

Visitor nodes: A customizable instrument in visitor management

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Abstract

Today, enjoying nature is one of the main reasons for recreation. Especially, protected areas attract visitors. Within visitor management, infrastructure plays an important role. To efficiently use infrastructure for its issues there is a need in data. This demands concepts to support data collection, management, analyses and visualisation. One approach is the concept of visitor nodes. Visitor nodes are characterized and classified into different categories by their infrastructural supply and recreational activities. With the use of databases, statistics and GIS special aspects like *family-friendliness* can be analysed. Thereby, visitor nodes can be used as a customizable instrument in visitor management. This is shown by the example of Berchtesgaden National Park.

Keywords

visitor management, recreation, infrastructure, visitor nodes, GIS, data management

Background & Aims

In recent years, recreation changed remarkably. Today, to visit and enjoy nature are main motives (OPACHOWSKI 2005; WAGES, MCCOLL & HAYNES 2002). Thus, nature-based recreation shows growth potential: A rising number of persons with changing demands and behaviour perform an increasing number of activities in nature. Protected area management and visitor management are confronted with the complex task of balancing ecological and social benefits and disadvantages that visitors cause (NEWSOME, MOORE & DOWLING 2004). Here, infrastructure is one instrument: Infrastructure can be used to guide and to manage visitors in an area because it enables access to the area, facilitates visitor activities and meets visitor expectations on information, orientation and nature experience. However, to be used in visitor management a detailed survey of infrastructure is needed (WORBOYS, LOCKWOOD & DE LACY 2005). For several reasons (multitude of different elements, large size of protected areas etc.) infrastructural data shows deficits (availability, completeness etc.). An approach how information on recreational infrastructure can be made available to visitor management is necessary. This must occur in a structured and flexible way to give an overview, to evaluate and to deduce measures on infrastructure. Thus, the concept of visitor nodes is applied exemplary at Berchtesgaden National Park.

Visitor Nodes

The concept originates from Australian national parks. Visitor nodes are defined as areas of spectacular beauty, general interest, educational signage or unique settings. They provide an adequate infrastructural supply (benches, picnic tables, signs, information shelters, environmental education elements etc.) depending on visitor numbers, visitor activities and management objectives (LOCKWOOD, WORBOYS & KOTHARI 2006; PFEIFER, HENNIG & OPP 2008). Visitor nodes are classified in five categories by the recreational activities which take place there (see fig. 1). Each category is described by specific infrastructural elements defining an *infrastructure standard*. In consequence, the infrastructural situation of each visitor node can be compared with the standard of the belonging category. Deficits and satisfying situations can be identified; recommendations can be given. By combining different infrastructural and natural issues it is possible to distinguish and evaluate complex aspects. One example is *family-friendliness*. In the last years, families with children show growing visitor numbers in protected areas. For visitor management they are a main target group as they play an important role for environmental education (BAYStMLU 2001).

Family-friendliness can be defined by e.g. the co-existence of elements for nature access/experience, resting combined with possibilities to play and environmental education. All infrastructures must be adequate for children. This asks for barrier-free equipment – meaning accessibility to sites and suitable infrastructure for e.g. handicapped people, pregnant woman, families with children (ARNADE & HEIDEN 2006).

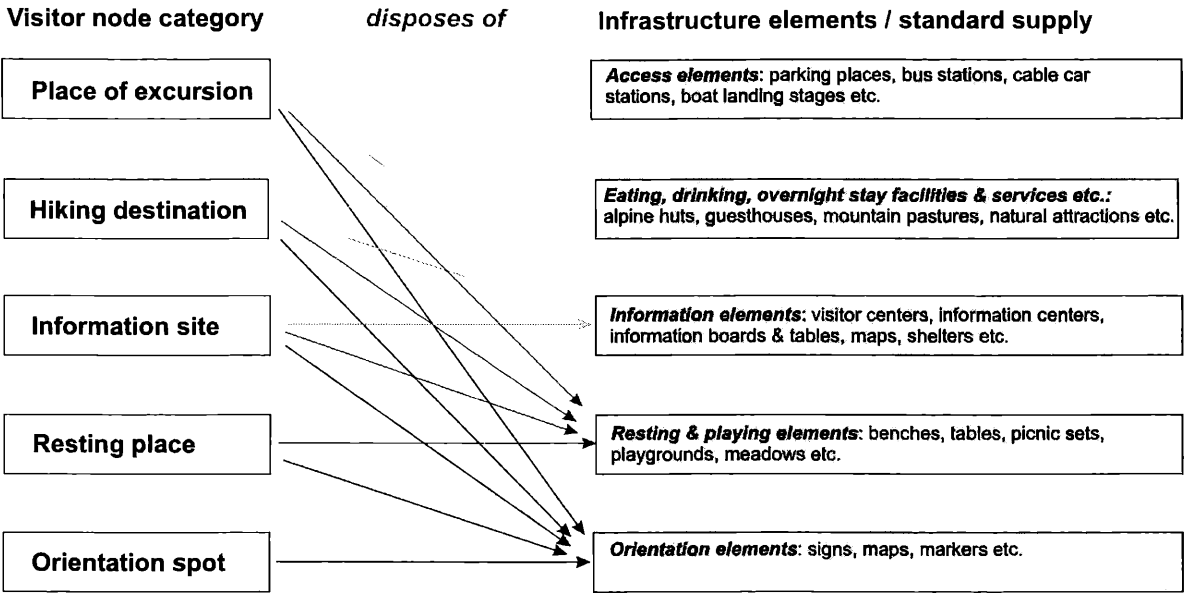


Figure 1: Visitor nodes: categories & infrastructure standard supply

Visitor Management & Visitor Nodes in Berchtesgaden National Park

In Berchtesgaden National Park, the concept of visitor nodes was applied. It is presented by the example of *Lake Königssee* focusing on visitor nodes being *family-friendly*.

Berchtesgaden National Park & Lake Königssee

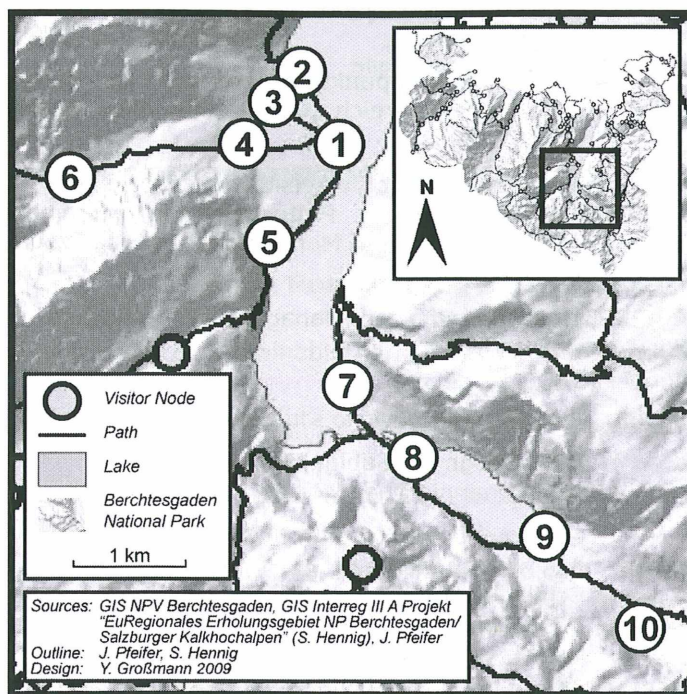
Berchtesgaden National Park is situated in south East Germany, in the Alps. The whole region *Berchtesgadener Land* has a long history of recreation and tourism. Currently, more than 1.3 million people visit the park every year mainly during summer. Most performed recreational activities are walking, hiking and biking. In total the park provides 236 km of official trails, several visitor facilities, six information centres, nine huts, and many resting places. Landscape attractions include viewing points, alpine meadows, wildlife observation points, and lakes (BAYSTMLU 2001; JOB, METZLER & VOGT 2003). One main touristic destination is *Lake Königssee* with *St. Bartholmä* peninsula and *Salet*. Both locations, characterized by spectacular nature scenery and many touristic facilities (restaurants, mountain pastures, fisherman’s hut etc.), can be reached by boat only. These most visited attractions ask for visitor management.

Infrastructural evaluation Lake Königssee

In Berchtesgaden National Park data on 81 visitor nodes were collected. To take stock and characterize them, GPS mapping and a particular survey were used. Other data was added from maps, literature and existing databases. All data was managed in a data model (RDBMS Oracle 10g XE, Oracle Spatial) which then was analysed and visualised using statistics and GIS (PFEIFER 2008). At *St. Bartholomä* (6) peninsula and *Salet* (4) 10 visitor nodes were identified, characterized and categorised (see fig. 2).

Focusing on *family-friendliness* the situation at the visitor nodes (named as VN 1- 10) can be described as follows:

- Nature access & experience:** 9 visitor nodes provide access to water, 7 offer natural playgrounds, and 6 dispose of both natural playgrounds and access to water.
- Resting:** Simple resting elements can be found at 7 visitor nodes. Picnic sets are nowhere available. One typical kid’s playground is located at VN 1. Special possibilities to eat and drink are offered at VN 1, 7, and 9.
- Environmental education:** Environmental education elements can be found at 7 visitor nodes: one national park center (VN 1), one information table at VN 7 and VN 3.
- Barrier-free:** 30% of the visitor nodes are accessible barrier-free: they are reachable by boats. The further infrastructural situation at all visitor nodes does not consider barrier-free aspects.



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| ① Chapel St. Bartholomä: place of excursion
nature access/ experience: ● resting elements: ●
environmental education: ● barriere-free: ○ |
| ② Promenade Lake Königssee: resting place
nature access/ experience: ● resting elements: ○
environmental education: ○ barriere-free: ○ |
| ③ Avalanche: information point
nature access/ experience: ○ resting elements: ○
environmental education: ○ barriere-free: ○ |
| ④ Chapel St. Peter & Paul: resting place
nature access/ experience: ● resting elements: ●
environmental education: ○ barriere-free: ○ |
| ⑤ Shoreline St. Bartholomä: resting place
nature access/ experience: ● resting elements: ○
environmental education: ○ barriere-free: ○ |
| ⑥ Ice Chapel: resting place
nature access/ experience: ● resting elements: ●
environmental education: ○ barriere-free: ○ |
| ⑦ Mountain Pastures Salet: place of excursion
nature access/ experience: ● resting elements: ●
environmental education: ○ barriere-free: ● |
| ⑧ Viewing Point Obersee: resting place
nature access/ experience: ● resting elements: ●
environmental education: ○ barriere-free: ○ |
| ⑨ Mountain Pastures Fischunkel: hiking destination
nature access/ experience: ○ resting elements: ●
environmental education: ○ barriere-free: ○ |
| ⑩ Top of the Valley Königssee: resting place
nature access/ experience: ● resting elements: ○
environmental education: ○ barriere-free: ○ |
- ideal ● satisfactory ○ room for improvement

Figure 2: Visitor nodes at St. Bartholomä peninsula & Salet

In conclusion St. Bartholomä peninsula and Salet show high potential on *family-friendliness* aspects by their natural conditions. However, to meet the existing opportunities of nature experience and nature access, the infrastructural situation should be improved. Visitor nodes should provide multisensory and interactive elements for environmental education. Concerning the defined standard, all visitor nodes should offer simple resting elements; *places of excursion* (VN 1, VN 7) should dispose picnic sets. According the barrier-free aspects the entire situation has to be enhanced. More suitable infrastructure in *size, design* and *performance* must be available.

Outlook

For Berchtesgaden National Park, the concept of visitor nodes has been proven useful. Deficits can be found and adequate measures set up. Visitor nodes categorization and the consideration of infrastructure and attributes enable accessing and analysing data in a flexible and well organized way. With data management they are a customizable instrument in visitor management. Data is accessible for adaptation to different management aspects. Regular updating must be carried out to keep the data valid. Monitoring, as a part of visitor management (ARNBERGER 2007), is required for visitor nodes.

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