Ranking Natura 2000 habitats and Natura 2000 areas for nature management and restoration in Finland

Identifying best potential for cost-effective ecosystem improvement

Kareksela S., Hokkanen M., Päivinen J., Lahtinen A., Haapalehto T., Raatikainen K. M. & Koskela K.
Metsähallitus Parks & Wildlife Finland

What do we want (in a nutshell)?

Identify a set of areas with habitat and species combinations:
That best complements areas that are already in good state.
That emphasizes areas/habitats where recovery is realistically achievable.
That has a high and ecologically relevant overall effect of improvement

AVOIDING HARMFUL OPPORTUNISM BY SYSTEMATICALLY BALANCING BETWEEN RARE AND COMMON AND EXPENSIVE AND CHEAP

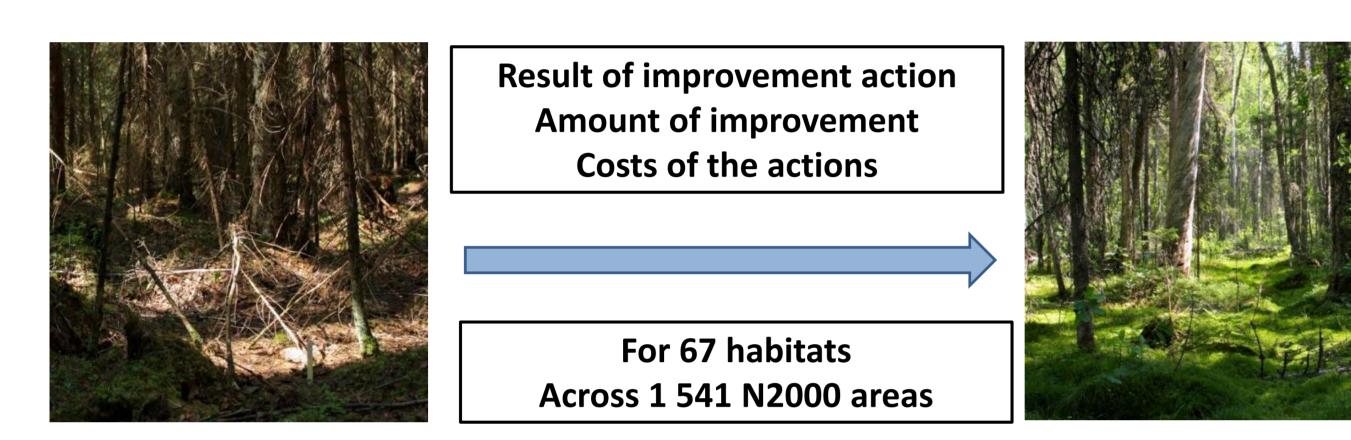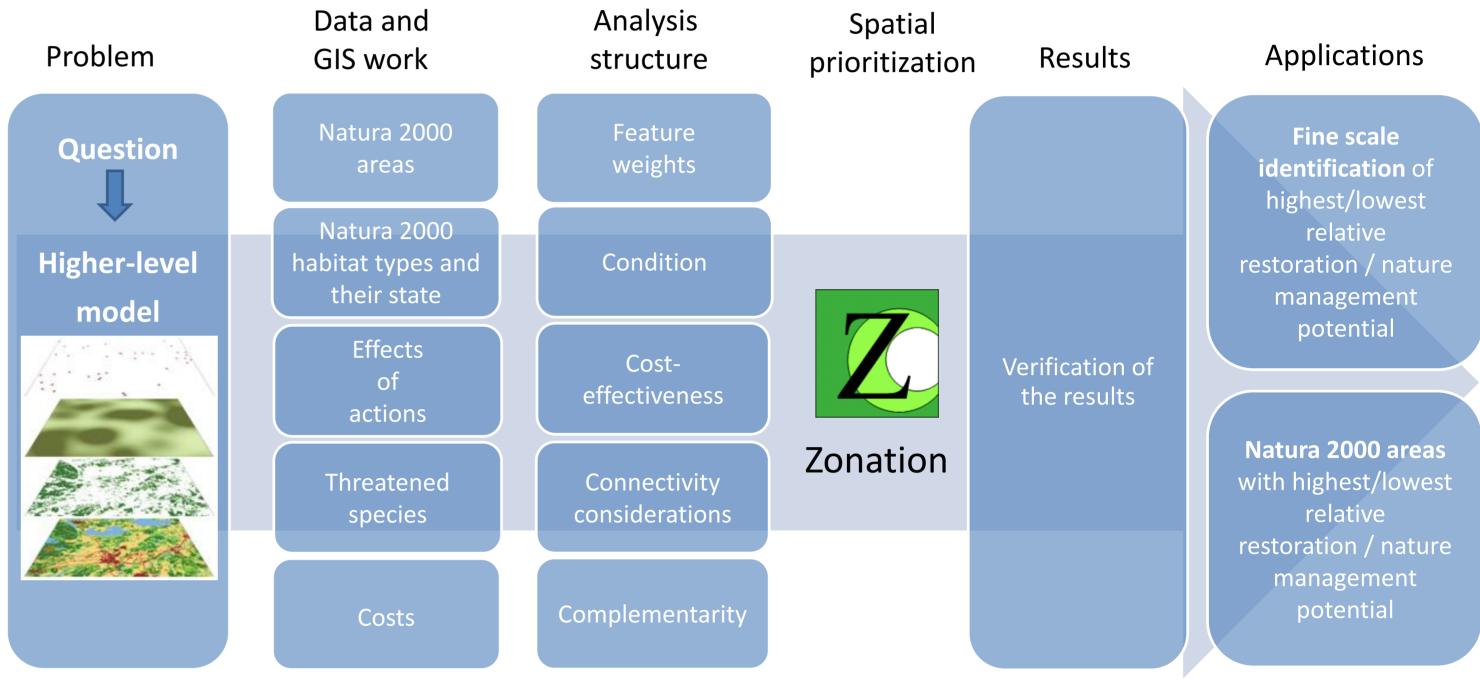|	
Goals:	**Mapping restoration potential**
	Prioritizing N2000 areas for restoration and nature management based on their potential for cost-effective ecosystem improvement
	Identifying **Low Hanging Fruits**, conceptually and on the map
Principles:	Complementarity, Connectivity, Condition, Cost-effectiveness
Planning area:	1541 protected Natura 2000 areas In Finland
Material:	Biodiversity data (GIS: location and current state of 67 N2000 habitats and threatened species) and expert knowledge of improvement methods, effects and costs (Finnish Restoration Prioritization Project)
Main tool:	Systematic spatial prioritization approach **Zonation**

GIS habitat data for protected N2000 areas +
Finnish Restoration Prioritization Project with 100 habitat experts providing background data for each habitat and improvement action:
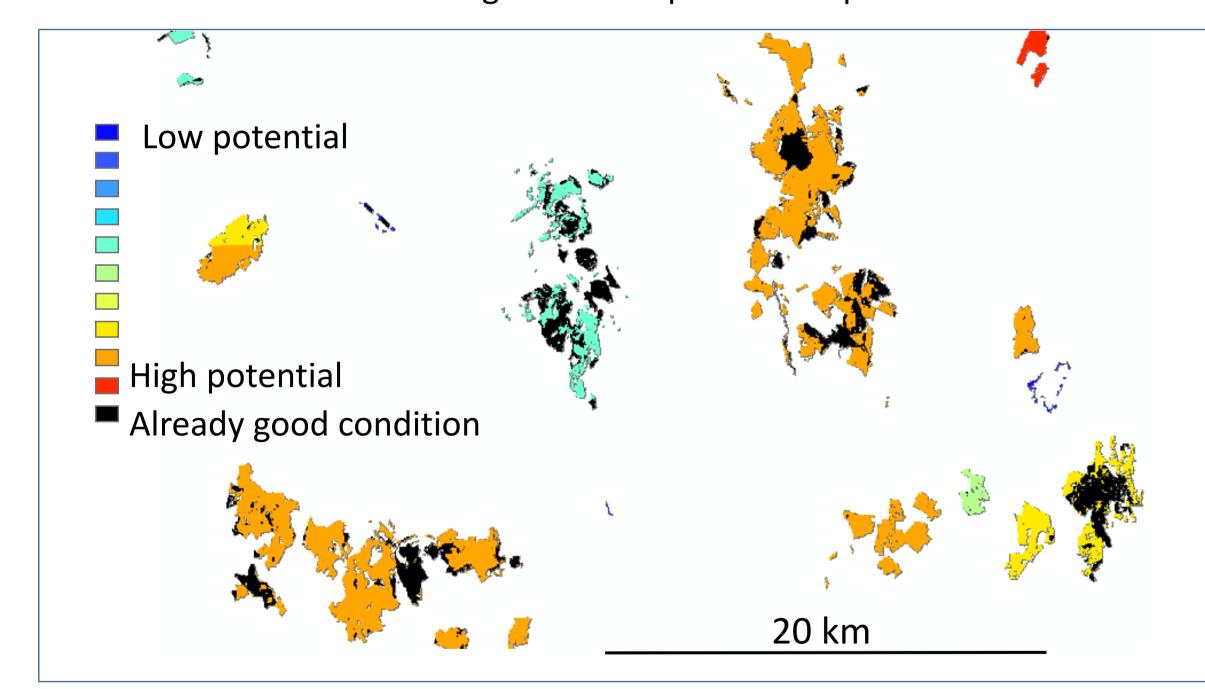

Result of improvement action
Amount of improvement
Costs of the actions

For 67 habitats Across 1 541 N2000 areas

Problem — Data and GIS work — Analysis structure — Spatial prioritization — Results — Applications

Question → Higher-level model

- Natura 2000 areas
- Natura 2000 habitat types and their state
- Effects of actions
- Threatened species
- Costs

- Feature weights
- Condition
- Cost-effectiveness
- Connectivity considerations
- Complementarity

Zonation

Verification of the results

Fine scale identification of highest/lowest relative restoration / nature management potential

Natura 2000 areas with highest/lowest relative restoration / nature management potential
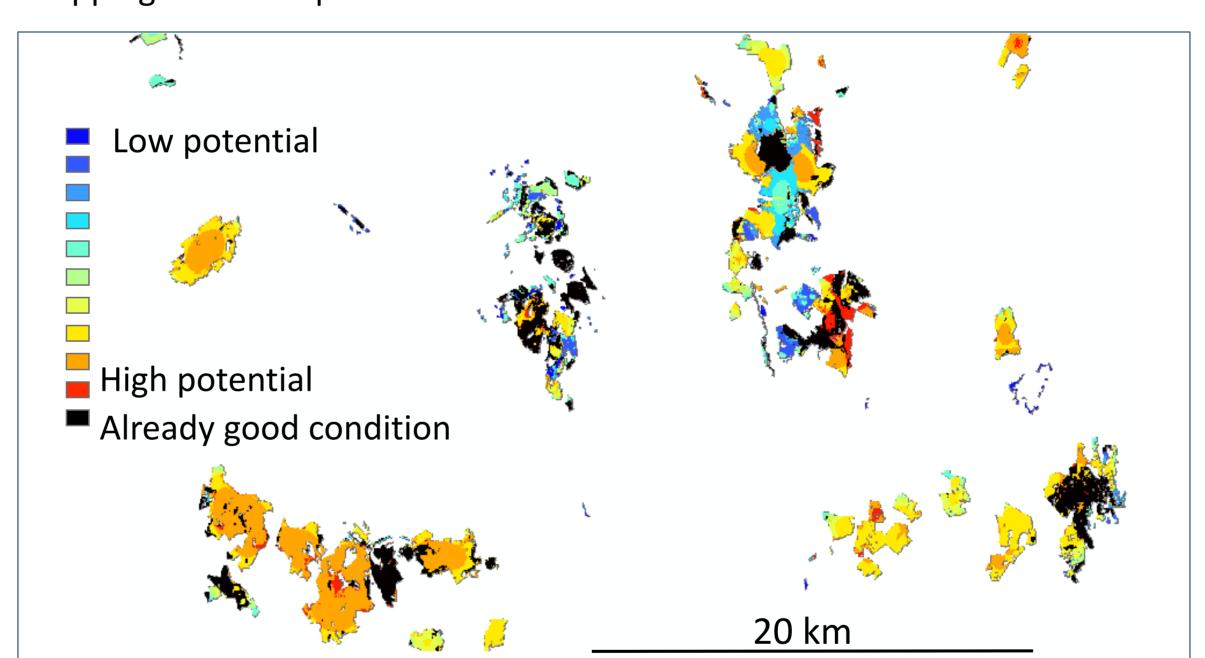
Ecological model to address the problem | Spatially explicit solution

SHOWING IT ON MAPS

N2000 **areas** ranked according to their improvement potential

Low potential

High potential
Already good condition

20 km

Mapping fine scale potential within N2000 areas across Finland

Low potential
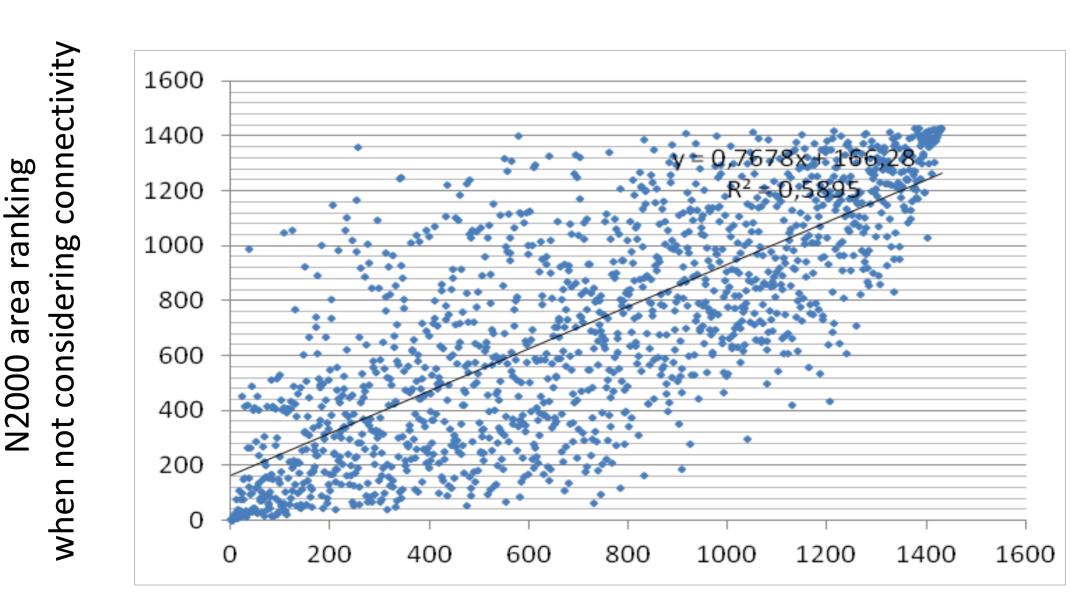
High potential
Already good condition

20 km

How do we use the results?

To prioritize the use of money for management between individual habitat compartments and on the other hand between Natura 2000 areas
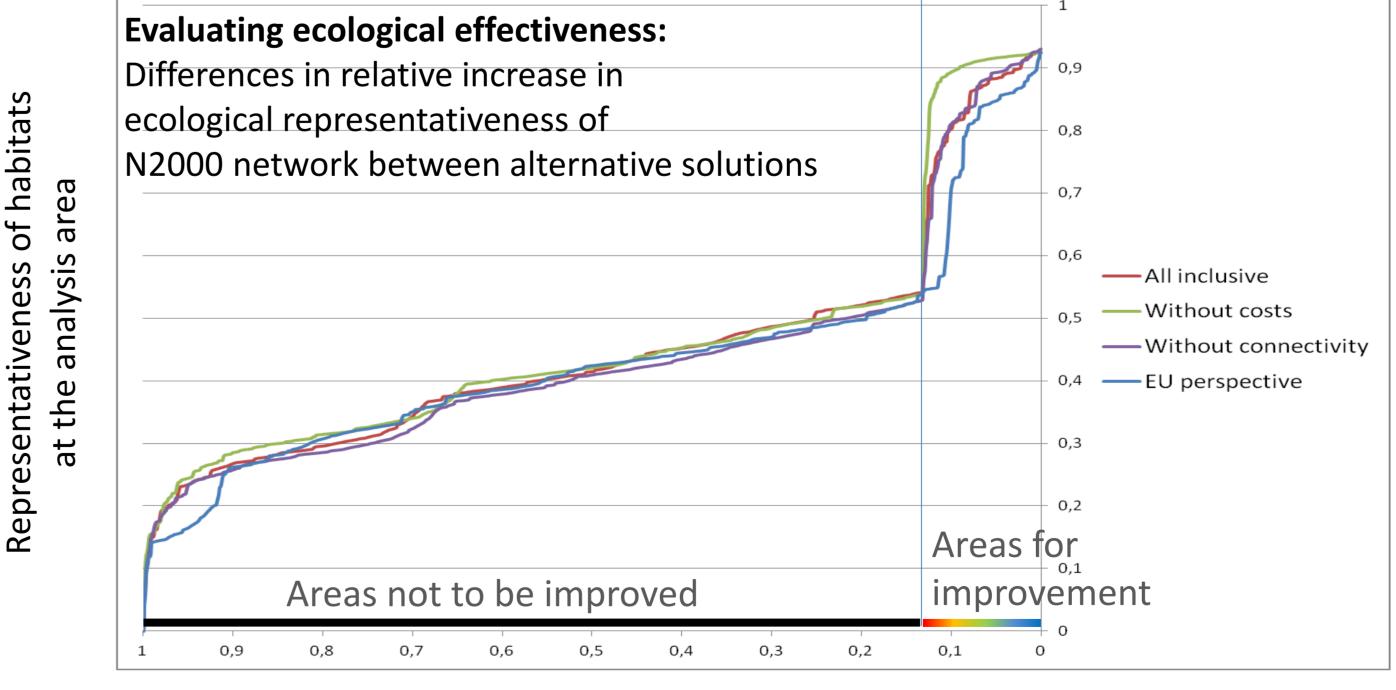
For example to choose individual Natura 2000 areas as a target areas for LIFE Nature projects

EVALUATING TRADE-OFFS

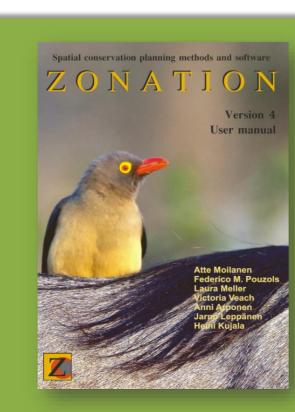Analyzing change in N2000 area rankings between analysis solutions with different elements considered

N2000 area ranking when not considering connectivity

N2000 area ranking in "all inclusive" solution

Evaluating ecological effectiveness:
Differences in relative increase in ecological representativeness of N2000 network between alternative solutions

Representativeness of habitats at the analysis area

- All inclusive
- Without costs
- Without connectivity
- EU perspective

Areas not to be improved | Areas for improvement

Total area included in the analysis = protected N2000 areas in Finland

ZONATION
Conservation planning software

Ympäristöministeriö
Miljöministeriet
Ministry of the Environment

SYKE
Finnish Environment Institute

METSÄHALLITUS
Parks & Wildlife Finland

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HELSINGFORS UNIVERSITET
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