

LANDSCAPE CHARACTER AND PLACE VALUE AS A FRAMEWORK FOR SUSTAINABLE RECREATION PLANNING AND MANAGEMENT

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THE UNIVERSITY
of EDINBURGH



Main issues for recreation 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 visitors, so their capacity should be respected
- Design of facilities should emphasise the contrast between urban and nature
- Sites should not be over-developed

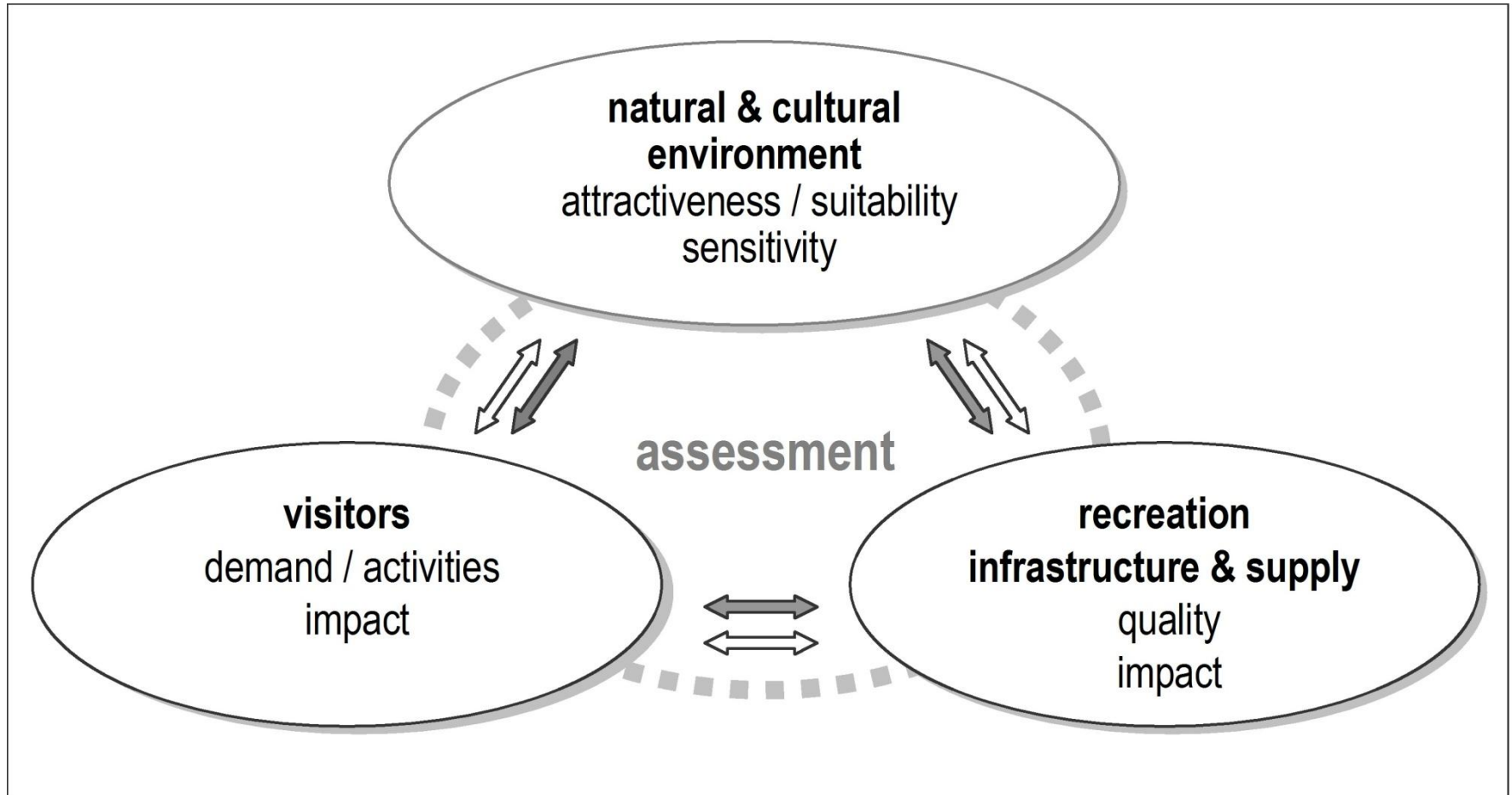
Visitor management

- As we know, there are many approaches for assessing pressure and impact at the site level
- These include eg Limits of Acceptable Change,
- A recent approach is the US inter-agency Visitor Use Management (VUM) Framework
- None really consider the landscape in a holistic way – they tend to deal with a series of separate “resource values”.

Levels of planning

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

The planning circle



Territorial planning – landscape scale

- To match the suitability and pressure for different forms of recreation to the capability of the landscape to accommodate them, 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

The European Landscape Convention

- The landscape is “... an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”.
- Place is a kind of subset of landscape – a specific location where local residents, especially, feel special bonds of attachment, or where there is a strong character – spirit of place or *Genius loci*

The European Landscape Convention

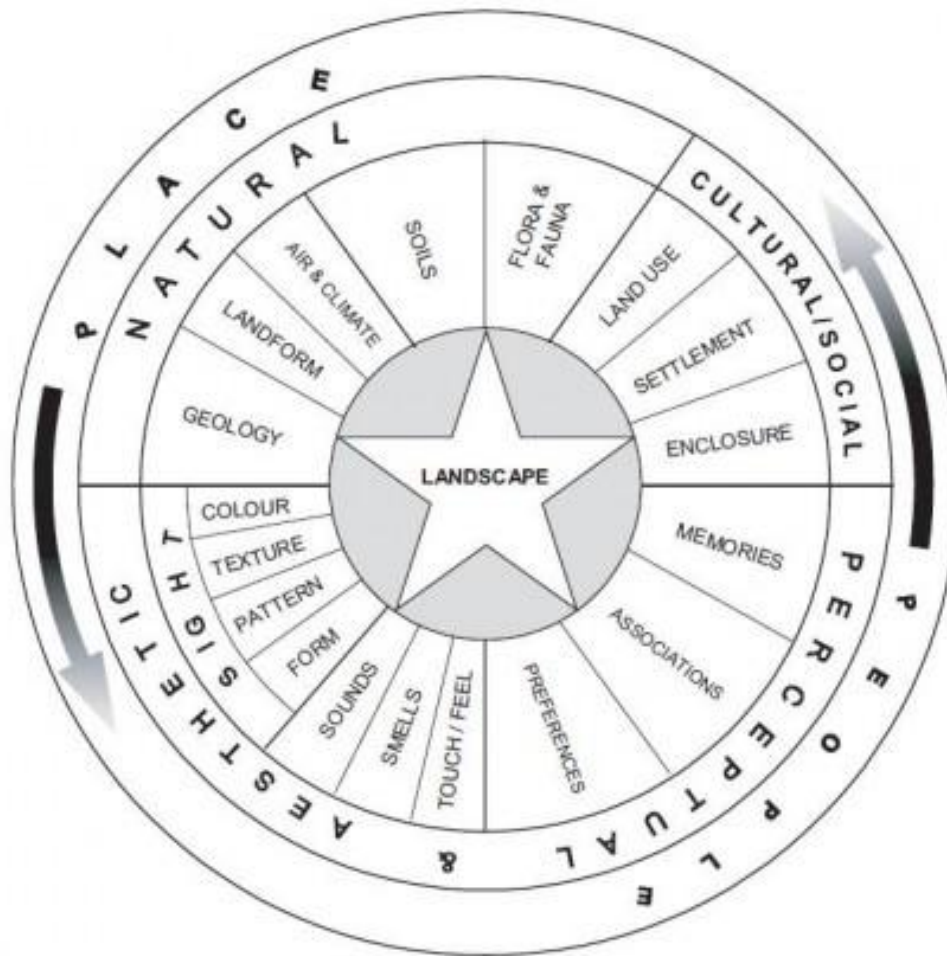
Each signatory country should:

- a) i identify its own landscapes throughout its territory;
 - ii analyse their characteristics and the forces and pressures transforming them;
 - iii take note of changes;
- b) assess the landscapes thus identified, taking into account the particular values assigned to them by the interested parties and the population concerned.

Assessing the Landscape

- Understanding the landscape, the processes that formed it and the pressures for change is an important step before landscape planning, design or management, especially at a large scale.
- It includes more than a geographical understanding – the visual and experiential aspects must be included.

Landscape

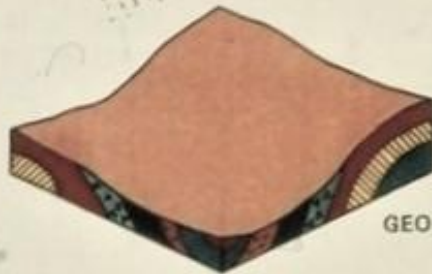


The Landscape is Dynamic

- Every landscape has developed over time as the result of different processes interacting with each other.
- It is necessary to understand what are or have been these processes and to see how they have influenced different areas to different degrees and in different ways.
- What are the current processes at work and how do they affect the landscape?



CLIMATIC PROCESSES OVER
TIME HAVE MODIFIED



GEOLOGICAL FORMATIONS



TOPOGRAPHY



DRAINAGE



DISTRIBUTION OF SOILS



PLANTS AND ANIMALS



MAN'S ACTIVITIES

WHICH ACCOUNTS FOR CURRENT

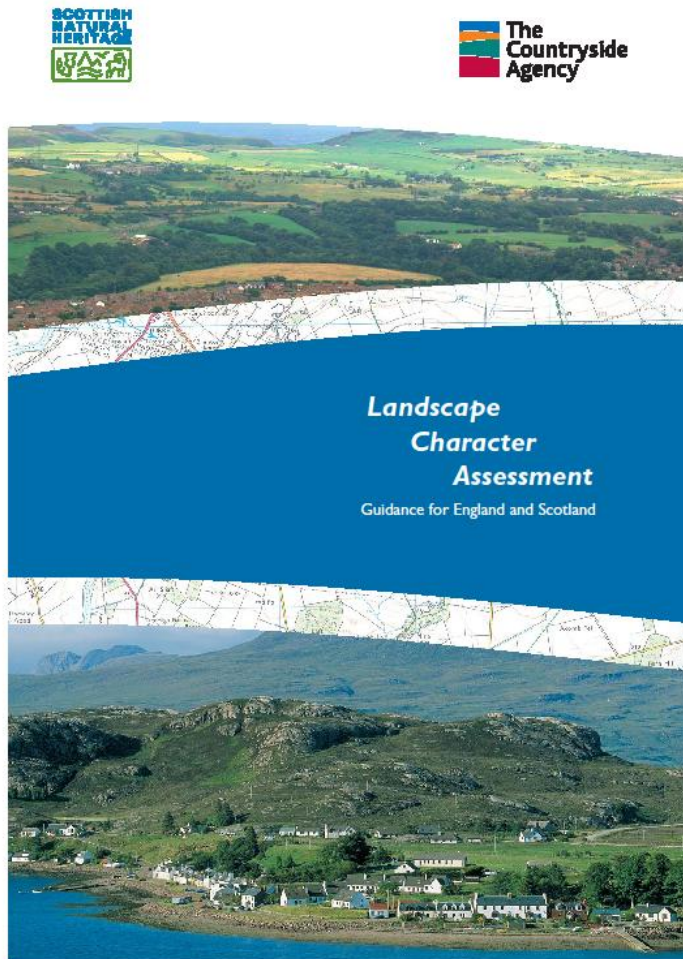
WHICH HAS DETERMINED

WHICH HAS INFLUENCED

AND ASSOCIATED

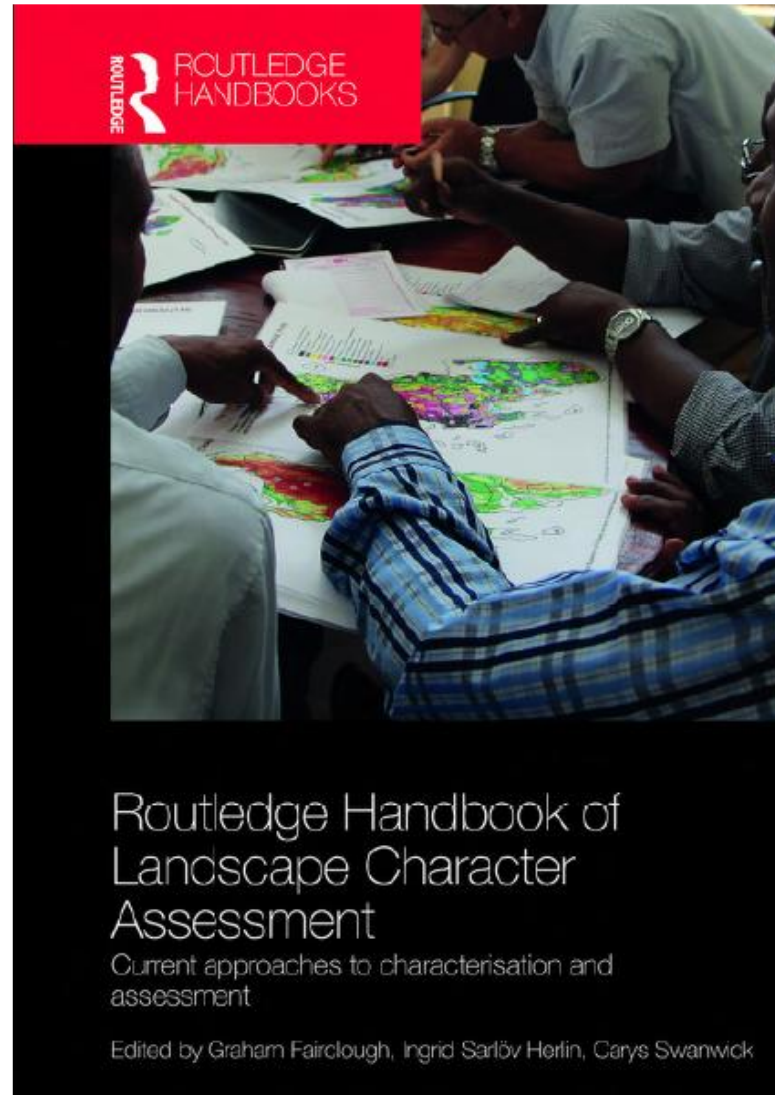
WHICH HAVE BEEN MODIFIED BY

Guidance



- Guidance from the early 2000s is still relevant and followed in practice
- Manual methods of mapping landscape types is still practised although GIS is used extensively

Recent Overview and Review



Definitions

- **Character**

A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.

- **Characteristics**

Elements, or combinations of elements, which make a particular contribution to distinctive character.

Definitions

- **Elements**

Individual components which make up the landscape, such as trees and buildings.

- **Features**

Particularly prominent or eye-catching elements, like tree clumps, church towers, or wooded skylines.

- **Characterisation**

The process of identifying areas of similar character, classifying and mapping them and describing their character

Landscape Character Assessment Process

Phase 1: Characterisation

Step 1: Defining the scope

Step 2: Desk study

Step 3: Field survey

Step 4: Classification and description

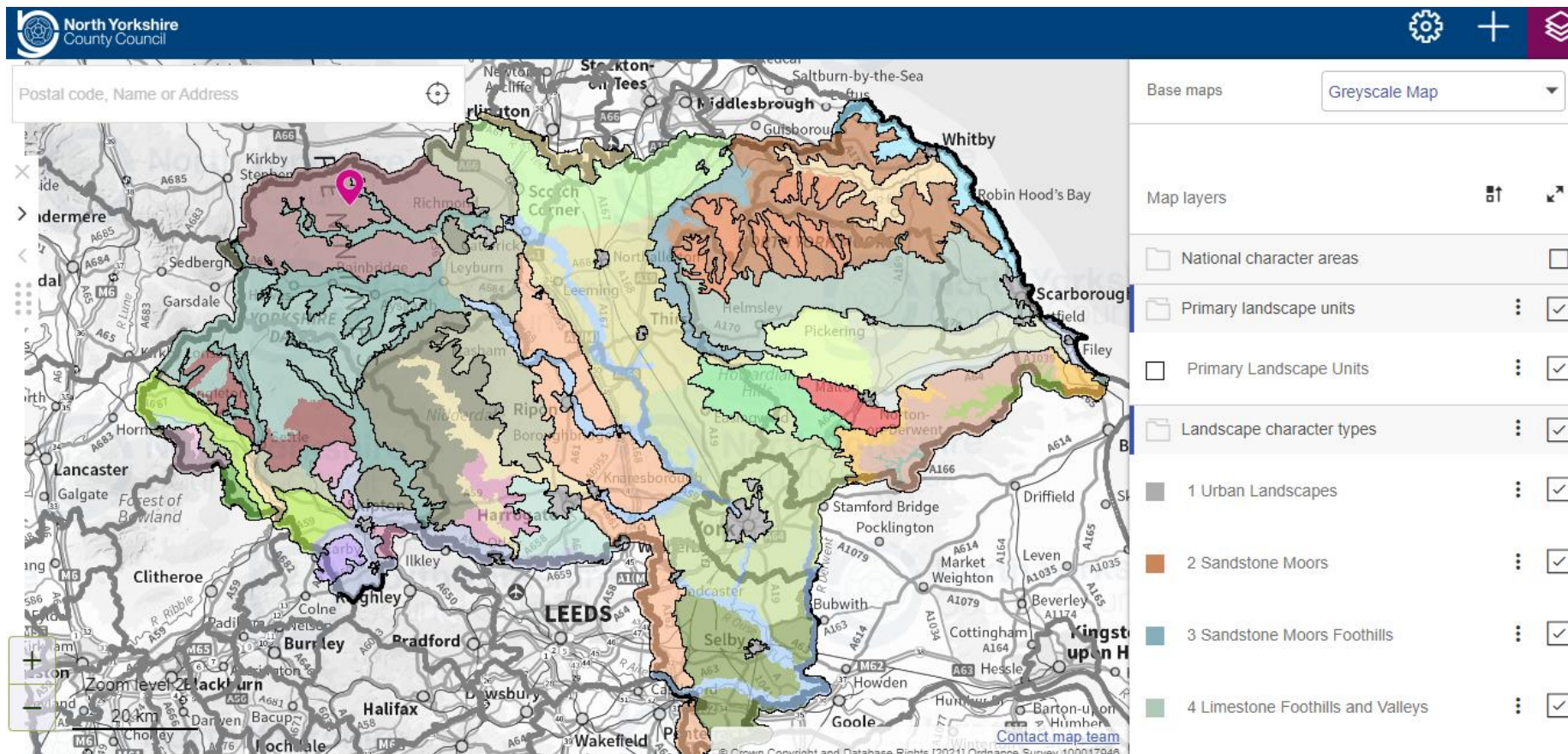
Phase 2: Making judgements

Step 5: Deciding the approach to judgements (eg. expert-led, with public participation).

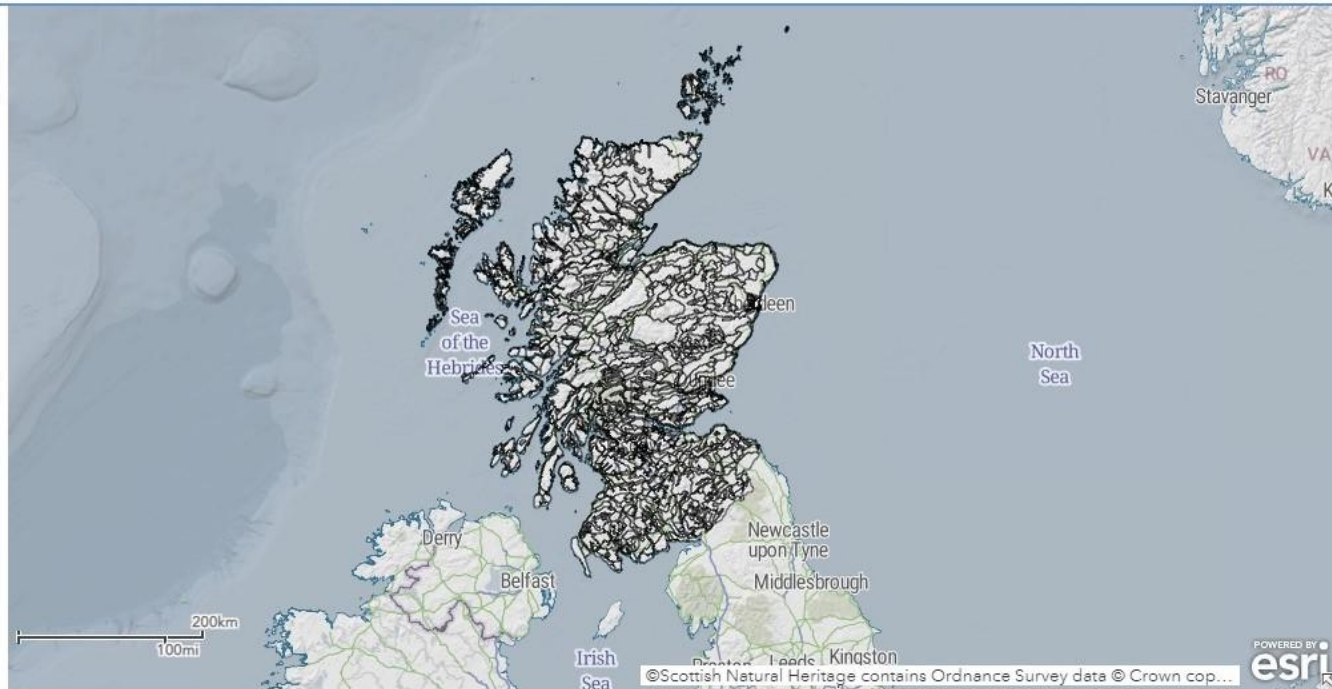
Step 6: Making judgements (eg. value, sensitivity, capacity)

Some Landscape Character Programme Examples

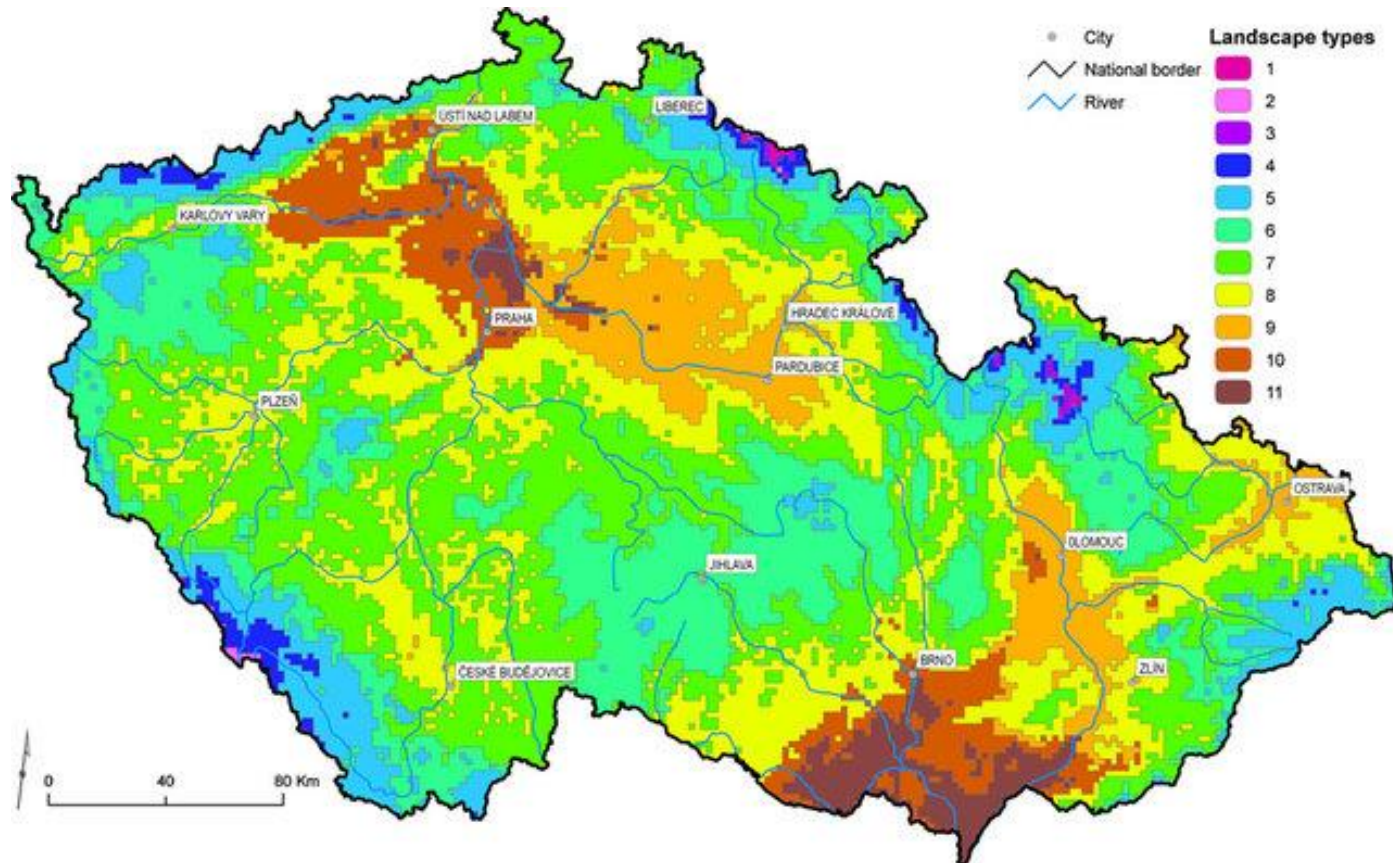
English County: Online System – Searchable Database



Scotland: Online System – Searchable Database



Regional scale Czech map – bio-physical, no cultural or perceptual aspects



Landscape Sensitivity and Landscape Capacity: Common Approach

Landscape sensitivity

- Reflects the vulnerability of a landscape to change; the ability of a system to take pressure
- Within a given landscape, certain attributes may be more vulnerable to change than others – eg. ecology, culture, aesthetics etc

Landscape Sensitivity and Landscape Capacity: Common Approach

Landscape capacity

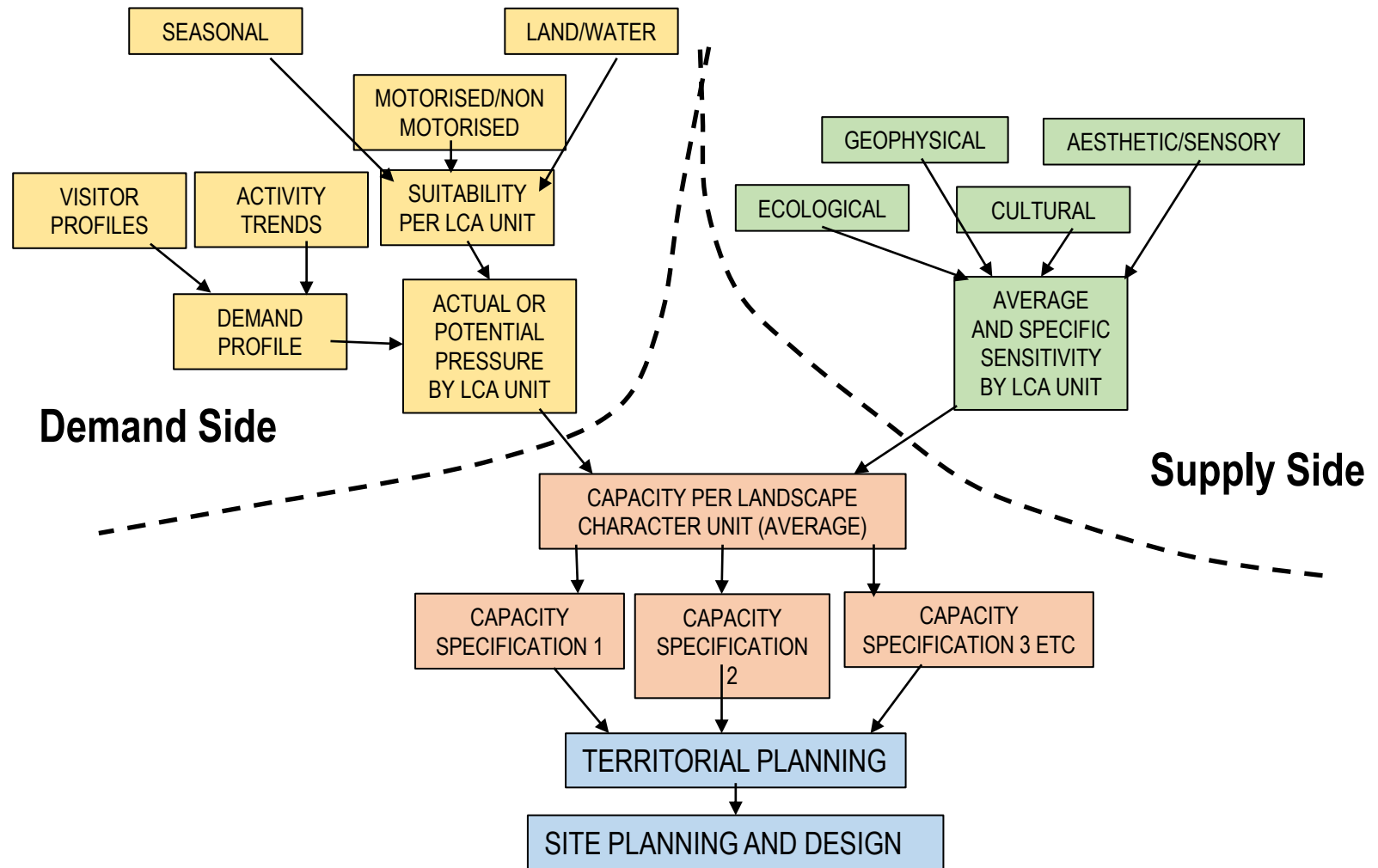
- The ability of a landscape character type or area to accommodate a specific change without undesired effects, influenced by landscape sensitivity
- Varies according to the type and degree of change
- Reflects the value of the landscape

Landscape Sensitivity and Landscape Capacity: Common Approach

The landscape is *sensitive* to different forms of recreation and tourism activities.

Capacity is the ability by which the landscape can accommodate a particular type or scale of activity in relation to its sensitivity.

Thus a landscape with *greater sensitivity* to a particular type of development usually has *lower capacity* to accommodate this.



General Model of Capacity Assessment Method

Assessing Sensitivity: Supply Side

- Consider the different aspects which may be affected by specific forms of recreation
- Ecological sensitivity – eg. Disturbance of wildlife, 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

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 are or who might the user groups/target market be?
- Assess the pressure according to different types of activity and the demand: eg. motorised/non-motorised, active/passive etc

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 for the same area according to different classes of activity or seasons

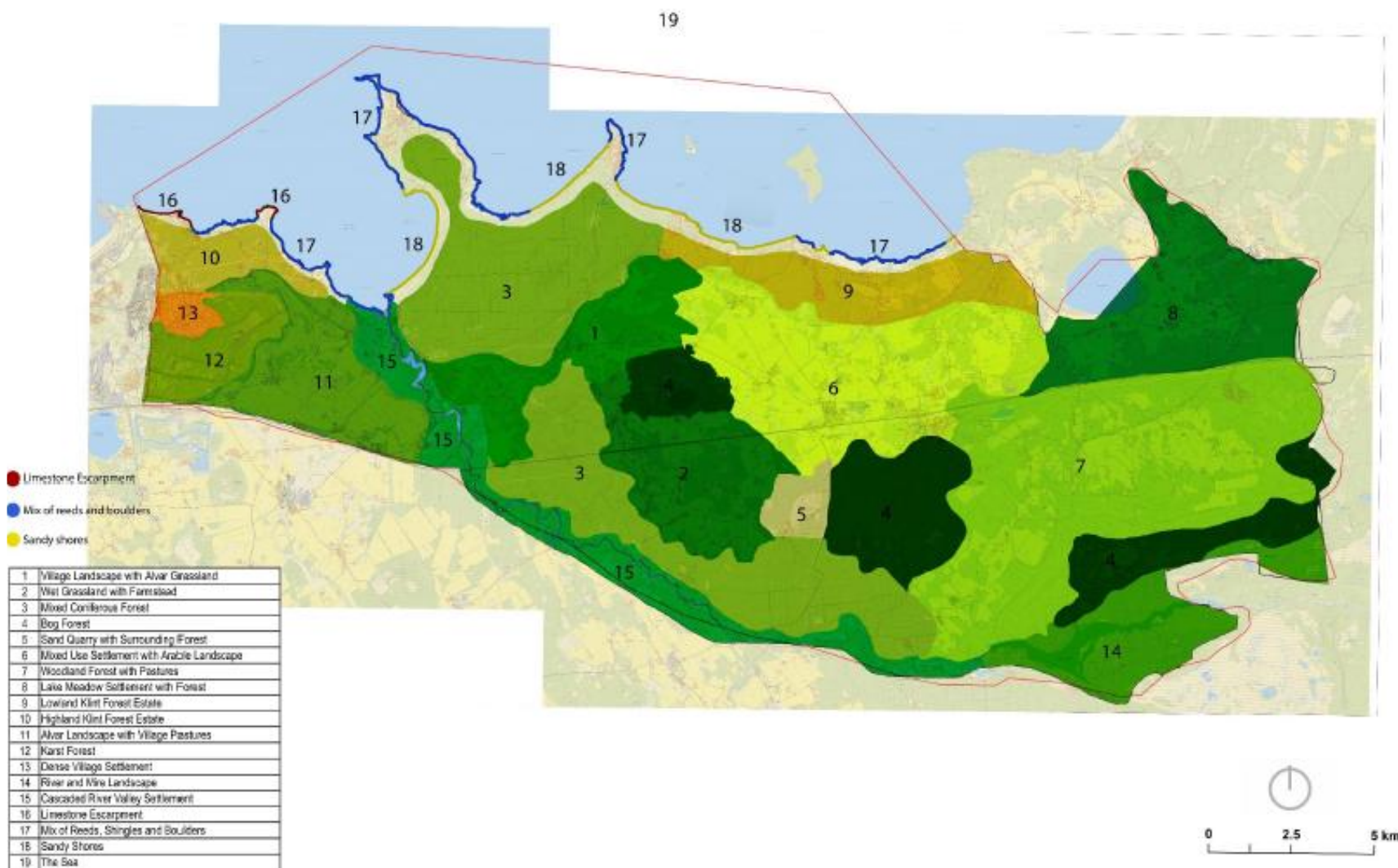
North Coast of Estonia

- The following example is taken from one of the projects undertaken by master students in the Estonian University of Life Sciences
- Each year a different location is chosen and where possible collaboration with local municipalities takes place (to obtain data, feedback and to test the results)



Location: between Tallinn city and Lahemaa National Park:
a kind of buffer zone

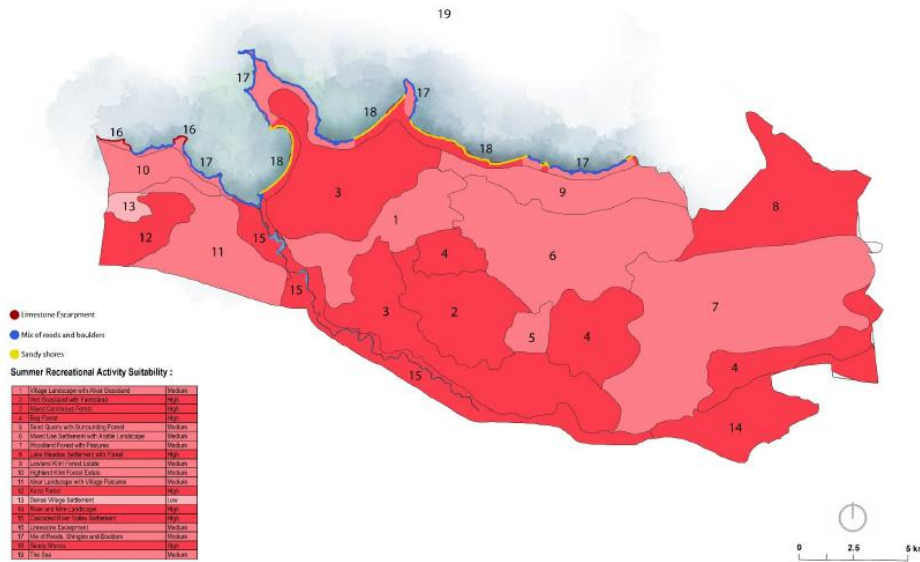
LANDSCAPE CHARACTER TYPES



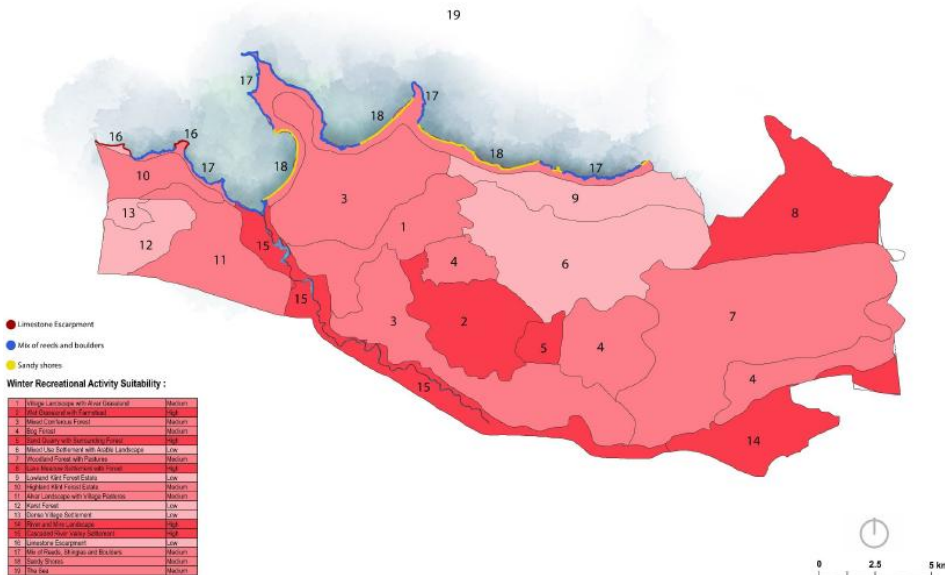
Assessing capacity

- Step 1: Demand side – assessing **suitability**
 - Identify the range of recreational activities which are currently undertaken and also those which are trending plus data on users in order to estimate of there is visitor pressure in general and more specific forms of pressure
 - Divide these into summer and winter activities (and also possibly “mid-season” – spring and autumn)
 - Examine each LCA unit to see if the activity is a) suitable and b) if so how suitable (high, medium or low)

Overall suitability for summer activities by LCA unit



Overall suitability for winter activities by LCA unit



Assessing capacity

- Step 2: Supply side— assessing **sensitivity**
 - Identify the different factors which contribute to sensitivity and develop criteria for assessing the degree
 - Divide these in relation to summer and winter activities (and possibly “mid-season”)
 - Examine each LCA unit to assess a) the overall sensitivity and b) the relative/weighted importance of specific criteria – ecological, geophysical, cultural, aesthetic/sensory etc

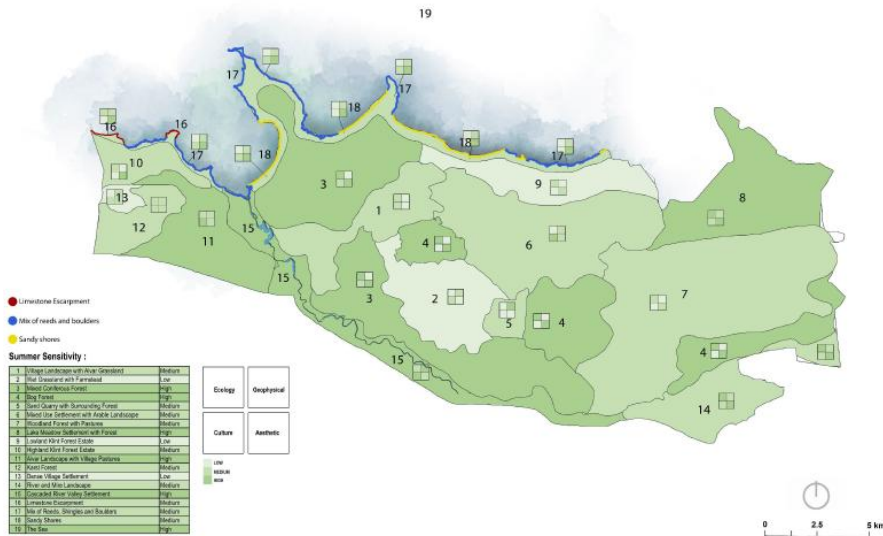
No	CHARACTERS	SUMMER SEASON																Average Sensitivity	Final Result
		ENVIRONMENTAL											LANDSCAPE						
		ECOLOGICAL				GEOPHYSICAL				CULTURAL			AESTHETIC						
		Vegetation	Wildlife	Average	Levels	Water Pollution	Erosion	Average	Levels	Historical	Average	Levels	Visual	Noise	Crowding	Average	Levels		
1	Village Landscape with Alvar Grassland	2	1	6	Medium	1	1	1	Low	6	0	0	2	1	1	4	Medium	4	High
2	Wet Grassland with Farnsloed	1	1	3	Low	2	1	2	Medium	1	2	Medium	1	6	1	2	Low	2	Low
3	Mead Continuous Forest	3	2	9	High	0	1	1	Low	2	4	Medium	3	0	1	6	High	5	High
4	Bog Forest	3	3	9	High	0	1	1	Low	6	0	0	3	1	0	6	High	3.5	High
5	Sandy Quarry in Surrounding Forest	1	1	3	Low	1	3	3	High	6	0	0	1	3	2	2	Low	3	Medium
6	Mixed Use Settlement with Arable Landscape	1	1	3	Low	2	2	2	Medium	3	6	High	2	2	2	4	Medium	3.5	Medium
7	Woodland Forest with Pastures	2	2	6	Medium	1	1	1	Low	1	1	Low	2	2	2	4	Medium	2.5	Medium
8	Large Meadow Settlement with Forest	3	2	9	High	1	2	2	Medium	2	4	Medium	3	1	1	6	High	5	High
9	Lowland Mixed Forest Estate	2	1	6	Medium	1	1	1	Low	6	0	0	2	2	1	4	Medium	4	Low
10	Highland Mixed Forest Estate	2	2	6	Medium	1	1	1	Low	1	2	Low	3	1	0	6	High	4	Medium
11	Alvar Landscape with Village Pastures	2	1	6	Medium	2	1	2	Medium	2	6	High	2	1	1	4	Medium	5	High
12	Korsl Forest	2	1	6	Medium	1	2	2	Medium	1	2	Medium	2	2	1	4	Medium	3	Medium
13	Dense Village Settlement	1	6	3	Low	2	1	2	Medium	2	4	Medium	1	2	3	2	Medium	2.5	Low
14	River and Mead Landscape	3	2	9	High	1	2	2	Medium	1	2	Medium	3	2	2	6	High	4	Medium
15	Cascaded River Valley Settlement	2	2	6	Medium	1	3	3	High	3	4	Medium	3	2	2	6	High	5	High
16	Uniszer Escarpment	3	2	9	High	0	2	2	Medium	6	0	0	3	1	1	6	High	6	High
17	Mix of Reeds, Shingles and Boulders	1	1	3	Low	1	2	2	Medium	1	2	Medium	3	2	2	6	High	2.5	Medium
18	Sandy Shores	1	1	3	Low	1	2	2	Medium	6	0	0	3	1	1	6	High	3	Medium
19	The Sec	2	2	6	Medium	1	2	2	Medium	1	2	High	3	2	2	6	High	4	High

Summer season sensitivity

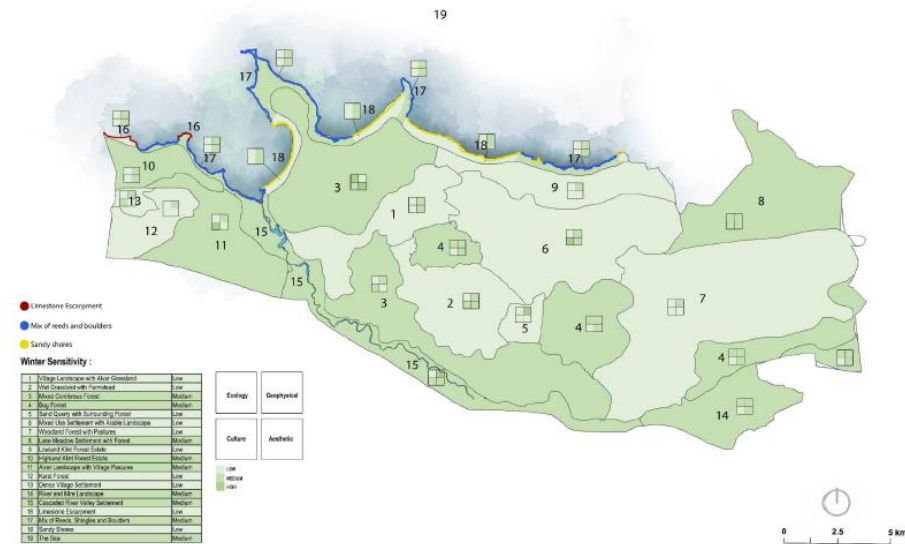
No	CHARACTERS	WINTER SEASON																Average Sensitivity	Final Result
		ENVIRONMENTAL											LANDSCAPE						
		ECOLOGICAL				GEOPHYSICAL				CULTURAL			AESTHETIC						
		Vegetation	Wildlife	Average	Levels	Water Pollution	Erosion	Average	Levels	Historical	Average	Levels	Visual	Noise	Crowding	Average	Levels		
1	Village Landscape with River Grassland	0	1	1	Low	1	2	2	Medium	0	0	0	2	0	0	4	Medium	2.5	Low
2	Wet Grassland with Farmland	0	0	0	0	2	2	2	Medium	1	2	Medium	2	1	1	4	Medium	2	Low
3	Mixed Coniferous Forest	1	1	1	Low	1	2	2	Medium	2	4	Medium	1	1	1	2	Low	2.5	Medium
4	Bog Forest	2	1	1	Medium	0	2	2	Medium	0	0	0	2	1	0	4	Medium	3	Medium
5	Sandy Quarry in Surrounding Forest	0	0	0	0	2	2	2	Medium	0	0	0	1	2	2	2	Low	2	Low
6	Mixed Use Settlement with Arable Landscape	0	0	0	0	2	2	2	Medium	3	6	High	1	2	2	2	Low	2	Low
7	Woodland Forest with Pastures	1	1	1	Low	1	2	2	Medium	0	0	0	1	1	1	2	Low	2	Low
8	Lake Meadow Settlement with Forest	2	1	1	Medium	2	2	2	Medium	2	4	Medium	2	2	1	4	Medium	4	Medium
9	Lowland Kint Forest Estate	1	0	1	Low	2	1	2	Medium	0	0	0	1	2	1	2	Low	2	Low
10	Highland Kint Forest Estate	1	1	1	Low	1	3	3	Medium	1	2	Low	2	1	0	4	Medium	3	Medium
11	Arable Landscape with Village Pastures	1	1	1	Low	3	2	2	Medium	3	6	High	1	1	1	2	Low	2.5	Medium
12	Kint Forest	1	0	1	Low	2	2	2	Medium	1	2	Low	1	1	0	2	Low	2	Low
13	Dorcas Village Settlement	0	0	0	0	2	2	2	Medium	2	4	Medium	1	2	2	2	Low	2	Low
14	River and Mile Landscape	2	1	1	Medium	3	2	2	Medium	1	2	Low	2	1	1	4	Medium	3	Medium
15	Cassadon River Valley Settlement	1	1	1	Low	2	3	3	High	2	4	Medium	2	1	1	4	Medium	3.5	Medium
16	Limestone Escarpment	1	1	1	Low	1	2	2	Medium	0	0	0	2	1	1	4	Medium	3	Medium
17	Mix of Roads, Stingles and Boulders	1	1	1	Low	2	2	2	Medium	1	2	Medium	2	1	1	4	Medium	2.5	Medium
18	Sandy Shores	0	1	1	Low	1	2	2	Medium	1	2	Low	2	1	1	4	Medium	2.5	Low
19	The Sea	1	2	1	Medium	1	2	2	Medium	1	2	Low	2	2	1	4	Medium	3	Medium

Winter season sensitivity

Legend	Grade
No- Sensitivity	0
Low	1-2.5
Medium	3-4
High	5-7



Overall sensitivity for summer activities by LCA unit with details of specific contributions (small checkers)



Overall sensitivity for winter activities by LCA unit with details of specific contributions (small checkers)

Assessing capacity

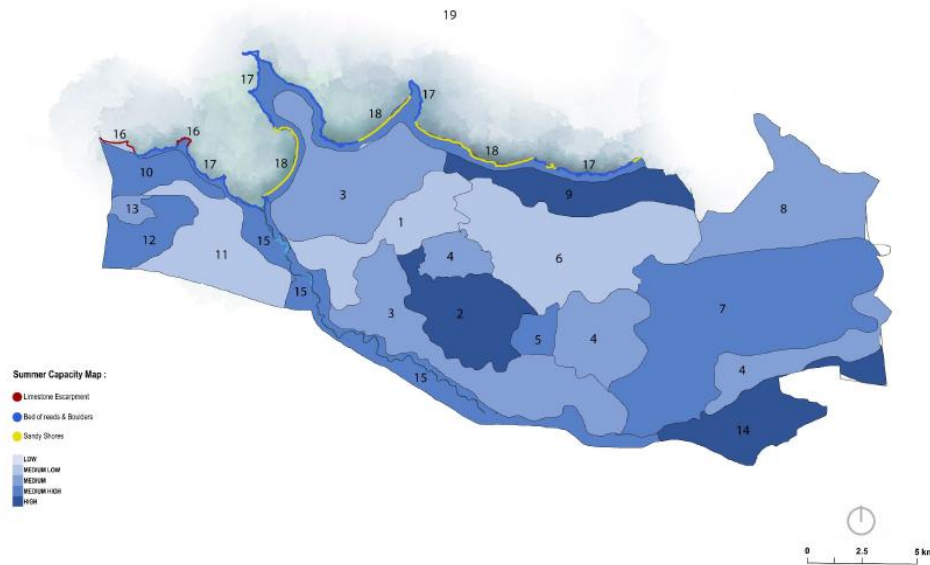
- Step 3: Assessing capacity
 - Examine each LCA unit and test the interaction between the suitability assessment and sensitivity assessment
 - In this particular project, owing to a lack of good data on demand, there is no pressure assessment possible but the link between suitability and sensitivity produces useful results for future development or protection.
 - Where there is good data on actual use and surveys of demand and how it is changing, then this is fed into the assessment.

SUMMER SEASON				
No	Characters	Level of Sensitivity	Level of Suitability	Capacity
1	Village Landscape with Alvar Grassland	High	Medium	Medium Low
2	Wet Grassland with Farmstead	Low	High	High
3	Mixed Coniferous Forest	High	High	Medium
4	Bog Forest	High	High	Medium
5	Sandy Quarry in Surrounding Forest	Medium	Medium	Medium High
6	Mixed Use Settlement with Arable Landscape	Medium	Medium	Medium Low
7	Woodland Forest with Pastures	Medium	Medium	Medium High
8	Lake Meadow Settlement with Forest	High	High	Medium
9	Lowland Klint Forest Estate	Low	Medium	High
10	Highland Klint Forest Estate	Medium	Medium	Medium High
11	Alvar Landscape with Village Pastures	High	Medium	Medium Low
12	Karst Forest	Medium	High	Medium High
13	Dense Village Settlement	Low	Low	Medium
14	River and Mine Landscape	Medium	High	High
15	Cascaded River Valley Settlement	High	High	Medium High
16	Limestone Escarpment	Medium	Medium	Medium Low
17	Mix of Reeds, Shingles and Boulders	Medium	Medium	Medium High
18	Sandy Shores	Medium	High	Medium High
19	The Sea	High	Medium	Medium Low

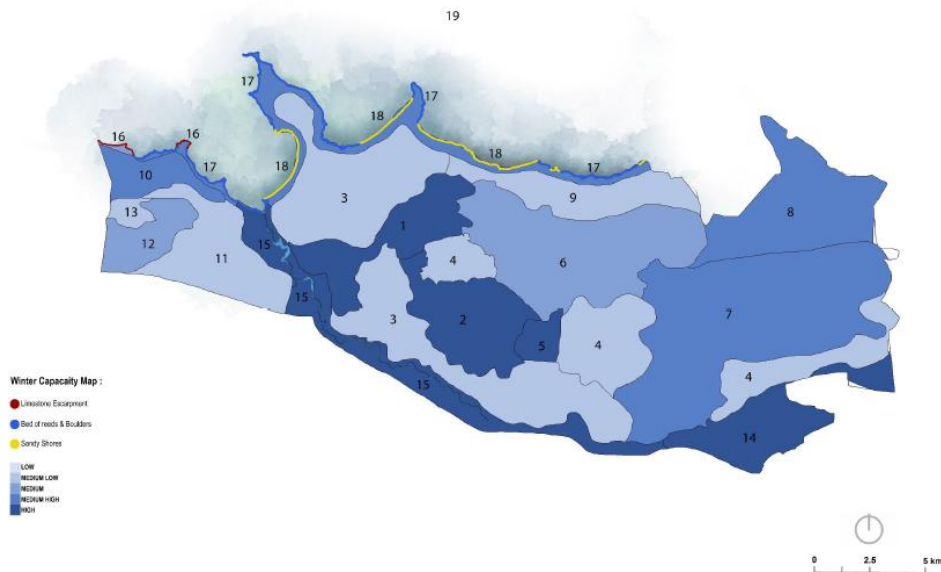
WINTER SEASON				
No	Characters	Level of Sensitivity	Level of Suitability	Capacity
1	Village Landscape with Alvar Grassland	Low	Medium	High
2	Wet Grassland with Farmstead	Low	High	High
3	Mixed Coniferous Forest	Medium	Medium	Medium Low
4	Bog Forest	Medium	Medium	Medium Low
5	Sandy Quarry in Surrounding Forest	Low	High	High
6	Mixed Use Settlement with Arable Landscape	Low	Low	Medium
7	Woodland Forest with Pastures	Low	Medium	Medium High
8	Lake Meadow Settlement with Forest	Medium	High	Medium High
9	Lowland Klint Forest Estate	Low	Low	Medium Low
10	Highland Klint Forest Estate	Medium	Medium	Medium High
11	Alvar Landscape with Village Pastures	Medium	Medium	Medium Low
12	Karst Forest	Low	Low	Medium
13	Dense Village Settlement	Low	Low	Medium Low
14	River and Mine Landscape	Medium	High	High
15	Cascaded River Valley Settlement	Medium	High	High
16	Limestone Escarpment	Medium	Low	Medium
17	Mix of Reeds, Shingles and Boulders	Medium	Medium	Medium Low
18	Sandy Shores	Low	Medium	Medium High
19	The Sea	Medium	Medium	Medium High

General capacity assessment for summer and winter seasons by LCA type

Overall capacity for summer activities by LCA unit



Overall capacity for winter activities by LCA unit



From capacity to management

- Final Step: Refining capacity at the LCA unit level
 - Examine each LCA unit against the results of the capacity assessment
 - Define which group of activities are most suitable and practical or meet demand.
 - Consider what management actions may be needed: eg. conservation, rehabilitation or development
 - Prepare more detailed guidance for planners, designers and managers

Next steps

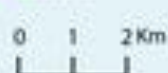
- To date the approach has not been properly published but I am preparing a 3rd revised edition of “Design for Outdoor Recreation” with a new planning chapter to incorporate this.
- It would also be good to see how the results could be integrated with other frameworks such as LAC or VUM moving from the planning aspects towards management.
- Recent work has also used LCA to assess Cultural Ecosystem Services at a territorial level.

Example of Application of Cultural Ecosystem Services

- A study by Fiona Nevzati, PhD student, of Harku Municipality (to the west of Tallinn), examining the relationship between the landscape character and specific Cultural Ecosystem Services (CES)
- Found a distinct association of some CES (mental restoration, cognitive benefits and social values) with particular LCA types

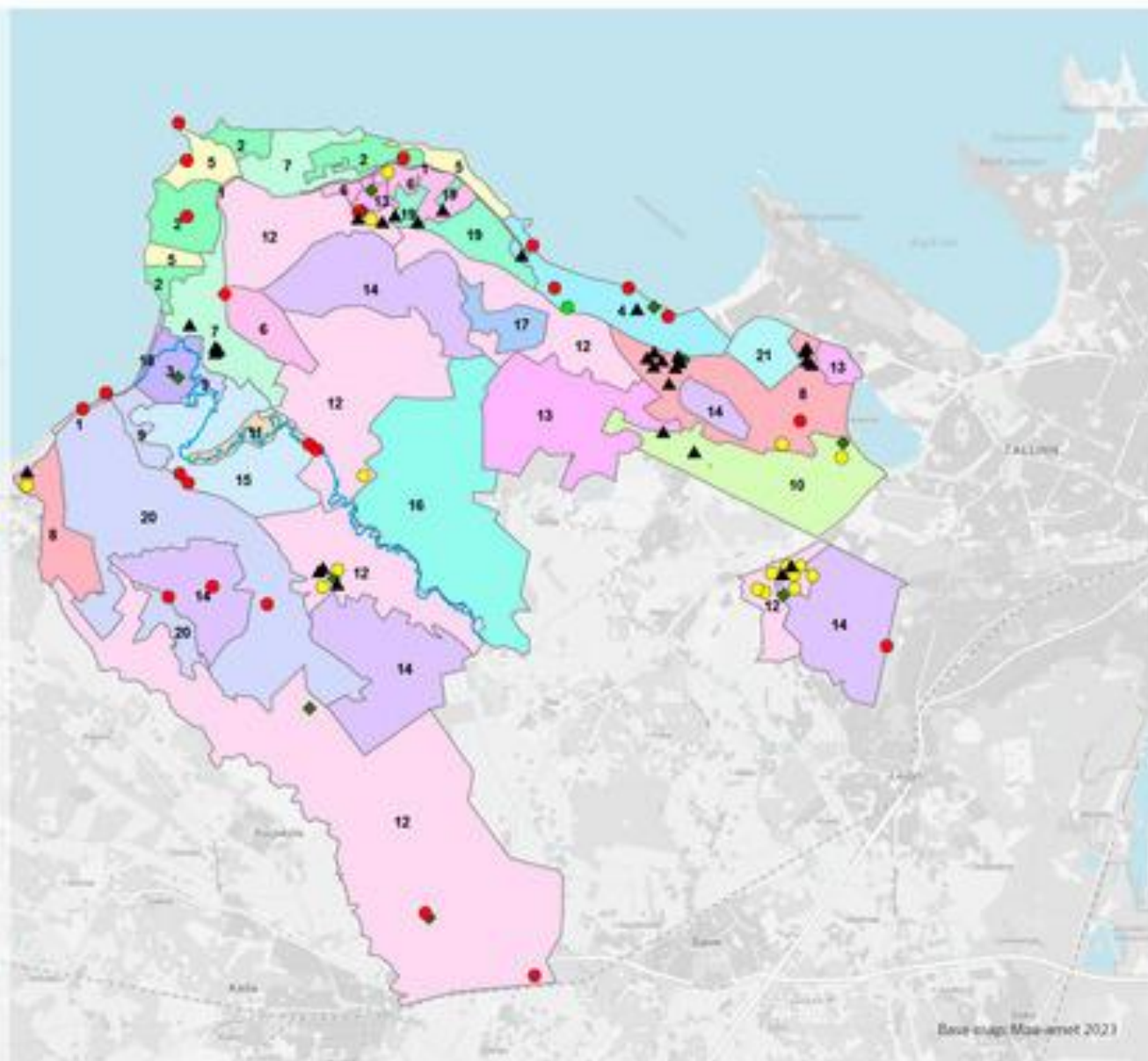
Natural Environment Types

- ▲ Activity Areas
- Community/Blockhouse Gardens
- ◆ Public Parks
- Nature Protected Area
- Various



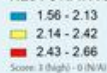
LANDSCAPE CHARACTER TYPES (LCTs)

1. Cliff
2. Coastal Forest
3. Coastal Forest on River Mouth Plateau
4. Coastal Forest with Dense Settlement
5. Coastal Forest with Settlement Clusters
6. Densely Settled Area On Clint
7. Densely Settled Area Under Clint
8. Densely Settled Area with Mixed Land Use
9. Densely Settled River Plateau
10. Industrial Area
11. Meandering River with Grasslands and Single Farms
12. Mixed Agricultural Land with Settlement Clusters
13. Mixed Forest
14. Mixed Forest and Wetland
15. Mixed Forest On River Plateau
16. Mixed Forest with Settlement Clusters
17. Polder
18. Sandy Beach
19. Semi-natural Grassland with Fossil Fields
20. Semi-Natural Grassland with Private Farms
21. Agricultural Land



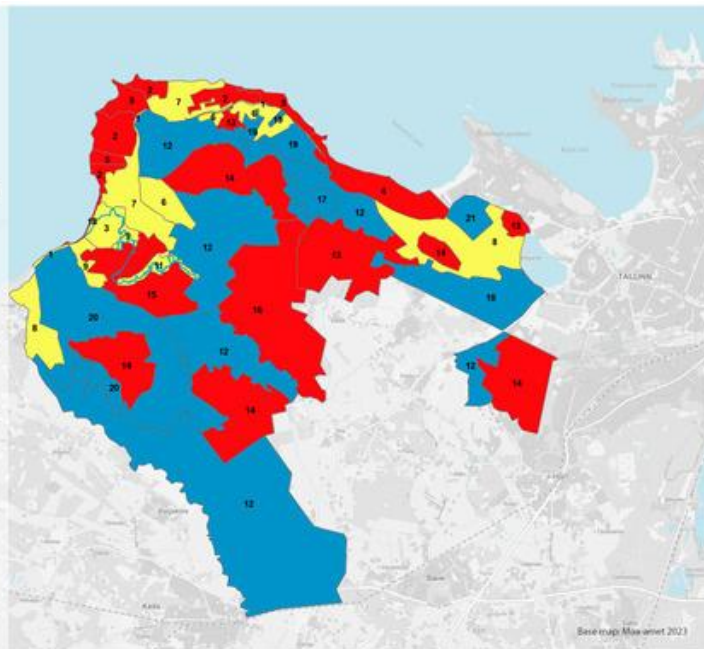
Base map: Mapbox 2023

RESTORATIVE



LANDSCAPE CHARACTER TYPES (LCTs)

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2. Coastal Forest
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7. Densely Settled Area Under Clint
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9. Densely Settled River Plateau
10. Industrial Area
11. Meandering River with Grasslands and Single Farms
12. Mixed Agricultural Land with Settlement Clusters
13. Mixed Forest
14. Mixed Forest and Wetland
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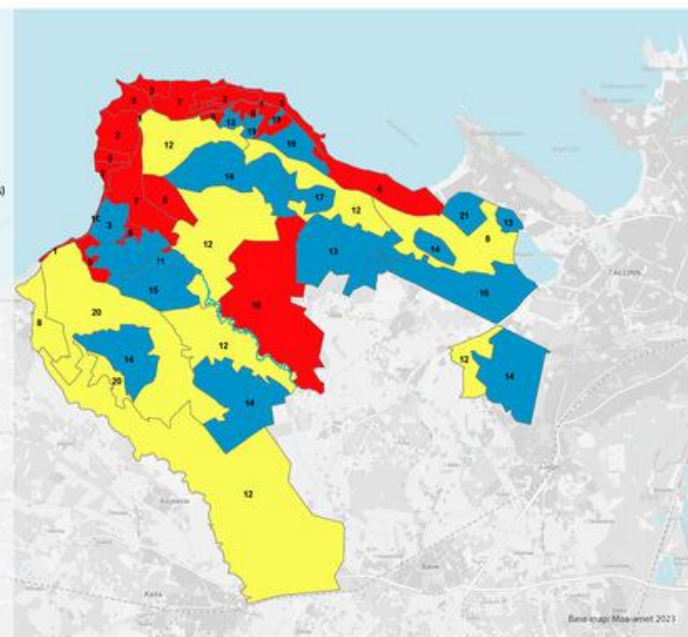


SOCIAL

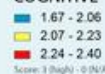


LANDSCAPE CHARACTER TYPES (LCTs)

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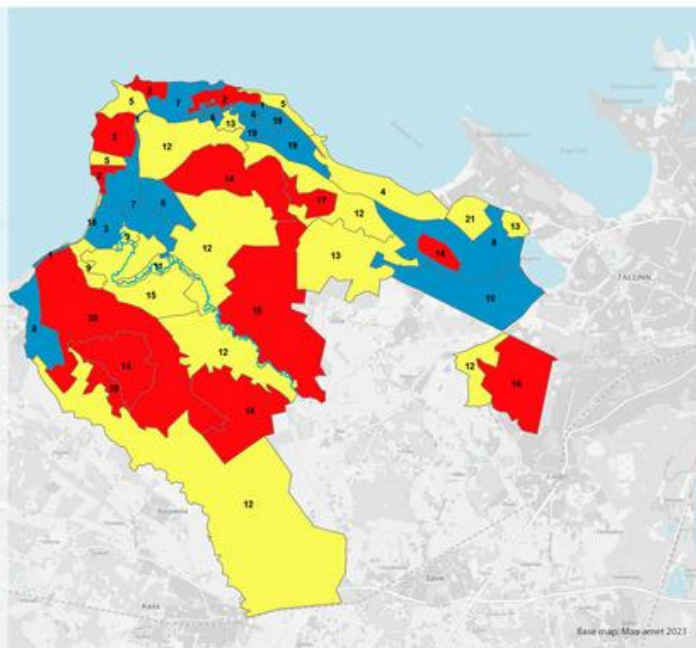


COGNITIVE



LANDSCAPE CHARACTER TYPES (LCTs)

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5. Coastal Forest with Settlement Clusters
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10. Industrial Area
11. Meandering River with Grasslands and Single Farms
12. Mixed Agricultural Land with Settlement Clusters
13. Mixed Forest
14. Mixed Forest and Wetland
15. Mixed Forest On River Plateau
16. Mixed Forest with Settlement Clusters
17. Polder
18. Sandy Beach
19. Semi-natural Grassland with Fossil Fields
20. Semi-Natural Grassland with Private Farms
21. Agricultural Land



Thanks for listening

Questions?

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