International Outdoor Recreation Planning Perspectives:

Benchmarking US, European, Chinese and Brazilian Planning Efforts

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Society of Outdoor Recreation Professionals

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- Ponta Grossa State University

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- Nature and Biodiversity Conservation Union
Differences in Values between US and Austrian Park and Protected Area Managers: A Qualitative Study

Robert Burns, Ph.D.
West Virginia University
Aim of Study

To understand differences in values related to Visitor Management between Austrian and US resource managers:

- Visitor Use Impacts on Natural Resources
- User Conflict
- Management Practices/Methods
Issue at Hand

- There are few research or practical, manager-oriented technical reports or decision-making processes that are international in scope.

(Aikoh, Arnberger, Shoji & Mieno, 2008; Burns & Arnberger, 2007; Arnberger & Burns, 2007; von Ruschkowski, Valdeig, Jakob & Homann, 2008; Griffin, Moore, Darcy & Crilley, 2008)
Austrian Approach

- The European approach relies heavily upon visitor monitoring (Arnberger & Mann, 2008; Fredman & Hoernstein, 2001; Reichhart, Arnberger & Muhar, 2007).

- The notion of crowding is often neglected in much of this effort (Arnberger & Mann; Dehez et al., 2008).
United States Approach

- Most US federal agencies use one of the traditional frameworks designed by US researchers and proven in US parks and forests
  - Recreation Opportunity Spectrum (ROS)
  - Visitor Impact Management (VIM)
  - Limits of Acceptable Change (LAC)
  - Visitor Experience and Resource Protection (VERP)

(Graefe, Kuss & Vaske, 1990; Manning, 1999; Manning, 2007; National Park Service, 1997; Stankey et al., 1985; Zarnoch, English & Kocis, 2005).
Ten managers from US and six from Austria
- Panel of experts for Delphi study
- Identified by Primary Investigators
- Two rounds of interviews in order to identify similarities and differences
- Survey instrument created in English and translated into German
- Series of open-ended questions
- Surveys were sent to the participants via email attachment
- Data were translated back into English
- Qualitative analysis of results
# Geographic Breakdown

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia River Gorge NSA</td>
<td>Biosphere Reserve Wienerwald</td>
</tr>
<tr>
<td>Deschutes - Ochoco NF</td>
<td>Dürrnstein Wildnisgebiet</td>
</tr>
<tr>
<td>GMUG National Forests</td>
<td>Lechtal Naturpark – Natura2000</td>
</tr>
<tr>
<td>Monongahela NF</td>
<td>Donau-Auen</td>
</tr>
<tr>
<td>Mount Baker - Snoqualmie NF</td>
<td>Gesäuse (Styria)</td>
</tr>
<tr>
<td>Mount Hood NF</td>
<td>Hohe Tauern</td>
</tr>
<tr>
<td>Olympic NF</td>
<td>Neusiedler</td>
</tr>
<tr>
<td>Rogue River - Siskiyou NF</td>
<td>Thayatal</td>
</tr>
<tr>
<td>Siuslaw NF</td>
<td></td>
</tr>
<tr>
<td>Umatilla NF</td>
<td></td>
</tr>
<tr>
<td>Wallowa – Whitman NF</td>
<td></td>
</tr>
<tr>
<td>Willamette NF</td>
<td></td>
</tr>
</tbody>
</table>
Understanding Recreational Visitor Use

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>13,000—4 million per year</td>
<td>Unknown (less than 1 million)</td>
</tr>
<tr>
<td>Slight increase in visitation</td>
<td>Slight increase in visitation</td>
</tr>
<tr>
<td>Population/economy trends</td>
<td>Estimate/observation</td>
</tr>
</tbody>
</table>
**Recreation Use Activities**

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiking/walking</td>
<td>Hiking/walking</td>
</tr>
<tr>
<td>View natural scenery</td>
<td>Cycling</td>
</tr>
<tr>
<td>Camping, Fishing</td>
<td>Fishing</td>
</tr>
<tr>
<td>Off-highway vehicles</td>
<td>Nordic skiing</td>
</tr>
<tr>
<td>Snow-board/skiing</td>
<td>Family fun (picnicking, etc.)</td>
</tr>
<tr>
<td>Family fun (picnicking, etc.)</td>
<td>View natural features</td>
</tr>
<tr>
<td>Cycling</td>
<td>Camping</td>
</tr>
<tr>
<td>Scenic Byways</td>
<td>Off-highway vehicles</td>
</tr>
</tbody>
</table>
## Perceived Activities Causing Impacts

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiking</td>
<td>Hiking</td>
</tr>
<tr>
<td>Boating</td>
<td>Fishing</td>
</tr>
<tr>
<td>Off-highway vehicles</td>
<td>Agriculture use</td>
</tr>
<tr>
<td>Camping</td>
<td>Boating</td>
</tr>
</tbody>
</table>
## Perceived Visitor Use Impacts

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation loss</td>
<td>Wildlife disturbance</td>
</tr>
<tr>
<td>Riparian loss</td>
<td>Birding habitat disturbance</td>
</tr>
<tr>
<td>Soil compaction/erosion</td>
<td>Vegetation loss</td>
</tr>
<tr>
<td>Water quality degraded</td>
<td>Soil compaction/erosion</td>
</tr>
</tbody>
</table>
## Mitigating Visitor Use Impacts

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inform/educate in advance</td>
<td>Enforce existing management plan</td>
</tr>
<tr>
<td>On-site ranger education</td>
<td>On-site ranger education</td>
</tr>
<tr>
<td>Monitor conditions</td>
<td>Monitor conditions</td>
</tr>
<tr>
<td>Permits/licensing</td>
<td>Control access to riparian areas</td>
</tr>
</tbody>
</table>

Most feel their visitors are very satisfied with these mitigation efforts.
## Conflict

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most visitors experience conflict</td>
<td>Few visitors experience conflict</td>
</tr>
<tr>
<td>River/riverbank</td>
<td>River/riverbank</td>
</tr>
<tr>
<td>Access roads/highways</td>
<td></td>
</tr>
<tr>
<td>Peak use times</td>
<td></td>
</tr>
</tbody>
</table>
## Visitor Use Regulation

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>All US have federal regulations</td>
<td>Most have federal regulations</td>
</tr>
<tr>
<td>Some have area designation</td>
<td>Some have local regulations</td>
</tr>
<tr>
<td>Some have local regulations</td>
<td>Some have regional regulations</td>
</tr>
</tbody>
</table>
## Primary Goals of Regulations

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>Biological</td>
<td>Biological</td>
</tr>
<tr>
<td>Social</td>
<td>Some social</td>
<td>Some management</td>
</tr>
<tr>
<td>Most management</td>
<td></td>
<td>Some management</td>
</tr>
</tbody>
</table>
## Visitor Management Frameworks

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discourage inappropriate use</td>
<td>Educate visitors</td>
</tr>
<tr>
<td>Limit group size</td>
<td>Discourage inappropriate use</td>
</tr>
<tr>
<td>Fines/penalties/warnings</td>
<td>Fines/penalties/warnings</td>
</tr>
<tr>
<td>Implement a framework</td>
<td>Limit group size</td>
</tr>
<tr>
<td>Educate visitors</td>
<td>Implement a framework</td>
</tr>
<tr>
<td>Knowledge of available frameworks: about average</td>
<td>Knowledge of available frameworks: above average</td>
</tr>
</tbody>
</table>
# Acquiring Knowledge about Management Frameworks

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor/colleague</td>
<td>Review literature</td>
</tr>
<tr>
<td>Review literature</td>
<td>Supervisor/colleague</td>
</tr>
<tr>
<td>Internet</td>
<td></td>
</tr>
<tr>
<td>Conferences</td>
<td></td>
</tr>
<tr>
<td>Visit other units</td>
<td></td>
</tr>
</tbody>
</table>
## Conclusions

<table>
<thead>
<tr>
<th>US</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>More focused on social</td>
<td>More focused on biological</td>
</tr>
<tr>
<td>Larger scale, federal bureaucracy</td>
<td>More decentralized</td>
</tr>
<tr>
<td>Activities involve driving, skiing</td>
<td>Cycling, fishing, Nordic skiing</td>
</tr>
<tr>
<td>Hiking, boating, OHV</td>
<td>Hiking, fishing, agriculture use</td>
</tr>
<tr>
<td>Impacts on soil and water</td>
<td>Impacts on wildlife</td>
</tr>
<tr>
<td>Higher use, economic/social changes</td>
<td>Observation/estimates</td>
</tr>
<tr>
<td>Educate and monitor</td>
<td>Manipulate setting and behavior</td>
</tr>
<tr>
<td>Conflict expected</td>
<td>Conflict not an issue</td>
</tr>
</tbody>
</table>
Conclusions

- Common interest in monitoring visitor use; driven by both ecological and social issues
- Social carrying capacity variables are being used by both; more in US
- Different values and opinions; different methods
- Length of history plays a role
- Social carrying capacity has a much stronger role in US literature
- Social carrying capacity is a separate research topic in US, more synthesized in Austria
- Frameworks are more prevalent in US management schemes
- Austrians tend to manipulate the setting with much success
Outdoor Recreation Planning: China’s Perspective

Dr. Jinyang Deng

Recreation, Parks, & Tourism Resources Program
West Virginia University
Outline

- Background
- Outdoor recreation resources
- Outdoor recreation planning
- Discussion and conclusion
Background

- In China, the term “recreation” or “outdoor recreation” is not as popular as the terms “tourism” and “leisure”

- Outdoor recreation education, research and practice in China falls behind those in the USA and many other Western countries
Currently, academic programs/departments on parks and recreation do not exist in Mainland China, as opposed to more than 200 such universities/colleges in the USA.

- 1115 tourism universities/colleges or programs/departments and 1093 vocational tourism schools across the country as of 2011.
Outdoor recreation planning is a new phrase in the planning vocabulary.

‘Tourism planning’ along with the terms ‘park planning’, ‘protected area planning’, ‘scenic area planning’, and ‘ecotourism planning’ dominate both the literature and practice.
Outdoor Recreation Resources

- Different agencies:
  - State Forestry Administration (SFA),
  - Ministry of Land and Resources (MLR),
  - Ministry of Environmental Protection (MEP),
  - Ministry of Housing and Urban-Rural Development (MHURD),
  - State Oceanic Administration (SOA),
  - Ministry of Water Resources (MWR),
  - National Tourism Administration (NTA),
  - State Administration of Cultural Heritage (SACH).
Outdoor Recreation Resources

- Major resources types
  - National Forest Parks
  - National Wetland Parks
  - National Urban Wetland Parks
  - National Geoparks
  - National Ocean Parks
  - National Nature Reserves
  - National Scenic Areas
Figure 4  The increasing trend of national park designations in China over the past 25 years

Outdoor Recreation Resources

- National Forest Parks are ranked top in terms of both number (765) and size (29,778,957 acres).
- A large number of parks/reserves/scenic areas at local levels. For example, there are 1,315 and 755 forest parks at provincial and county levels, respectively, with a total area of 13,173,183 acres.
Outdoor Recreation Planning

- In China, different administrative agencies have set up standards and frameworks for recreation/tourism resource assessment and planning.
- The National Tourism Administration, has set up national standards to guide recreation/tourism resource assessment and planning.
Outdoor Recreation Planning

- The State Forestry Administration has created three standards that apply to each of the three major resources
  - “China Forest Landscape Resource Grade System” (1999)
Outdoor Recreation Planning
(Introduction of foreign practices to China)

- 11 articles (1988 to 2013)
- ROS, LAC
- Trail system
- Recreational planning history, theories, and methods
Outdoor Recreation Planning
(Urban recreation planning)

- 27 papers (1995-2013) on urban recreation planning
- Urban green space/corridor
- Urban recreation system
- Recreational business district
- Water front recreational planning
Outdoor Recreation Planning
(Nature-based recreation planning)

- 9 articles (2009-2013)
- Eco agriculture tourism park
- National park
- River/forest/green pathway/recreation
- GIS, remote sensing
- ROS
Outdoor Recreation Planning
(Others )

- 11 articles (1997-2011)
- General/conceptual
- Recreational studies in China
- Spatial recreation/recreational planning/landscape planning
- GIS application
Discussion and Conclusion

- At the micro level, the nation tends to create an agency similar to USDI National Park Service to manage outdoor recreation resources of national/international significance.
- Each agency does not want to lose control of the outdoor resources under their jurisdiction due to huge economic benefits and justification for being an independent agency.
At the macro level, outdoor recreation planning in China is more focused on urban areas than nature-based.

- National policy and priorities
- Urbanization
- Urban pollution
Discussion and Conclusion

- ROS has been introduced to the country and has been applied to recreational planning in both urban and natural areas.
- GIS as a tool has also been used for recreational planning.
- More on traditional physical planning, other planning approaches such as environmental planning, community-based planning, participatory planning are rarely used.
Protected Areas and Planning
In Brazil

Prof. Jasmine Moreira

Ponta Grossa State University
Protected areas in Brazil managed by ICMBio

- 75,000,000 Hectares of Protected Areas
- 312 Federal Protected Areas
- 11 Federal Research Centers
What is ICMBio?

- The Chico Mendes Institute for Biodiversity Conservation (ICMBio) is a local authority under the Ministry of Environment.
- Primary mission is to manage federal protected areas.
- ICMBio also responsible for conservation and may propose, implement, manage, protect, supervise and monitor the conservation areas.
- Tasked with implementing policies for sustainable use of renewable natural resources, promote and implement programs of research, protection, preservation and conservation of biodiversity and to exercise police powers for environmental protection of federal protected areas.
What is ICMBio?

- In 2000, Brazilian protected areas were strengthened by the Sistema Nacional de Unidades de Conservacao (SNUC), which created **two broad categories**.
  - **Integral protection**: strictly protected, with biodiversity conservation as the principal objective. This includes National Parks, and is roughly equivalent of the World Conservation Union (IUCN) Category II.
  - **Sustainable use**: allows for varying forms of exploitation, with biodiversity protection taking a lesser role. This includes Brazilian national forests, reserves, and areas of particular ecological interest.
## Categories

<table>
<thead>
<tr>
<th>Integral Protection</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National Parks</td>
<td>68</td>
</tr>
<tr>
<td>Biological Reserves</td>
<td>30</td>
</tr>
<tr>
<td>Ecological Stations</td>
<td>31</td>
</tr>
<tr>
<td>Natural Monuments</td>
<td>3</td>
</tr>
<tr>
<td>Wildlife Refuges</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sustainable use</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Extractive Reserve</td>
<td>59</td>
</tr>
<tr>
<td>National Forest</td>
<td>65</td>
</tr>
<tr>
<td>Environmental Protected Areas</td>
<td>32</td>
</tr>
<tr>
<td>Sustainable Development Reserves</td>
<td>1</td>
</tr>
<tr>
<td>High Ecological Interest Areas</td>
<td>16</td>
</tr>
</tbody>
</table>

**TOTAL** 312

Slide: Based in Kinker, 2012
National Parks – 68

- 12 - With planning, visitor registration and entrance fee
- 16 - With planning, registration, and without fee
- 18 - With planning, without registration and without fee
- 20 - No planning, no registration and no fee
- 2 - Officially closed to visitors

Source ICMBIO, 2012
Montanhas de Tumucumaque National Park

- Largest National Park in Brazil
- 3,867,000 hectares
- 625 km across
- Has no road access
- Management plan is in place (very difficult to create)
Only 28 National Parks count the numbers of visitors

Only 24% of the protected areas have Management Plans

Number of Visitors (2006-2011)

- Parques Nacionais
- TOTAL Unidades de Conservação Federais

Slide: Kinker, 2012
The Protected Areas must meet the different need of visitors, according to the goals of their category and its planning.

Some of the activities are:

- Opening or consolidation of trails systems (with opportunities for long-distance trails, with campsites, among others)
- Itineraries for birdwatchers
- Trails for cyclists
- Adventure activities, (e.g., rappelling, rafting, scuba-diving, climbing, etc.)
Visitors Per Park In 2011

Tijuca 47.62%
Iguacu 29.19%
Brasilia 5.88%

- Tijuca
- Iguacu
- Brasilia
- Serra dos Orgaos
- Serra da Bocaina
- Ubajara
- Chapada dos Guimarães
- Itatiaia
- São Joaquim
- Aparados da Serra
- Lençóis Maranhenses
- Marinho do Ferro de Noronha
- Serra da Canastra
- Serra Geral
- Caparaó
- Sete Cidades
- Serra dos Veadeiros
- Serra da Capivara
- Serra do Cipó
- Serra da Capivara
- Ilha Grande
- Emas
- Serra dos Abrolhos
- Amazonia

- Serra dos Orgaos 2.00%
- Serra da Bocaina 1.98%
- Chapada dos Guimarães 1.63%
- Ubajara 1.83%
- Itatiaia 1.63%
- São Joaquim 1.49%
- Aparados da Serra 1.11%
- Lençóis Maranhenses 0.87%
- Marinho do Ferro de Noronha 0.77%
Protected areas with a management plan
National Park Management Plans must include a Program of Public Use

With 2 sub-programs:

1. Recreation
2. Environmental Education and Interpretation
Parques da Copa Project (World Cup 2014 Parks): 27 Protected Areas

- **Infrastructure:** Visitors center, interactive exhibits, signs in English, accessibility
- **Expected Results:** Higher visitation at the protected areas
- Better infrastructure and services at the protected area and in the region
- New jobs and distribution of the income
- More taxes to the government
- Regional development
- Better promotion of the vision of Brazil as a touristic attraction
27 Protected Areas
Case Study: Campos Gerais National Park
Private areas
Resistance by the ranchers to allow the process occur
ICMBIO wants to develop the park and sign agreements with landowners
Process is in litigation
Illegal public use is still negatively impacting resources
Toilets developed by the private owners
Trash in parking areas
Mariquinha Waterfall
Buraco do Padre Sinkhole
On a summer weekend…

Source: ICMBio
Solutions ??

- Management Plan: must be completed within the next 5 years
- Agreement with the land owners
  - Public Use Plans
  - Architectural projects
  - Suggestions
Tourism Department from UEPG was asked to improve understanding of public use at Campos Gerais NP.

WVU and UEPG are conducting a visitor use study at the Park.

Many similarities/differences seen when benchmarking with other nations, we are using the benchmarking data to assist us with the Park.

International exchange of ideas is beneficial to all, at a theoretical level and also at a park management level.
Address or neglect it?
The Case of Recreation Management Policies in Germany

Eick von Ruschkowski
Leibniz Universität Hannover
Germany
Overview

- Recreation Planning in Germany
- Case Studies
- Discussion
Recreation Planning in Germany

- German Federal Nature Conservation Acts mandates for recreation planning as a part of nature conservation objectives.
- Recreation is considered as one of the major impacts on the natural resources in German national parks (BfN 2009) and elsewhere.
- Recreation management perceived a lower priority by German park managers (v. Ruschkowski et al., 2013), mainly due to the lack of resources.
Various laws regulate general access to outdoor recreation; e.g. restrictions in protected areas or on private property.

- Walking, hiking, biking – generally permitted
- Vehicle traffic usually prohibited
- Owner’s limited liability
- New challenges: geo caching, mountain bikes

Source: http://waldbesitzerverbaende.de
Case Study – Recreation Planning in German National Parks

- Objective I: To analyze the extent to which recreation management is addressed in official planning documents in Germany’s national parks
- Objective II: To test the transferability of an existing evaluation framework for North American parks to the German context
Case Study – Recreation Planning in German National Parks

- Content analysis of all existing national park plans in Germany
- Study framework as developed and used in Coburn 2011 / Hyslop & Eagles 2007:
  - 30 visitor management categories
  - Analysis based on five-point scale on level of detail found in the planning documents
# Study Design and Methods

## Visitor Management Categories

(Coburn 2011; Hyslop & Eagles 2007)

<table>
<thead>
<tr>
<th>Category</th>
<th>Visitor Use Plan</th>
<th>VM Framework</th>
<th>Visitor Levels/Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals of Visitation</td>
<td>Visitor Use Plan</td>
<td>VM Framework</td>
<td>Visitor Levels/Use</td>
</tr>
<tr>
<td>Conflict Mgmt</td>
<td>Methods of Transp.</td>
<td>Trails/Markings</td>
<td>Noise Restrictions</td>
</tr>
<tr>
<td>Restricted Items</td>
<td>Land Use Zoning</td>
<td>Accessibility</td>
<td>Reservation System</td>
</tr>
<tr>
<td>Operating Hours</td>
<td>Length of Stay</td>
<td>Fees</td>
<td>Education &amp; Interp</td>
</tr>
<tr>
<td>Risk Management</td>
<td>Backcountry Trips</td>
<td>Law Enforcement</td>
<td>Facilities</td>
</tr>
<tr>
<td>Accommodations</td>
<td>Waste Mgmt</td>
<td>Retail Services</td>
<td>Human Resources</td>
</tr>
<tr>
<td>Advertising</td>
<td>Market Analysis</td>
<td>Econ. Impact Vis.</td>
<td>Visitor Use Monit.</td>
</tr>
<tr>
<td>Visitor Satisfaction</td>
<td>Evaluation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Study Design and Methods

Level of Detail Categories

1) No Detail = Not included in plan

2) Minimal Detail = Background description of current visitor activities

3) General Detail = Minimal Detail + Objectives of current and future visitor activities

4) Very Detailed = General Detail + Action/Implementation Plan (who, what, where, and when)

5) Comprehensive Detail = Very Detailed + Monitoring and Evaluation Plan
Study Design and Methods
<table>
<thead>
<tr>
<th>National Park</th>
<th>Designation (Year)</th>
<th>Surface Area (km²)</th>
<th>NP Management Plan (Year)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayerischer Wald</td>
<td>1970</td>
<td>243</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>Berchtesgaden</td>
<td>1978</td>
<td>208</td>
<td>2001</td>
<td></td>
</tr>
<tr>
<td>Wattenmeer (Schleswig-Holstein)</td>
<td>1985</td>
<td>4415</td>
<td>no mandate</td>
<td>Trilateral Wadden Sea Plan with DK/NL from 1997</td>
</tr>
<tr>
<td>Wattenmeer (Niedersachsen)</td>
<td>1986</td>
<td>3458</td>
<td>no mandate</td>
<td></td>
</tr>
<tr>
<td>Wattenmeer (Hamburg)</td>
<td>1990</td>
<td>138</td>
<td>2001</td>
<td></td>
</tr>
<tr>
<td>Jasmund</td>
<td>1990</td>
<td>30</td>
<td>1998 (2011)</td>
<td>planned completion</td>
</tr>
<tr>
<td>Müritz</td>
<td>1990</td>
<td>319</td>
<td>2003/2008</td>
<td>updated project plan</td>
</tr>
<tr>
<td>Sächsische Schweiz</td>
<td>1990</td>
<td>93</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>Vorpommersche Boddenlandschaft</td>
<td>1990</td>
<td>805</td>
<td>2002</td>
<td></td>
</tr>
<tr>
<td>Unteres Odertal</td>
<td>1995</td>
<td>106</td>
<td>(2011)</td>
<td>planned completion</td>
</tr>
<tr>
<td>Hainich</td>
<td>1997</td>
<td>76</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>Eifel</td>
<td>2004</td>
<td>107</td>
<td>2008</td>
<td></td>
</tr>
<tr>
<td>Kellerwald</td>
<td>2004</td>
<td>57</td>
<td>2008</td>
<td></td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th>National Park</th>
<th>Policy Objective: Goals of Visitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayerischer Wald (2010)</td>
<td>4</td>
</tr>
<tr>
<td>Berchtesgaden (2001)</td>
<td>2-3</td>
</tr>
<tr>
<td>Wattenmeer (Schleswig-Holstein) (1997)</td>
<td>2-3</td>
</tr>
<tr>
<td>Wattenmeer (Niedersachsen) (1997)</td>
<td>2-3</td>
</tr>
<tr>
<td>Wattenmeer (Hamburg) (1997)</td>
<td>2-3</td>
</tr>
<tr>
<td>Jasmund (1998)</td>
<td>3</td>
</tr>
<tr>
<td>Müritz (2003/2008)</td>
<td>3-4</td>
</tr>
<tr>
<td>Sächsische Schweiz (2007)</td>
<td>4</td>
</tr>
<tr>
<td>Vorpommersche Boddenlandschaft (2002)</td>
<td>3</td>
</tr>
<tr>
<td>Harz (2011)</td>
<td>3</td>
</tr>
<tr>
<td>Unteres Odertal (none)</td>
<td>1</td>
</tr>
<tr>
<td>Hainich (2010)</td>
<td>4</td>
</tr>
<tr>
<td>Eifel (2008)</td>
<td>4</td>
</tr>
<tr>
<td>Kellerwald (2008)</td>
<td>4</td>
</tr>
</tbody>
</table>
## Summary of Results

<table>
<thead>
<tr>
<th>Well-addressed</th>
<th>Partially addressed</th>
<th>Not addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>trails / markings (trail plan)</td>
<td>goals of visitation</td>
<td>visitor management frameworks</td>
</tr>
<tr>
<td>education &amp; interpretation</td>
<td>visitor use plan</td>
<td>visitor satisfaction</td>
</tr>
<tr>
<td>land use zoning</td>
<td>accessibility</td>
<td>visitor use levels</td>
</tr>
<tr>
<td>operating hours</td>
<td>visitor use monitoring</td>
<td>conflict management (regarding recreation)</td>
</tr>
<tr>
<td>economic impacts from visitors</td>
<td>evaluation</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

- All German national parks with existing park plans address recreation.
- More recent plans reflect a more intense consideration of recreation.
- The actual impacts of recreation on natural resources are not always known (very little research).
- Conceptual planning (mission, guiding principles) is good, but deficits on implementation, monitoring and evaluation levels (due to limited funding).
Study framework used only partly applicable to German national parks:

- Several categories for analysis do not apply (fees, concessions, permit systems, backcountry trips, length of stay, waste management, accommodations) to the typical set-up of national parks.
- Five-point scale needs to be adapted as it is not fine enough to identify existing differences in the quality of the management plans (e.g. the majority of parks always lies between levels 3 and 4).
Case Study – Visitor Management at Harz National Park

Purpose:
To assist Harz National Park in establishing visitor monitoring and to demonstrate the ability of survey methods to generate data.

Objectives:
1. To identify visitors’ motivations for visiting the Torfhaus area in Harz National Park.
2. To identify the primary recreational uses and visitor activities in the area.
3. To evaluate the use of the TorfHaus Visitor Center.
4. To develop recommendations for HNP management.
Case Study – Visitor Management at Harz National Park
Case Study – Visitor Management at Harz National Park

- Designation: 1990/1994 as separate parks, merged in 2005
- 249 km² of mountainous terrain alongside the former Iron Curtain
- Elevation from 400 to 1,141 meters
- Mining / logging for 4,000+ years, today: approx. 3 to 5 million visitors p.a.
- Key habitats: forests, bogs, streams
- Key species: Eurasian lynx, red deer, black stork, soon: wolf (?)
Case Study – Visitor Management at Harz National Park

- Torfhaus Visitor Center Area
- Tourism / sightseeing hotspot (Brocken view), at major road
- Relocation in 2009: annual visitation increase from 15,000 to 150,000
Methods

- Quantitative surveys (more to come)
- Vehicle count (manual count): exiting vehicles at parking lot, number of visitors, origin
- Visitor count at the center: distinguishing information seekers from exhibit visitors
- Hidden observation in exhibit hall: actual use of exhibits – length of stay, display use, visitor orientation
Methods

- Quantitative surveys
- Questionnaire with ten questions about visitor activities and motivations, national park awareness and accommodation/trip length
- Objective: to determine Harz NP’s importance for choice of destination
- Sample size (as of May 2013): n = 1,423
- Data analyzed until now: n = 1,056
# Results: Visitor demographics and sample size

<table>
<thead>
<tr>
<th>Category</th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size</td>
<td>620</td>
<td>436</td>
</tr>
<tr>
<td>Day visitors</td>
<td>63.2%</td>
<td>71.6%</td>
</tr>
<tr>
<td>Average stay overnight visitors</td>
<td>6.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Average group size</td>
<td>4.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Foreign visitors</td>
<td>9.7%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Gender m/f</td>
<td>52.6% / 47.4%</td>
<td>51.1% / 47.5%</td>
</tr>
<tr>
<td>Age group 21-30 years old</td>
<td>8.1%</td>
<td>16.6%</td>
</tr>
</tbody>
</table>
Results: Awareness about Harz National Park

Are you aware that you are in a national park? (n = 1,050)

- 96.2% Yes
- 3.8% No
Results: Importance of Harz National Park for the trip

What role did the existence of the national park play when you were making the decision to travel to the region? (n = 1,055)
Would you still have traveled to the region if the national park did not exist? (n = 1,048)

Results: Importance of Harz National Park for the trip

- Yes: 94.9%
- No: 5.1%
## Results

Comparison of visitor percentages who consider the individual national park’s existence as very important or important for their trip planning

<table>
<thead>
<tr>
<th>National Park</th>
<th>Percentage of “true” visitors</th>
<th>National Park</th>
<th>Percentage of “true” visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harz (Torfhaus) (D)</td>
<td>45%</td>
<td>Donauauen (AT (NÖ))</td>
<td>28%</td>
</tr>
<tr>
<td>Berchtesgaden (D)</td>
<td>10%</td>
<td>Gesäuse (AT)</td>
<td>33%</td>
</tr>
<tr>
<td>Wadden Sea (D (NI))</td>
<td>11%</td>
<td>Swiss (CH)</td>
<td>42%</td>
</tr>
<tr>
<td>Eifel (D)</td>
<td>27%</td>
<td>Fulufjällets (SE)</td>
<td>44%</td>
</tr>
<tr>
<td>Bavarian Forest (D)</td>
<td>46%</td>
<td>U.S. National Parks</td>
<td>&gt; 70%</td>
</tr>
</tbody>
</table>

(Arnberger and Brandenburg, 2002; Arnberger et al., 2012; Küpfer, 2000; Mayer et al., 2010; Job et al., 2005; Job and Vogt, 2005; Stynes 2005-2009; Wall Reinius & Fredman, 2007).
## Results

Comparison of “true” national park visitors in other national parks

<table>
<thead>
<tr>
<th>National Park</th>
<th>Percentage of “true” visitors</th>
<th>National Park</th>
<th>Percentage of “true” visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harz (Torfhaus) (D)</td>
<td>3.3%</td>
<td>Gesäuse (AT)</td>
<td>7%</td>
</tr>
<tr>
<td>Donauauen (AT (NÖ))</td>
<td>6%</td>
<td>Swiss (CH)</td>
<td>8%</td>
</tr>
</tbody>
</table>

(Arnberger and Brandenburg, 2002; Arnberger et al., 2012; Küpfer 2000).
Visitor Motivations (Summer 2011, n = 335)

- Scenery: 23.6%
- National Park: 15.5%
- Visitor Center: 14.3%
- Experience Nature: 12.4%
- Environmental Education: 4.8%
- Hiking: 4.5%
- Outdoor Activities: 4.2%
- Vacation: 3.0%
- Observing: 2.7%
- Motorcycles: 2.4%
- Rest Stop: 0.9%
- Business: 0.8%
- Family: 0.3%
- Dining: 0.3%
Results

Visitor Motivations
(Winter, n = 434)

- Snow-related Activities: 38.9%
- Scenery: 4.8%
- Visitor Center: 15.7%
- Experience Nature: 6.9%
- Outdoor Activities: 18.0%
- Vacation: 3.5%
- Observing: 1.4%
- Cultural Activities: 3.5%
- Rest Stop: 0.9%
- Business: 1.8%
- Family: 0.5%
- Dining: 1.8%
Discussion

- Overall: low percentage of national park-induced/-related visitor activities
- National park and visitor center staff deal with high percentage of visitors/customers that have other motivations (and expectations) regarding their visit to the Torfhaus area
- Visitor center exhibit and information provided needs to take these implications into account, potential need to revise information and outreach activities – mismatch between visitors, visitor expectations, and services/information offered to visitors…
- High potential to reach new target audience for national park stewardship

Developing national park-related recreation opportunities
Questions?

Type questions in the QUESTION pane of the Control Panel.

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Dr. Jinyang Deng - Jinyang.Deng@mail.wvu.edu
Dr. Jasmine Moreira - jasminecardozo@gmail.com
Dr. Eick von Ruschkowski - Eick.vonRuschkowski@nabu.de
Join SORP in San Francisco for the National Outdoor Recreation Conference May 13-16, 2014

www.RecPro.org

Watch for “Best Practices in Outdoor Recreation Planning” coming soon from Sagamore Publishing

Providing National Leadership and Services for Advancing the Outdoor Recreation Profession
THANK YOU!

Watch for a follow up email and survey about this webinar.

Check out the SORP website (www.RecPro.org) to become a member and for more outdoor recreation technical resources.

Providing National Leadership and Services for Advancing the Outdoor Recreation Profession