

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)

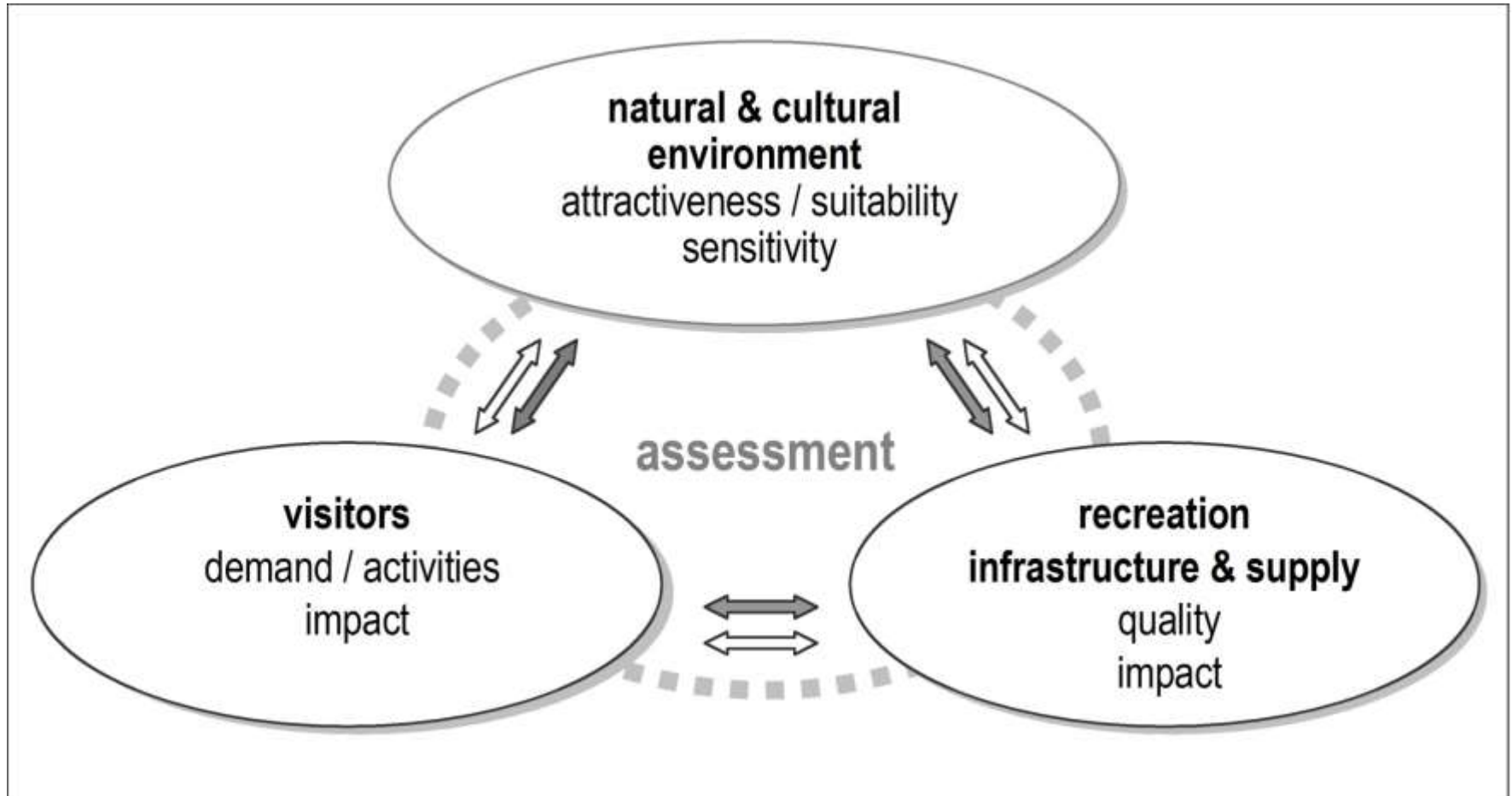
Main issues for planning and design

- 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

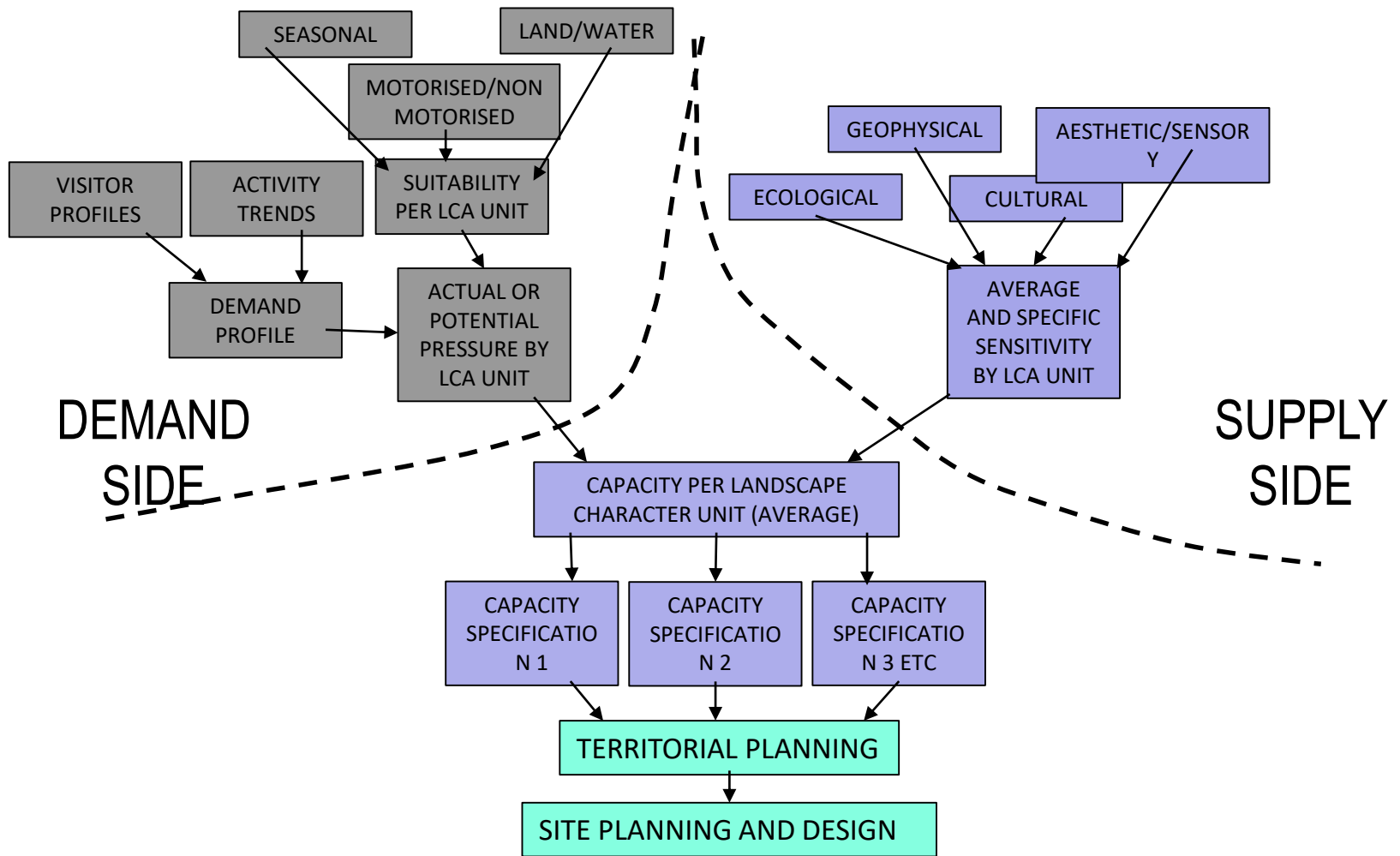
- Strategic planning: higher level goals set in legal and policy frameworks.
- Territorial planning: translating strategic goals into spatially defined plans
- Operational planning: applying plans over time, managing areas, providing facilities.

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



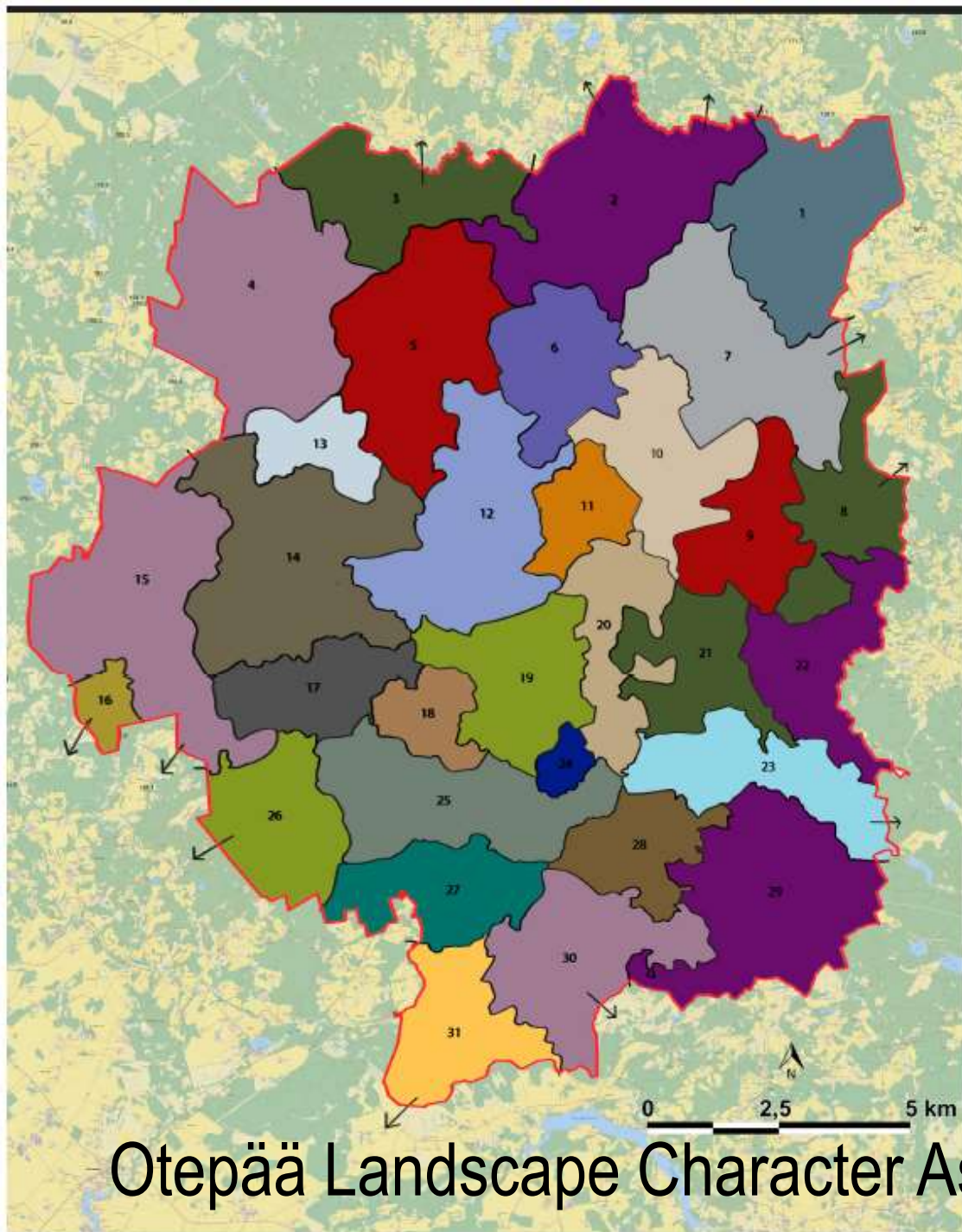
GENERAL MODEL OF CAPACITY ASSESSMENT METHOD



Otepää, Winter capital of Estonia (in summer...)



Start of the ski-marathon through the Otepää landscape

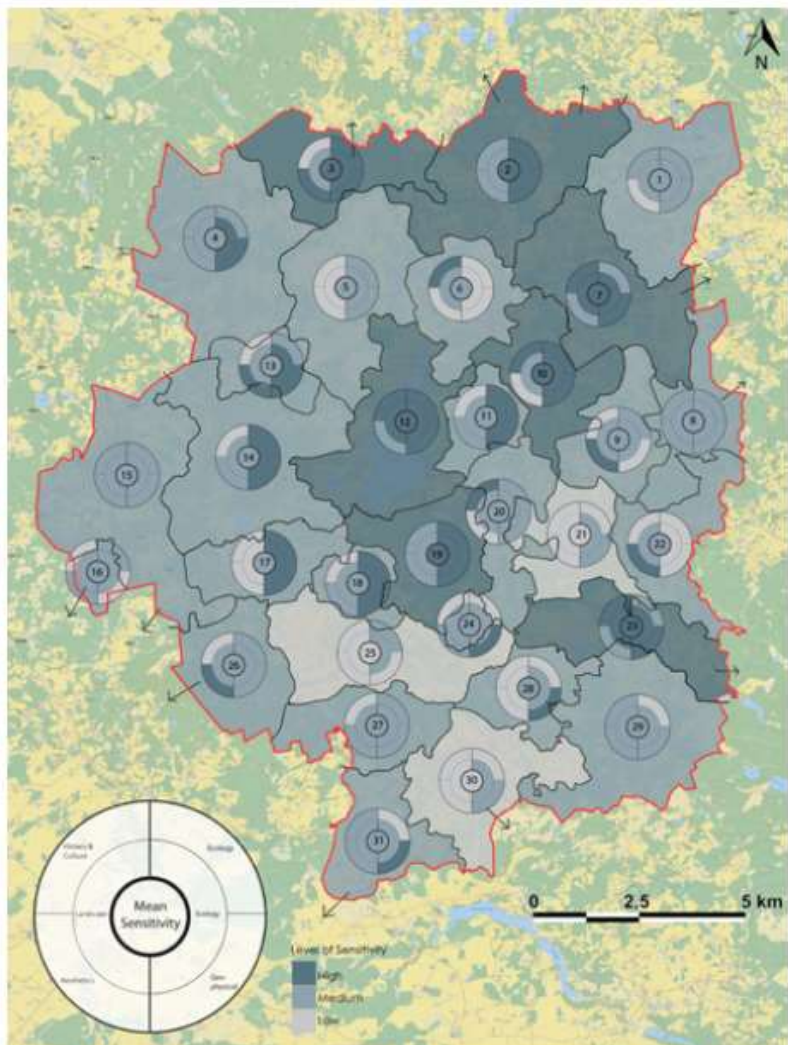


- 1- Fragmented forests and agriculture with wetland network
- 2- MOSAIC 1: Agricultural corridors in mixed forest stands
- 3- High density forests on rolling hills
- 4- MOSAIC 2 Fragmented agricultural land and mixed forest stands
- 5- Agriculture on rolling hills
- 6- Otepää Town and surrounding settlement
- 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



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

$$\text{mean sensitivity} = (\text{ecological sensitivity} + \text{landscape sensitivity}) / 2$$

$$\text{ecological sensitivity} = (\text{ecology} + \text{geo-physics}) / 2$$

$$\text{landscape sensitivity} = (\text{history and culture} + \text{aesthetics}) / 2$$

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

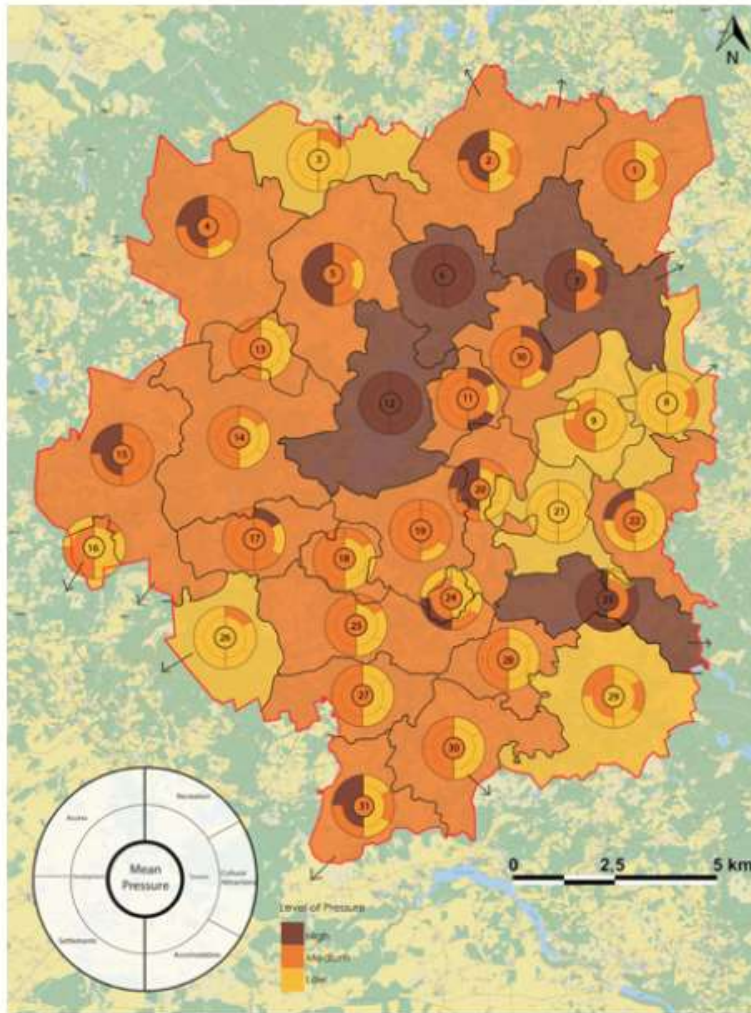
Table 1: Calculating Sensitivity (see Appendices 1,2 & 3 for maps)

Area	SENSITIVITY							
	Ecology			Landscape			Mean Sensitivity Score	Mean Sensitivity Level
	Ecology	Geo-physical	Mean Ecological Sensitivity	History/Culture	Aesthetics	Mean Landscape Sensitivity		
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 Orepiää 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

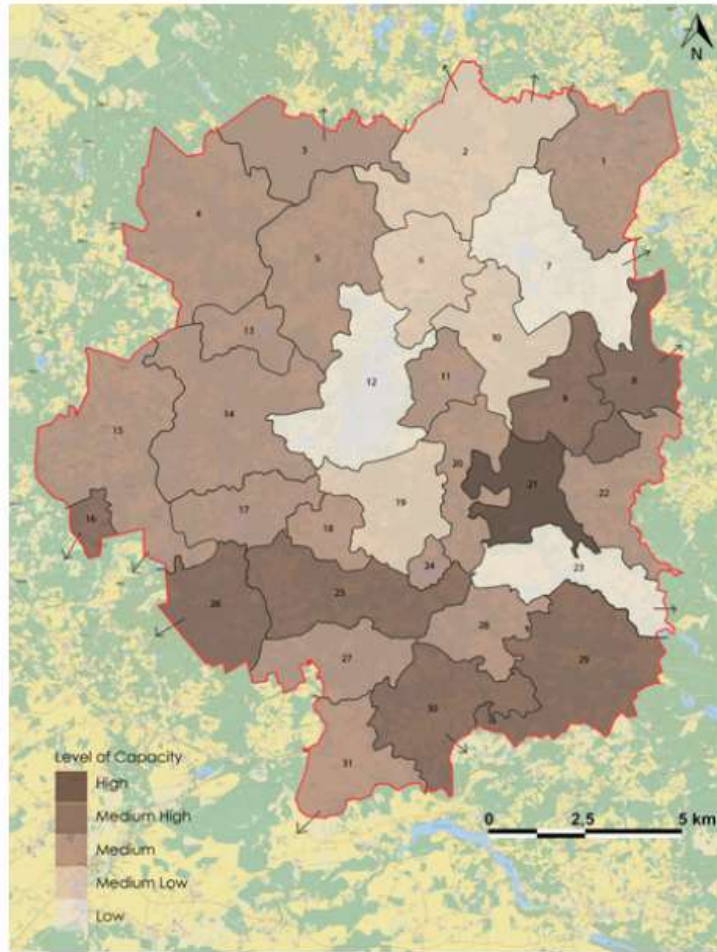
$$\begin{aligned} \text{mean pressure} &= (\text{development pressure} + \text{tourism pressure}) / 2 \\ \text{development pressure} &= (\text{access} + \text{settlement}) / 2 \\ \text{tourism pressure} &= (\text{recreation} + \text{history/culture} + \text{accommodation}) / 2 \\ \text{low pressure} &= 1 \quad \text{medium pressure} = 2 \quad \text{high pressure} = 3 \end{aligned}$$

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

Area	PRESSURE							Mean Pressure Score	Mean Pressure Level
	Tourism				Development				
	Recreation	History/Culture	Accommodation	Mean Tourism Pressure	Access/Communications	Settlements	Mean Development Pressure		
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 Kaaraste Rikkjärve 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 occurring 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



Glenside Forest Park

Lochside



The Car Park Closed at this time

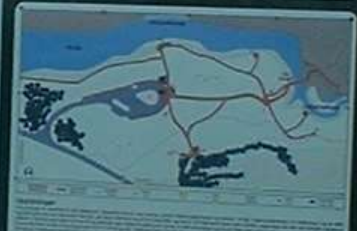


Hraunfossar Barnafoss



Stærðir
Hraunfossar: 100 m
Barnafoss: 15 m

Stærðir
Hraunfossar: 100 m
Barnafoss: 15 m



SKYRINGAR	Referentia	Stærðir
1	Hraunfossar	100 m
2	Barnafoss	15 m
3	Hraunfossar	100 m
4	Barnafoss	15 m

Stærðir og myndir af Hraunfossar og Barnafoss eru sýndar á myndunum hér. Myndirnar eru teknar af myndavélum og eru sýndar í myndunum hér. Myndirnar eru teknar af myndavélum og eru sýndar í myndunum hér.













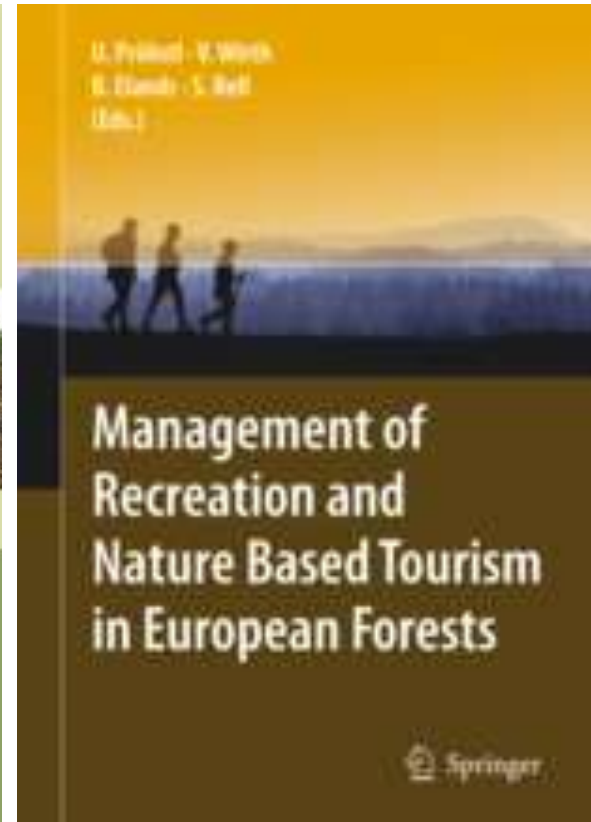
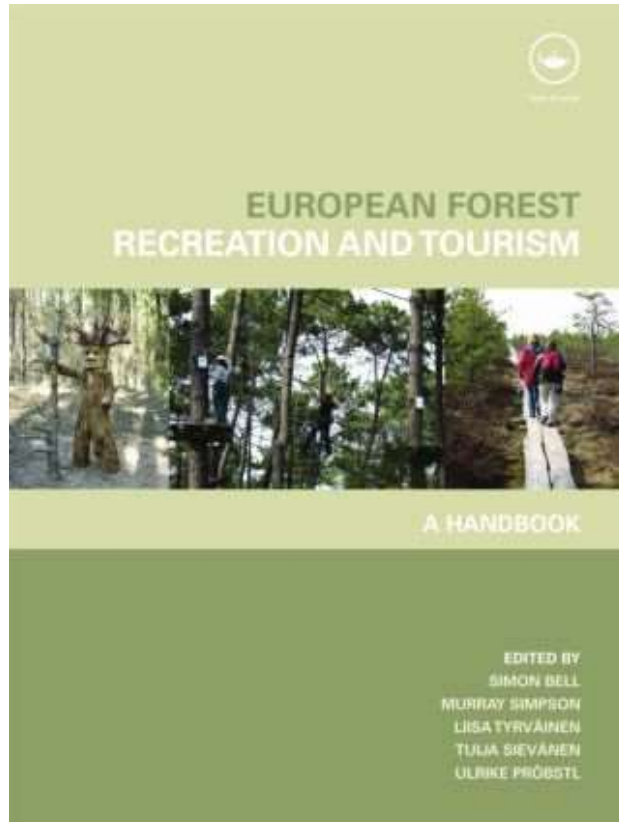
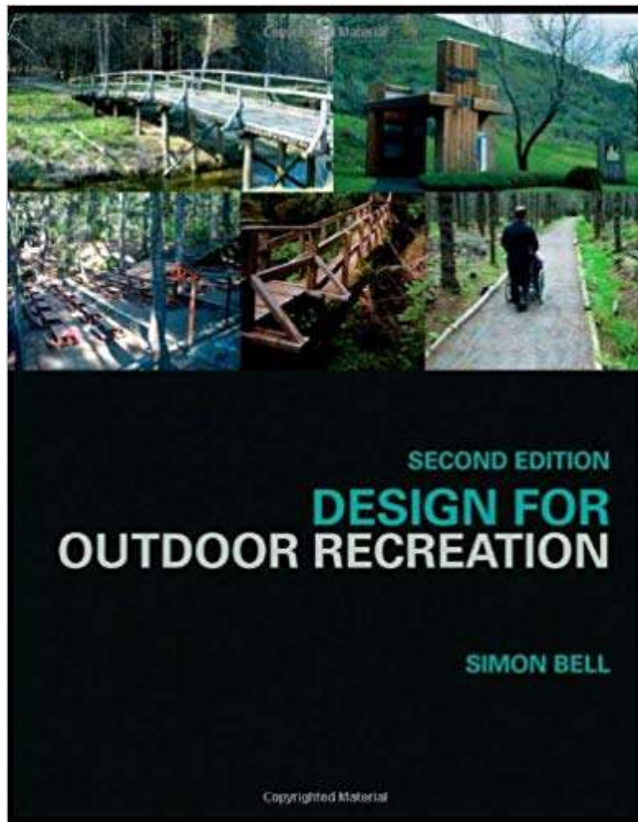






In conclusion

- 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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