

Recreation as cultural ecosystem service - first estimation in Germany at a national level

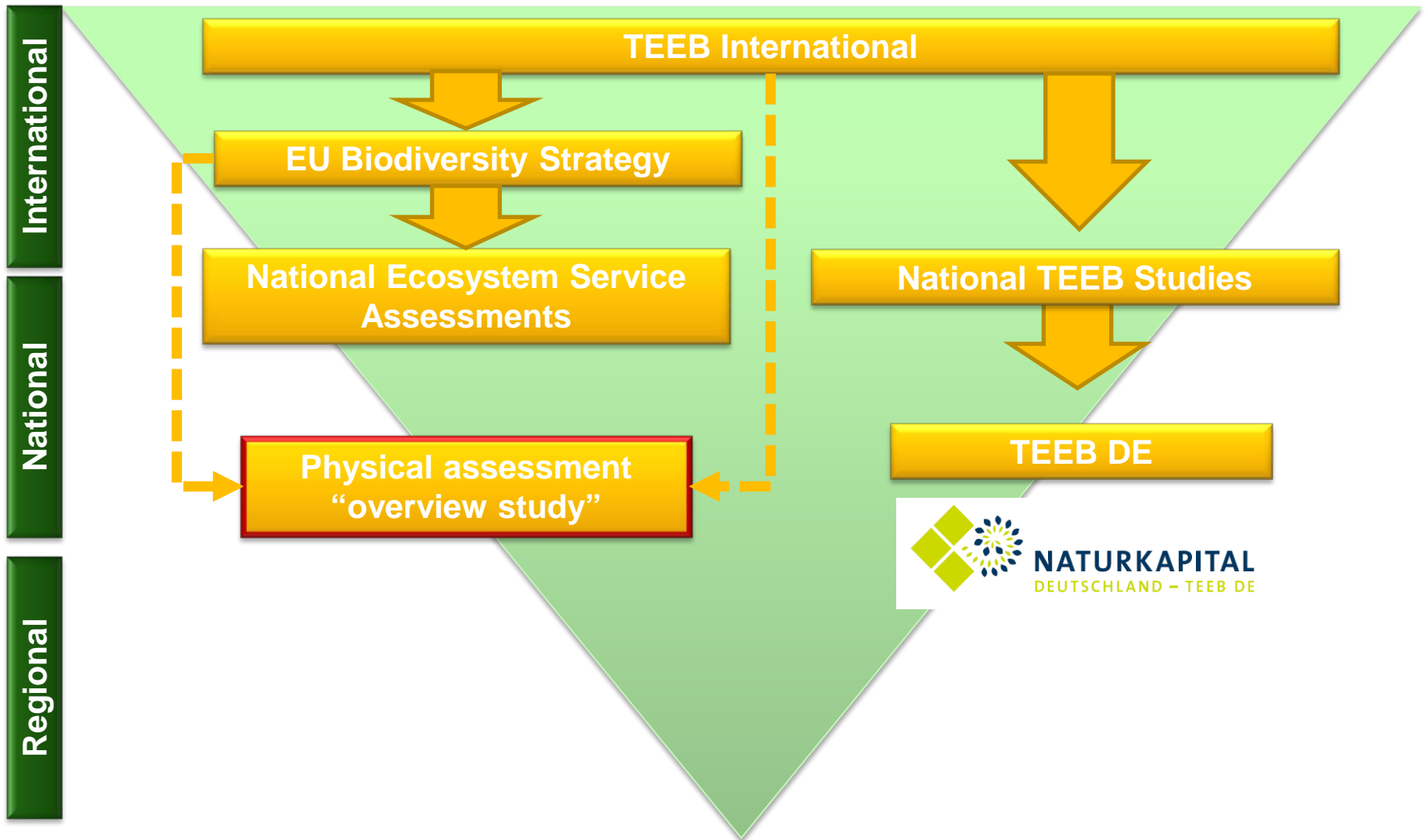
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Stefan Marzelli, Adrienne Grêt-Regamey, Thomas Köllner,
Christoph Moning, Sven-Erik Rabe and Sabrina Daube

Agenda

- Project TEEB Germany overview study
- Recreation as a cultural service
- Requirements from the federal perspective
- Kinds of recreation considered
- Recreation in open landscapes
- Recreation in public green spaces
- Recreation in private green spaces
- Review & Outlook

Overview study TEEB Germany



Funded by:



Research by:



Important results of the study



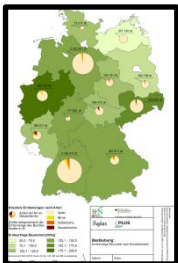
Categories of ESS

- Definition of categories for Germany



Ecosystem services

- Definition of ecosystem services
- Assignment to the system of ESS
- Definition of priorities



Indicators, data and maps

- Suggestions for 17 ESS
- Data research
- Mapping



Economic evaluation study

- Metastudy on economic evaluation in Germany
- Conjoint-Analysis in a case study region



Suggestions for implementation of objective 2 action 5

- Hints for contents and interfaces



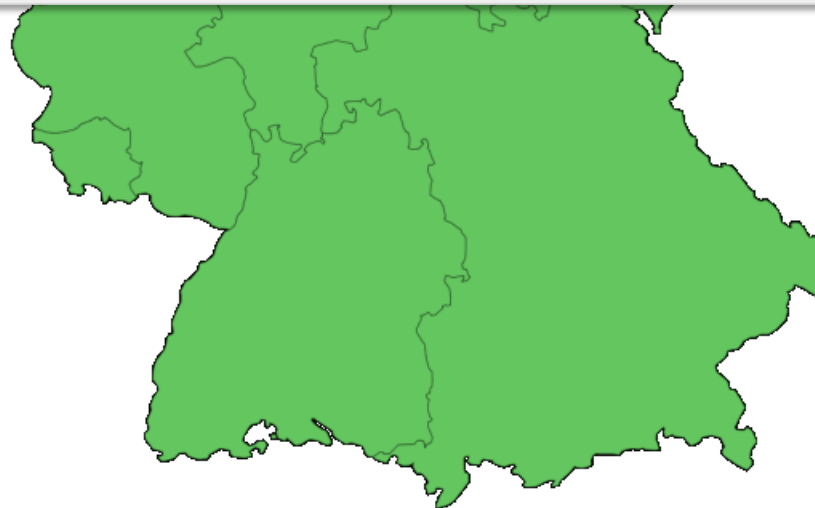
Introduction brochure to TEEB DE

Some requirements from a federal perspective



Preferences of

- Existing data at federal level
- Data compatibility with existing indicators / data
- Maps at district level for a federal approach
- Statistical data corresponding to administrative units
- Can parameters for ecosystem service provision be influenced by action
- Areas relevant for nature conservation / green infrastructure (?)



Recreation as one cultural service

Cultural Services

Aesthetics

Well-being
through nature

Inspiration

Recreation

Identification

Spirituality

Recreation in open landscapes

Recreation in urban environments

Bathing water

Protected areas

Private green
areas

Public green
areas

Recreation in open landscape

What are main features for recreation activities?

**Attractive landscape amenities and areas for activities,
Such as walking, hiking, swimming, etc.**

Protected landscape areas provide over
average amenities for many recreation
activities

Bathing waters are a preferred area type
for recreation

Analysis how many of these areas are
accessible for people ?

Recreation in open landscape – proxy: protected areas

Background:

- Recreation in open landscape are perceived as important for physical and mental health (i.a. survey of Deutscher Wanderverband, Naturbewusstseinsstudie)
- Different qualities contribute to recreation quality of an area
- Protected areas represent some relevant qualities for recreation
- Composite indicators may be difficult to interpret

What is the extent of open landscapes used for recreation by citizens?



Objective: no federal objectives defined; „normative assumption“ protected areas are perceived as attractive for recreation

→ the more residents can use a protected area the better (?)

Indication:

difference between

- recreation quality (potential provision)
- usability of a landscape for recreation

The more settlement areas can access protected areas the better;

Protected areas within 6 km radius of settlements

Indicator: Settlement areas provided with protected areas within 6 km radius
[supply level of settlement areas with protected areas %]

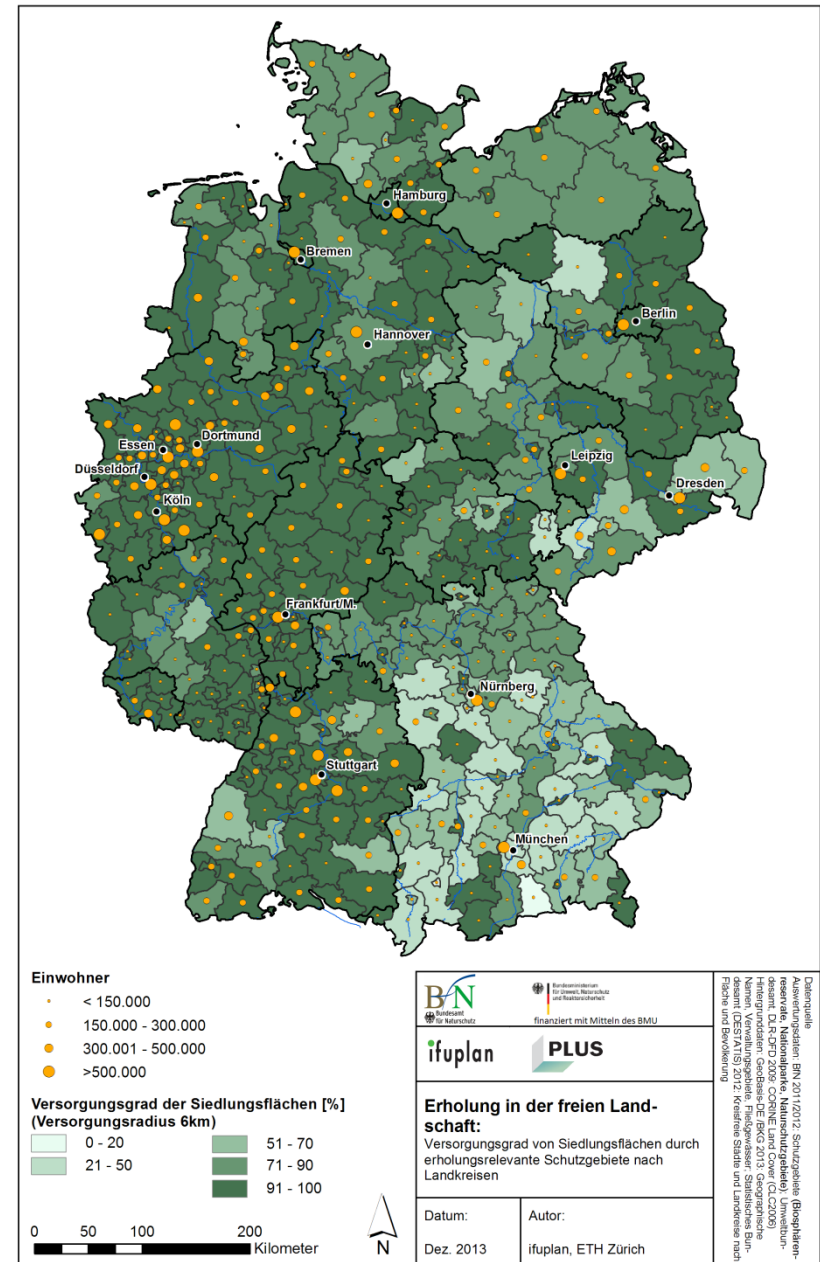
Data:
Protected areas, settlement areas (CLC 2006),
Administrative boundaries

Protected area categories:
Nationalpark, nature protected areas, biosphere reserves;

Distance criterion:
6 km radius for finishing time recreation (Wolf & Appel-Kummer (2009), Schubert (2000))

Settlement area: CLC 2006

Results: about 93 % of German counties provide a supply level of > 50% of settlement area with protected areas



Recreation in public green areas of urban areas

Background:

- 75% of Germans live in urban regions
- about 1/3 live in cities > 100.000 inhabitants
- Provision of public green areas is a core responsibility of urban design

What is the extent of public green areas usable for recreation activities in cities?



Objective: no federal objectives defined, but supply of public green spaces is undoubtedly relevant for human well-being → the more residents can use a public green area the better

Indication: the more green spaces are accessible from residential areas the better;

Recreation in public green areas: approach & results

Indicator: urban area provided with green recreation area within 300m radius
[km² supplied residential area/ km² total residential area]

Data:

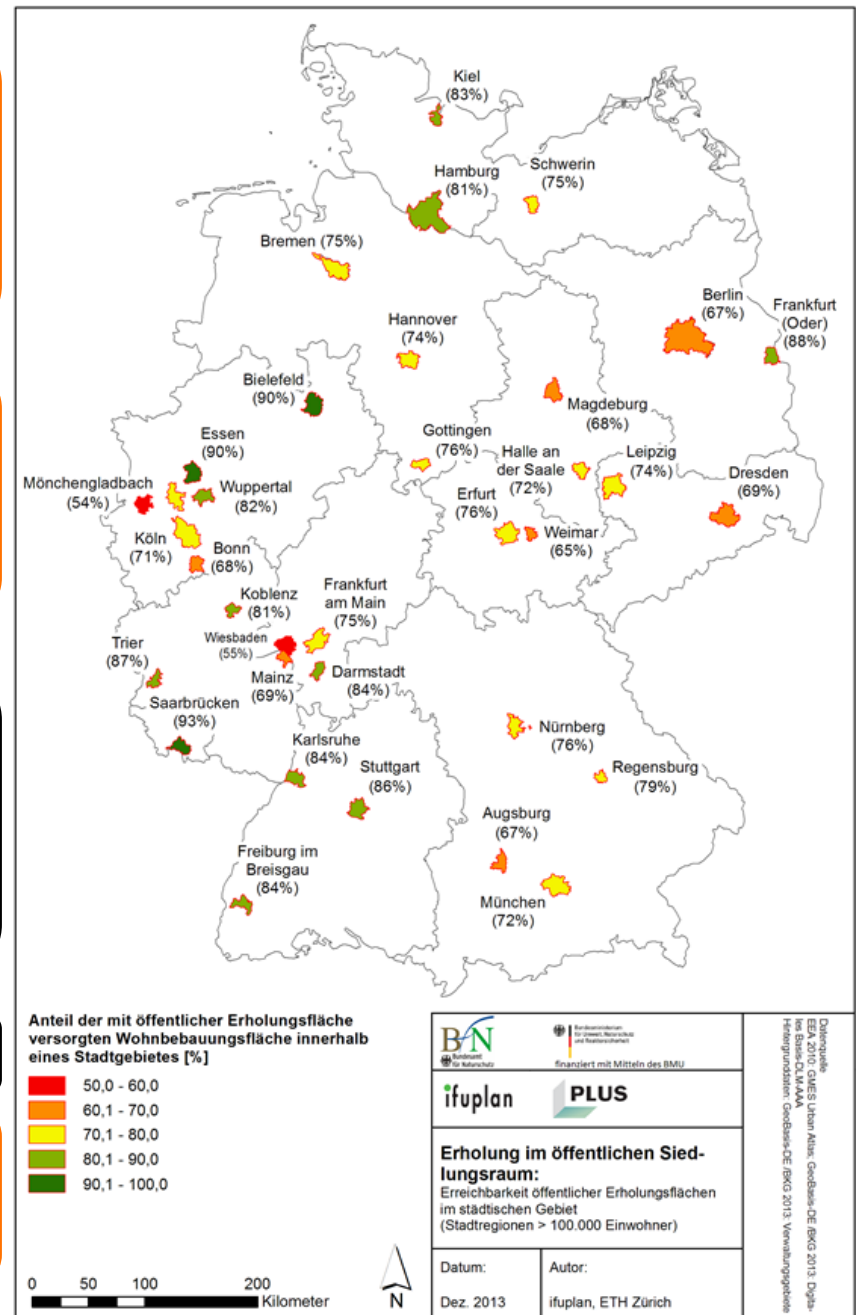
GMES Urban Atlas, „Large urban zones“,
modified according to Basis DLM
35 urban areas in Germany > 100.000 inh.

Recreation area categories (LUZ):
„Green urban areas“
(14100), „Forest“
(30000), „Water“
(50000)

Distance criterion:
15 min walking time
/ 300 m radius (EEA
DG Regional policy)

Urban area: LUZ category urban fabric

Results: in average 76 % of residential areas are supplied with green recreation areas



Recreation in private green areas of urban areas

Background:

- Private green areas offer highly relevant places for recreation in urban environments, such as: gardens, allotments, tenant gardens
- Provision of private green areas can be managed in restructuring of urban areas, town planning schemes and layout plans

What is the extent of private green areas in cities?



Objective: no federal objectives defined, but supply of private green spaces contributes to human well-being; contribution to green infrastructure → the more residents can use a green area the better

Indication: the more green spaces are accessible from residential areas the better;

Recreation in private green areas of urban areas

Indicator: urban area provided with private green areas
[m²/resident resp. m² /total residential area]

Data:

Rapid Eye 2013 Level 3a
GMES Urban Atlas, Urban fabric
Administrative boundaries (LVG Bayern 2013)
Statistical data (BfStat)
City of Munich

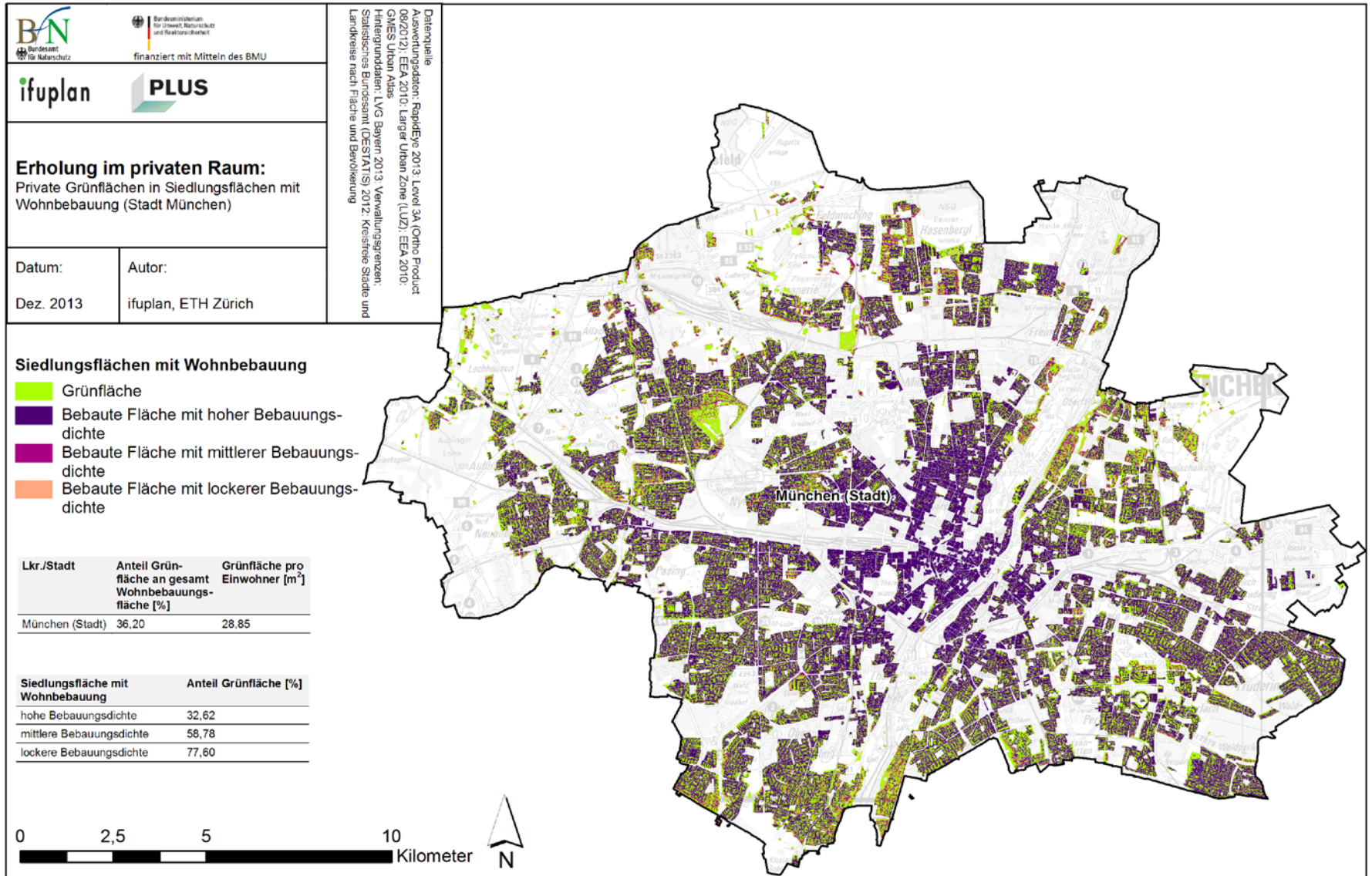
Recreation area categories (LUZ):
NDVI Data from rapid eye;

Urban area: LUZ category urban
fabric / 3 types of building density

Some results for case study Munich:

in average 29 m² private green areas/ resident
In average 36 % of area in residential areas are private green areas
High housing density 33 % to low housing density 77 % green areas

Case study: city of Munich



Review and outlook

Open landscape

- Protected areas as a proxy
- Quality / usability of protected areas
- Use of further sub-indicators such as landscape diversity, bathing waters,...
- Use population instead of settlement areas

Public green areas

- Further distinction of quality / size of green areas
- Distinction of type of urban areas (densely, medium, sparsely built up areas)
- Network analysis instead of average radius distance

Private green areas

- Further downscaling for single city quarters and analysis of infrastructure networks and barriers
- Use of high resolution population data
- Further analysis of other cities to collect comparable data
- Research for socio-economic standard values for the definition of objectives

Outlook on implementation

- Use standardised approaches for benchmarking of cities
- Use recreation services for demand analysis in landscape and urban development

Thank you for your attention !