

# How can Sustainable Managements of Nature Parks Improve Quality of Life for their Residents?

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A wide-angle landscape photograph of the Gantrisch Nature Park in Switzerland. The foreground is filled with a dense forest of tall, green pine trees. In the middle ground, there are rolling green hills and a small cluster of white buildings. The background features rugged, rocky mountain peaks under a sky with scattered white clouds. The overall scene is a mix of natural beauty and human habitation.

Nature park Gantrisch, Switzerland. Photo: Elena Siegrist

## Research project

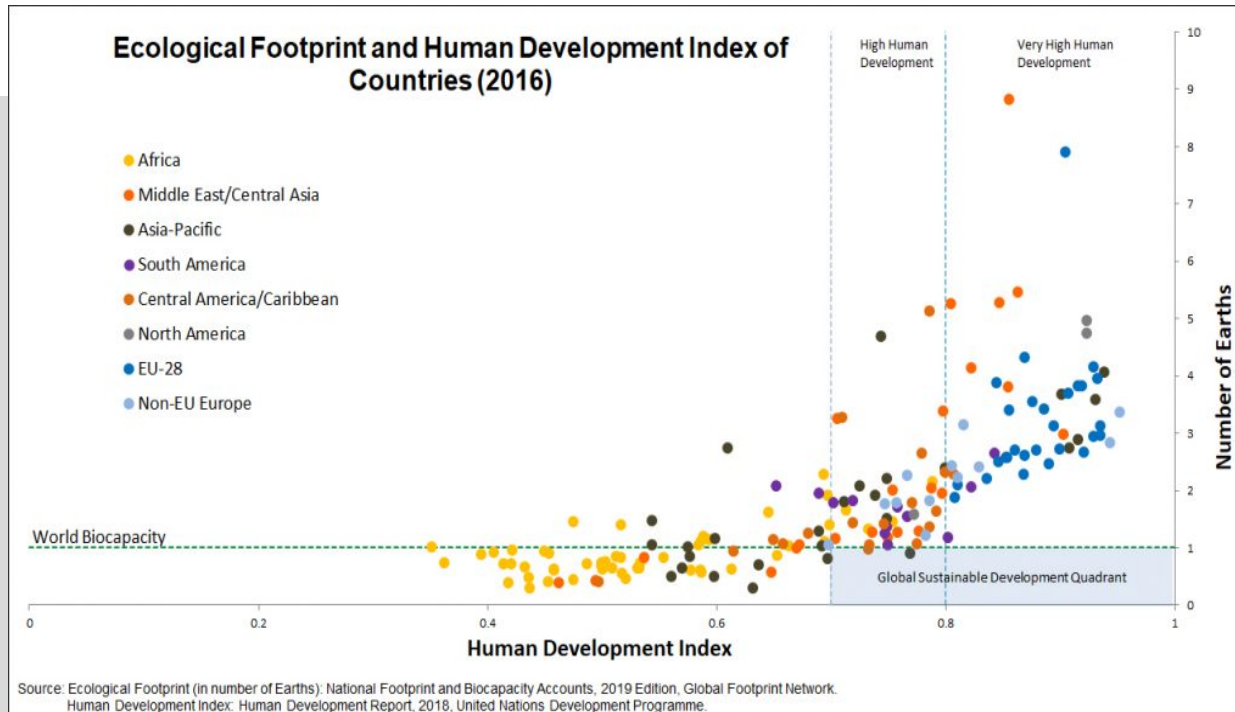
# **Sustainable quality of life in parks of national importance**

[https://www.cde.unibe.ch/research/projects/sustainable\\_quality\\_of\\_life\\_in\\_parks\\_of\\_national\\_importance/index\\_eng.html](https://www.cde.unibe.ch/research/projects/sustainable_quality_of_life_in_parks_of_national_importance/index_eng.html)

Leaded by Prof. Thomas Hammer  
Centre for Development and Environment

# Initial position

## Quality of life in context of sustainable development



## Initial position

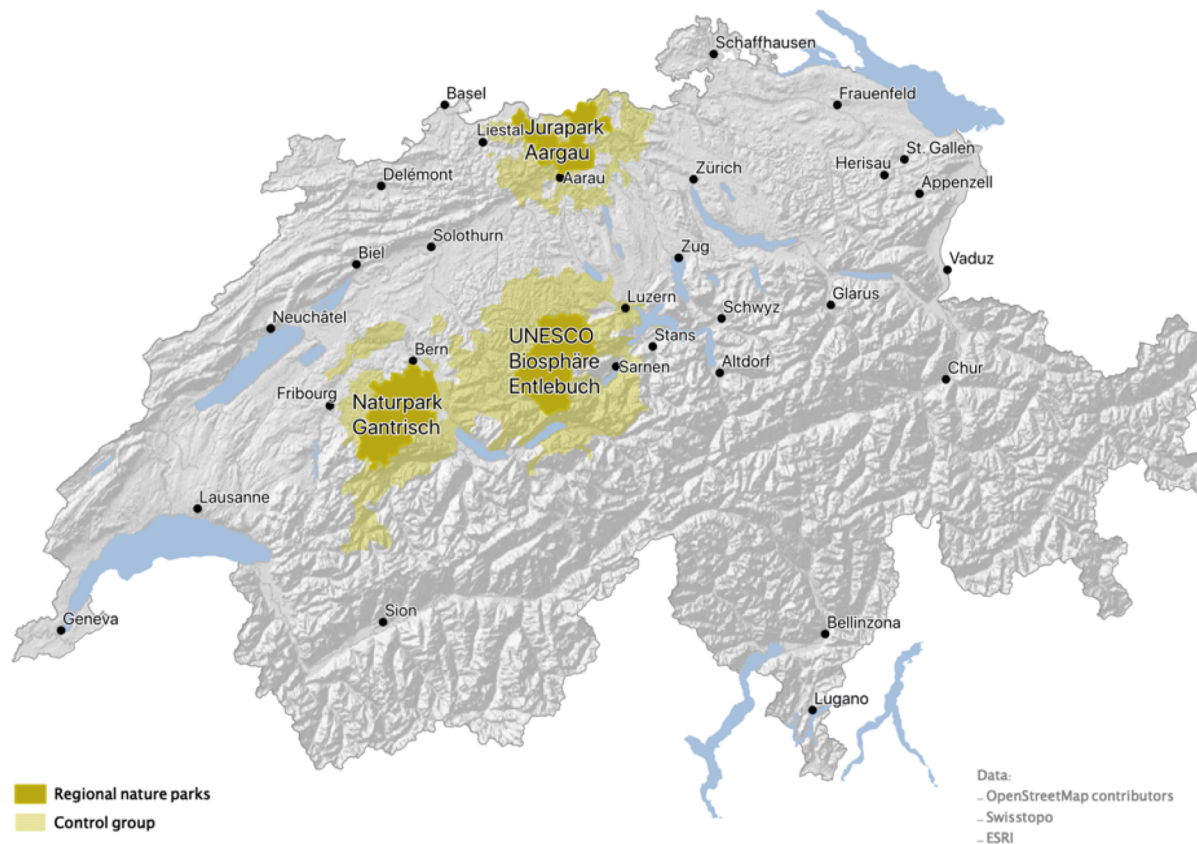
### Regional nature parks and sustainable quality of life

Parks in Europe can be seen as **social-ecological systems and as real labs for sustainable development** (Cumming and Allen, 2017; Hammer et al., 2016).

**Infrastructure helps individuals to adopt behaviours that lead to lower resource use** (e.g. O'Neill et al., 2018, Schneidewind, 2013) and parks can help to improve the infrastructure in this sense.

**Nature and landscape have been shown to contribute to satisfaction** (e.g. Bieling et al., 2014; Bignante, 2015; Hammer et al., 2011).

# How can Sustainable Managements of Nature Parks Improve Quality of Life for their Residents?



## Research question

**How can park managements best contribute to park residents' quality of life in a sustainable manner?**

1. What are nature park residents' perceptions of their quality of life?
2. What dimensions contribute most strongly to quality of life?
3. What management needs are there in nature parks with respect to quality of life, and what are residents' wishes in this regard?

## Data and methods

Mode and time of data collection	Postal and online survey conducted May – June 2019
Survey design	Cross-sectional study, two-stage random sample
Sample	Respondents who answered the postal and online questionnaire in June 2019: <b>N = 3'358</b> (response rate ~25%)
Data analysis	Multiple (OLS) regression analyses with life satisfaction as outcome variable, pooled regression models with parks as interaction term, index.

# Measurement

Construct	Item question	Analysis
<p><b>Overall Satisfaction</b> 1 question</p>	<p><i>How satisfied are you with your life in general?</i> 0 = not at all satisfied, ..., 10 = completely satisfied</p>	<p>Mean value; Kruskal-Wallis test; Dunn-Bonf. test; multiple OLS regression; pooled regression</p>
<p><b>Dimensions of satisfaction</b> 21 questions about subjective satisfaction concerning several areas of life</p>	<p><i>How satisfied are you with the public transport services?</i> [...] 0 = not at all satisfied, ..., 10 = completely satisfied</p>	
<p><b>Importance of Dimensions</b> 22 questions about the importance of several areas of life</p>	<p><i>How important are these areas to you personally in your life? e.g. Availability of public transport [...]</i> 0 = not at all important, ..., 10 = very important</p>	<p><math>Index_i = importance_i \times (10 - satisfaction_i)</math> 0 = completely satisfying but not at all important, ..., 100 = very important but not at all satisfying</p> <p>Kruskal-Wallis test; effect size according to Cohen</p>
<p><b>Dimensions to improve by the park managements</b> 22 questions about subjective satisfaction concerning several areas of life</p>	<p><i>Which areas do you think the management of the UNESCO Biosphere Entlebuch could improve? e.g. Leisure, recreational and cultural activities</i> ...could be improved by the park; ... is satisfying; Don't know</p>	<p>Mean percentage</p>



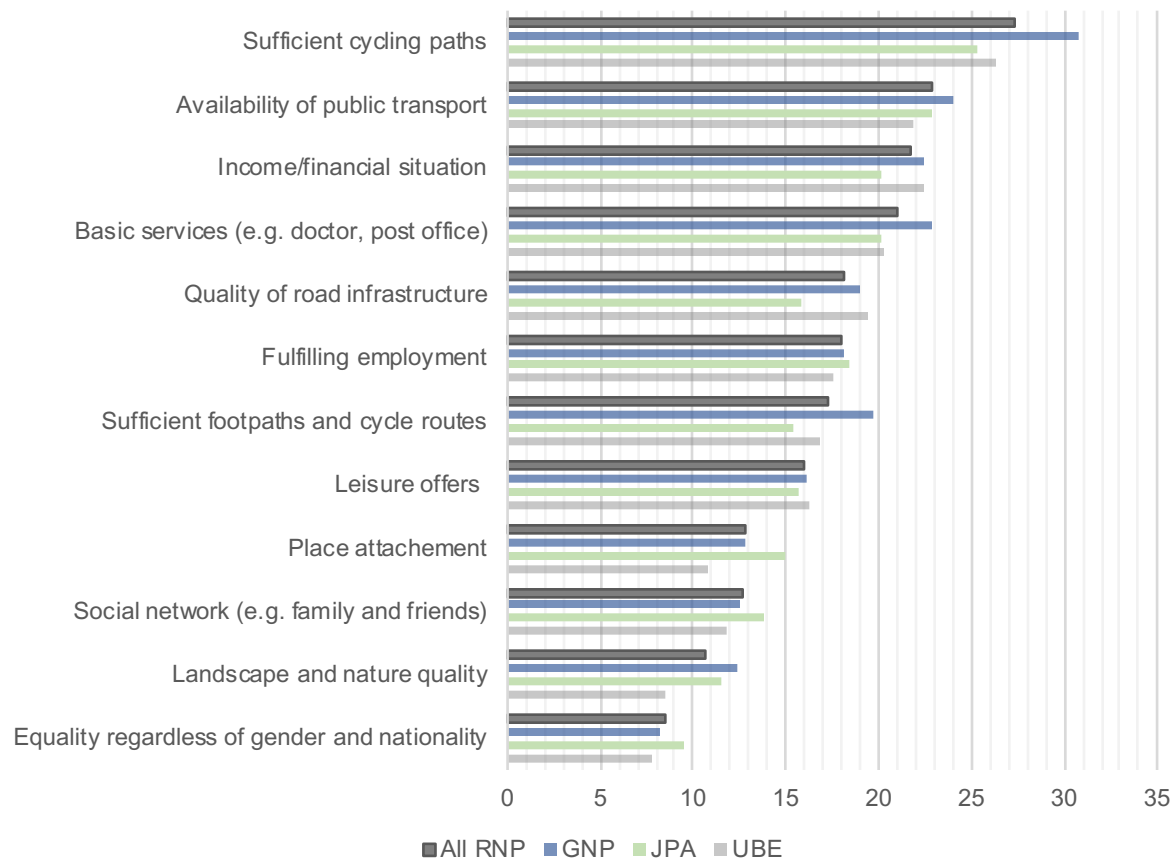
# Dimensions contributing most strongly to quality of life

OLS regression models for overall satisfaction and specific dimensions of satisfaction in all three parks.

	Overall satisfaction
Health	0.220*** (9.85)
Social relations (e.g. family and friends)	0.201*** (9.42)
Leisure offers	0.100*** (5.24)
Housing situation	0.077*** (3.43)
Income/financial situation	0.070*** (4.02)
Fulfilling employment	0.058*** (3.43)
Equality regardless of gender and nationality	0.043** (2.88)
Quality of road infrastructure	0.33** (2.10)
Sufficient footpaths and cycle routes	0.022 (1.31)
Place attachment	0.012 (0.84)
Absence of noise from neighbours	0.004 (0.27)
Political participation	- 0.025 (- 2.01)
Housing costs	- 0.033 (- 1.95)
Safety from violence	0.004 (0.37)
Absence of traffic noise	0.019 (1.50)
Quality of nature and landscape	- 0.008 (- 0.39)
Availability of public transport	- 0.004 (- 0.34)
Absence of air traffic noise	- 0.016 (- 1.26)
Safety from traffic accidents	0.019 (1.50)
Number of observations	1,345
Adjusted R2	0.382

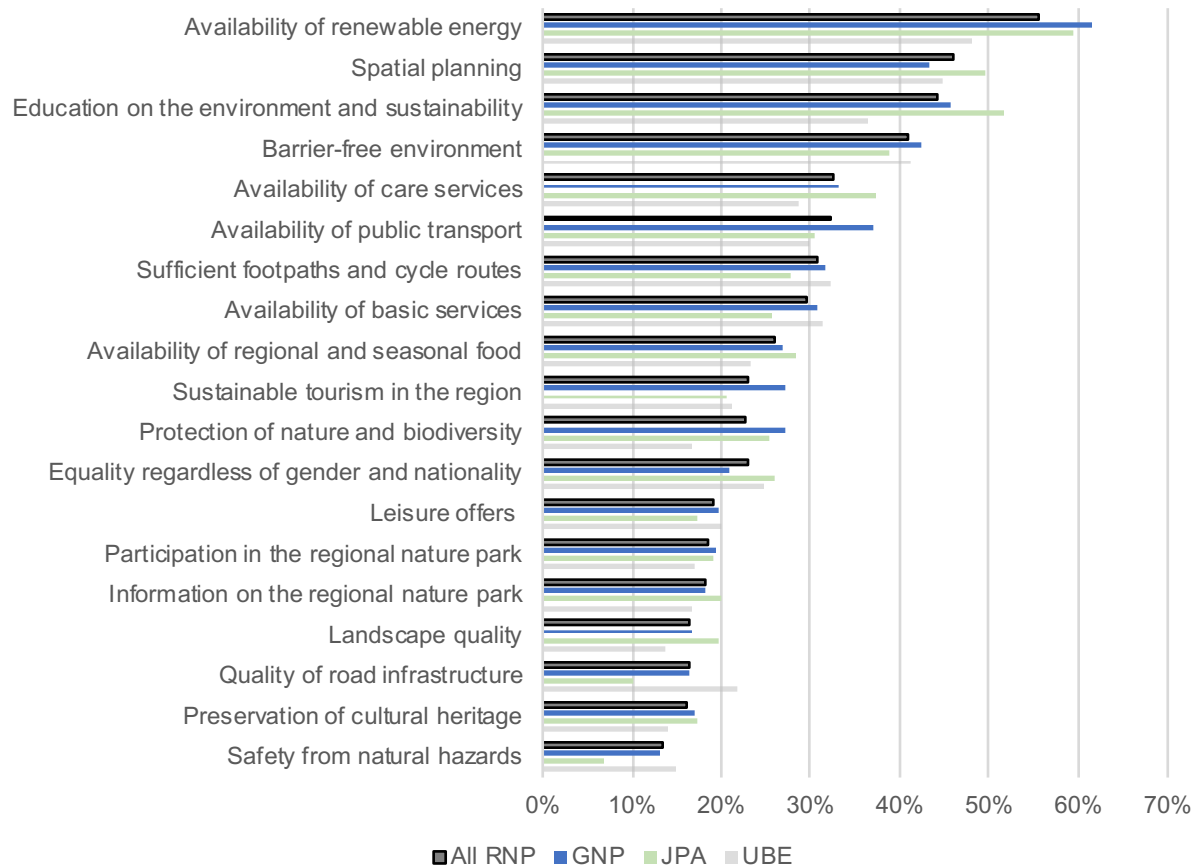
Notes: The table lists coefficient estimates of the relevant OLS regression models (\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ), with  $t$  values in brackets.

# Management needs



Scale: zero = fully satisfactory but not important, 100 = very important but not at all satisfactory.  $n = \emptyset 2,223$ .

# Residents' wishes with regard to park management



Things that park management could improve in the park region according to residents, in per cent of respondents. n = Ø 956

## Recommendations

### Key actions for park management:

1. Offers and activities that directly or indirectly improve residents' health, for example by encouraging people to be active outdoors and by safeguarding an inspiring, and beautiful environment.
2. Measures that improve social relations for local residents, for example by organizing events or supporting municipal spatial planning.
3. Promotion of sustainable mobility, infrastructure, and renewable energy, for example by collaborating with energy providers and through political lobbying.

# Conclusion

## Conclusion

The dimensions that proved important for the residents' **quality of life are also essential for sustainable development**, and hence relate to key goals of regional nature parks.

Awareness of how park management activities can contribute to residents' quality of life in a sustainable way enables park managements to set new priorities that have **joint positive outputs** – for nature **and for park residents**.

How can Nature Park managements improve Quality of Life for their Residents in a Sustainable Way?



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**Thank you**  
for your attention!

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## References

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- Bignante, E. (2015). Therapeutic landscapes of traditional healing: Building spaces of well-being with the traditional healer in St. Louis, Senegal. *Social & Cultural Geography*, 16(6), 698–713. <https://doi.org/10/gg3kcw>
- O'Neill, D., Fanning, A. L., Lamb, W. F., & Steinberger, J. K. (2018). A good life for all within planetary boundaries. *Nature Sustainability*, 1, 88–95.
- Schneidewind, U. (2013). *Transformative literacy: Understanding and shaping societal transformations/Transformative literacy: Gesellschaftliche veränderungsprozesse verstehen und gestalten*. 2(22), 82–87.

## Selection of Publications

Wiesli, T., U. Liebe, Th. Hammer & R. Bär (2021): Sustainable Quality of Life: A Conceptualization That Integrates the Views of Inhabitants of Swiss Rural Regions. In: Sustainability 13, 9187, pp. 1-18. [DOI:10.3390/su13169187]

Wiesli, T. & T. Hammer (2019): Lebensqualität und Nachhaltigkeit: Die Sicht der Bevölkerung in Pärken von nationaler Bedeutung. Eine qualitative Studie in den Naturpärken Jurapark Aargau, UNESCO Biosphäre Entlebuch und Naturpark Gantrisch. Kurzbericht zur qualitativen Erhebung mit 90 Interviews. CDE, Universität Bern. [DOI:10.7892/boris.132887] [<https://boris.unibe.ch/id/eprint/132887>]

Wiesli, T., T. Hammer & E. Siegrist (2020a): Lebensqualität in Verbindung mit Nachhaltigkeit in der UNESCO Biosphäre Entlebuch. Erste Ergebnisse einer quantitativen Studie. Interdisziplinäres Zentrum für Nachhaltige Entwicklung und Umwelt (CDE), Universität Bern. [10.7892/boris.145910] [<https://boris.unibe.ch/id/eprint/145910>]