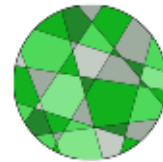


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A Qualitative Exploration of Perception and Use of Cultural Ecosystem Services from Tree-Based Urban Green Space in the City of Zagreb (Croatia)



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Introduction

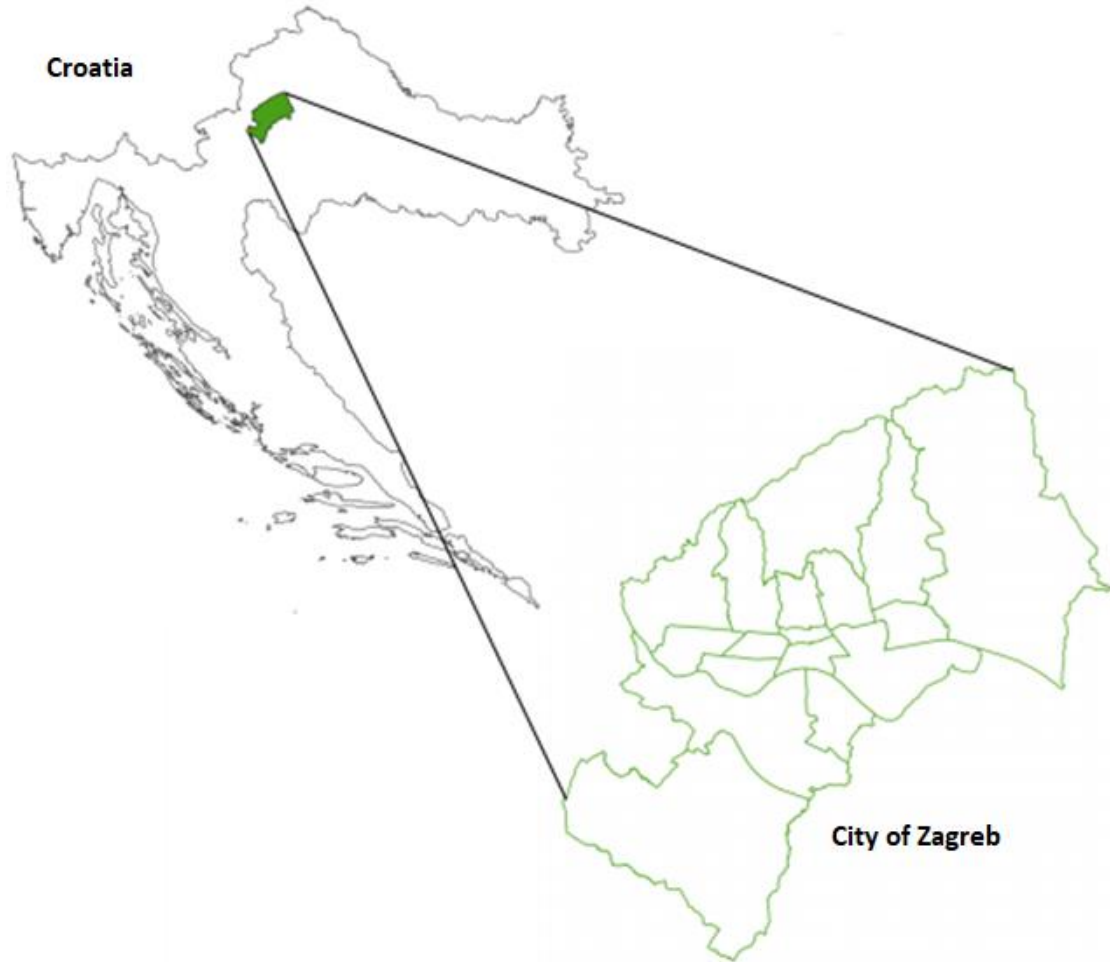
Provisioning, regulating, supporting and cultural ecosystem services provided from urban green space (UGS) are contributors to **human wellbeing**.

„Cultural ecosystem services (CES) are nonmaterial benefits people obtain from ecosystems through **spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences**”

Millennium Ecosystem Assessment (2005)

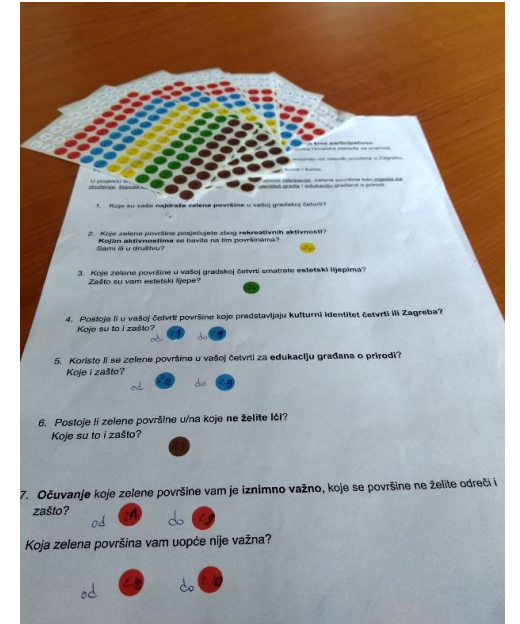
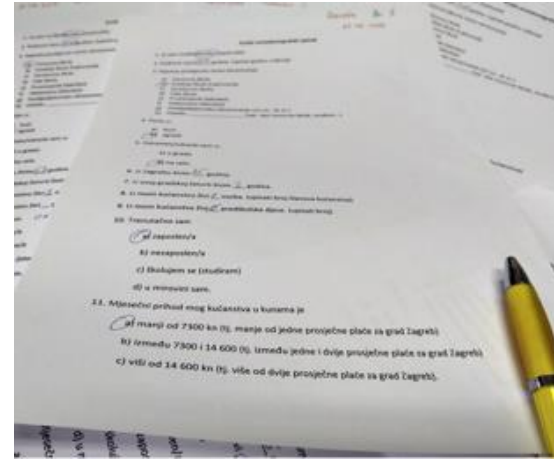
UGS use → Social factors + spatially explicit factors

Study area – City of Zagreb



Geographical location	15°59' East longitude	45°49' North latitude
Surface area	641.32 km ²	
Number of districts	17	
Population in 2018 (estimate)	804 507	
Population by gender (2018, mid-year estimate)	Female	53%
	Male	47%
Population by age	15 – 29	16%
	30 – 44	23%
	45 – 59	20%
	60 ≤	26%
Urban green infrastructure		
	Lenght	Tree-lined roads 243 km
	Number	Public playgrounds 760
	Surface	Dog parks 10
		Parks 59.2 ha
		Grassland 1 085 ha
		Botanical gardens 7.1 ha
		Zoological gardens 7 ha
		Protected natural areas 10 266.1 ha

Method



Focus groups – mixed methods

Qualitative

+

Quantitative

Why?

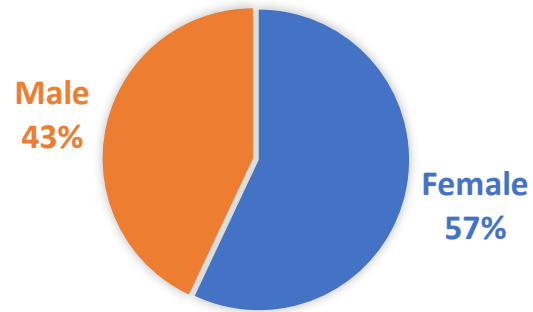
- Group interview
- Established protocol with questions addressing CES
- Recorded and transcribed
- Transcript analysis - CODING

Where?

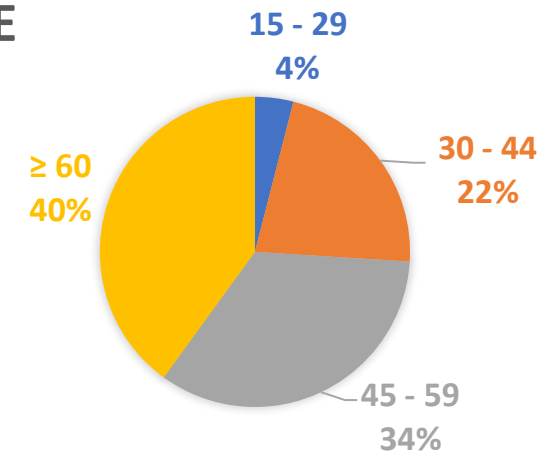
- Workshop participatory mapping
- Socio-economic questionnaire
- Aerial map of city district
- Color and number coding system
- Spatial and statistical analysis

Results → 20 focus groups → 94 participants

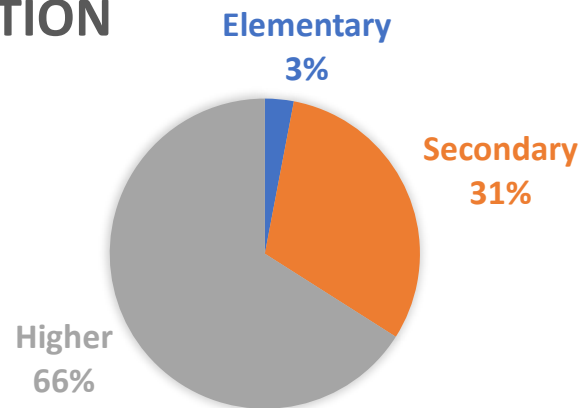
GENDER



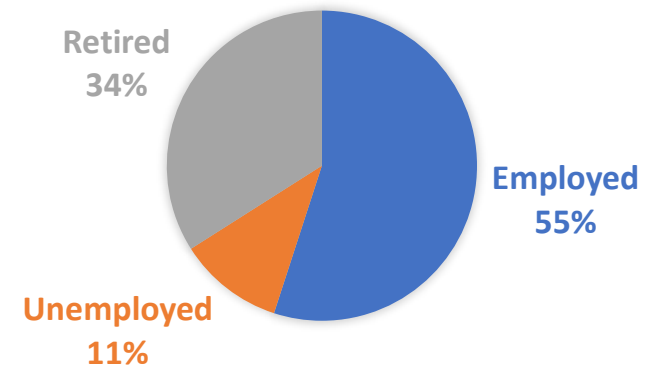
AGE



EDUCATION



WORK STATUS



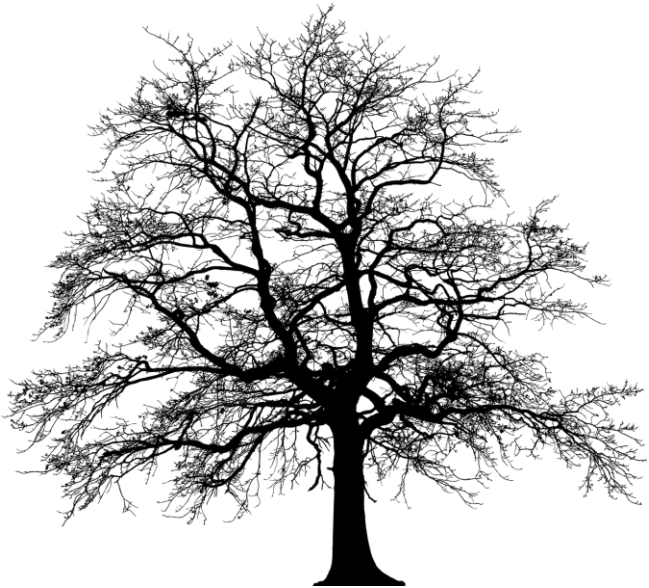
Results → Place Attachment

Single attributes

- Positive memories
- Good maintenance
- Nice place for walking
- Nearness/proximity
- Presence of facilities and walking paths

UGS type

- Forests
- Parks
- Tree lines
- Park forests
- Walking path along the streams
- Greenery around residential buildings
- Recreational facilities
- Private garden
- Trees
- Window view
- Cemeteries
- Green systems
- Greenway
- Other green spaces



Results → Aesthetics

Single attributes

- Presence of specific tree species
- Presence of trees in general
- Beautiful views
- Presence of colorful leaves
- Presence of water bodies

UGS type

- Tree lines
- Forest
- Parks
- Trees
- Private gardens
- Park-forests
- Greenery around residential buildings
- Walking paths along the streams
- Cemeteries
- Greenery of sports and recreational facilities
- Children playgrounds
- Window views
- Greenways



Results → Recreation

Single attributes

- Walking
- Bicycling
- Jogging
- Grilling
- Hunting
- Mountain climbing
- Mushroom picking
- Picnicking
- Skating
- Observing nature

UGS type

- Forests
- Parks
- Tree lines
- Walking paths along streams
- Park-forests
- Children playgrounds
- Greenery of sports and recreational facilities
- Greenery around residential buildings
- Private garden and other UGS
- Greenways



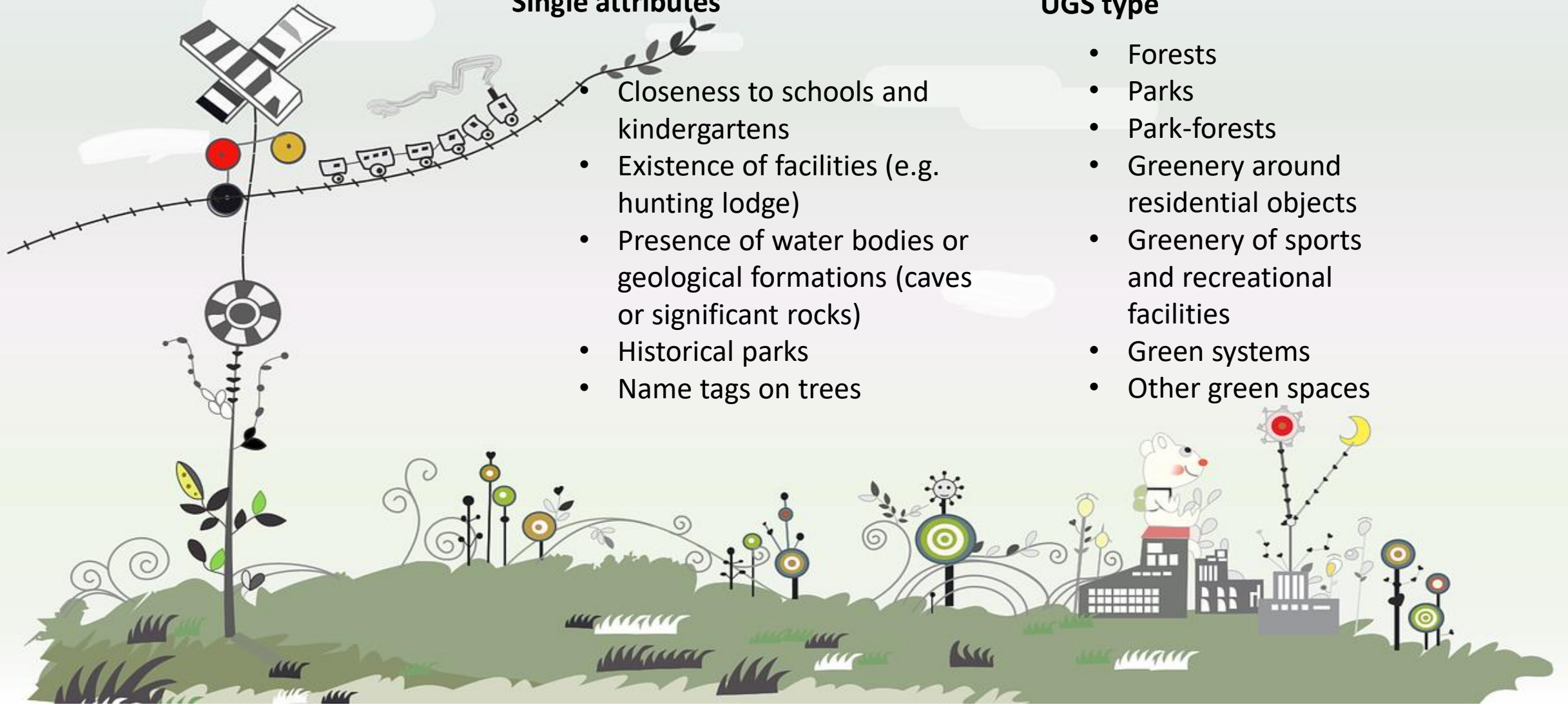
Results → Education

Single attributes

- Closeness to schools and kindergartens
- Existence of facilities (e.g. hunting lodge)
- Presence of water bodies or geological formations (caves or significant rocks)
- Historical parks
- Name tags on trees

UGS type

- Forests
- Parks
- Park-forests
- Greenery around residential objects
- Greenery of sports and recreational facilities
- Green systems
- Other green spaces



Results → Cultural identity

Single attributes

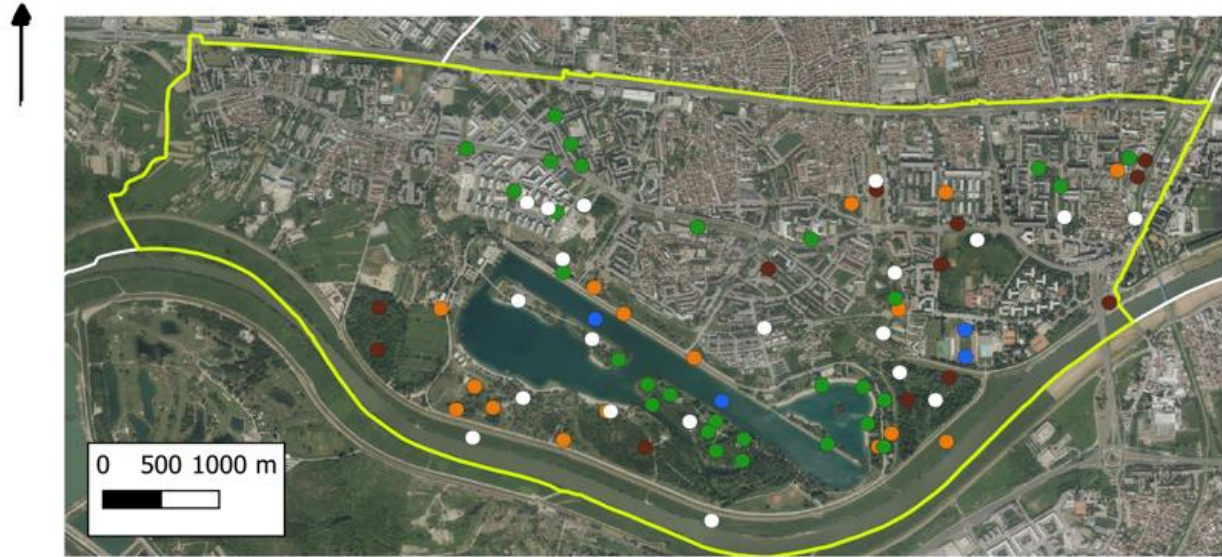
- Popular meeting and/or recreational places
- A symbol of the neighborhood or the city
- Interesting story
- Presence of historical and architectural objects
- Recreational facilities
- Old trees
- Protected natural areas
- Engagement in UGS preservation
- Well-designed

UGS type

- Parks
- Forests
- Park-forests
- Greenery of sports and recreational facilities
- Tree lines
- Walking paths along streams
- Greenery around residential buildings
- Greenways
- Other



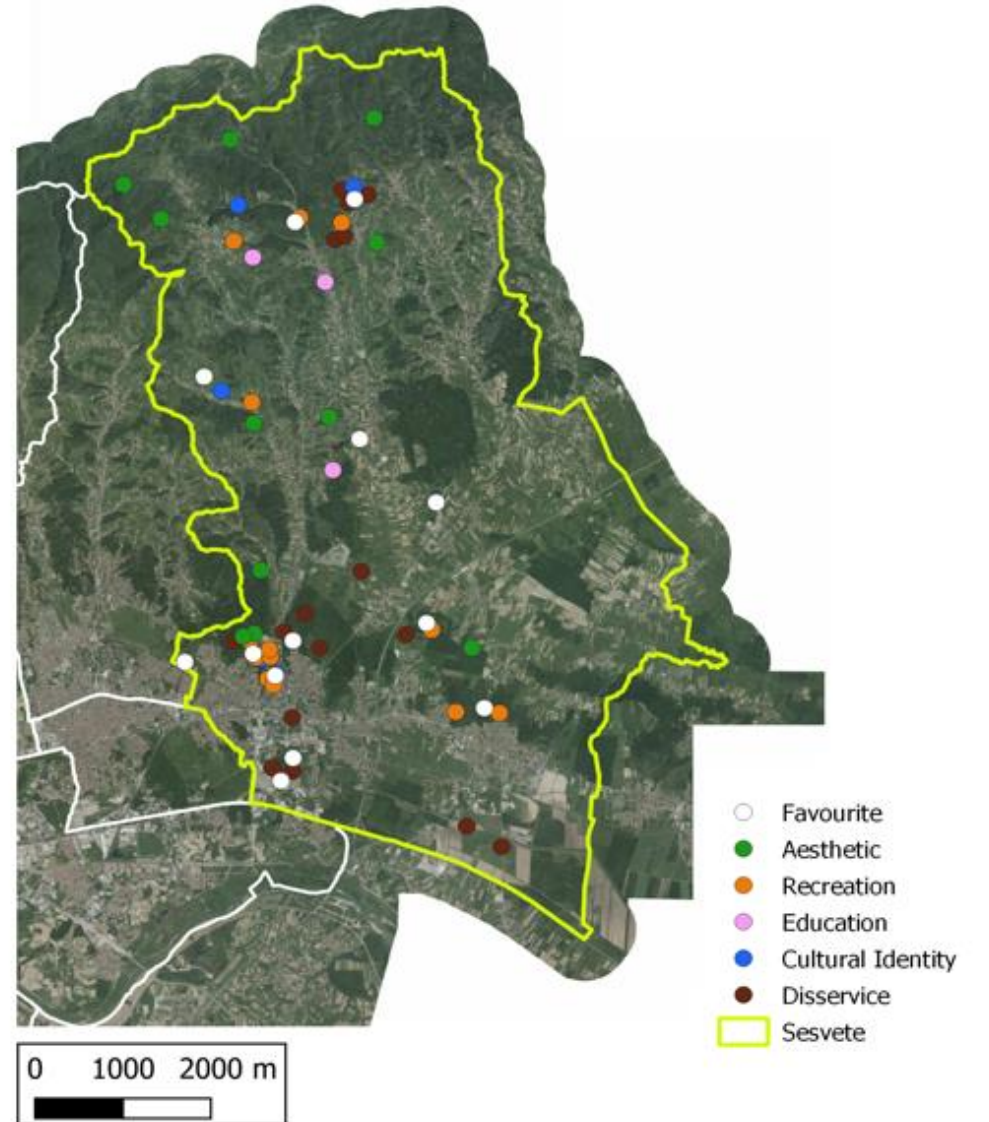
Results → CES distribution



CITY DISTRICT: TREŠNJEVKA - JUG

- Favourite
- Aesthetic
- Recreation
- Cultural Identity
- Disservice
- Trešnjevka-jug

CITY DISTRICT: SESVETE



- Favourite
- Aesthetic
- Recreation
- Education
- Cultural Identity
- Disservice
- Sesvete

Conclusion

- The citywide exploratory study provided insights into how people perceive and use tree-based UGS in terms of what CES they perceive and use, as well as what services they connect to different types of tree-based UGS
- Qualitative studies of CES rarely address them on at the city scale and in different UGSs
- This study was first of that kind in Croatia and the city of Zagreb
- Participants perceived all investigated CES, place attachment, aesthetics and recreational services were more pronounced than other
- Qualitative and quantitative approaches complement each other
- Public perception provides relevant informations for urban and UGS planners
- Results are good foundation for PPGIS online questionnaire in next phase of the project

Thank you for your attention

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