European Forests: Recreation Planning and Management for a changing society

Selected results of COST Action E 33, WG 3

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Recreation planning and management

- Aims of WG 3:
  reviewing the current state of knowledge and methods regarding recreation planning and management, of conflicts and management concepts
- 26 countries
Research questions

Recreation planning and management:

- Which conflicts arise in European Forests due to recreational use?
  - Can patterns be analysed across Europe?
- What are the management implications including new societal demands?
  - Which management actions are applied across Europe?
  - How is the acceptance of the actions?
  - Can patterns be analysed across Europe?
- What are pan-European challenges and possible solutions?
Method

- Expert based survey

- Representatives of each country (WG members)
- Consulting additional experts
- No language barrier
Forest cover

- Forest cover and population density in Europe are determine the conflicts and the demand across Europe

<table>
<thead>
<tr>
<th>European region</th>
<th>Forest Cover</th>
<th>Population</th>
<th>Amount of forest (ha) per inhabitant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic region</td>
<td>10%</td>
<td>210</td>
<td>0.13</td>
</tr>
<tr>
<td>Nordic region</td>
<td>57%</td>
<td>18</td>
<td>3.26</td>
</tr>
<tr>
<td>Central region</td>
<td>34%</td>
<td>156</td>
<td>0.26</td>
</tr>
<tr>
<td>Eastern region</td>
<td>33%</td>
<td>94</td>
<td>0.47</td>
</tr>
<tr>
<td>Mediterranean region</td>
<td>39%</td>
<td>113</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Forest cover: \( \eta = 0.838 \) \((P < 0.001)\), population density: \( \eta=0.557 \) \((P < 0.10)\), amount of forest/inhabitants: \( \eta=0.937 \) \((P < 0.001)\)
Conflicts + Management

Furthermore cultural, historical, traditional and climatic factors are influencing the activities and recreational conflicts
Conflict types

- Main conflict types in Europe

- Conflicts crowding
- Conflicts hunting/fishing
- Conflicts groups
- Conflicts forestry use
- Conflicts nature
Conflict types

- Analysis of regional patterns

Differences between groups are significant at 0.05 level for nature conservation and groups

Measures of Association

<table>
<thead>
<tr>
<th>Measure</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>conflicts groups * region</td>
<td>0.69313204</td>
</tr>
<tr>
<td>conflicts crowding * region</td>
<td>0.28804962</td>
</tr>
<tr>
<td>conflicts forestry use * region</td>
<td>0.37141264</td>
</tr>
<tr>
<td>conflicts hunting/fishing * region</td>
<td>0.3682516</td>
</tr>
<tr>
<td>conflicts nature * region</td>
<td>0.62866219</td>
</tr>
</tbody>
</table>
Activities

- Main activities causing conflicts in Europe

- camping
- campfires/bbq
- mountainbiking
- fishing
- alpine touring
- collecting berries etc
- motorized sports
- picnic
Conflicts/impacts

Main impacts on forest recreation in Europe

- wind turbines
- other emissions
- industrial noise
- military noise
- aircraft noise
- infrastructure for tourism/recreation
- large clearcuts
- fire breaks
- road construction
- exploitation natural resources
- visual problems
- traffic noise
- rubbish dumping
Conflicts/impacts

- Analysis of regional patterns

Wind turbines: $\eta = 0.656$ ($p < 0.05$), rubbish dumping: $\eta = 0.778$ ($p < 0.01$), visual problems: $\eta = 0.501$ ($p < 0.01$), fire breaks: $\eta = 0.642$ ($p < 0.05$)
Management

- Frequency of use

- restrictive actions
  - rules and regulations
  - prohibitions
  - entrance fee
  - marking protected areas/tabuzones
  - barriers and fences
  - limiting visitors’ entrance

- soft actions
  - attractive infrastructure
  - infra for ecological education
  - signposting responsible visitor behaviour
  - guiding ranger system
  - guiding thematic tours
  - training special user groups
  - training commercial providers

Frequency of use: urban, rural, remote
Management

- Acceptance of the different actions

- rules and regulations
- prohibitions
- entrance fee
- marking protected areas/tabuzones
- barriers and fences
- limiting visitors’ entrance
- attractive infrastructure
- infra for ecological education
- signposting responsible visitor behaviour
- guiding ranger system
- guiding thematic tours
- training special user groups
- training commercial providers
Conclusion → regional approach

Atlantic countries:
Main challenges: Different user groups, crowding, rubbish dumping
Management: Many facilitating actions

Central countries:
Main challenges: Different user groups, hunting, mtb, alpine touring, skiing, traffic noise, road construction

Nordic countries:
Main challenges: Forestry use, motorized sport, snowmobiling
Management: Most facilitating actions

Eastern countries:
Main challenges: Nature conservation, rubbish dumping, collecting, forestry use, motorized sport, camping
Management: Low acceptance for restrictive actions, few facilitating actions

Mediterranean countries:
Main challenges: rubbish dumping, forest fires (damaged forests, fire breaks), picnic, hunting, forestry
Management: Good acceptance for restrictive actions, few facilitating actions
Outlook

- Complete results published as book in Springer Verlag, in the “Science Series”
- Pröbstl, Wirth, Elands, Bell: European Management for Recreation in Forests and Nature Based Tourism
- Planned date of issue: Spring 2008
- Good practise data base with management solutions
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