hiking trails. These include Deneck, St. Nikolai, Mössnakar (counted only in summer 2018; very low frequency), Tuchmoar (July - August 2019), Breitlahn. Figure 2 shows all counting positions that were active.

The counting periods range from August to November 2018 and from July to November 2019. The boxes were screwed to existing wooden pillars, if necessary wooden pillars were knocked into the ground by the Sölktaier Nature Park to which the box was mounted.

With the collected data different output lists can be created. These include the intervals: hourly, daily, monthly and annual.

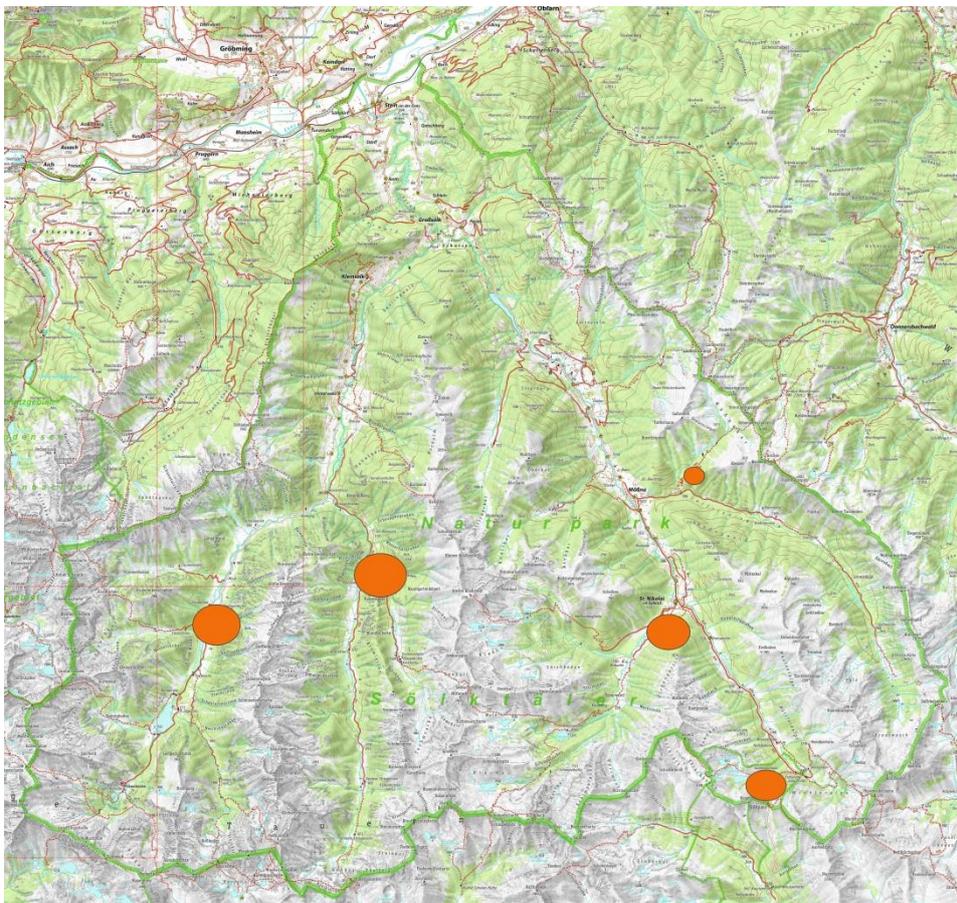


Figure 2: overview of mounted visitor counters

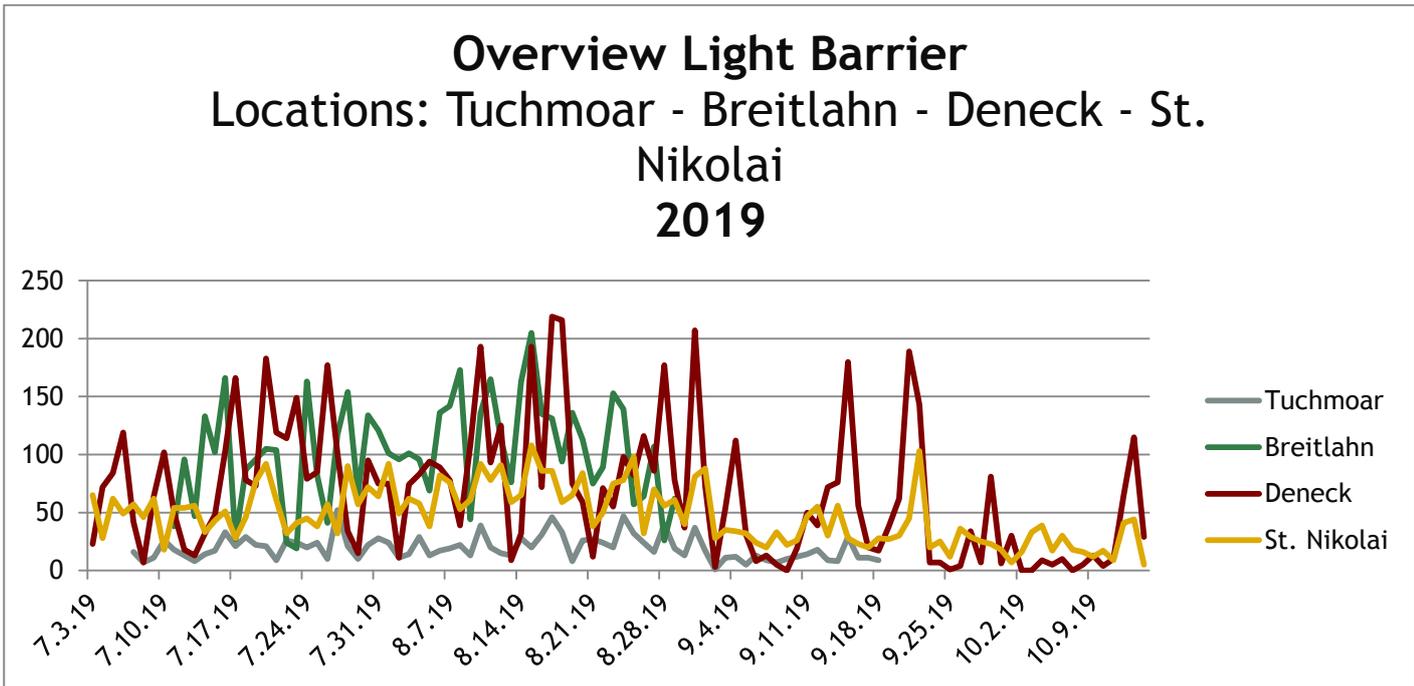


Figure 3: Overview light barrier analysis

Figure 3 shows an overview of the touristic activities at the four lightbarrier spots with just a little touristic use. The days with more than 200 people are not so often and this speaks for a sustainable tourism in this area yet.



Summer 2018					
where?	Beginning	End	1st screening	2nd screening	3rd screening
Mössnakar	13.08.2018	10.11.2018	05.09.2018	05.10.2018	10.11.2018
St. Nikolai	13.08.2018	07.11.2018	04.09.2018	04.10.2018	07.11.2018
Tuchmoaralm	20.08.2018	06.Sep	06.09.2018		
Kaltenbachalm	21.08.2018	07.11.2018	18.09.2018	04.10.2018	07.11.2018
Breitlahnalm/Schranke zu Schwarzensee	06.09.2018	04.10.2018	04.10.2018		
Summer 2019					
where?	Beginning	End	1st screening	2nd screening	3rd screening
Breitlahn Schranken	11.07.2019		08.08.2019	02.10.2019	
St. Nikolai	03.07.2019		06.08.2019	13.09.2019	
Tuchmoaralm	04.07.2019	18.Sep	08.08.2019	19.09.2019	
Kaltenbachalm	03.07.2019		06.08.2019	13.09.2019	

Figure 4: overview time periods of visitor counters

3.4. Implemented managerial activities

As the property is privately owned, the permission of the respective landowner was obtained for the installation of the counters. This was positive in any case.

3.5. Education on the use of equipment

No operator training was necessary. However, it was helpful to read the description for commissioning the counters. The program for the evaluations is self-explanatory. The acting persons know about the functionality of the counter and the program.

3.6. Monitoring system tourist information campaign

Due to the fact that the counters were very inconspicuous and installed in such a way that they fit into the natural environment, an additional explanation of the counters was not necessary. In addition, this part of the monitoring action was more intended for internal purposes, from which measures to control visitor streams were derived.

Nevertheless, the counters were equipped with the CEETO logo, which was placed visibly on the boxes. The measures such as the Ski Tour Folder were also marked with the CEETO logo, so that it can be seen in what context (sustainable tourism) this is.

3.7. Expected results

At the moment the data were collected and entered into Excel tables, which have to be prepared for a more detailed overview.

In the counting phases the records of the counters are complete, i.e. a lot of data is expected. The data is helpful in determining how many people use the hiking trails in the nature park and how they can be



controlled. This means that visitors can be guided by suggestions, correctly advertised paths and, above all, clearly marked paths. But also quiet zones for wild animals can be designated and communicated accordingly.

The data should enable a status quo analysis of summer and winter use. From this, future management strategies will be derived. Seasonal rest periods should be maintained as rest periods. Tourism activities should be limited to individual months in summer and winter.

The pilot action is used to determine the status quo and will be evaluated at the end of the five years and also in between as short term measures. The status quo can be used as base of a target-performance comparison. As short-term goals, small measures can be set that allow better control of tourists. Put differently, the ski tour folder, which was redesigned in winter 2018/2019, is already a result of the previous status quo analysis and contains as a result already changes of the routes and extensions of the rest zones as well as informative contents about the habitats of the animals on site.

3.8. Use of Collected data

The evaluations take place regularly within the counting phases. A large and general analysis of the data will take place in winter 2019/2020, which will serve as a basis for further action.

3.9. Monitoring Workplan Final Version (TimeLine)

Tasks	2018						2019											
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Monitoring and Management Plan (pilot action)																		
Screening of visitor counters and wildlife monitoring																		
Data analysis regularly																		
Data analysis and evaluation																		
Ski tour tourism booklet and establish locally status quo																		
Summit books data acquirement																		

	finished
	work in progress

Figure 5: timing of monitoring activities

4. Data Collection and Analysis

4.1. Pre-Management (baseline) Collected Data

The nature park participates in the 2018 newly created project "Regional.Netz.Natur". This project aims to bring together all stakeholders involved in the use of nature. A superior network for the entire region has been established. On the one hand, this should provide a platform for the exchange of opinions and information, and on the other hand, it should provide a basis (figures, facts, data) that is recognised by

everyone for various visitor guidance projects. Within the framework of this project, wildlife habitats of sensitive game species were modelled. With the participation of wildlife biologists from the nature park, potential winter habitats of chamois were modelled, for example, on the basis of presence data in winter. These can be made available as a decision basis for quiet zones. The nature park will use these data in the planning of zoning within the framework of the five-year management plans.

In addition, the locations of deer feedings and official wildlife rest zones were located in the nature park. These are included in the zoning and were already taken into account during winter management.

Data basis: Styria-wide data on vegetation, exposure, orography, elevation model, rock cover, etc.

For example, for ptarmigan the elevation model, the land cover and the distance to forest explain 84% of its occurrence probability.

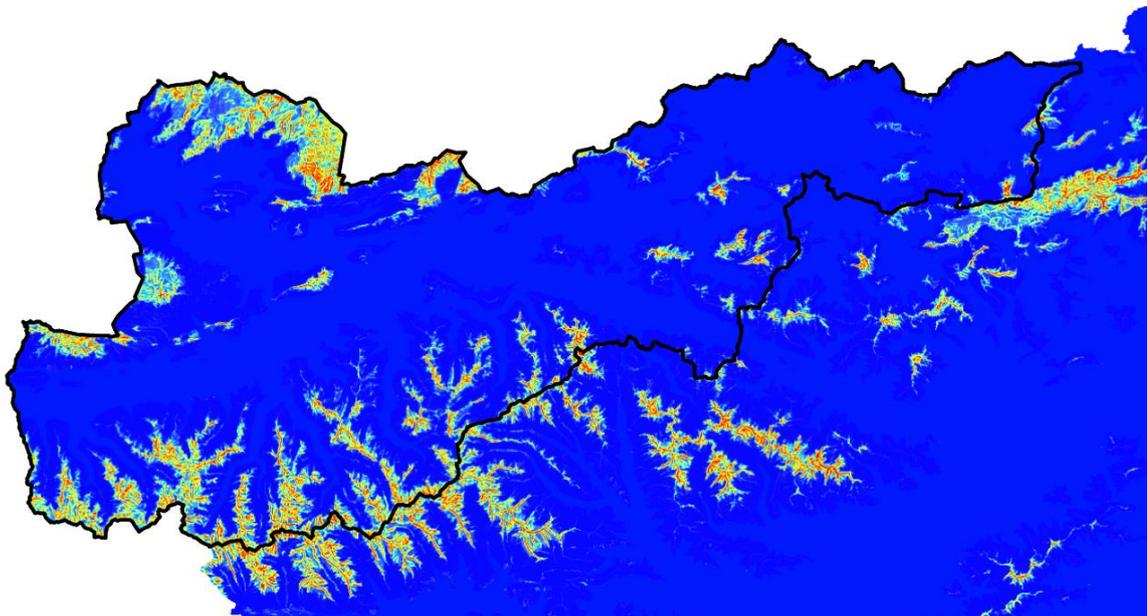


Figure 6: Potential rock ptarmigan habitats in the region

Figure 7 shows rock ptarmigan habitats and correlation with recreation areas of our ski tour management plan. The rock ptarmigan model was generated as part of the "Regional.Netz.Natur" project.

The greener the places are (Figure 7), the higher is the potential of rock ptarmigan occurrence (representation of a suitable habitat). As an example the ski routes to the Kammkarlspitz and Schafdach were chosen in Figure 8, which contains a possible (very probable) habitat of rock ptarmigan, which is clearly marked in green in Figure 7. The arrow connects the two images in order to be able to identify the area in which the sections are located.

Figure 7: potential of rock ptarmigan in the nature park

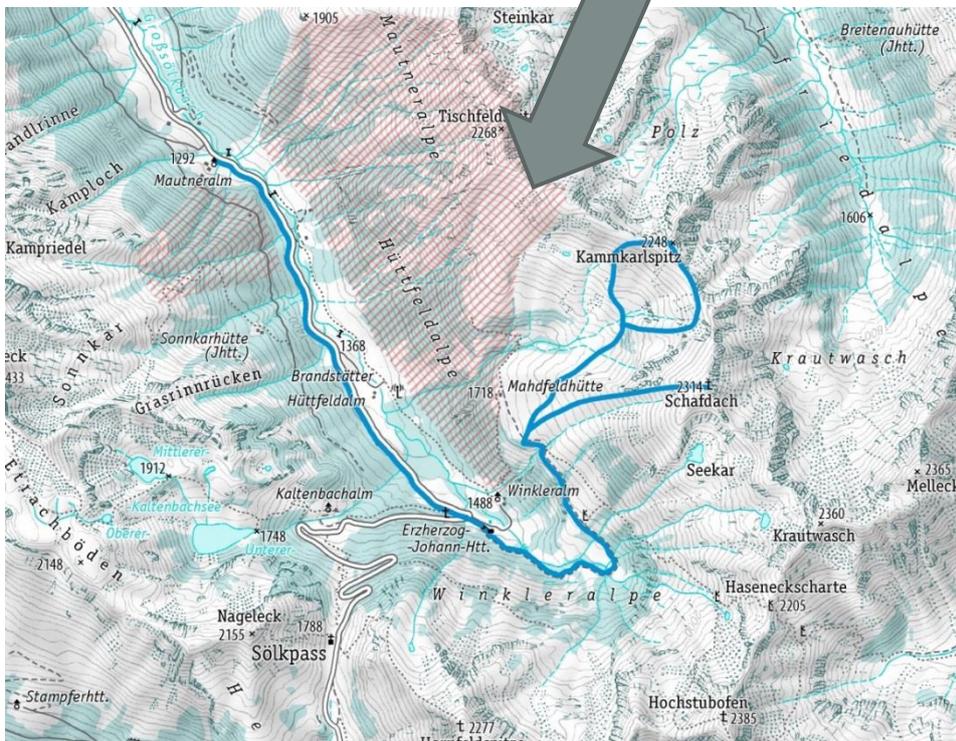
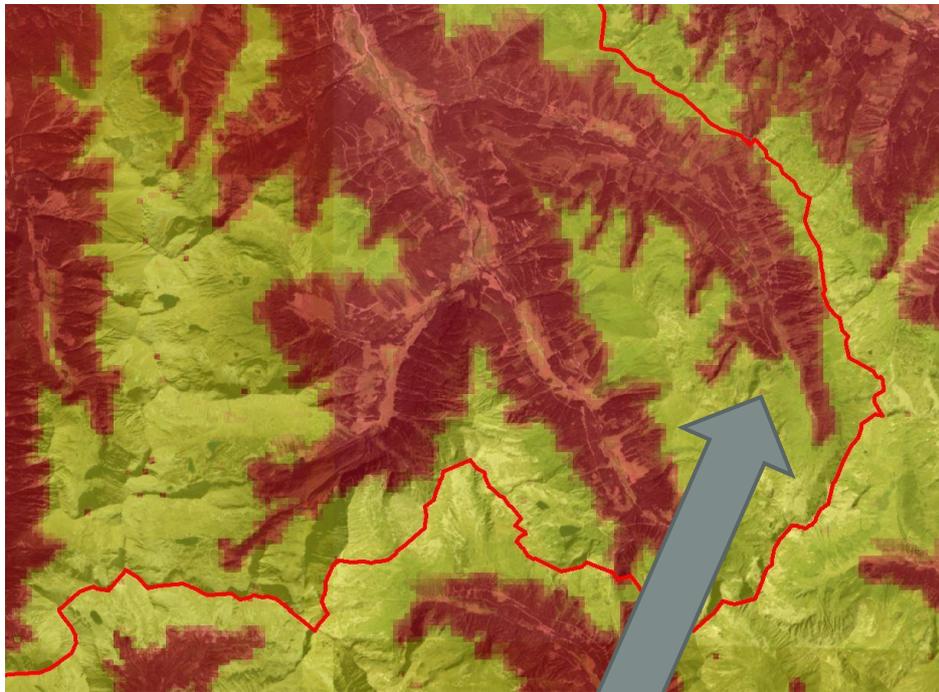


Figure 8: Ski touring booklet: Particularly important chamois winter restings are declared as a quiet zone



4.2. Sin-Post Managing Collected Data

Figure 8 shows a clearly marked rest zone as a management measure, as well as the route of the ski tour, which was marked with signs as a further steering measure.

The evaluation of the summit books allows a distinction to be made between summer and winter ascents. From this, seasonally less touristically used regions within the nature park can be determined and, as a preventive measure, maintained as quiet zones and marked accordingly. As an example, the Gumpeneck serves as an "all-season mountain", as can be seen in Figure 9 (the green marked spaces are frequented days with visitors).

Gumpeneck (2226m)

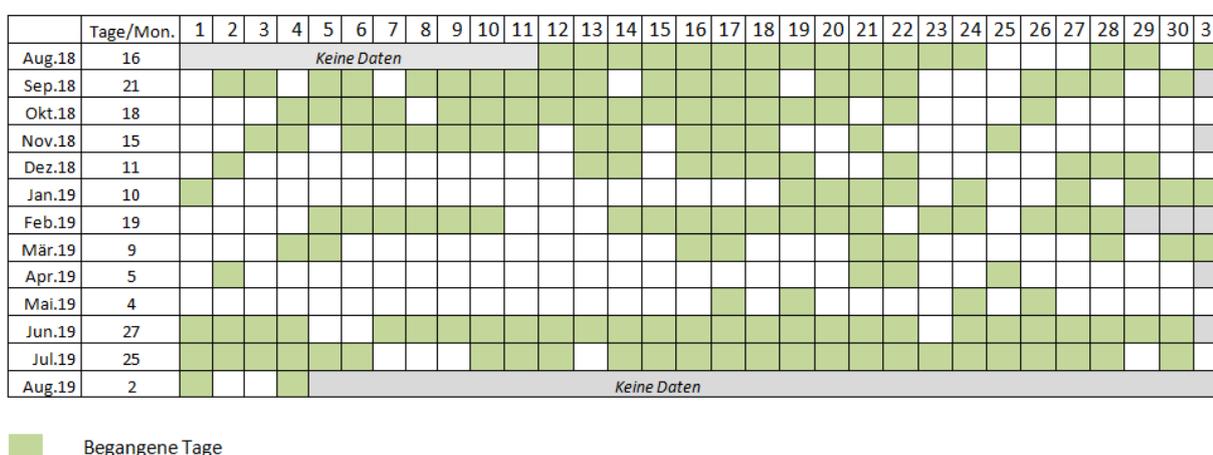


Figure 9: Gumpeneck summit book evaluation

4.3. Deviations

The snow masses in winter 2018/2019 prevented the monitoring in the way the nature park wanted to carry it out. As a result, it could not be done until much later and therefore deviations from the real number could be found.

Furthermore, there is a dark figure for the light barriers, as it is not possible to distinguish between two people walking next to each other. This is counted as one person. This is especially the case with wider paths, as it is with St. Nikolai, Tuchmoar and Breitlahn. Only at the way to the Deneck the way is narrow, so that the visitors have to walk one behind the other. This has to be taken into account that a certain percentage has to be added to the data obtained.

There is also a dark figure in the summit books, which is not always entered in the book (only the entries were counted). The assumption is that the dark figure is slightly higher in summer than in winter.



5. Use of monitoring data analysis

5.1. Use of the data in the Pilot Action(s)

Complete database, in .xls format, of the results of the surveys carried out with electronic and commentary on the main spatial evidences and complete database, in .xls format, of the results carried out with the summit books and commentary on the main temporal and spatial evidences.

5.2. Use of the data in the Action Plan Implementation

monitoring tools for tourists, skiers, bird population for achieving the goals of sustainable tourism in the protected area with the main aim to keep and steer them in the right trails and routes. The monitoring results are used to assess whether the defined objectives have been achieved or whether any necessary corrective action needs to be taken. From now on until March 2020 five to seven local stakeholders (e.g. huts, landowners) will be involved in the implantation of the project (pilot actions). However, it can be said in advance that the main objective of the pilot actions is to reduce the impact of human activity on wildlife, their habitats and the environment. In general, the results of the entire data (quantitative from visitor countings, bird population; qualitative from questionnaires) are interpreted and serve as basis for the target-performance comparison of the five year strategy.

The data are used as statistics and serve as a basis for control and steering measures for visitors to the nature park.