

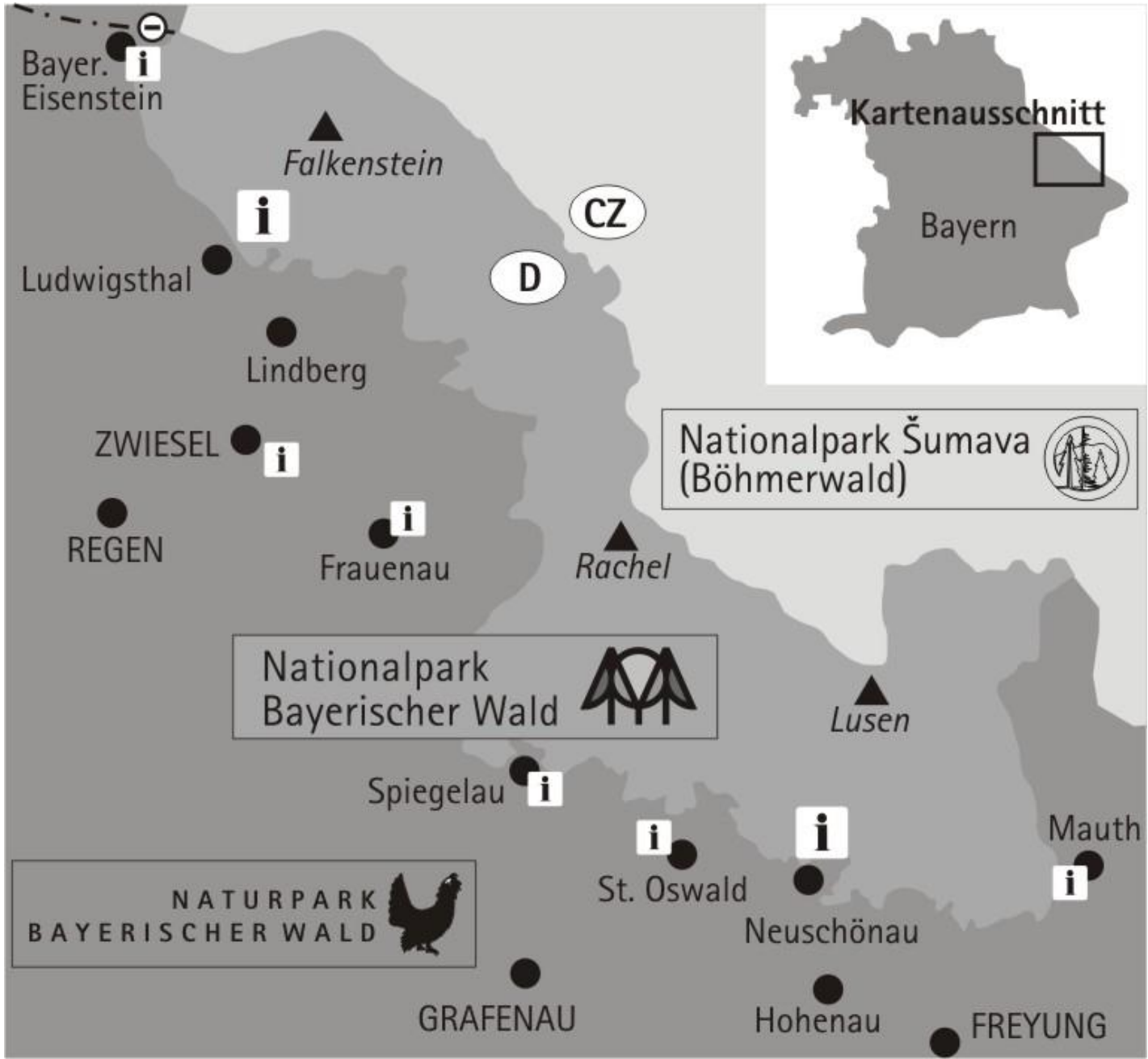


Counted – Asked – Observed: On the Tracks of National Park Visitors

Maria Hußlein, Pisa, May 22, 2015



NATIONALPARK
Bayerischer Wald



| Socio-economic Monitoring

„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.“ (Dearden und Rollins, 2009)

- Visitor monitoring
- Evaluating visitor facilities
- Evaluating communication
- Surveying regional economic effects

First step: visitor data as planning guide

| Schedule for the two first years

November 12	First Workshop
January 13	Draft questionnaire and counting sheet
February 13	Construction of boxes for counting devices
March 13	Second Workshop (Selection of counting and questioning sites)
March 13	Final version of questionnaire and counting sheet, manual for counting devices
November 12 – March 13	Test of automatic counters
Middle of April 13	Placement of automatic counters
End of April / Beginning of May 13	Training of staff, pretest, calibration of counters (3 days)
End of May / Beginning of June 13	Start of questioning and counting by staff
Winter 13	Winter-check of counters; weather-dependent
Spring 14	Spring-check of counters; weather-dependent
May 14	Questioning/Counting first survey completed
June / July 14	Data input
August – December 14	Analysis
October 14	First results
February 15	Total number of visits in one year



| Counted: Automatic Counters

- Visitor counting from April 28, 2013 to May 11, 2014
 - ✓ Usage of counting devices that allow a long-term registration of visitor numbers and structures
- 14 sites, 15 different counters
 - ✓ 10 thermal sensors (for walkers, bicyclists, cross-country skiers etc.)
 - ✓ 2 pressure mats (for walkers)
 - ✓ 2 pressure tubes (for bicyclists)
 - ✓ 1 vibration sensor (for bicyclists)



| Counted: Counting by human observers

Nationalpark Bayerischer Wald: Standort E29 Zwieslerwaldhaus

Arbeiter: _____ Datum: _____ Zeit: _____

Bitte die zweiten 30 min einer Stunde zählen (8:30 bis 9:00, 9:30 bis 10:00 etc., bei schwach frequentierter Stelle die gesamte Stunde zählen); die tatsächliche Uhrzeit aufschreiben (falls die Befragung länger gedauert hat, die Uhrzeit der Stunde einen neuen Zählbogen beginnen)

Eine Zählung aller Besucher (Hinein- und Hinausgehende) war möglich ja nein
 ↪ nur Hineingehende

Wetter: windig windstill kalt warm heiß
 sonnig zeitw. sonnig bewölkt Regen Schnee Regen

Vo Von	KD Anz. Kinder (exkl. Kinder im Kinderwagen)	N Nordic Walker	SO Sonstige Nutzertypen*	LT Lesen Übersichts- od. Orientierungstafeln, 1=ja
Na Nach	KW Kinder im Kinderwagen	R Radfahrer /Mountainbiker	HL Hunde mit Leine	FH Führung 1=ja
	F Fußgänger	E-B Ebike	HoL Hunde ohne Leine	P/L PKW oder LKW (nur im NP auf Forststraßen/ Wanderwegen etc.)
	J Jogger	PH Personen mit Handicap		

Eingetragen wird die **Anzahl** der Nutzer: jede Besuchergruppe wird in eine eigene Zeile eingetragen!
 Kinder: 0-12 Jahre; falls unklar ob Kind/Erwachsener als Erwachsenen eintragen

Vo	Na	KD	KW	F	J	N	R	E-B	PH	SO*	HL	HoL
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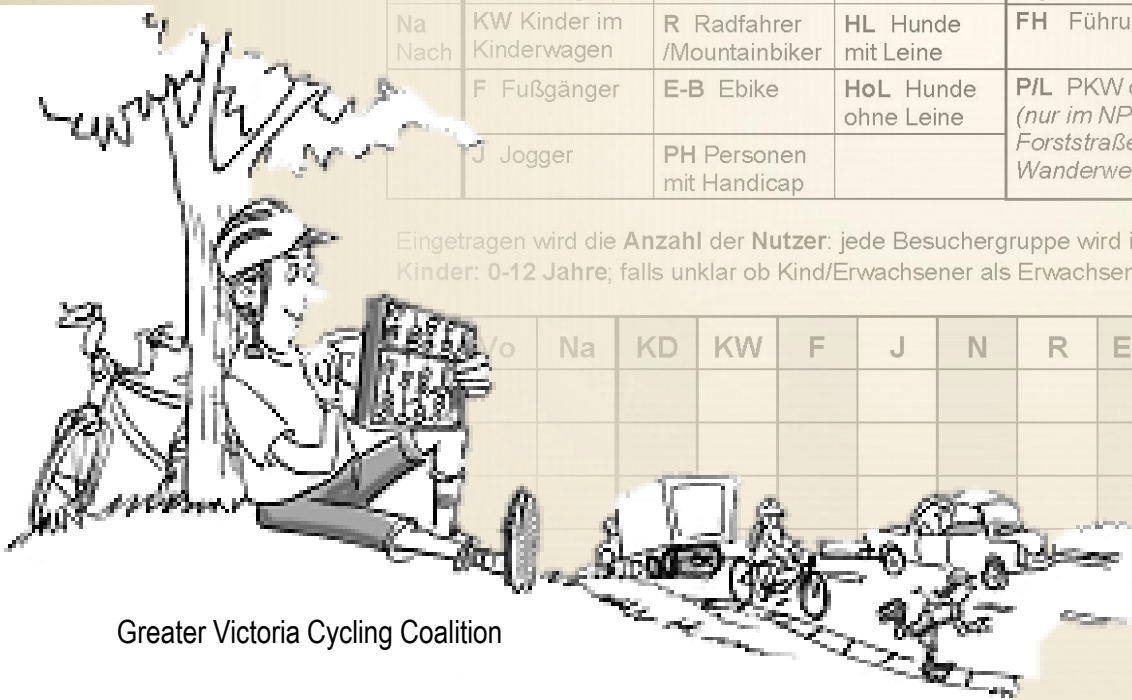
**Urwald
Mittelsteig-
hütte**

1 ← **3**

4 Grenze Nationalpark
Bayerischer Wald

Debrník (CZ)

Ludwigsthal



Greater Victoria Cycling Coalition

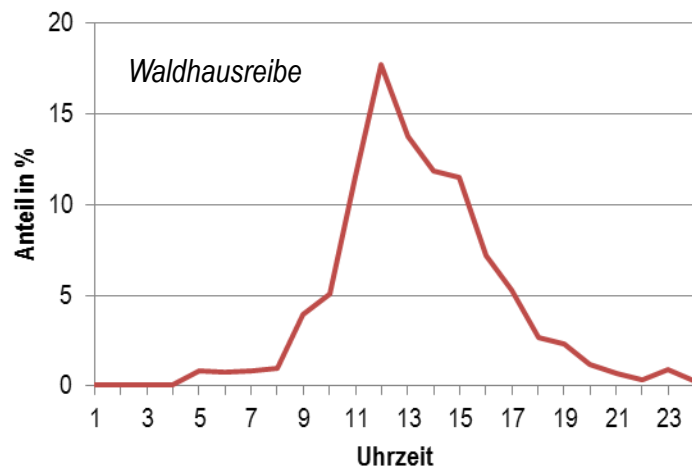
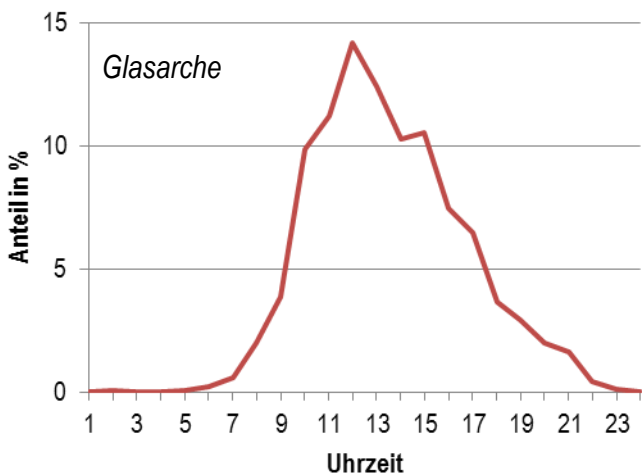
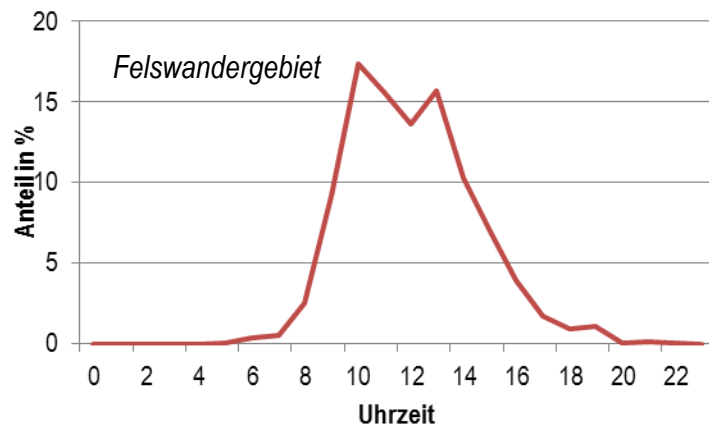
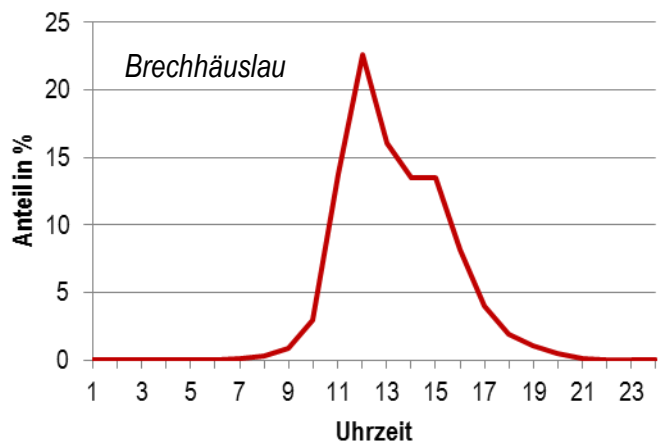
| Counted: Results

- + Permanent monitoring at 14 sites
 - + Counting by human observers at 64 (+32) sites on 12 days
 - + Parking tickets at the national park centres
- = total number of visits (April 2013 - April 2014): 1.3 m
(at the parking lots of the national park centres: 0.4 m visitors)

Permanent monitoring

- Particularly high visitor numbers:
Brechhäuslau, Grenze Bucina
- Particularly low visitor numbers:
Seelensteig, Martinwiese, Grenze Gsenget
- Months with high visitor numbers: July, August

| Average Daily Use Patterns at Selected Sites



| Asked: Basic Survey

**12 days: 6x sundays or holidays
6x working days**

highly frequented sites:

6 days, 2 persons/site

medium frequented sites:

4 days, ½ hour of questioning,
½ hour of counting

lowly frequented sites:

2 days, questioning and counting simultaneously



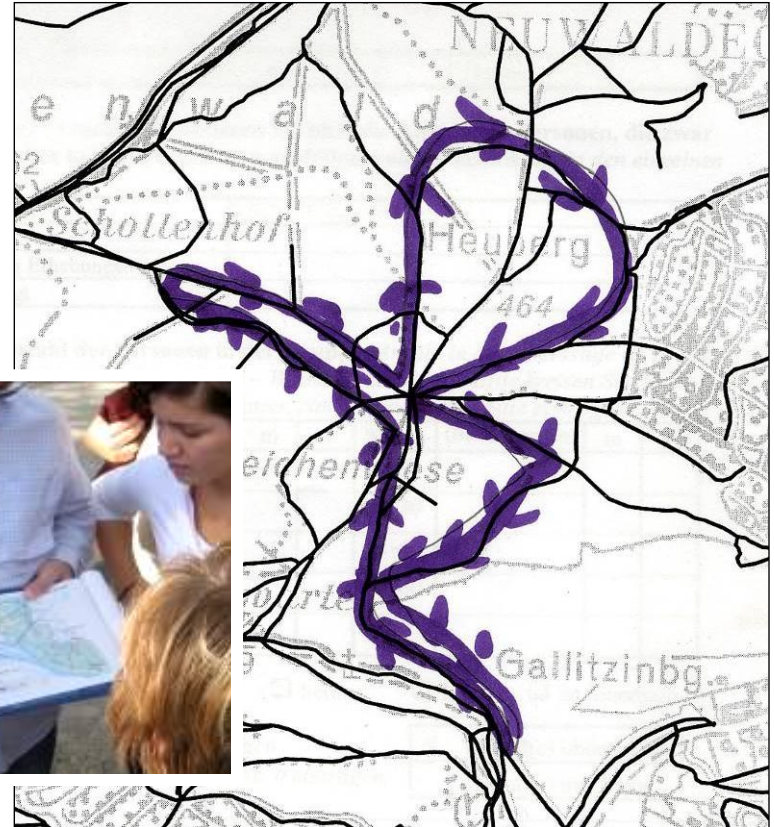
| Asked: Route Analysis

Survey of user data

- origin
- motivation,
- activities etc.

Survey of routes

- time/day
- pathway
- direction etc.

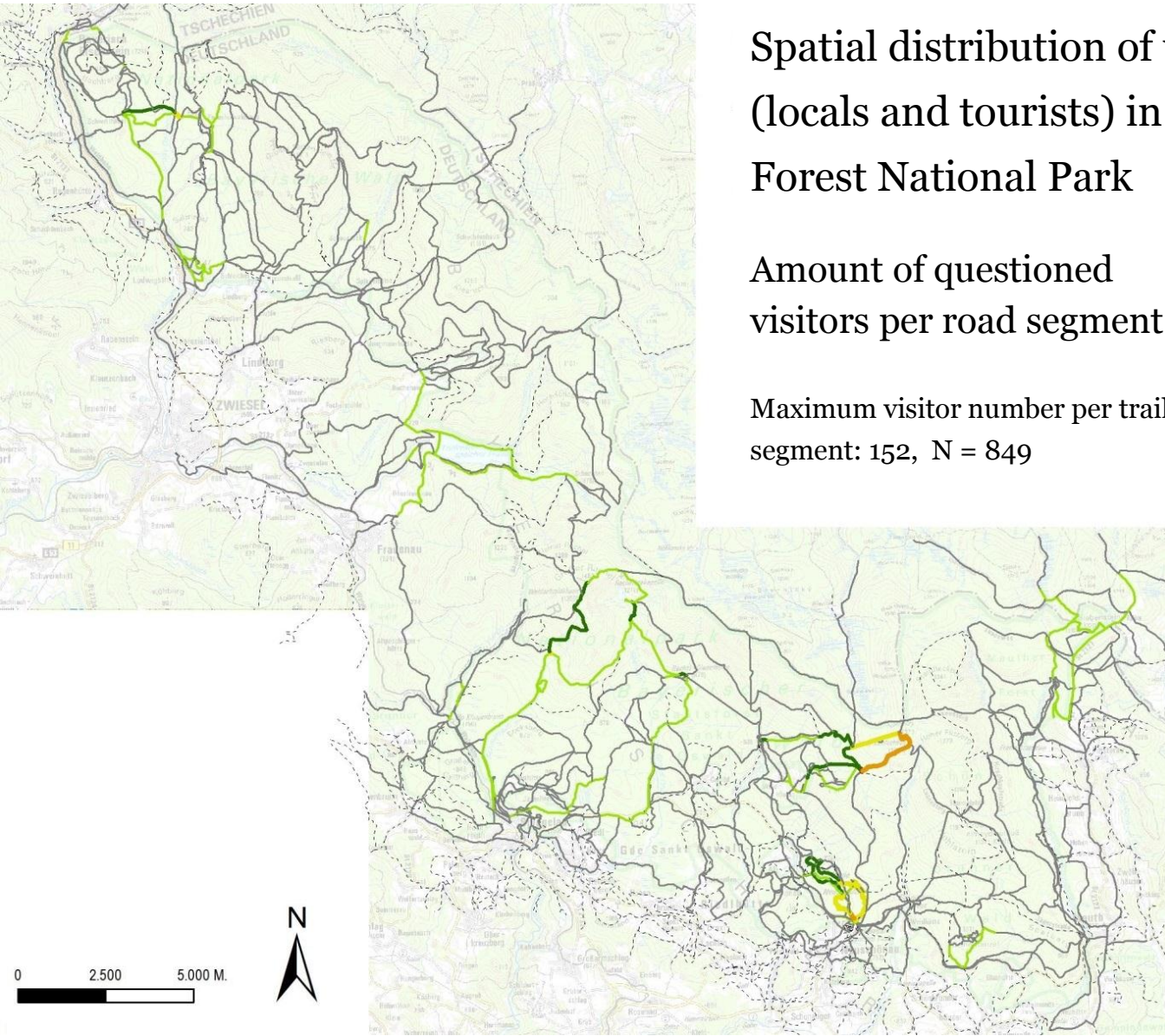
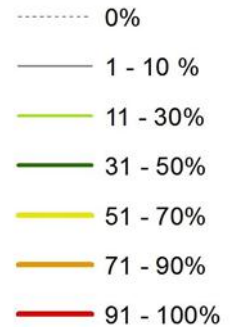


| Asked: Route Analysis – All Visitors

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

Amount of questioned
visitors per road segment

Maximum visitor number per trail
segment: 152, N = 849



| First Results

- 97 % know that they are in a protected area
~ 84 % concretely named the label national park
- For ~ 60 % the national park label played a very high or a high role for their visit to the national park on the survey day
- 22 % 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
- 56 % of the tourists will revisit the national park within the next 5 years

| First Results

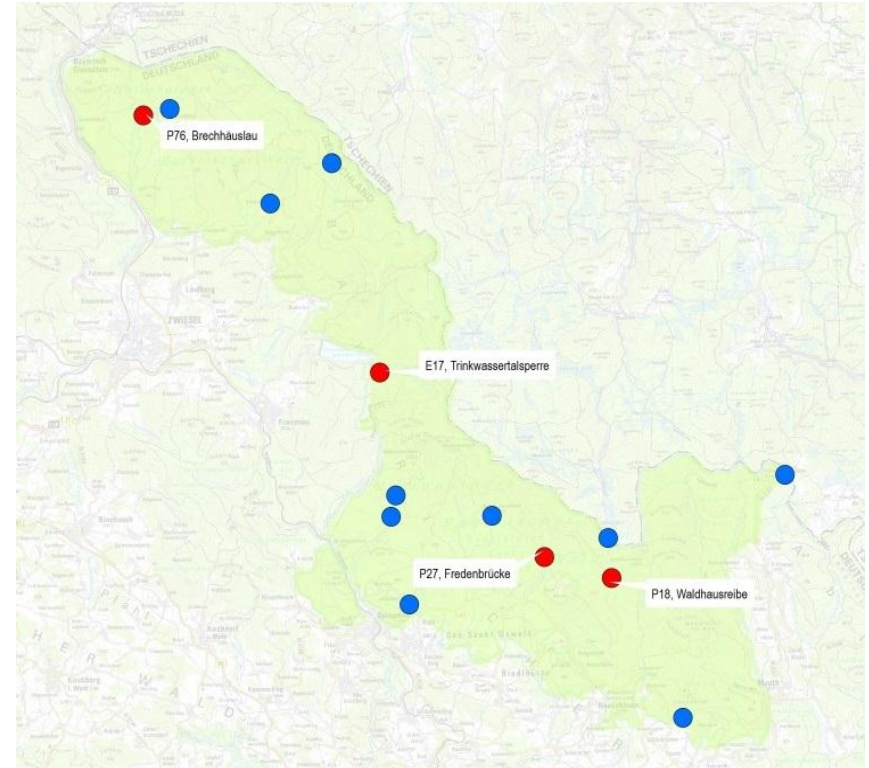
- More than 90 % think that the amount of visitor facilities and trails in the national park are ideal. Of the remaining 10% one half stated it is „too much“, the other half stated it is „too little“.
- 392 visitors especially like the natural conditions of the national park. A lot of people mentioned the terms naturalness, nature, virginity. Also the slogan „leaving nature to nature“ was used a lot.
- About one half of the interviewees stated that there is nothing that they don't like. The most common thing visitors did not like (86 times) was the dead wood and the bark beetle in the park.
- In total, there were 3 times more positive than negative statements.

| Long-term Sites of Visitor Counters

Identification of 4 sites by factor and reliability analyses

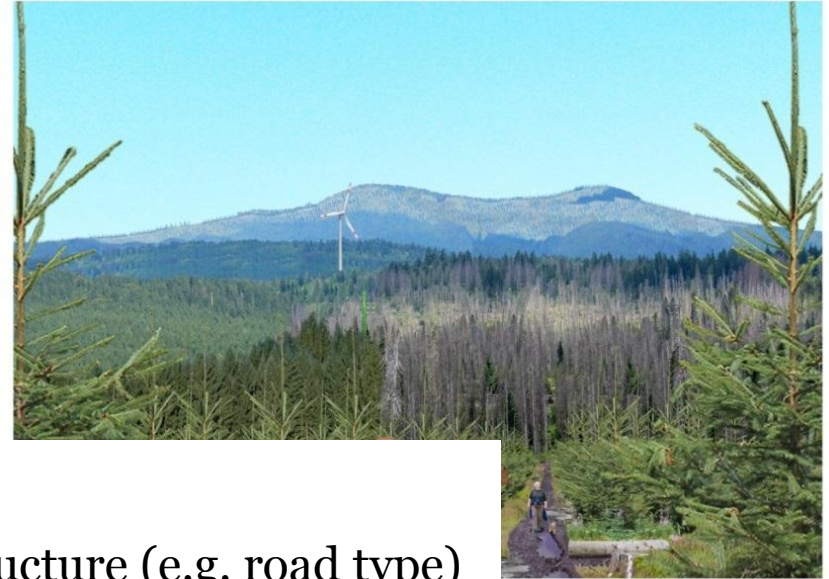
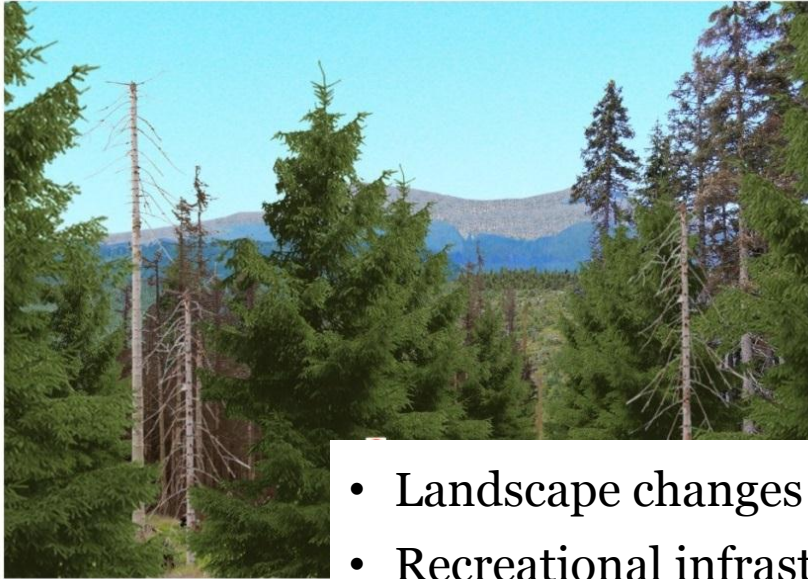
● Long-term sites

- P 27 Fredenbrücke
- P18 Waldhausreihe
- E 17 Trinkwassertalsperre
- P76 Brechhäuslau

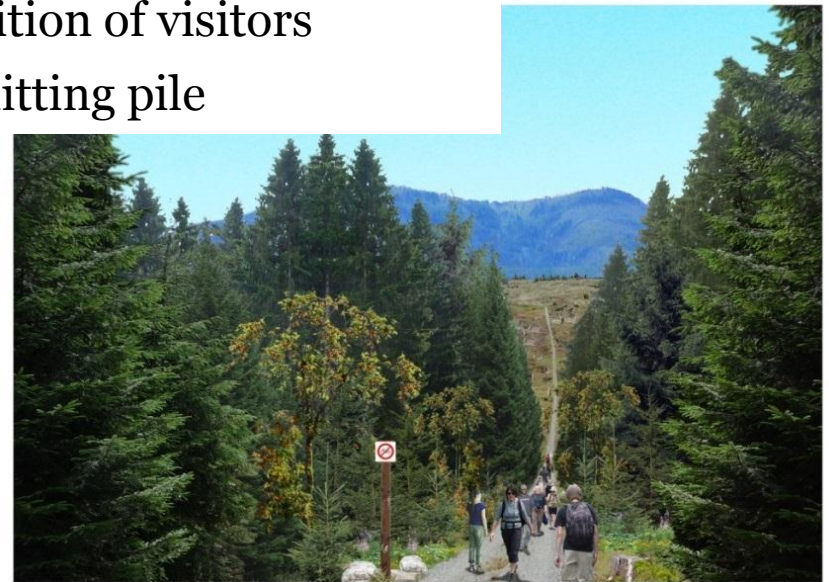
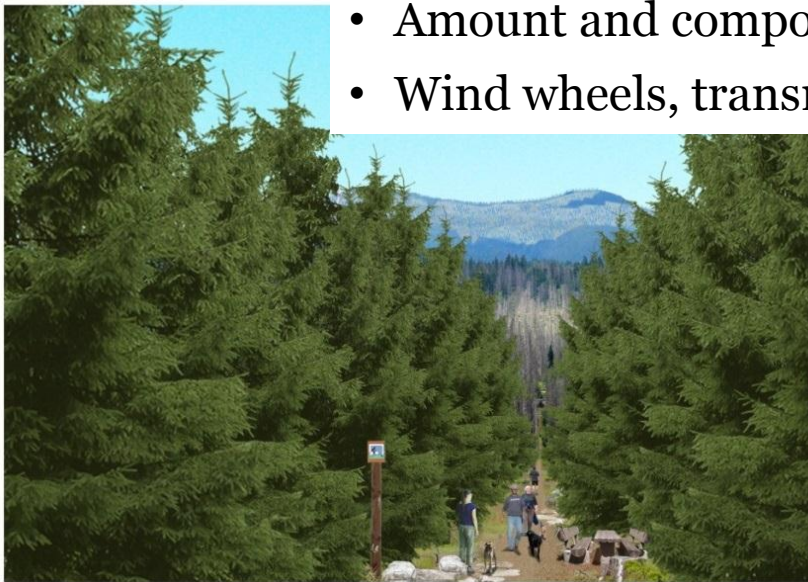


Using the known proportion of the counting data during the observation period 2013/14 the counting values for the other sites can be calculated on the basis of the 4 counters.

| Current Survey– Discrete Choice Model



- Landscape changes
- Recreational infrastructure (e.g. road type)
- Amount and composition of visitors
- Wind wheels, transmitting pile



| Looking ahead

- Component „regional economic effects“:
economic relevance of the national park
referring to the study of Job (2008)
- Component „evaluation of visitor facilities“:
identification of redundant facilities
improved dissemination of the national park idea
- Inclusion in a larger context:
socio-economic monitoring in Šumava National Park
developing a sustainable, cross-border tourism strategy
- ➔ Designed as long-term monitoring:
small steps and components allow for periodic repetition of surveys

Leaving nature to nature
in line with eco-friendly tourism —

that is tomorrow's challenge for the
management of protected areas!



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