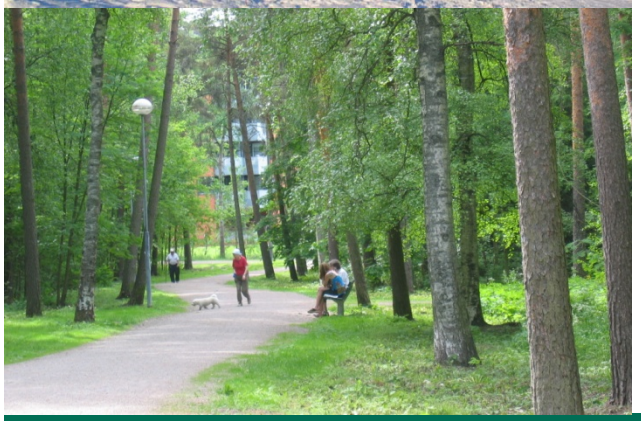


Sustaining social benefits of urban forests –recent contributions of research to practise

Liisa Tyrväinen, professor

Finnish Forest Research Institute

Forestry serving urban societies in the North Atlantic region International conference

16th-20th , Sept. 2009 Reykjavik, Iceland

Urban forest amenities & information needs

- Historically the benefits relate to health, aesthetic and recreational benefits in industrialised cities.
- -------→ research needs have remained somewhat unchanged.

- Involving people has strong research arena for decades

- Contribute to an attractive green townscape and thus communicate the image of a positive, nature-oriented city (new residents, tourists).

- Social benefits are addressed by governing the cities and towns by decisions on land use and green area management

Trends generating need for research information

Less nature areas provided for residents within main urban population centers:

- residents oppose construction of urban forest areas within land-use planning processes
- Trend to transform current forested areas into ’higher quality’ urban parks

More conflicts between nature protection and recreation (both large cities and small towns)

- conflicts related to management regimes
- less undestanding of any management of urban forests
- multicultural issues issues related to management

To what extent research meets practise?

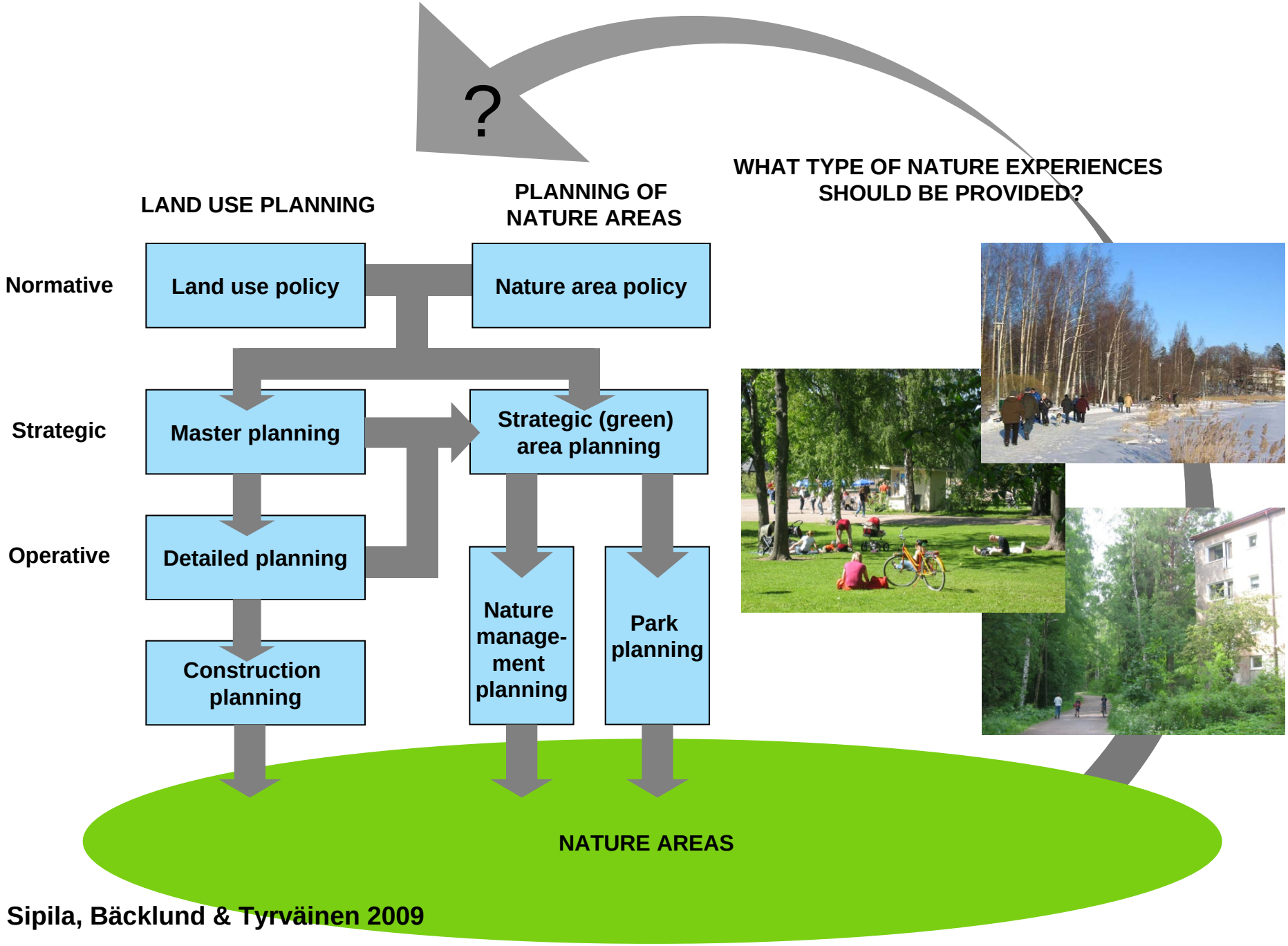
Main practical information needs are:

- How much green areas is enough?
- How they should be managed for various user groups?
- What is the role of green spaces in contributing to a quality of urban life?
- Are the public investments justified in terms of delivered benefits?

- **Main scientific research questions:**
- What kind of social benefits are delivered by urban forests?
- How the benefits are perceived by various user groups?
- How the social values and benefits can be measured and integrated in planning processes?
- How the urban forest services can be quantified?

Social information -too complex to integrate in planning and decision making?

- Ecological information has had a stronger role in urban planning due to legislation and better methods to collect data.
- social information: information on dwellers' needs, values and opinions concerning the urban environment
- information needed e.g.
  - on the meanings of urban nature,
  - dwellers' needs for and opportunities to use it,
  - qualities of nature supporting restorative nature experiences



Sipila, Bäcklund & Tyrväinen 2009

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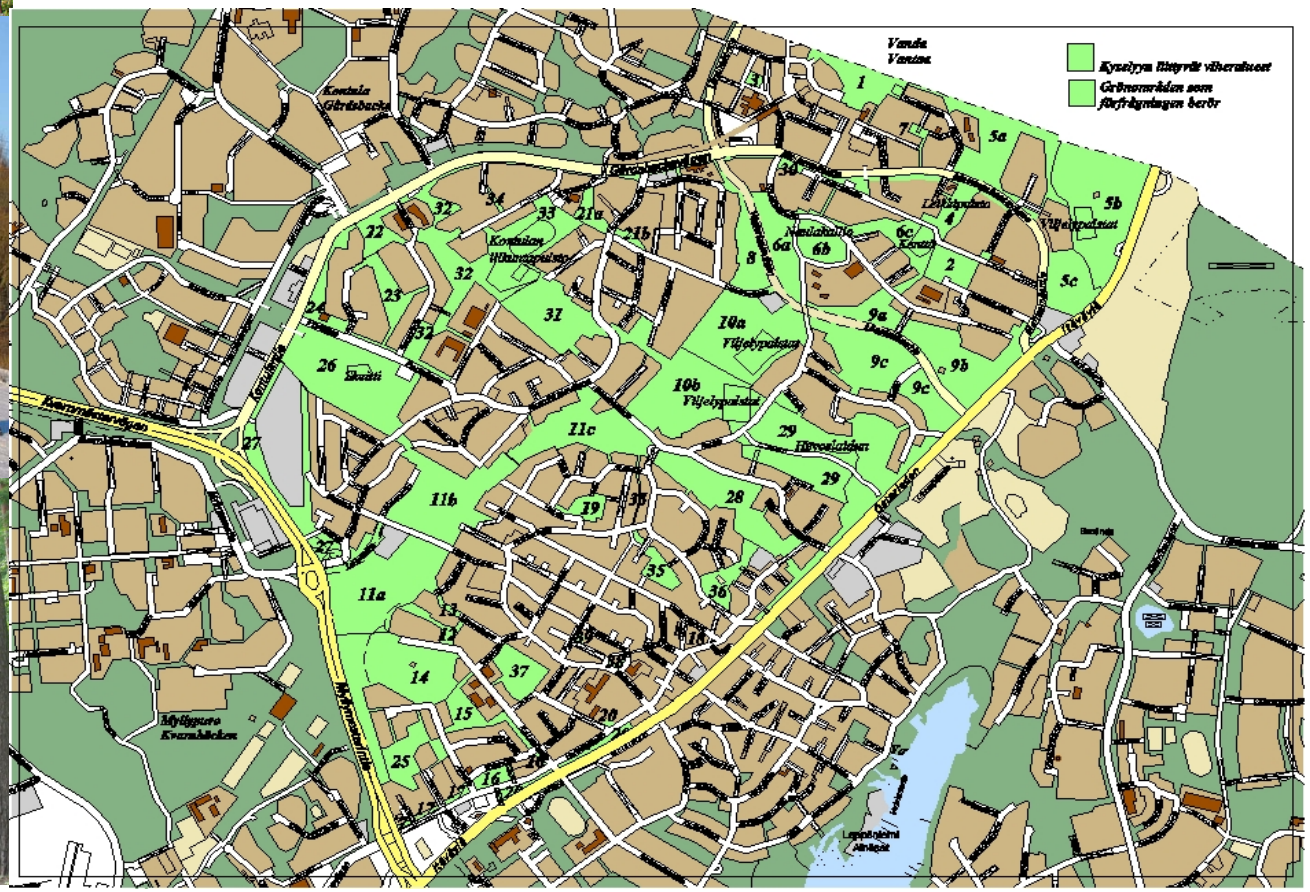
Some successful approaches in research

- Linking qualitative information of urban forests into specific places and spatial planning (social value mapping – method, (Ståhle 2002, Tyrväinen et al 2005, 2007).
- Linking amenity benefits of urban forests into property values (Tyrväinen, 1997, 1999, Thorsen 2005)
- Connecting urban forest benefits with health promotion and public health issues (Korpela 1991, Grahn & Stigsdottir 2002, Tyrväinen et al 2007).

Research examples

Mapping social values of urban green areas



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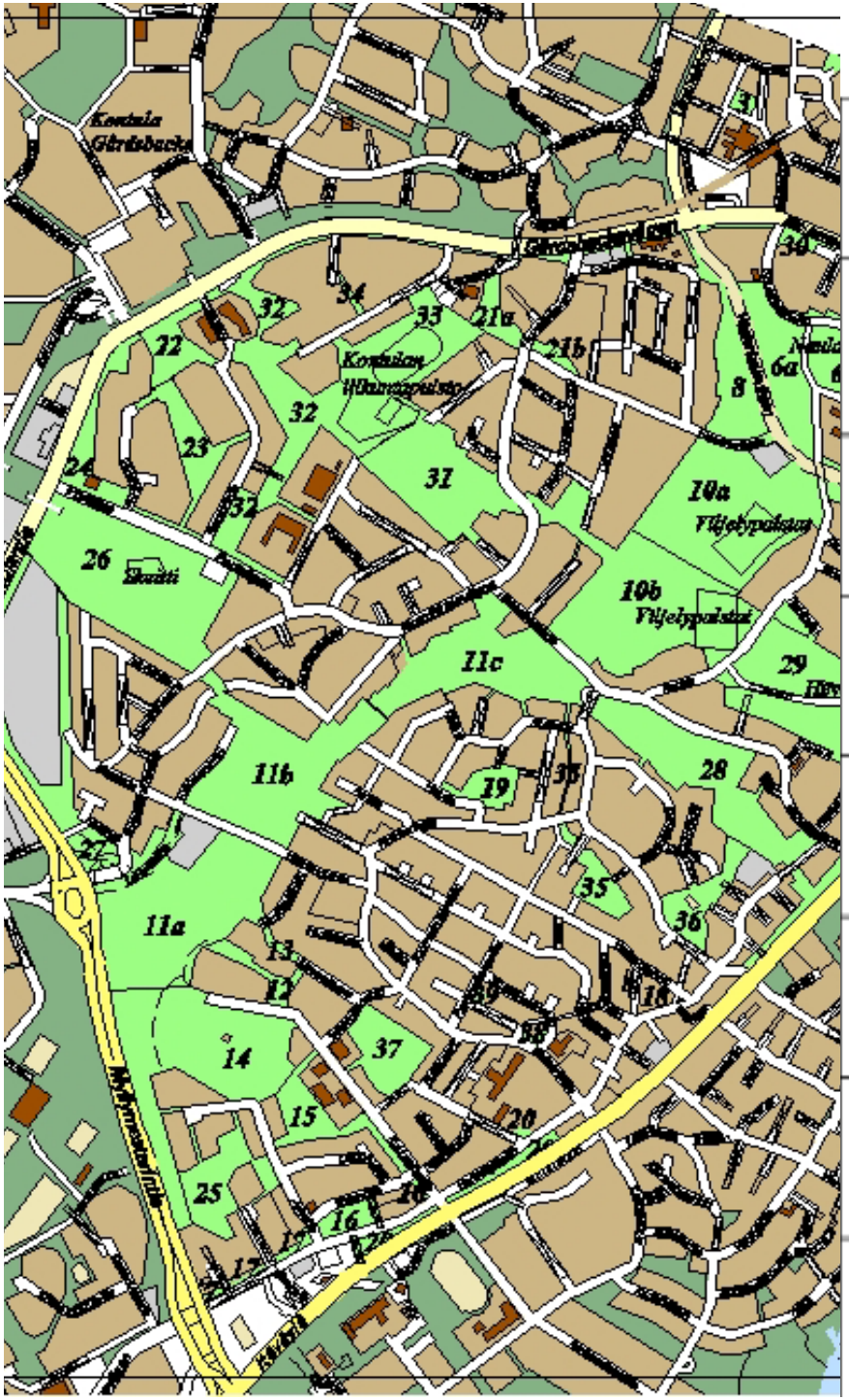
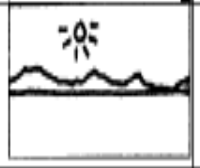
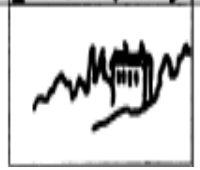
Need to assess current green area qualities

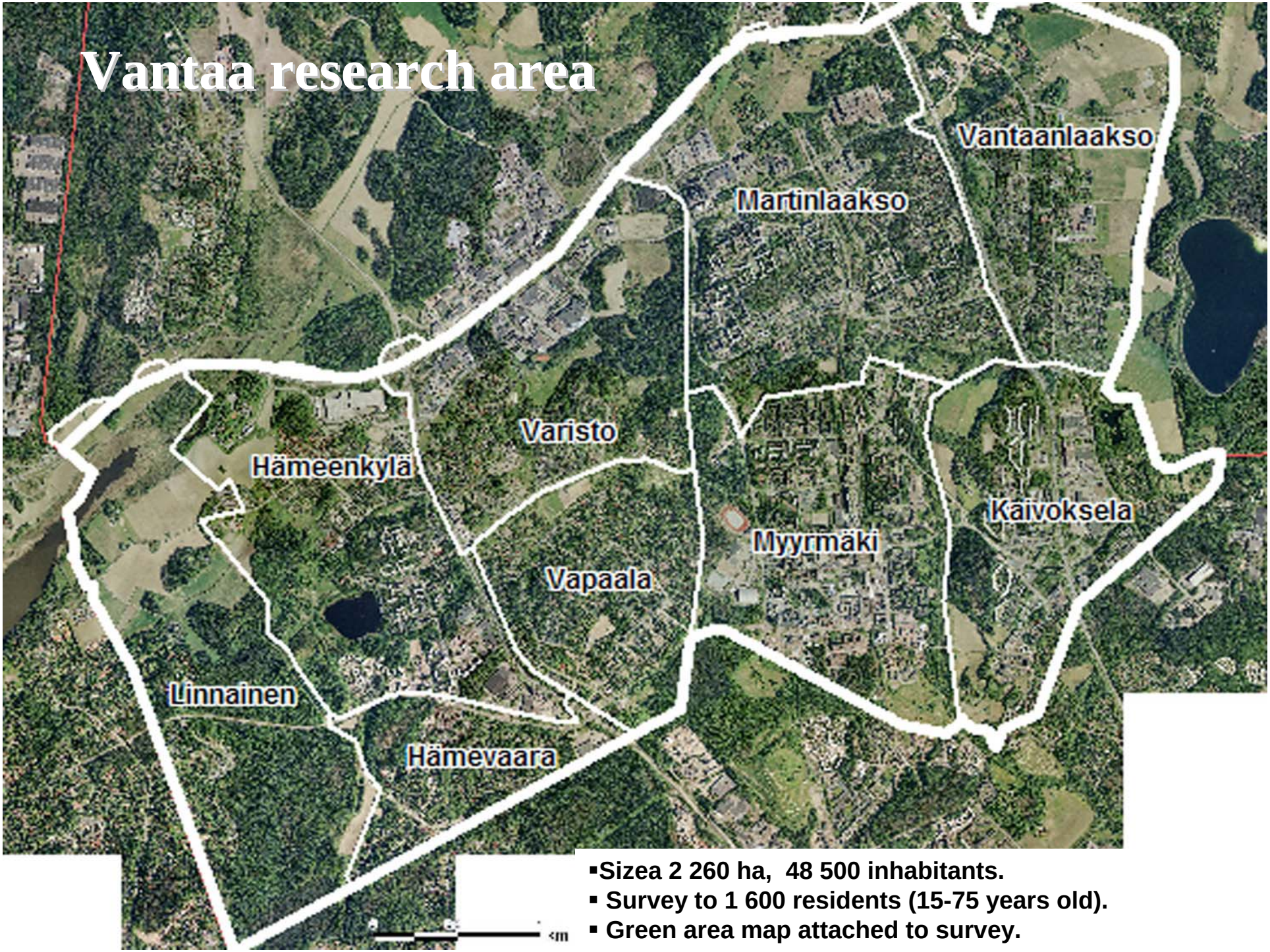
- Where do residents find attractive and meaningful green areas and what are the characteristics of these areas?
- How prioritize green areas in condensing the city structure?
- How to involve ‘silent groups’ more in planning?
- How to combine social information with other existing planning information?
- How to systematically collect information on the experienced qualities of green areas?



Illustrations by
Kirsi Mäkinen

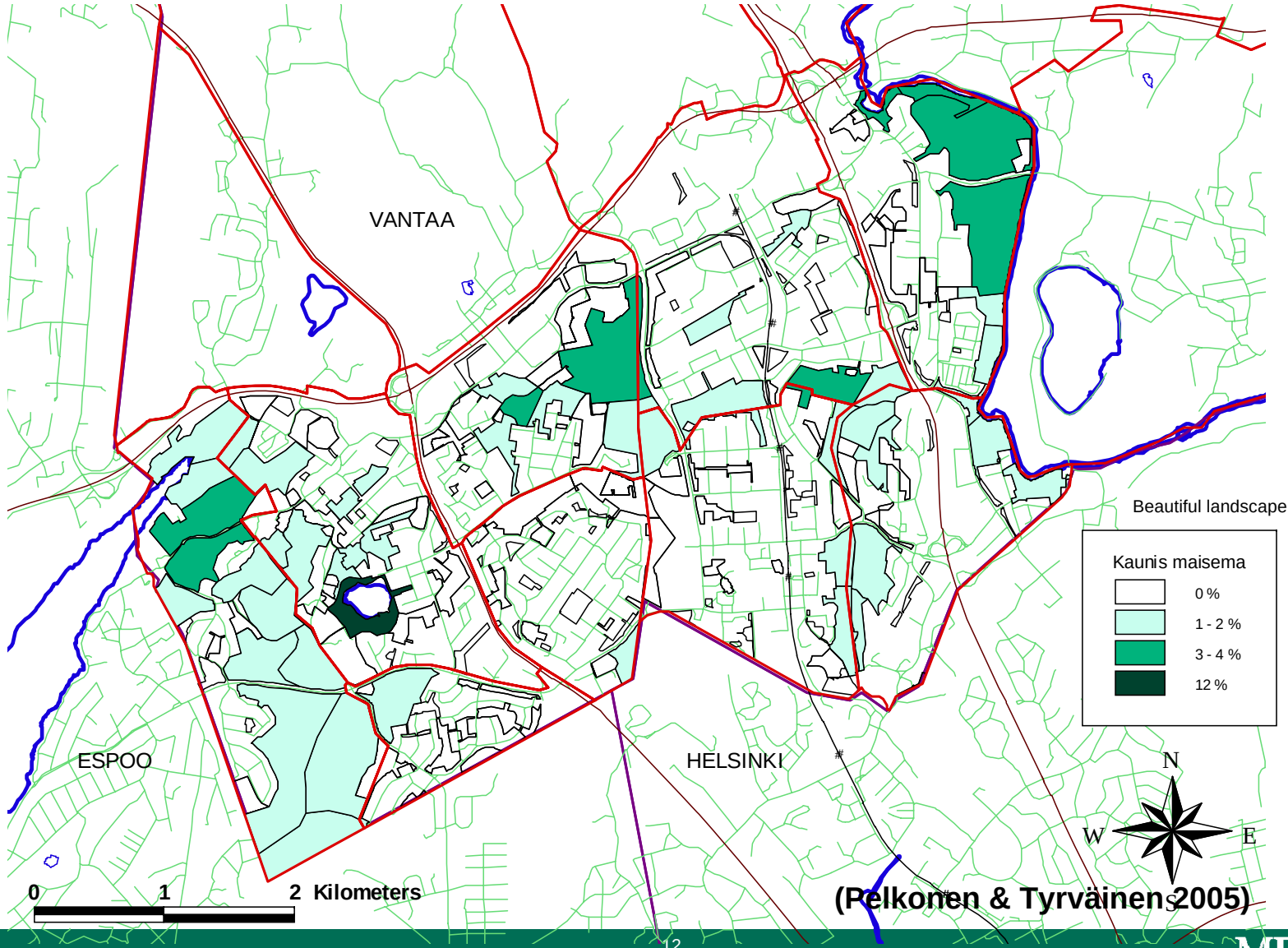
		Green area number where the quality is found:	Cannot find within my housing area	Cannot say
	**'BEAUTIFUL LANDSCAPE'** Places or areas that you find beautiful and attractive (beautiful scenes, etc.)		☐	☐
	**'VALUABLE NATURE SITE'** Valuable nature area or place with a special feeling of nature (e.g., natural vegetation, fauna, fascinating rocks, bedrock, shorelines).		☐	☐
	**'FOREST FEELING'** Area or place that feels like a "real" forest.		☐	☐
	**'SPACE AND FREEDOM'** Area or place where you can enjoy space and freedom.		☐	☐
	**'ATTRACTIVE PARK'** Constructed park that is exceptionally beautiful (flower beds, constructions, valuable trees, tree lines, places to stay)		☐	☐
	**'PEACE AND TRANQUILITY'** Area or place that is peaceful and quiet.		☐	☐
	**'OPPORTUNITIES FOR ACTIVITIES'** Area with good amenities for play and hobbies (e.g., fields, outdoor areas, constructions, equipment).		☐	☐
	**'HISTORY AND CULTURE'** Area with interesting local history and local culture.		☐	☐

Vantaa research area



- Sizea 2 260 ha, 48 500 inhabitants.
- Survey to 1 600 residents (15-75 years old).
- Green area map attached to survey.

Urban green areas of Western Vantaa: beautiful landscape (Pelkonen & Tyrväinen 2005)



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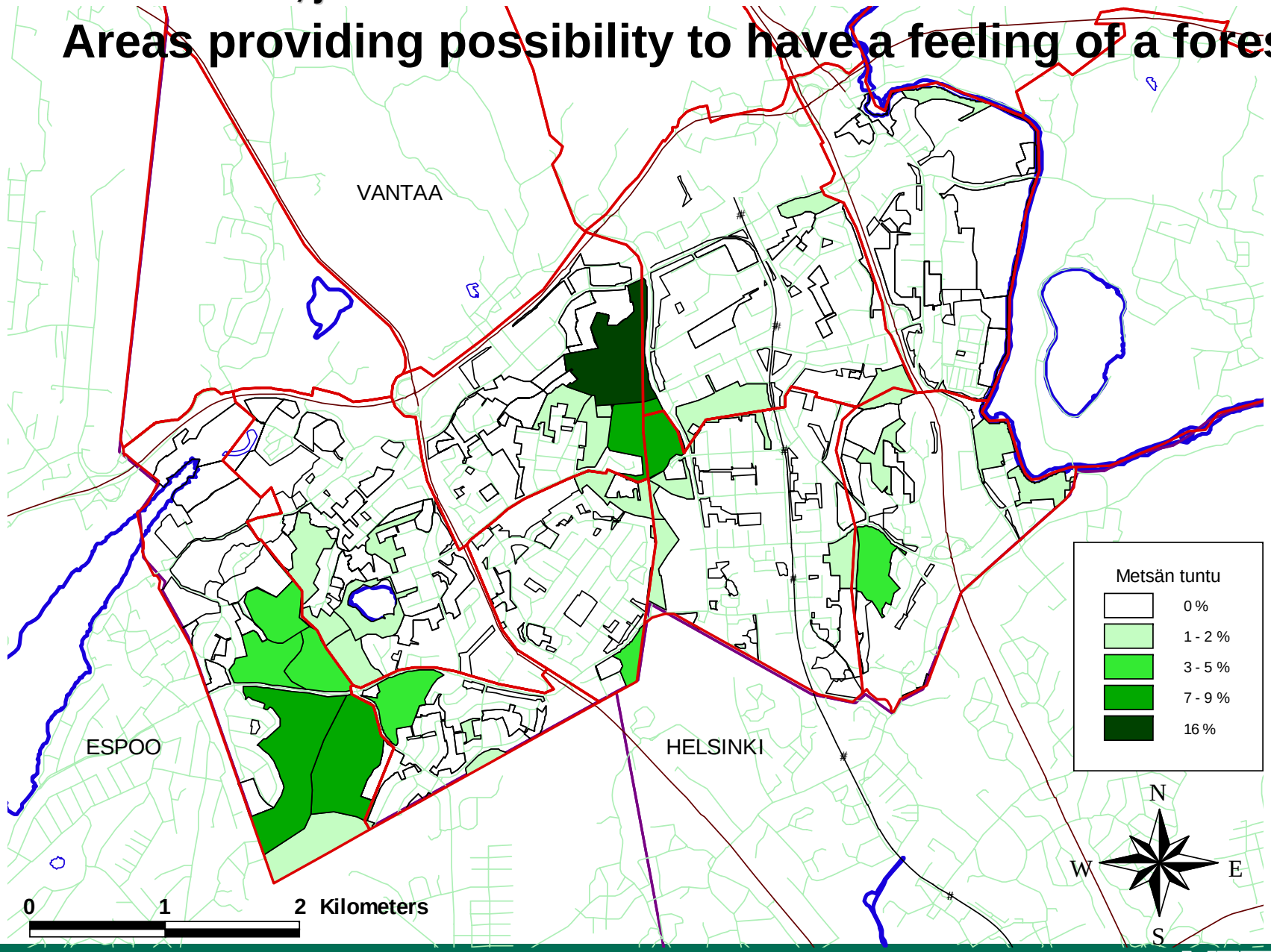
11.2 Kohteet, joissa on metsän tuntua

Areas providing possibility to have a feeling of a forest



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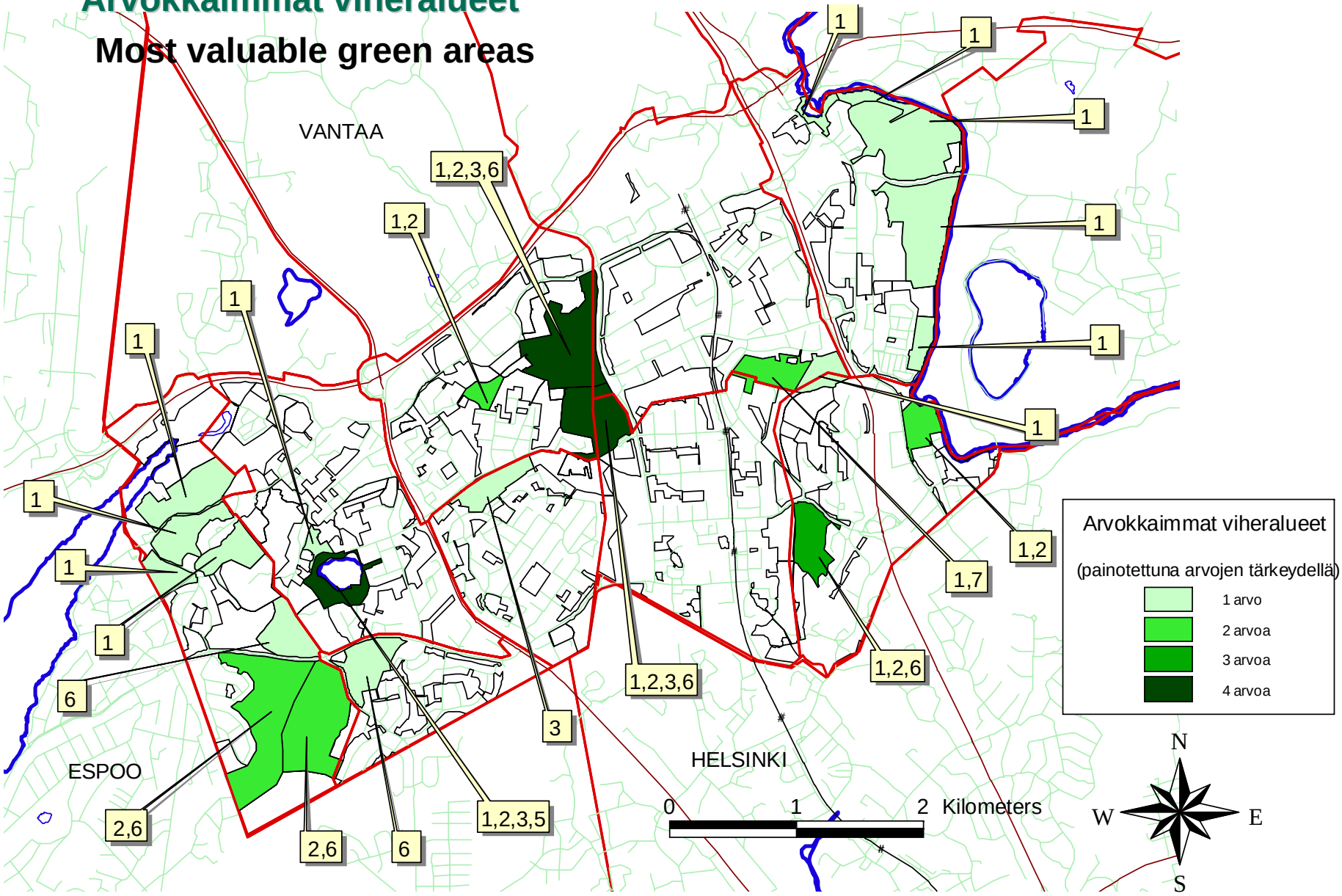
Arvokkaimmat viheralueet

Most valuable green areas



Numeroiden selitykset: 1 = kaunis maisema, 2 = rauha ja hiljaisuus, 3 = toimintamahdollisuudet, 5 = hieno luontokohde, 6 = metsäntuntu, 7 = hieno puisto

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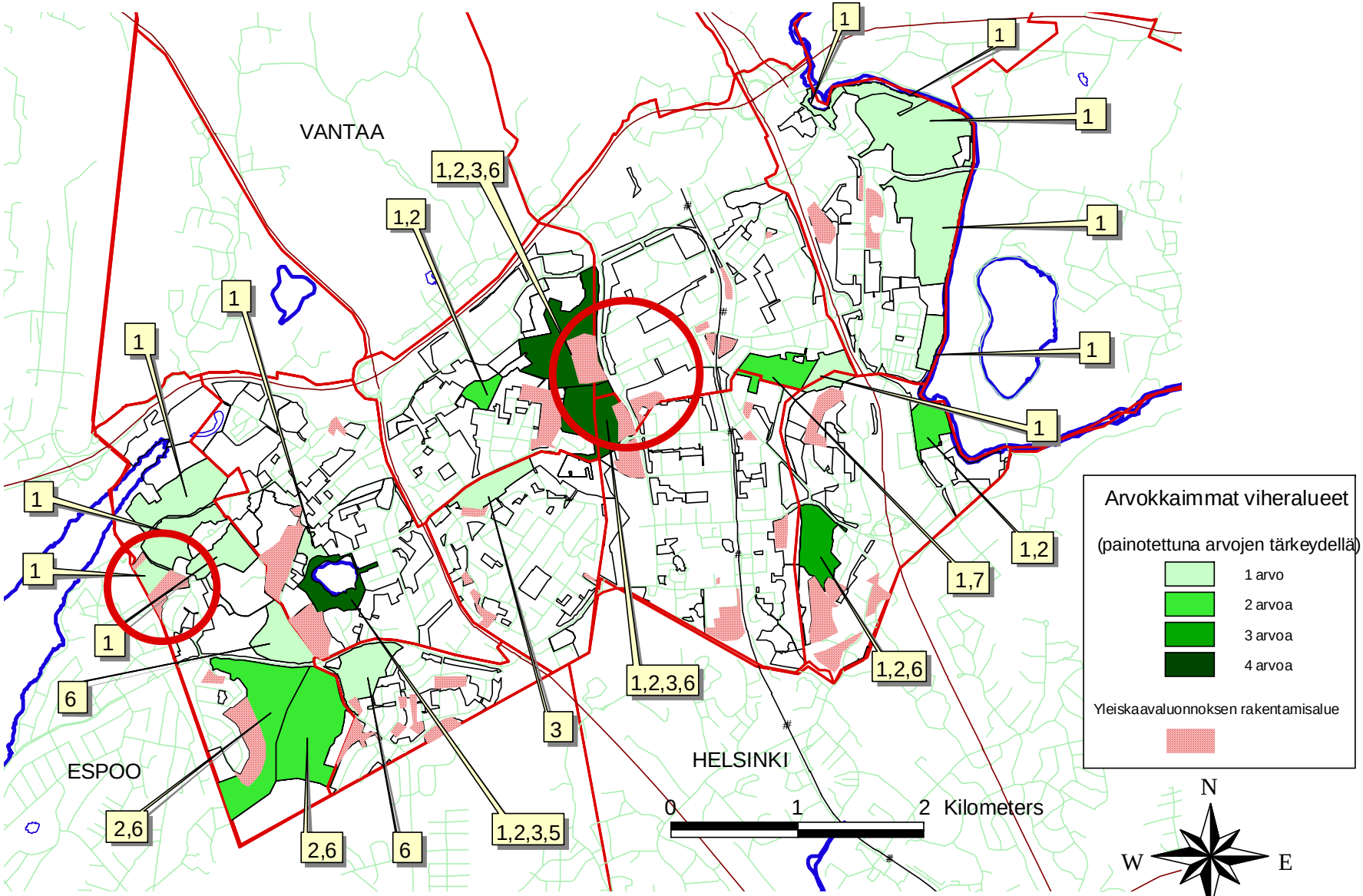
Most valuable green areas and construction sites in general land use plan proposal in Vantaa

Yleiskaavaluonnoksen rakentamisehdotusten sijoittuminen arvokkaille viheralueet



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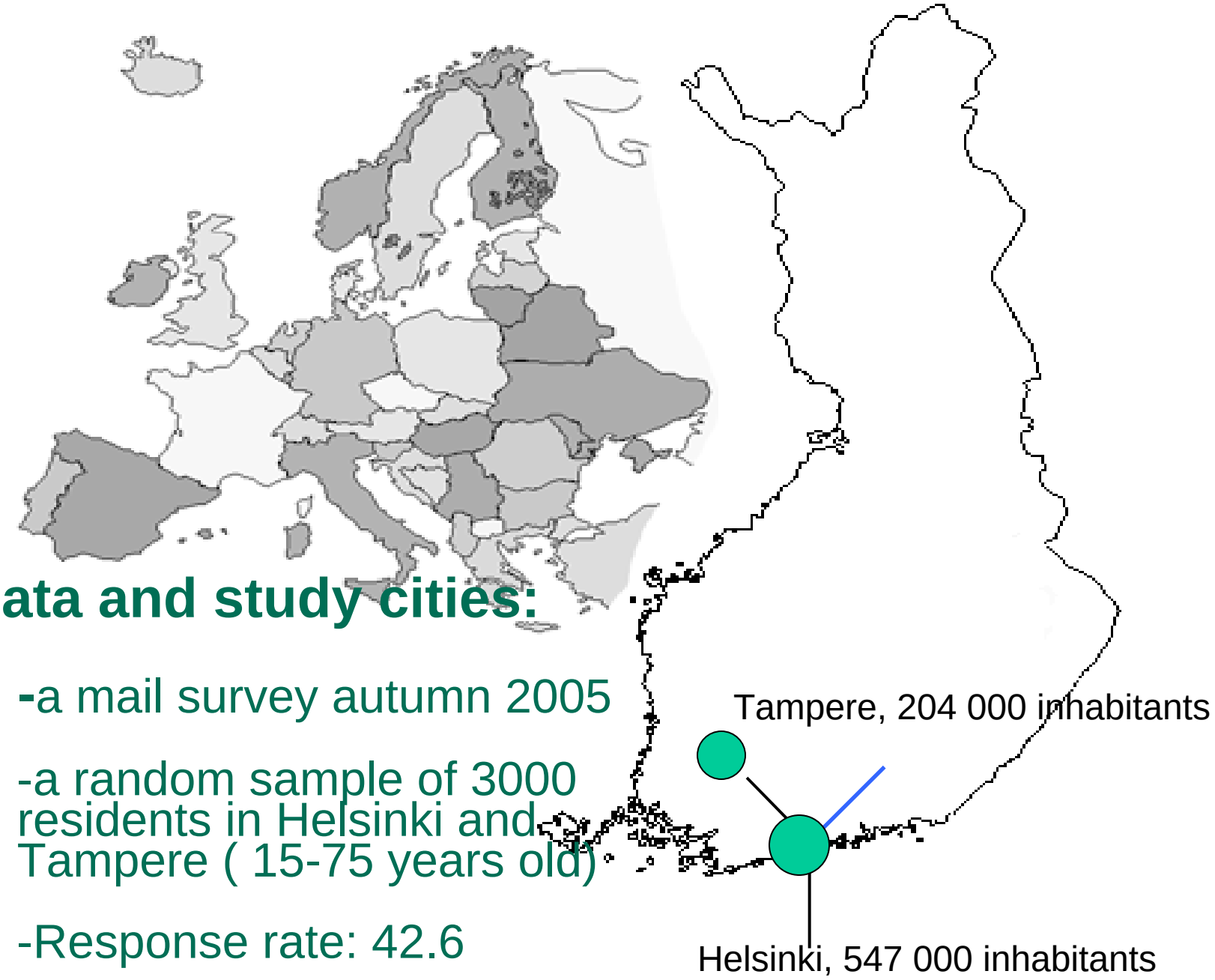
Summary

- Five studies conducted since 2004 in Finland (Helsinki Metropolitan area, two studies in rural areas).
- Good feedback both from planners and residents
- Used as a routine tool in collaborative urban forest management planning processes Helsinki and Espoo cities.

Urban forests as a source of health

‘Urban Nature and Human Well-Being’ (SA 2005-2007)

Kalevi Korpela (Uta) & Liisa Tyrväinen



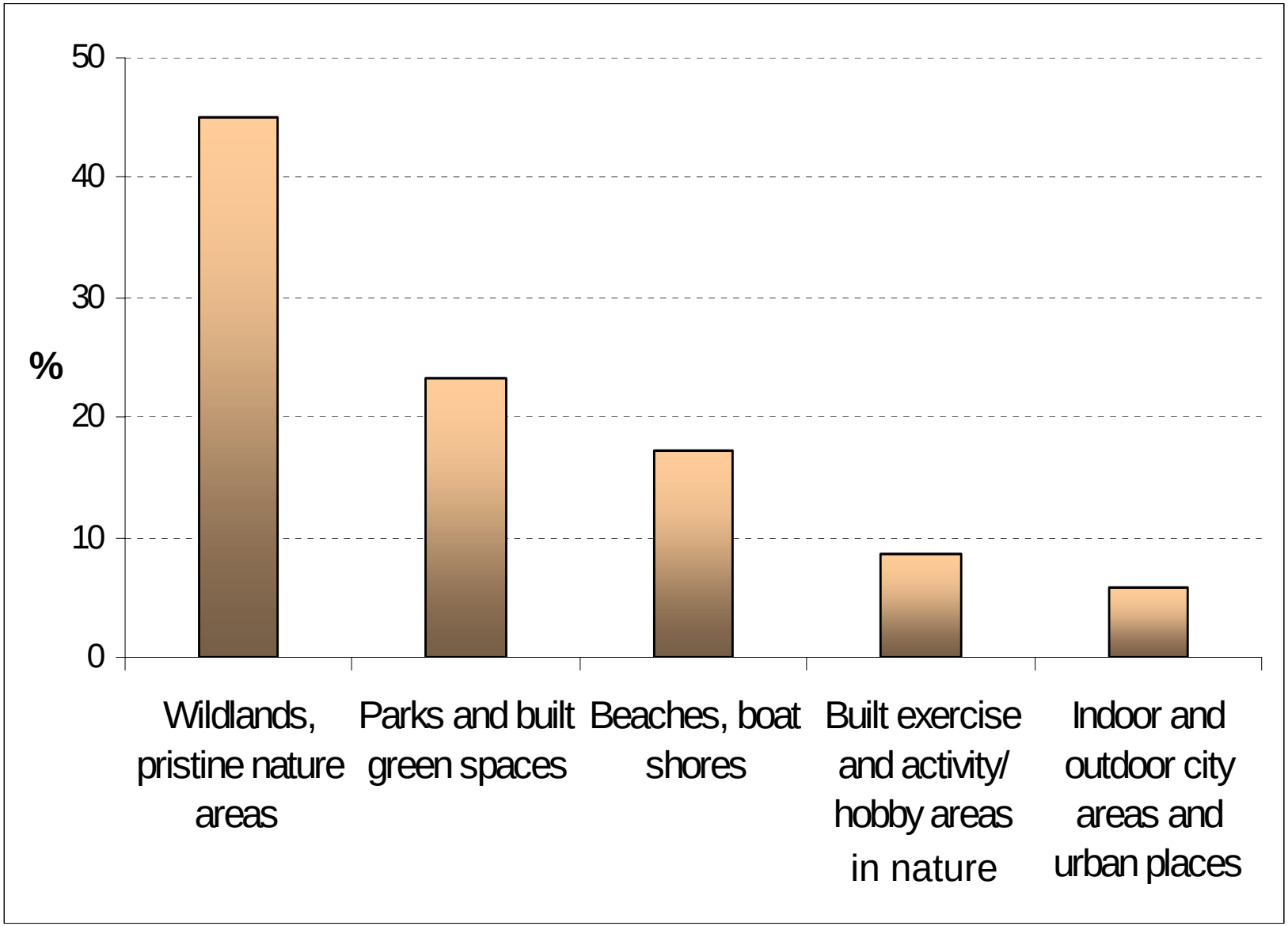
Data and study cities:

-a mail survey autumn 2005

-a random sample of 3000 residents in Helsinki and Tampere (15-75 years old)

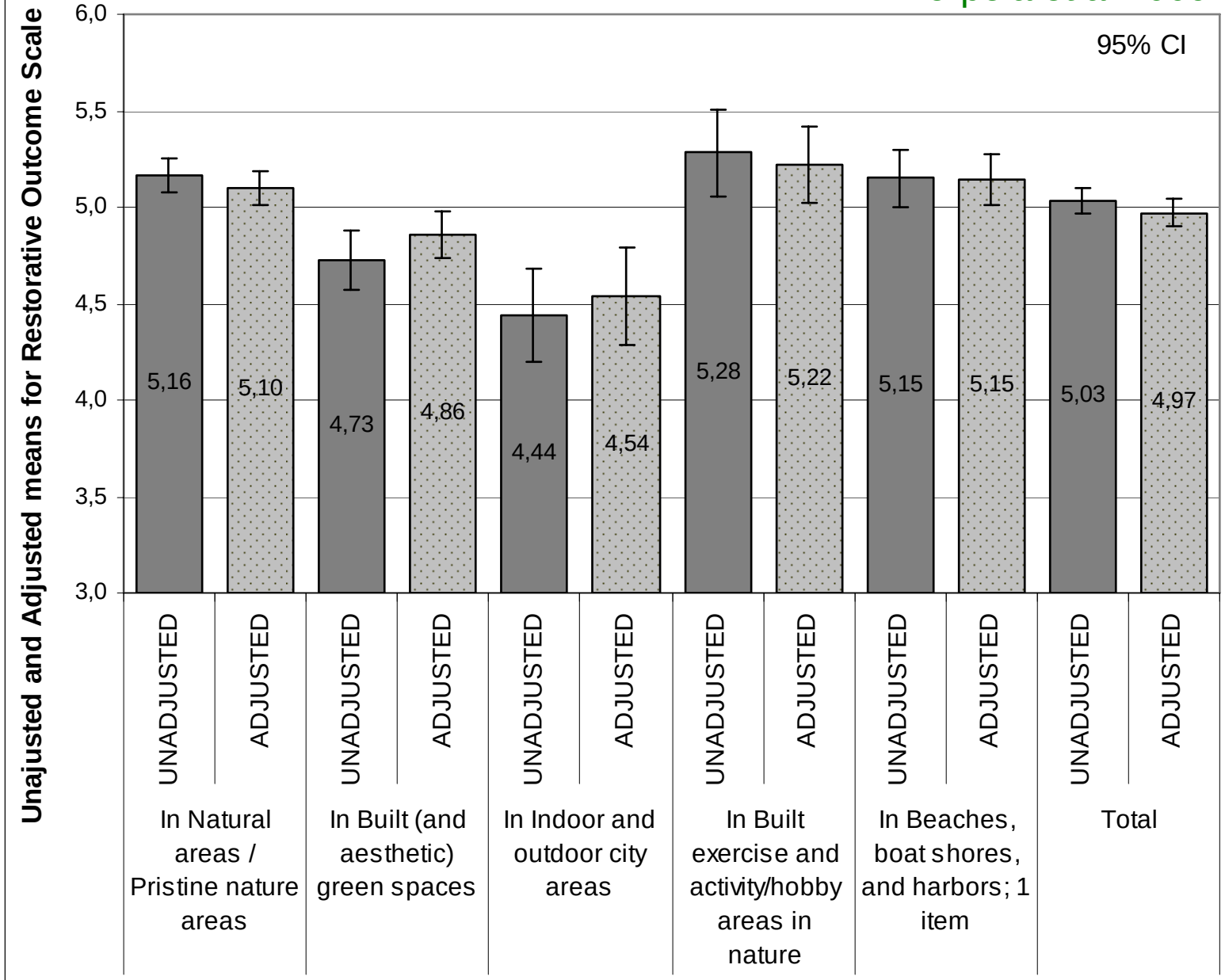
-Response rate: 42.6

Favourite places of residents in Helsinki and Tampere (Tyrväinen et al 2007)



Estimated Restorative Outcomes After Visiting the Favorite Place by Favorite Place Type

Korpela et al 2009

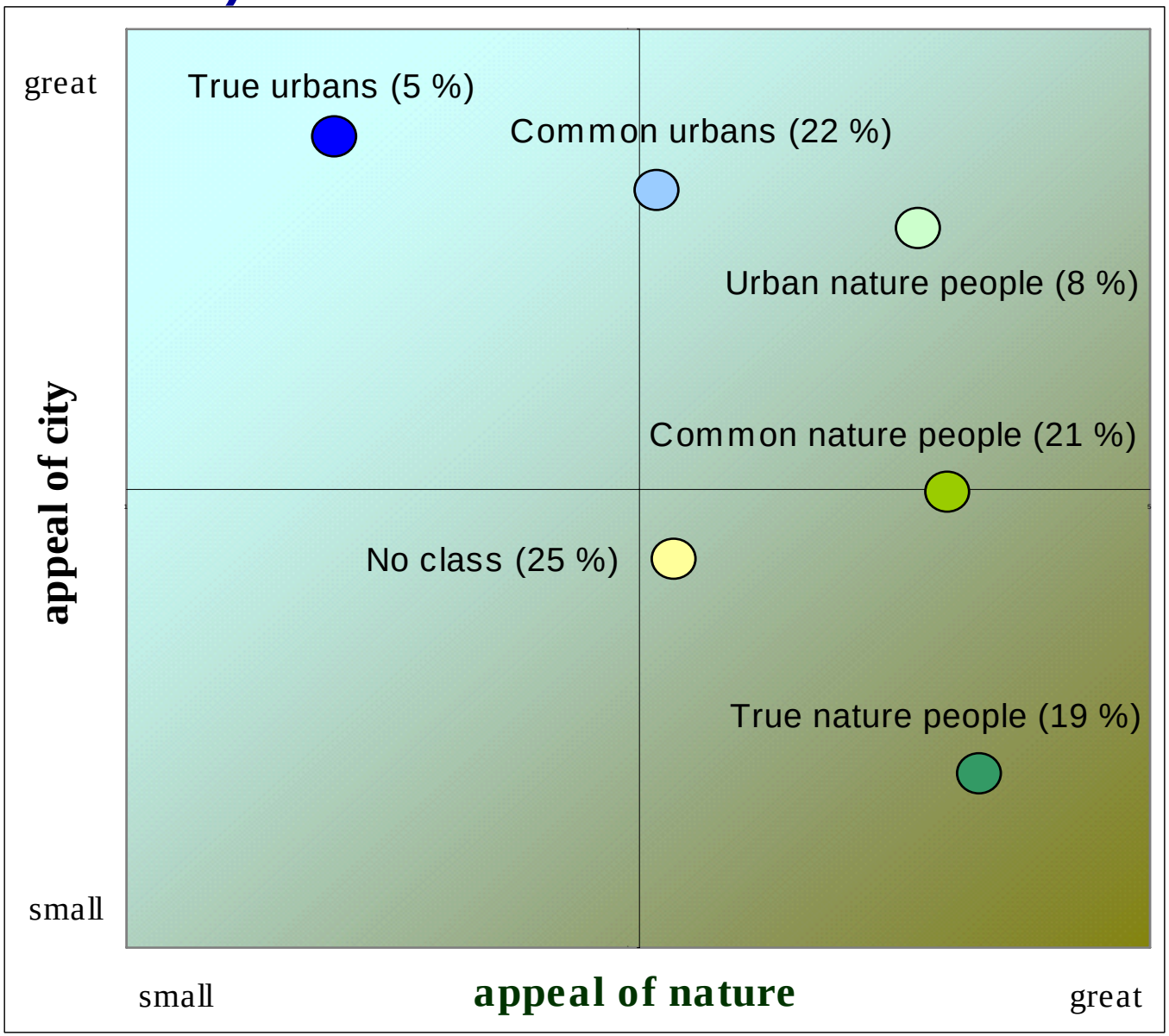


Forming the sum variables for describing the appeal of nature and city

Variables:	Factors: F1 appeal of city	F2 appeal of nature
I enjoy moving about/spending time in the city	**,909**	,113
I appreciate areas with cafes, shops, restaurants, museums, and theatres	**,725**	,024
I like to shop in specialty shops and department stores downtown	**,717**	,121
I think that city centres are ”just my places”	**,689**	-,204
I occasionally feel a compulsive urge to spend time in nature	,078	**,719**
Urban green areas are not enough for satisfy my need to spend time in nature	,121	**,655**
I prefer working out outdoors	-,042	**,513**
I receive the nature experiences i need from the parks and green areas in my neighbourhood or city	-,061	-,378
I prefer green areas or parks to built-up areas	-,232	**,372**
I often feel anxiety in the rush and crowds of cities	-,342	**,345**
I prefer working out indoors (the gym, indoor swimming pools) rather than outdoors in nature	,127	-,342
Rotation	3,08	2,52
Cumulative % of Variance	30,97	39,98

Classification of inhabitants in Tampere & Helsinki

(Tyrväinen et al 2007)



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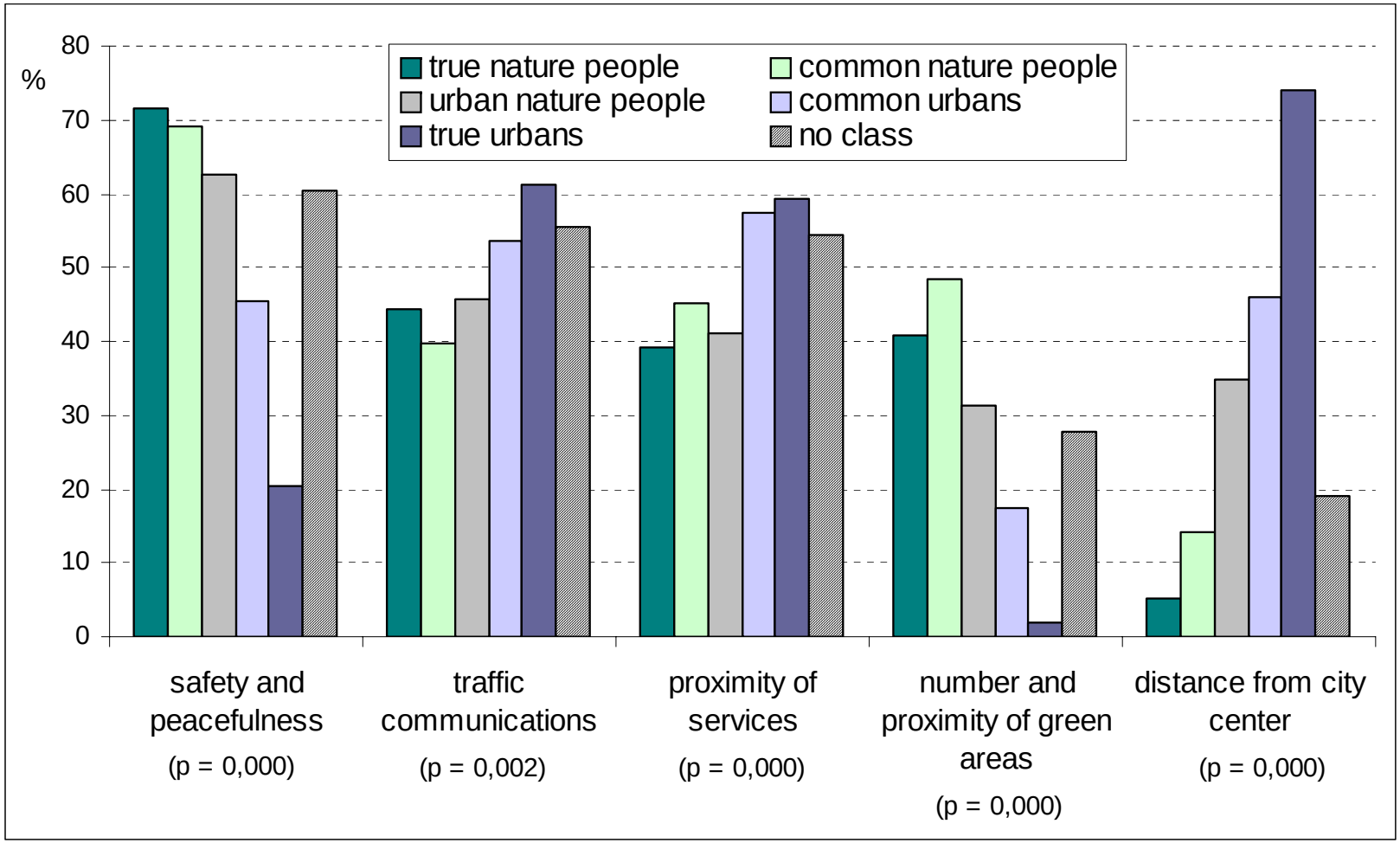
Differences between inhabitant classes

Reasons influencing choice of residence



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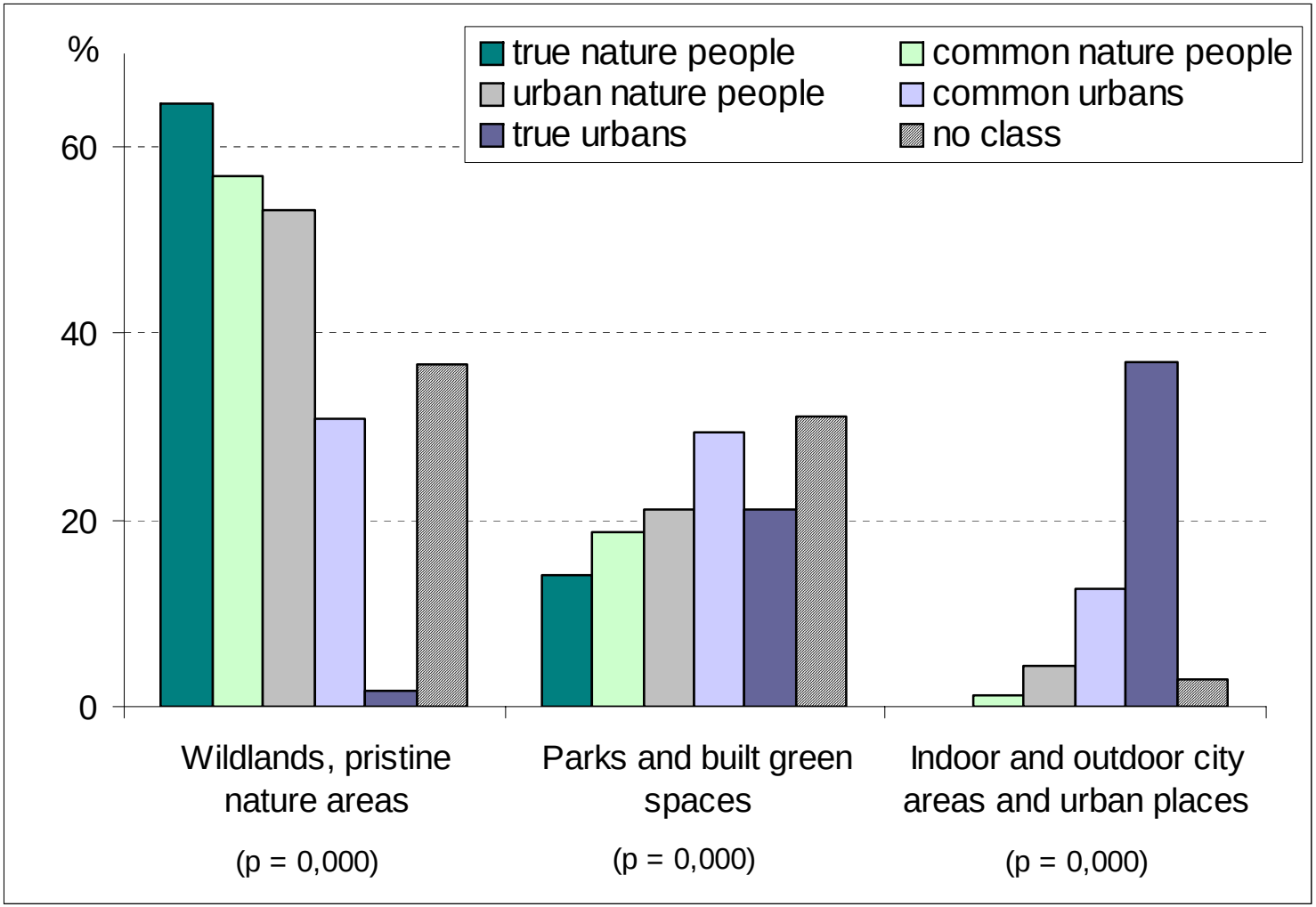
Favourite place of different type of residents



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Summary

- On average, nature has still high importance to Finns even in urban environment

→ Needs of different types of residents, however, need to be articulated better in various urban planning processes.

- Restorative effect of favourite places in forests and other nature areas than in built-up parks or constructed areas .
- Exposure to nature areas increases positive emotions. (5 hours/month)
- Negative emotions decrease when expose to nature areas is relatively high (areas outside city most effective).

Conclusions

- In spite of the progress in research, green areas have still somewhat weak position in urban land-use decisions
- Move in from producing general information of benefits towards being able to produce solutions at local level.
- Need to improve linkages between qualitative and quantitative research
- Understand the impact of urbanization to human-nature relationship
- Establish links between the environmental, socio- economic functions of urban parks