# Nature on Your Mind – creation of shapes and environments

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# In 1901 John Muir wrote:

"Thousands of tired, nerve shaken, overcivilised people are beginning to find that going to the mountains is going home; that wilderness is a necessity; and that mountain parks and reserves are useful not only as fountains of timber and invigorating rivers but as fountains of life."

# Escaping from the city

- Urban environments constantly bombard us with stimulation and living or working there requires constant concentration.
- Natural areas stimulate us without effort, we do not have to concentrate, sounds are calming and colours help us to relax.
- This is known as “soft fascination” and relates to one of the leading theories: Attention Restoration Theory (Kaplan and Kaplan)

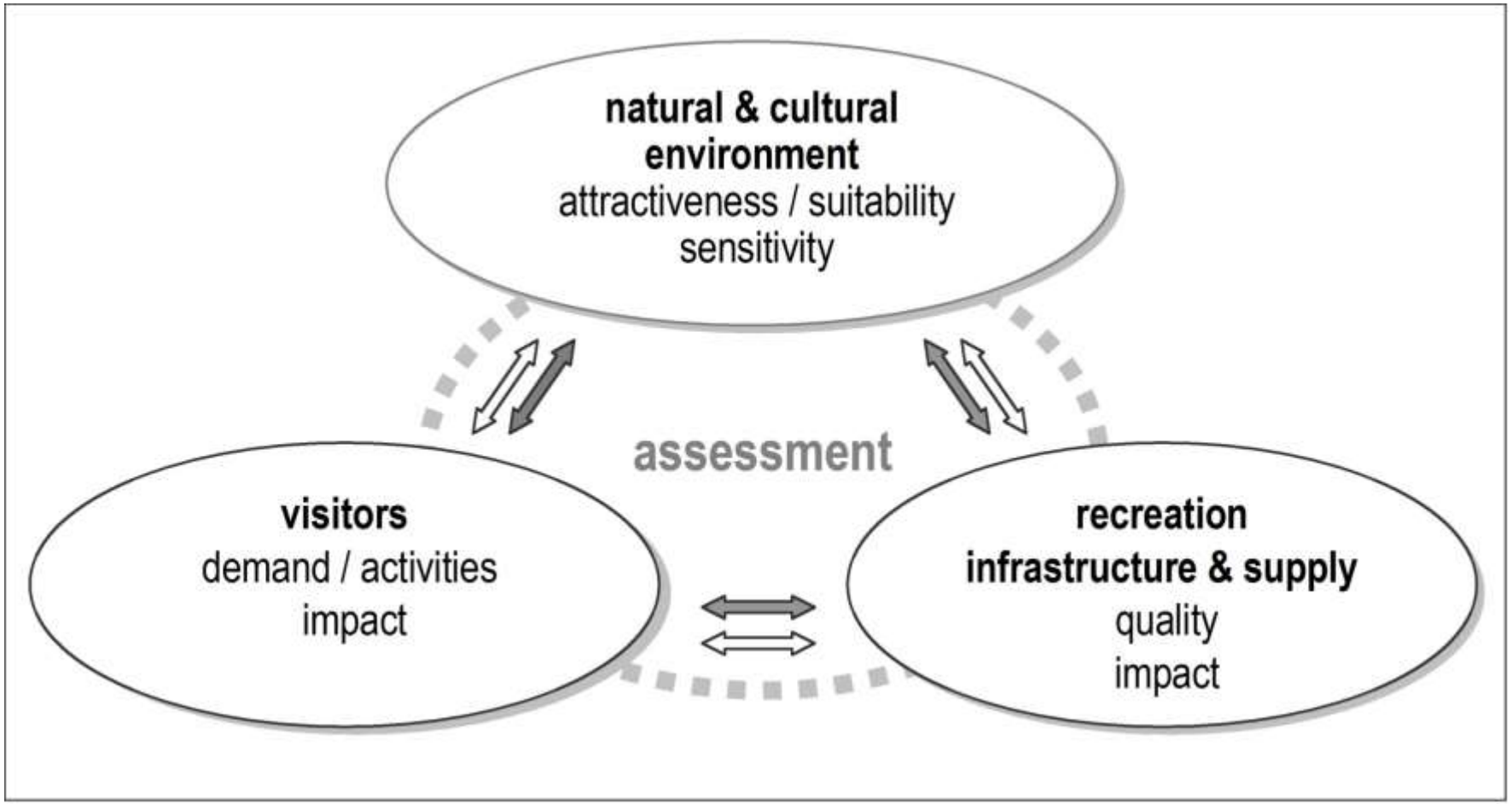
# Main issues for planning and design

- We want to encourage people to visit nature to improve their physical, mental and social well-being
- Natural environments are sensitive to pressures from too many visitors, so their capacity should be respected
- Design of facilities should emphasise the contrast between urban and nature
- Sites should not be over-developed

# Levels of planning

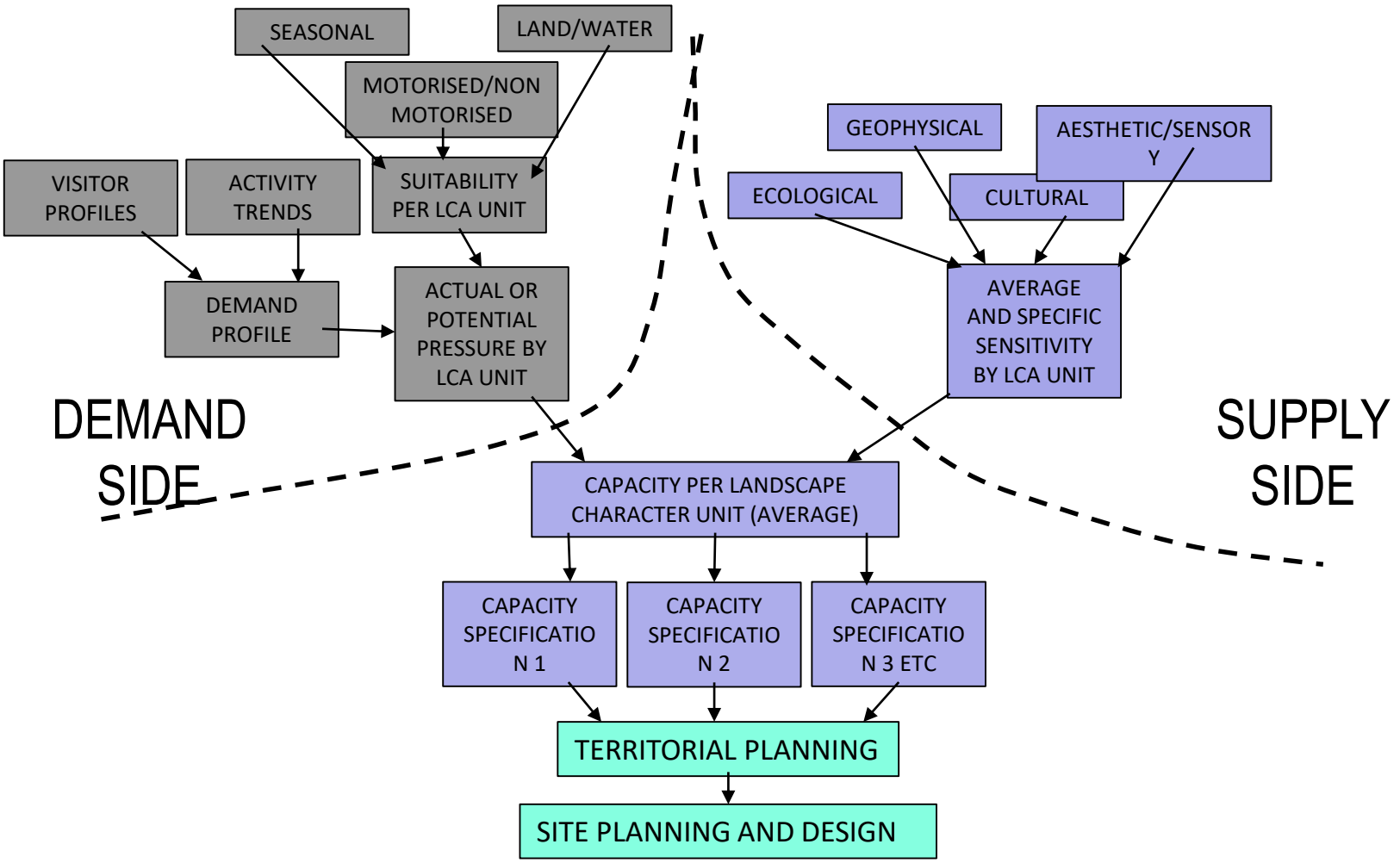
- Strategic planning: higher level goals set in legal and policy frameworks.
- Territorial planning: translating strategic goals into spatially defined plans
- Operational planning: applying plans over time, managing areas, providing facilities.

# The planning circle



# Territorial planning

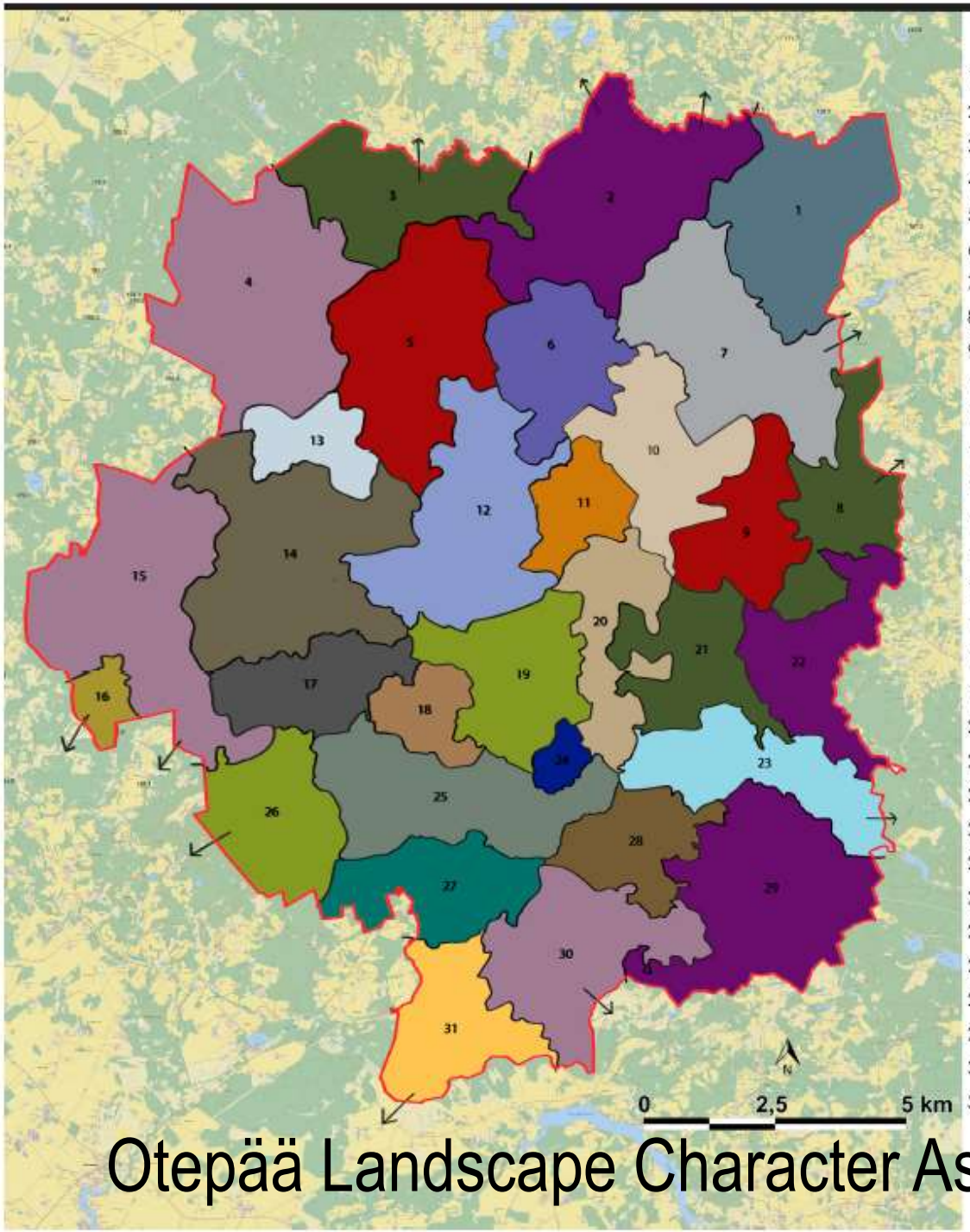
- To match the pressure for different forms of activity to the capability of the landscape to accommodate it we can carry out a capacity assessment
- This balances the different sensitivities of the landscape to its suitability for activities
- We can use the tool of a landscape character assessment as the framework for this




# GENERAL MODEL OF CAPACITY ASSESSMENT METHOD

Otepää, Winter capital of Estonia (in summer…)


Start of the ski-marathon through the Otepää landscape



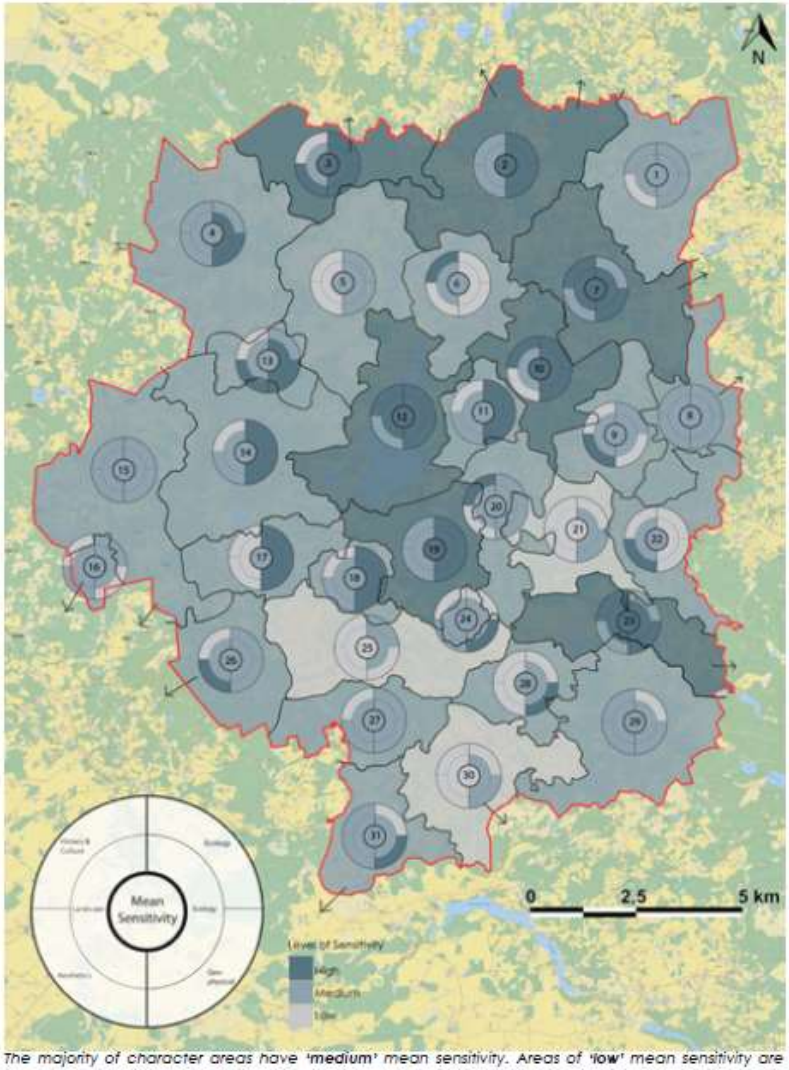

1- Fragmented forests and agriculture with wetland network
2- MOSAIC 1: Agricultural corridors in mixed forest stands
3- High density forests on rolling hills
4- MOSAIC 2 Fragmented agricultural land and mixed forest stands
5- Agriculture on rolling hills
6- Otepää Town and surrounding settlement
7- Kettlehole lakes and agricultural land on hillocks
8- High density forests on rolling hills
9- Agriculture on rolling hills
10- Large hillocks and valleys
11- Nüpli järv
12- Pühajärv and surrounding areas
13- Kettle hole lakes and expanding mixed forest stands
14- Steep forested hillocks with pastoral corridor
15- MOSAIC 2 Fragmented agricultural land and mixed forest stands
16- Agricultural valley and land use threshold
17- Forested hillocks and Kettle hole lake
18- Sakssoo Peat Bog
19- Medium Density Forest on Rolling Hills
20- Agricultural and transportation corridor
21- High density forests on rolling hills
22- MOSAIC 1 Agricultural corridors in mixed forest stands
23- Water body network on cultivated rolling hills
24- Hillocked lakeshores of Inni järv
25- Large scale agricultural spaces
26- Medium Density Forest on Rolling Hills
27- Forest Reclamation area around Kassiratta
28- Pastoral hillocks with juvenile forest cover
29- MOSAIC 1 Agricultural corridors in mixed forest stands
30- MOSAIC 2 Fragmented agricultural land and mixed forest stands
31- Large Scale Arable Agriculture

# Otepää Landscape Character Assessment

# Assessing sensitivity: supply side

- Consider the different aspects which may be affected by specific forms of recreation
- Ecological sensitivity – eg. disturbance, trampling of vegetation
- Geophysical – eg. erosion of soil, water pollution
- Aesthetic/sensory – eg. views, noise, crowding, facilities
- Cultural – eg. historical features, damage risk
- Consider **weighting** of more important aspects

# SENSITIVITY to Recreation and Tourism




*The majority of character areas have 'medium' mean sensitivity. Areas of 'low' mean sensitivity are found in southerly areas, reflecting the dominance of agricultural land and limited presence of protected species, ecological management zones and cultural objects in the south. Areas of 'high' mean sensitivity are concentrated in central and northern areas where ecology is particularly rich and there are objects of cultural significance.*

## Method for Calculation

mean sensitivity = (ecological sensitivity + landscape sensitivity) /2
ecological sensitivity = (ecology + geo-physics) /2
landscape sensitivity = (historyandculture + aesthetics) /2

low sensitivity = 1 medium sensitivity = 2 high sensitivity = 3

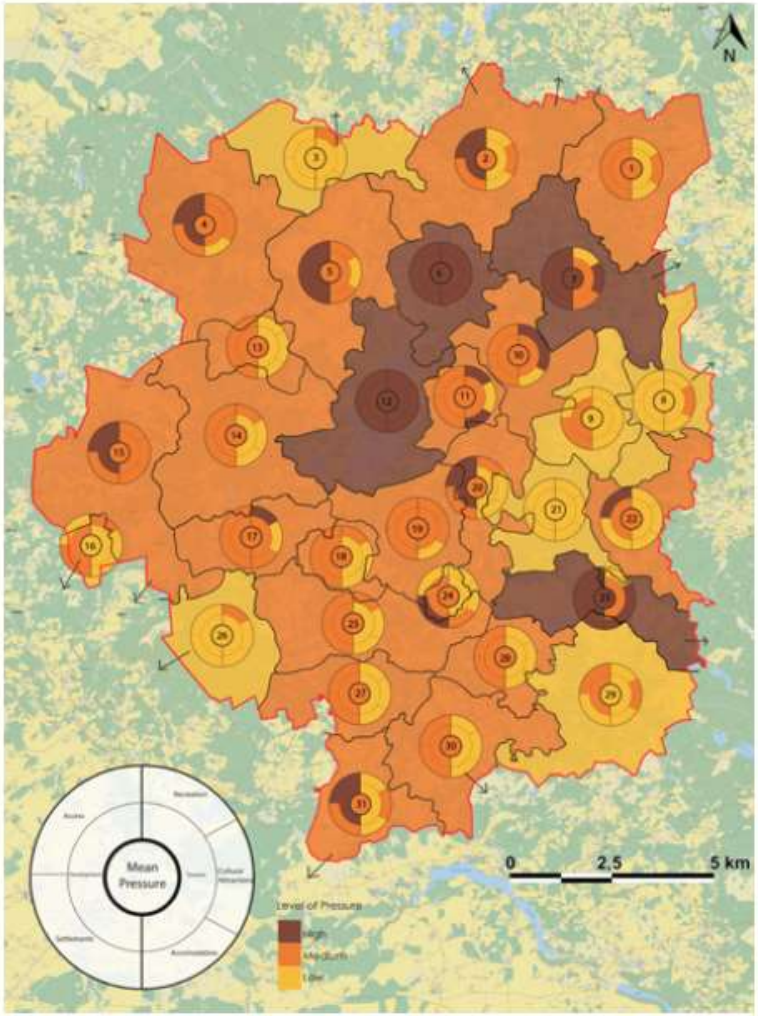
**Table 1: Calculating Sensitivity (see Appendices 1,2 & 3 for maps)**

| | SENSITIVITY | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Ecology | | | Landscape | | | | |
| Area | Ecology | Geo-physical | Mean Ecological Sensitivity | History/ Culture | Aesthetics | Mean Landscape Sensitivity | Mean Sensitivity Score | Mean Sensitivity Level |
| 1 | 2 | 2 | 2.00 | 2 | 1 | 1.50 | 1.75 | Medium |
| 2 | 3 | 3 | 3.00 | 2 | 2 | 2.00 | 2.50 | High |
| 3 | 3 | 3 | 3.00 | 1 | 3 | 2.00 | 2.50 | High |
| 4 | 2 | 3 | 2.50 | 2 | 2 | 2.00 | 2.25 | Medium |
| 5 | 2 | 2 | 2.00 | 1 | 1 | 1.00 | 1.50 | Medium |
| 6 | 1 | 1 | 1.00 | 3 | 1 | 2.00 | 1.50 | Medium |
| 7 | 2 | 3 | 2.50 | 3 | 2 | 2.50 | 2.50 | High |
| 8 | 2 | 2 | 2.00 | 2 | 2 | 2.00 | 2.00 | Medium |
| 9 | 2 | 1 | 1.50 | 1 | 3 | 2.00 | 1.75 | Medium |
| 10 | 3 | 3 | 3.00 | 3 | 1 | 2.00 | 2.50 | High |
| 11 | 3 | 3 | 3.00 | 1 | 2 | 1.50 | 2.25 | Medium |
| 12 | 3 | 3 | 3.00 | 3 | 2 | 2.50 | 2.75 | High |
| 13 | 2 | 3 | 2.50 | 1 | 3 | 2.00 | 2.25 | Medium |
| 14 | 3 | 3 | 3.00 | 1 | 2 | 1.50 | 2.25 | Medium |
| 15 | 2 | 2 | 2.00 | 2 | 2 | 2.00 | 2.00 | Medium |
| 16 | 2 | 1 | 1.50 | 1 | 2 | 1.50 | 2.50 | High |
| 17 | 3 | 3 | 3.00 | 1 | 1 | 1.00 | 2.00 | Medium |
| 18 | 3 | 3 | 3.00 | 1 | 2 | 1.50 | 2.25 | Medium |
| 19 | 3 | 3 | 3.00 | 2 | 2 | 2.00 | 2.50 | High |
| 20 | 2 | 2 | 2.00 | 1 | 3 | 2.00 | 2.00 | Medium |
| 21 | 1 | 2 | 1.50 | 1 | 1 | 1.00 | 1.25 | Low |
| 22 | 1 | 1 | 1.00 | 1 | 3 | 2.00 | 1.50 | Medium |
| 23 | 2 | 3 | 2.50 | 3 | 2 | 2.50 | 2.50 | High |
| 24 | 1 | 3 | 2.00 | 1 | 2 | 1.50 | 1.75 | Medium |
| 25 | 2 | 1 | 1.50 | 1 | 1 | 1.00 | 1.25 | Low |
| 26 | 2 | 2 | 2.00 | 1 | 3 | 2.00 | 2.00 | Medium |
| 27 | 2 | 2 | 2.00 | 1 | 2 | 1.50 | 1.75 | Medium |
| 28 | 1 | 3 | 2.00 | 1 | 1 | 1.00 | 1.50 | Medium |
| 29 | 1 | 2 | 1.50 | 2 | 2 | 2.00 | 1.75 | Medium |
| 30 | 1 | 2 | 1.50 | 1 | 1 | 1.00 | 1.25 | Low |
| 31 | 1 | 3 | 2.00 | 2 | 2 | 2.00 | 2.00 | Medium |

# Assessing pressure: demand side

- Start with the suitability of each area for different forms of recreation
- Take account of what is there already
- What is the actual or potential demand?
- Who might the user groups/target market be?
- Assess the pressure according to different types of activity

# PRESSURE on Recreation and Tourism




*Most areas have **'medium' mean pressure**, probably thanks to the fact that many areas are well developed but not so open and maintained for tourism. The areas with **'low' mean pressure** are mainly on the eastern side of the municipality, two on the western side and one up on the north - all nearby the edges of the area. These areas are not so accessible, only with a few settlements and thus usually not in the target of tourism, either. The areas of **'high' mean pressure** are in the middle, around Otepää town which is obviously the most developed part. There is one highly sensitive and well developed protected area on the south-east, also.*

## Method for Calculation

mean pressure = (development pressure + tourism pressure) /2
development pressure = (access + settlement) /2
tourism pressure = (recreation + historyculture + accomodation) /2

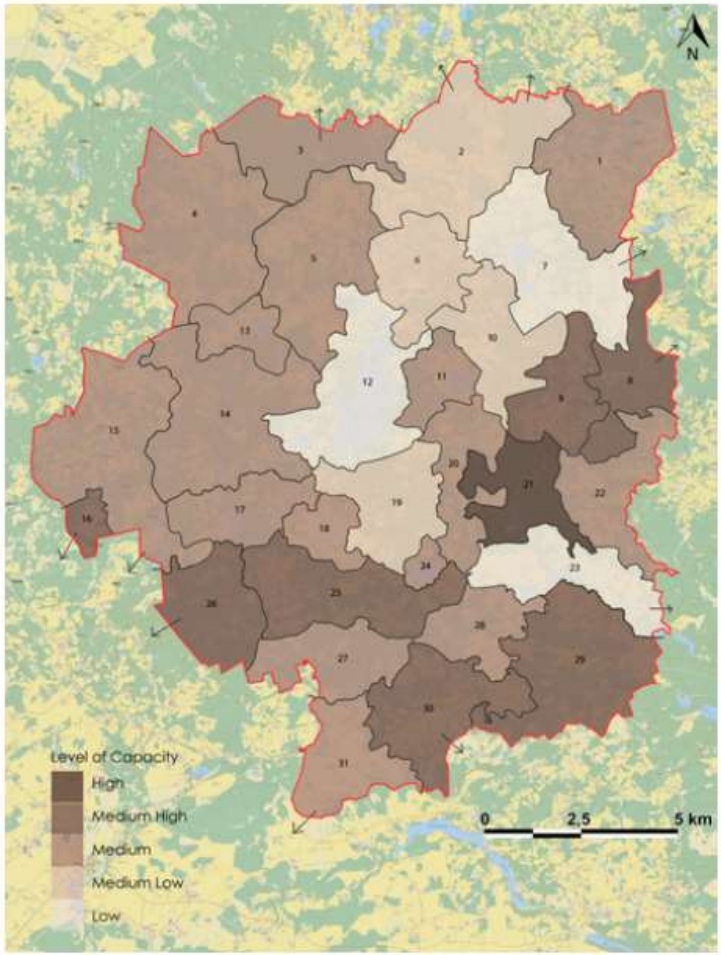
low pressure = 1 medium pressure = 2 high pressure = 3

**Table 2: Calculating Pressure (see Appendices 4 & 5 for maps)**

| | PRESSURE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tourism | | | | Development | | | | |
| Area | Recreation | History/ Culture | Accomodation | Mean Tourism Pressure | Access/ Communications | Settlements | Mean Development Pressure | Mean Pressure Score | Mean Pressure Level |
| 1 | 1 | 2 | 1 | 1.33 | 2 | 2 | 2.00 | 1.67 | Medium |
| 2 | 1 | 2 | 1 | 1.33 | 3 | 2 | 2.50 | 1.92 | Medium |
| 3 | 2 | 1 | 1 | 1.33 | 1 | 1 | 1.00 | 1.17 | Low |
| 4 | 2 | 2 | 1 | 1.67 | 3 | 2 | 2.50 | 2.08 | Medium |
| 5 | 2 | 1 | 2 | 1.67 | 3 | 3 | 3.00 | 2.33 | Medium |
| 6 | 3 | 3 | 3 | 3.00 | 3 | 3 | 3.00 | 3.00 | High |
| 7 | 1 | 3 | 2 | 2.00 | 3 | 3 | 3.00 | 2.50 | High |
| 8 | 1 | 2 | 1 | 1.33 | 1 | 1 | 1.00 | 1.17 | Low |
| 9 | 1 | 1 | 1 | 1.00 | 1 | 2 | 1.50 | 1.25 | Low |
| 10 | 3 | 3 | 1 | 2.33 | 2 | 2 | 2.00 | 2.17 | Medium |
| 11 | 3 | 1 | 3 | 2.33 | 2 | 2 | 2.00 | 2.17 | Medium |
| 12 | 3 | 3 | 3 | 3.00 | 3 | 3 | 3.00 | 3.00 | High |
| 13 | 1 | 1 | 1 | 1.00 | 2 | 2 | 2.00 | 1.50 | Medium |
| 14 | 2 | 1 | 1 | 1.33 | 2 | 2 | 2.00 | 1.67 | Medium |
| 15 | 2 | 2 | 2 | 2.00 | 3 | 2 | 2.50 | 2.25 | Medium |
| 16 | 2 | 1 | 1 | 1.33 | 1 | 2 | 1.50 | 1.42 | Low |
| 17 | 3 | 1 | 2 | 2.00 | 2 | 2 | 2.00 | 2.00 | Medium |
| 18 | 2 | 1 | 1 | 1.33 | 2 | 2 | 2.00 | 1.67 | Medium |
| 19 | 2 | 2 | 1 | 1.67 | 2 | 2 | 2.00 | 1.83 | Medium |
| 20 | 2 | 1 | 1 | 1.33 | 3 | 2 | 2.50 | 1.92 | Medium |
| 21 | 1 | 1 | 1 | 1.00 | 1 | 1 | 1.00 | 1.00 | Low |
| 22 | 1 | 1 | 1 | 1.00 | 3 | 1 | 2.00 | 1.50 | Medium |
| 23 | 1 | 3 | 3 | 2.33 | 3 | 3 | 3.00 | 2.67 | High |
| 24 | 1 | 1 | 2 | 1.33 | 1 | 3 | 2.00 | 1.67 | Medium |
| 25 | 2 | 1 | 1 | 1.33 | 2 | 2 | 2.00 | 1.67 | Medium |
| 26 | 2 | 1 | 1 | 1.33 | 1 | 1 | 1.00 | 1.17 | Low |
| 27 | 1 | 1 | 1 | 1.00 | 2 | 2 | 2.00 | 1.50 | Medium |
| 28 | 1 | 1 | 1 | 1.00 | 2 | 2 | 2.00 | 1.50 | Medium |
| 29 | 1 | 2 | 1 | 1.33 | 2 | 1 | 1.50 | 1.42 | Low |
| 30 | 1 | 1 | 1 | 1.00 | 2 | 2 | 2.00 | 1.50 | Medium |
| 31 | 1 | 2 | 1 | 1.33 | 3 | 2 | 2.50 | 1.92 | Medium |

# Assessing capacity

- Capacity is an interaction between sensitivity and pressure
- High sensitivity matched with high pressure leads to low capacity
- There may be differences in capacity according to different types of activity or seasons




*We have five different levels of capacity: low, medium low, medium, medium high and high. The distribution of these capacity levels is the following: majority of the areas have **'medium' capacity**. Half of these regions compose a huge coherent territory on the north-western side and the rest is scattered all among the other areas. The second most common capacity level is **'medium high'**, with such areas dispersed in the southern half of the whole territory. Areas with **'medium low'** and **'low' capacity** are in the middle-eastern region of Otepää municipality, considering Otepää town and its surroundings. The only area of **'high' capacity** is located above the region of Kooraste Pikkjärve nature conservation area (Area 23). This highlights Otepää as an area with much existing recreation.*

## Capacity for new development

It should be noted that in this study, capacity is primarily equated with **capacity for new development** and does not place judgement of the total capacity of an area to accept recreational development.

This has particular implications for areas labelled as 'low capacity' in that the area may have a high total capacity for recreation, but a low capacity for new development. As such, efforts in this area would be best focused on the maintenance or improvement of existing recreational facilities and infrastructure to sustain a quality experience for visiting and local populations.

## Looking across different scales

To assess the capacity of an area for recreation and tourism, it is important to consider the area both in isolation and in relation to neighbouring areas: at a variety of scales.

To look in isolation, allows the reader to focus on specific features of the landscape, such as the presence of protected species, cultural objects or ecologically rich areas. This enables an indepth understanding of locally occuring characteristics that may be valuable assets for recreation and tourism. To look at the wider context, and thus the relationship of one area to another, encourages the reader to evaluate the relative balance between development and conservation. That is, one must think about the concentration and dispersal of recreation and potential benefits or detriments that particular patterns of development may ensue. One must also think about how this capacity may change over time, and how best to manage the character of the area.

Following this understanding, our study assesses each character area individually and then looks at Otepää as a whole.

**Table 3: Calculating Capacity**

| Area | Mean Pressure Level | Mean Sensitivity Level | CAPACITY |
|---|---|---|---|
| 1 | Medium | Medium | MEDIUM |
| 2 | Medium | High | MEDIUM LOW |
| 3 | Low | High | MEDIUM |
| 4 | Medium | Medium | MEDIUM |
| 5 | Medium | Medium | MEDIUM |
| 6 | High | Medium | MEDIUM LOW |
| 7 | High | High | LOW |
| 8 | Low | Medium | MEDIUM HIGH |
| 9 | Low | Medium | MEDIUM HIGH |
| 10 | Medium | High | MEDIUM LOW |
| 11 | Medium | Medium | MEDIUM |
| 12 | High | High | LOW |
| 13 | Medium | Medium | MEDIUM |
| 14 | Medium | Medium | MEDIUM |
| 15 | Medium | Medium | MEDIUM |
| 16 | Low | High | MEDIUM HIGH |
| 17 | Medium | Medium | MEDIUM |
| 18 | Medium | Medium | MEDIUM |
| 19 | Medium | High | MEDIUM LOW |
| 20 | Medium | Medium | MEDIUM |
| 21 | Low | Low | HIGH |
| 22 | Medium | Medium | MEDIUM |
| 23 | High | High | LOW |
| 24 | Medium | Medium | MEDIUM |
| 25 | Medium | Low | MEDIUM HIGH |
| 26 | Low | Medium | MEDIUM HIGH |
| 27 | Medium | Medium | MEDIUM |
| 28 | Medium | Medium | MEDIUM |
| 29 | Low | Medium | MEDIUM HIGH |
| 30 | Medium | Low | MEDIUM HIGH |
| 31 | Medium | Medium | MEDIUM |

# DESIGN CONCEPTS

# Key points for recreation design

- Reflect the character of the landscape and identify its Genus loci or spirit of place
- Use appropriate materials and forms of construction to fit that character and to be sustainable
- Enhance the contrast between urban and nature in all aspects of design
- Maximise accessibility and safety

# Fox Glacier, New Zealand

# DESIGNING THE VISIT

Providing the basic requirements for a visit, designed from the perspective of the visitor

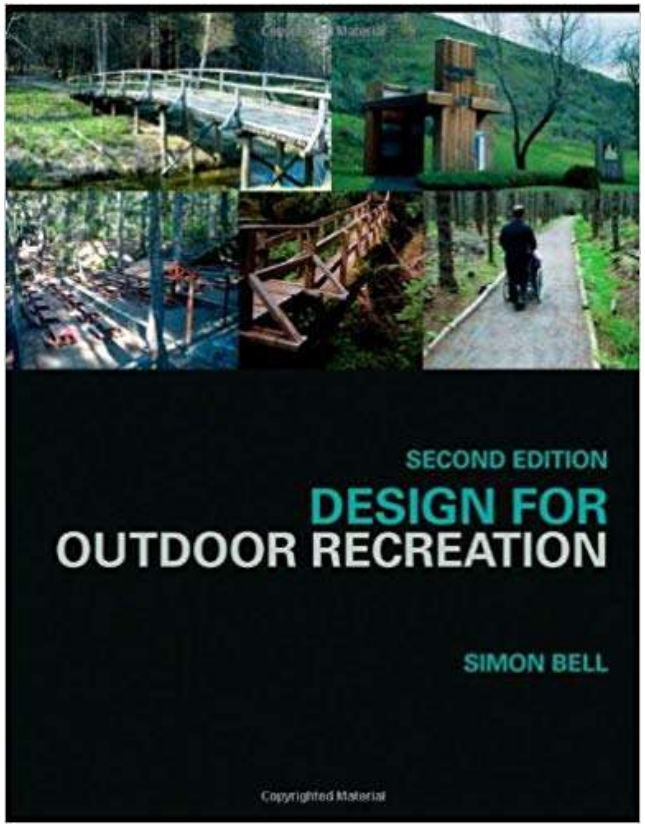

Glenmore Forest Park
Lochside

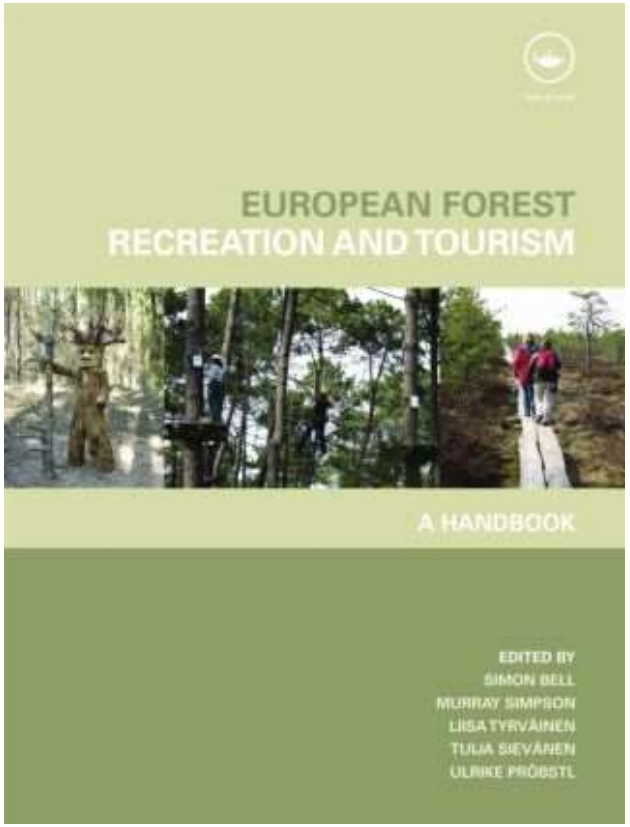

Hraunfossar
Barnafoss

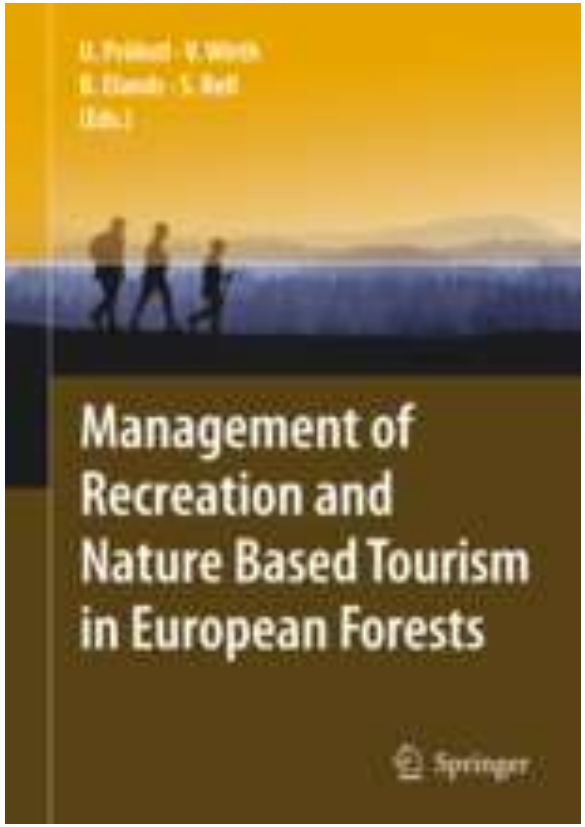

Leo Ivy

# In conclusion

- When approaching site design for outdoor recreation, think of it from a visitor's perspective
- We are putting elements into frequently beautiful and natural surroundings – let the landscape be itself and let us merely facilitate the recreational activities
- Facilities help us to manage access and to reduce damage to the landscape.




Three useful references for recreation planning and design

# The End

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