**Socio-economic monitoring** as basis for the development of a transboundary visitor management concept and fostering of regional economic activities

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11.6.2015

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**Counted – Asked – Observed:**

**On the Track of National Park Visitors**

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**Socio-economic questions**

- Effects of the interactions humans – nature
- Effects of the interactions protected area – local actors
- Valorisation of ecosystem services

"A comprehensive monitoring has to integrate conservation, economic and socio-cultural aspects into the landscape-ecological context." (Kowatsch et al., 2011)

"The major issue, however, is how to manage this use effectively in ways that protect park, provide for satisfactory visitor experiences, and create a constituency of supporters for parks." (Dunbar and Rollins, 2009)

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**Visitor data as a planning guide**

The survey of visitor numbers and their characteristics is necessary for a sustainable and professional management of protected areas.

- Visitor monitoring
  - how much – how often – where – when – why -
- Evaluating visitor facilities
- Evaluating communication
- Surveying regional economic effects

- Designed as long-term monitoring
  - small steps and components allow for periodic repetition of surveys

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**Why visitor monitoring?**

"Collecting recreation management data is costly, and the benefits of better information must be compared to these costs" (Herfindahl, 1969)

"Poor decisions based on inadequate information also can be costly and can result in irreversible damage". (Lucas, 1990)
Visitor monitoring as basis for planning and management

Visitor data as planning guide

The survey of visitor numbers and their characteristics is necessary for a sustainable and professional management of protection areas.

- Provision and allocation of recreational infrastructure and services
- Identification of specific problem areas and utilisations
- Minimization of conflicts between user groups and nature conservation
- Demonstrating visitor benefits: recreation experience, health...
- Development of marketing strategies
- Identification of trends in demand

Visitor monitoring is about partnerships

Visitor/socioeconomic monitoring in the Bavarian Forest National Park

Visitor/socioeconomic monitoring in the Bavarian Forest National Park

Year-round counting

Visitor counting

Visitor surveys

Counting at selected days

Visitor structure
Spatial behaviour
Visitor satisfaction
Recreation experience
Landscape preferences

How many
where
when
what
why?

adapted from Terry C. Daniel 2002
Visitor/socioeconomic monitoring in the Bavarian Forest National Park

**Visitor counting:** more than 100 access points!

Year-round counting  
Counting at selected days

Visitor numbers over time

Automatic Counters

Visitor counting from April 2013 - April 2014
- Usage of counting devices that allow a long-term registration of visitor numbers and structures
  - 15 different counters
    - Passive infrared („thermal”) sensors
    - Pressure mats (for walkers)
    - Pneumatic tubes (for bicyclists)
    - Inductive loop (for bicyclists)

Installation of the counting devices

Questionnaires – Basic survey

4 different questionnaires: locals/tourists and winter/summer

Surveys on 12 days

Route Analysis

Survey of routes
- time/day
- pathway
- activity
- stops

Results of the survey

- 355 „locals“ (about 1/3)
  - district Freyung-Grafenau (66%)
  - district Regen (34%)
- 627 tourists
  - Single-day guests (22%)
  - Over night staying guests (78%)
- Activity-types: 89% walker, 6% bicyclists, others: joggers, nordic walkers...
Results of the survey - Origin of the tourists

Day tourists

Overnight tourists

Results of the survey

Visitor structure

- Sex: 61 % male
- Group size: $\varnothing$ 2.4 visitors
- 14 % with children
- Arrival: 74 % by car, 18 % by foot, 8 % by public transport; others: by bike, ...
- 13 % first time visitors

Frequency of visits

- Locals and single day visitors: $\varnothing$ 95 times during the last year
- Overnight visitors: $\varnothing$ 16 times

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Visitor satisfaction

- How satisfied are you...
- Answer scale: 1 = highly satisfied, 5 = highly dissatisfied

- mean

1.4
1.5
1.6
1.7
2.0
2.1

1..very satisfied
5..not satisfied

Results of the survey

What visitors liked

I liked ....

<table>
<thead>
<tr>
<th>Liked</th>
<th>Number of mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature, naturality, virginity, wood, primeval forest, landscape, „let nature be nature“, nature-experience, mountains (Rachel, Lusen), wilderness, moss, vegetation...</td>
<td>670</td>
</tr>
<tr>
<td>Quietness, not overcrowded, relaxation, recreation, lonesome...</td>
<td>230</td>
</tr>
<tr>
<td>Hiking/trails, bicycle trails, path-network...</td>
<td>150</td>
</tr>
<tr>
<td>(good) sights, information sights, information facilities...</td>
<td>135</td>
</tr>
<tr>
<td>Animals, fenced animal areas, watch animals...</td>
<td>130</td>
</tr>
<tr>
<td>Infrastructure for visitors, visitor center, attractions (Baumwipfelpfad,..) ...</td>
<td>53</td>
</tr>
</tbody>
</table>

*Multiple answers possible

Results of the survey

What visitors did not like

I disliked ...

<table>
<thead>
<tr>
<th>Disliked</th>
<th>Number of mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dead wood; bark beetle...</td>
<td>68</td>
</tr>
<tr>
<td>Use of designated trails, access limitations, prohibitions, restrictions for bikers...</td>
<td>52</td>
</tr>
<tr>
<td>Improvement of the signs/wrong signs, to little information/cards, more information at the signs...</td>
<td>29</td>
</tr>
<tr>
<td>Missing sitting possibilities, missing waste baskets...</td>
<td>28</td>
</tr>
<tr>
<td>Waste, missing forestry management, bad condition of trails...</td>
<td>28</td>
</tr>
<tr>
<td>Too many visitors, too many tourists...</td>
<td>26</td>
</tr>
</tbody>
</table>

* there were 3 times more positive than negative statements

Results of the survey

Visitor satisfaction

… with the Bavarian Forest National Park as a recreation area?
… with the information boards in the national park?
… with the road signposts in the national park?
… with the quality of visitor centres in the national park?
… with the condition of trails in the national park?
… with the nature conservation management in the national park?
… with the quality of sanitary installations in the national park?
… with the public transportation in the national park?

1..very satisfied
5..not satisfied

Percentage of tourists who revisit the national park

- 56% of the tourists will revisit the national park within the next 5 years

97% knew that they are in a protected area
- 84% concretely named the label national park
- For ~ 50% the national park label played a very high or a high role for their visit to the national park
- 19% would not be there if the national park would not exist
- For 94% the recreational possibilities are not restricted by the national park, only 1% perceived very strong restrictions
- 96% are very satisfied or satisfied with their visit to the national park on the survey day
- More than 90% stated that the amount of visitor facilities and trails in the national park are ideal. 5% it is „too much“, 5% it is „too little"
- 56% of the tourists will revisit the national park within the next 5 years
Route Analysis – All Visitors

Spatial distribution of visitors (locals and tourists) in the Bavarian Forest National Park

Amount of questioned visitors per road segment

Route Analysis - Locals vs. Tourists

Locals…
- use more different trails than tourists
- have preferred trails (Gfäll, Trinkwassertalsperre, Schwellhäuser)

Tourists…
- visit national park centres more often
- are attracted by highlights (Watzlik-Hain, Seelensteig)

Locals, max. 33 visitors per trail segment, N=319
Tourists, max. 110 visitors per trail segment, N=530

Route Analysis - All Visitors

Results of visitor counting

- Permanent monitoring at 14 sites
- Counting by human observers at 64 sites on 12 days
- Parking tickets at the national park centres

Total number of visits (April 2013 - April 2014): **1.3 m visits**

At the parking lots of the national park centres: **0.4 m visitors**

Permanent monitoring:
- Particularly high visitor numbers: Brechhäuserau, Border Bucina
- Particularly low visitor numbers: Seelensteig, Martinwiese, Grenze Gsengen

⇒ Identification of long-term counting sites

Leaving nature to nature in line with eco-friendly tourism – that is tomorrow’s challenge for the management of protected areas!