



KURZEMES
PLĀNOŠANAS
REĢIONS

INVENTORY OF GEOLOGICAL SITES

Lessons from comparison



Interreg



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GIS Specialist/ Cartographer - Jānis Puga
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Latvia – Lithuania

Inventory of geosites in Finland

» The national esker protection programme and inventories (1972-1980)

159 eskers, 96 000 hectares, approx. 6 percent of the total area of eskers

» The national mire protection programme (1979)

The assessment was based on data already available, the most representative mires were selected

» The assessment of geologically and geomorphologically valuable bedrock sites (1989-2008)

>1 000 sites checked in the field, 160 internationally or nationally valuable



» Rock outcrop areas of national value (1989-2015)

1 286 sites of national value

» Inventory of nationally valuable moraine formations (1999-2007)

1 400 sites checked in the field, 584 nationally and 23 internationally valuable

» Nationally valuable aeolian sand and littoral deposits (2005-2011)

697 sites checked in the field, 417 of which are nationally valuable

» Blockfield sites of national value (2010-2017)

1 000 sites checked in the field, 640 were nationally valuable

» Finnish inventory programme for underwater marine diversity (2009-2015, 2017-..)

Biological and geological mapping methods and remote sensing



Classification & criteria

An aerial photograph of a large lake with numerous forested islands and peninsulas. The water is a deep blue, and the surrounding land is covered in dense green pine forests. The sky is clear with some light clouds. A dark blue banner with white text is overlaid on the left side of the image.

- » During the first inventories selection of criteria were quite informal and precise classification by value was not always used;
- » Starting from the 1980s the **four-stage rating scale** was introduced:
 - international, national, regional and local value;
 - the main factors in classification are geological, biological and landscape factors.
- » A scoring system was developed, and various calculations were performed to obtain an accurate score for each object;
- » Currently in use in many countries with minor modifications.



Geological value (*example: blockfield sites*)

- » History of the formation and other geological features
 - type of the blockfield
 - stone size, roundness, orientation and stone density
 - rock type and its migration
- » Geomorphology
 - size and shape of the blockfield
 - the height of the stratum, slopes, and their steepness

Biological value

- » Rarity and diversity of habitat types
- » Rarity and endangerment of species
- » Naturalness



Landscape

- » Perception of the environment
- » Landscape opening up to the environment
- » Internal landscape

Other values

- » Recreational use
- » Cultural history and archaeology
- » Groundwater
- » Naturalness
- » Surrounding area



Geological points	Value class
1,00-1,50	1
1,75-2,25	2
2,50-2,75	3
3,00-3,50	4
3,75-4,00	5

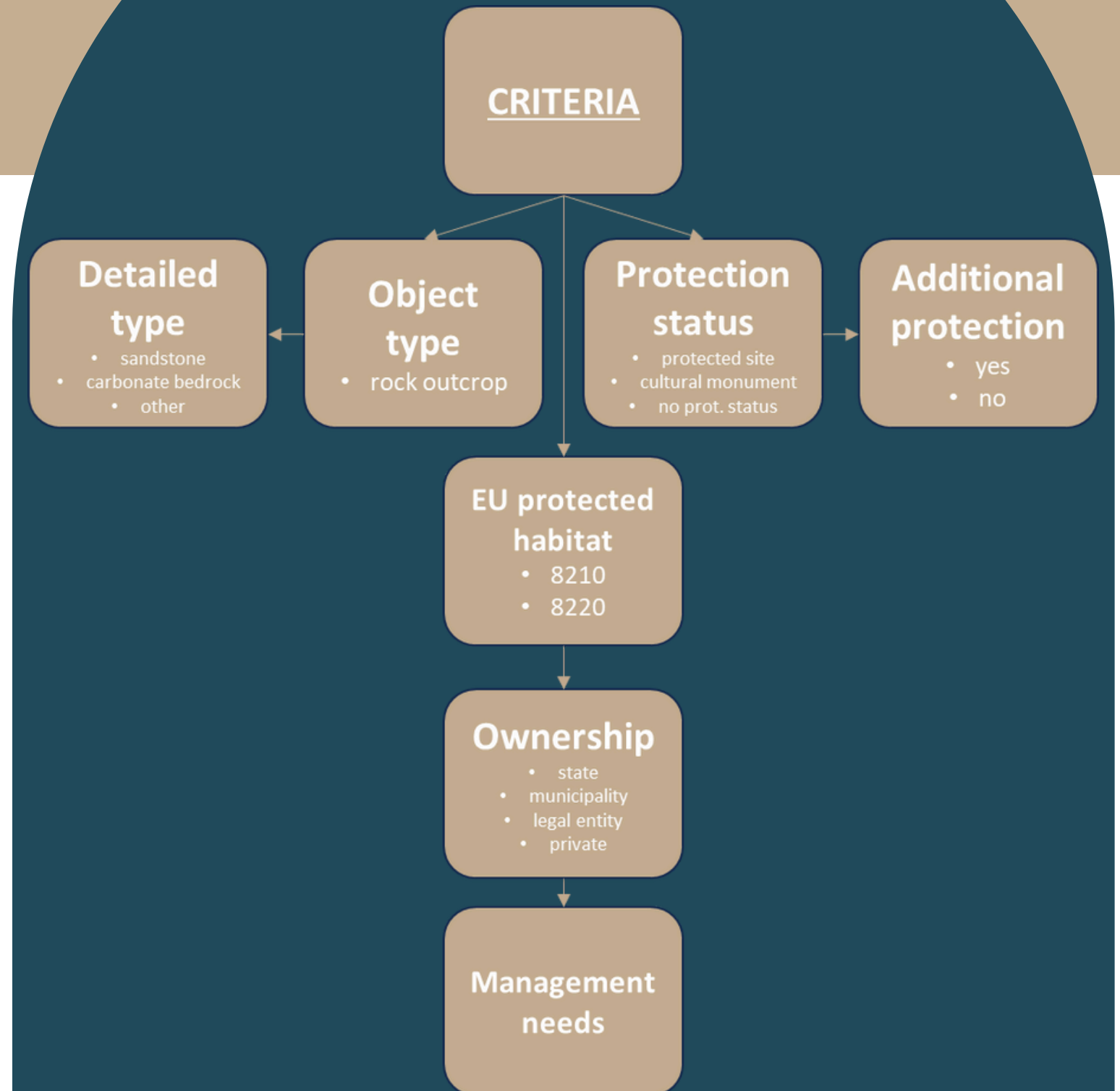


Value class	Level of significance	Description
5	International value	The site is of international significance (e.g. a unique geological feature at the European or global scale).
4	National value	The site is of outstanding significance at the national scale (Finland).
3	Regional value	The site is significant at the regional or provincial scale.
2	Local value	The site has significance at the local level.
1	Low or no significant value	The site has limited scientific, educational, or representational value.



Classification & criteria in GEOSITES project

- » A joint set categorisation criteria has been developed;
- » Criteria are aligned with the structure and attributes of the GIS database;
- » Enables comprehensive and comparable documentation of geosites;
- » Provides the basis for prioritising sites, managing them effectively, raising public awareness, and supporting strategic planning.



Data collected

» **2161 geological objects** in Kurzeme (1832) and Žemaitija (329):

17 Caves

676 Rock outcrops

39 Waterfalls

117 Coastal cliffs

788 Springs

160 Stones

295 Hillforts

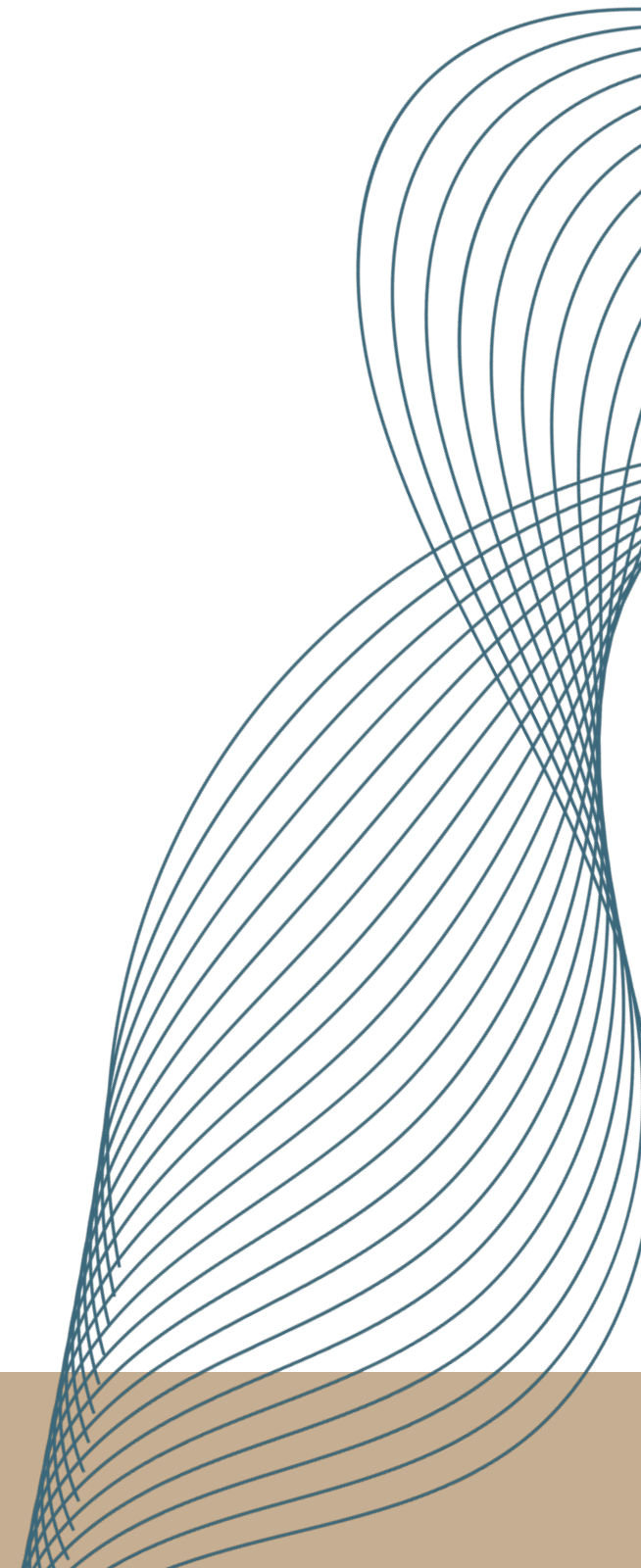
41 Other relief forms

28 Other geological objects

» The database is continually updated with new information from archives and field visits

Data sources

- » **Nature conservation agencies** (protected sites, nature monuments, EU protected habitats);
- » **National Cultural Heritage Board** (archaeological monuments – hillforts, culturally and historically significant stones, springs, etc.);
- » **Municipalities** (TAPIS system, archives);
- » **Databases** on geological objects in Latvia by geology expert Andris Grīnbergs.



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Jānis Puga

janis.puga@kurzemesregions.lv

www.kurzemesregions.lv

