

SEA Prague:

International experience and perspectives in SEA

C5: SEA and landscape planning

**Landscape planning and SEA –  
a complex for an environmentally  
compatible urban land use planning of  
municipalities?**

# Structure of the talk

- Intentions, functions and contents of landscape planning and urban land-use planning in Germany
- Relationship of landscape planning and urban land-use planning
- Contribution of landscape planning to the SEA of urban land-use plans (results of a research project)

# Intentions and Functions of German landscape planning

- Description of the current and the desired state of nature and landscape for a particular planning area
- Concretizing the goals and principles of nature protection
- Formulation of measures for the protection, the care and the development of nature and landscape
- Final product at local level: landscape plan ("Landschaftsplan")

# Contents of landscape plans

- (1) Survey of nature and landscape
- (2) Assessment of nature and landscape
- (3) Development concept for nature and landscape

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- **Flora and fauna**
- Landscape
- Soil
- Water
- Climate factors





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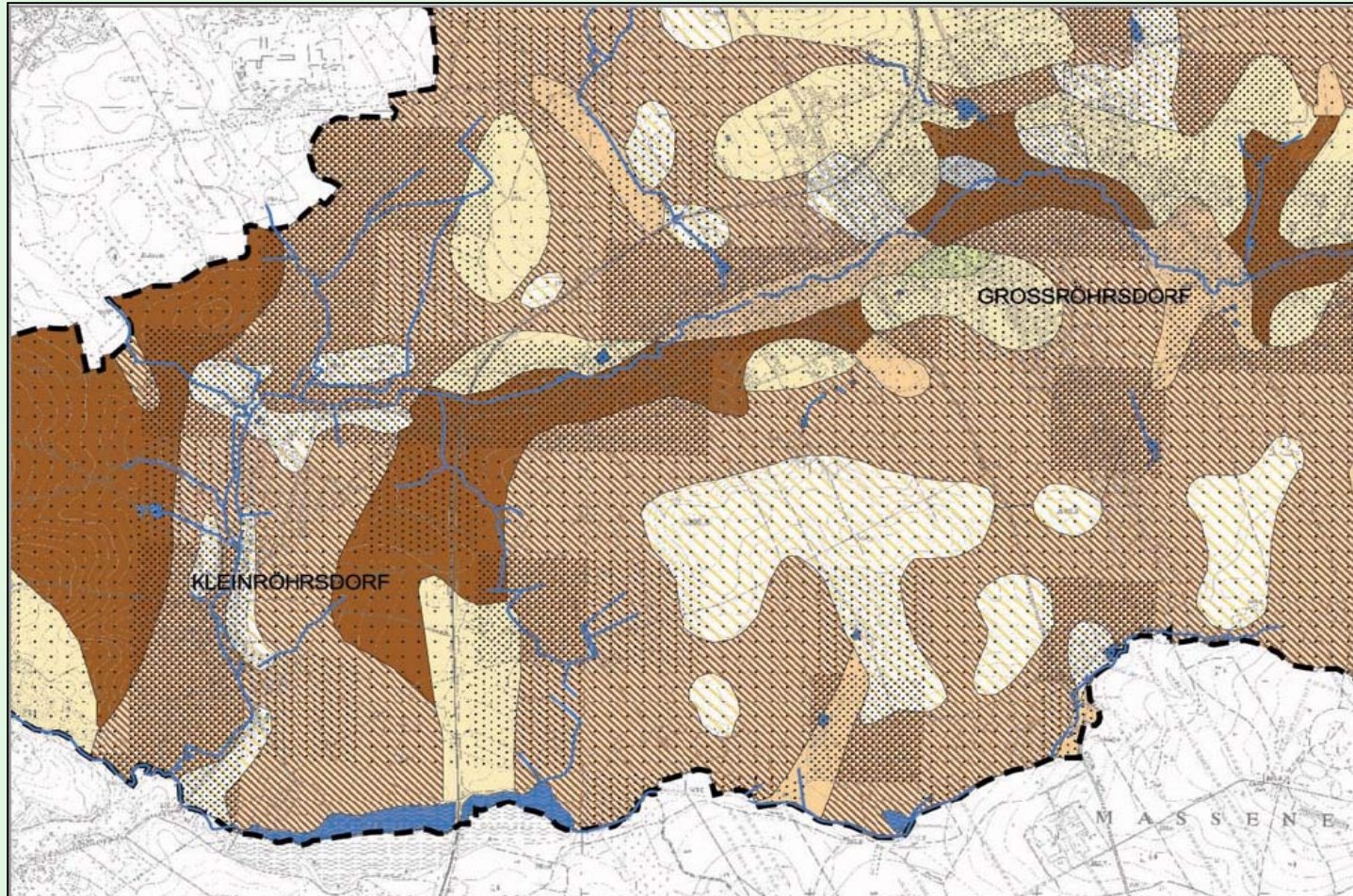
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- **Climate factors**

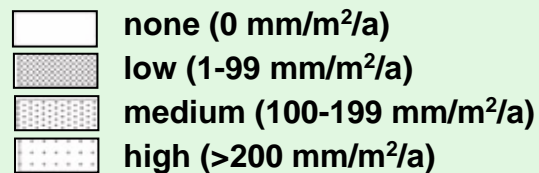




# Example of a landscape plan (subject: groundwater)



## groundwater formation rate



# The landscape plan is

- (1) a special plan for nature protection and landscape conservation
- (2) an important basis to ensure that environmental considerations are taken into account in urban land-use planning



# Urban land-use planning in Germany

Preparatory land-use plan  
(„Flächennutzungsplan“)  
(scale 1:10.000)

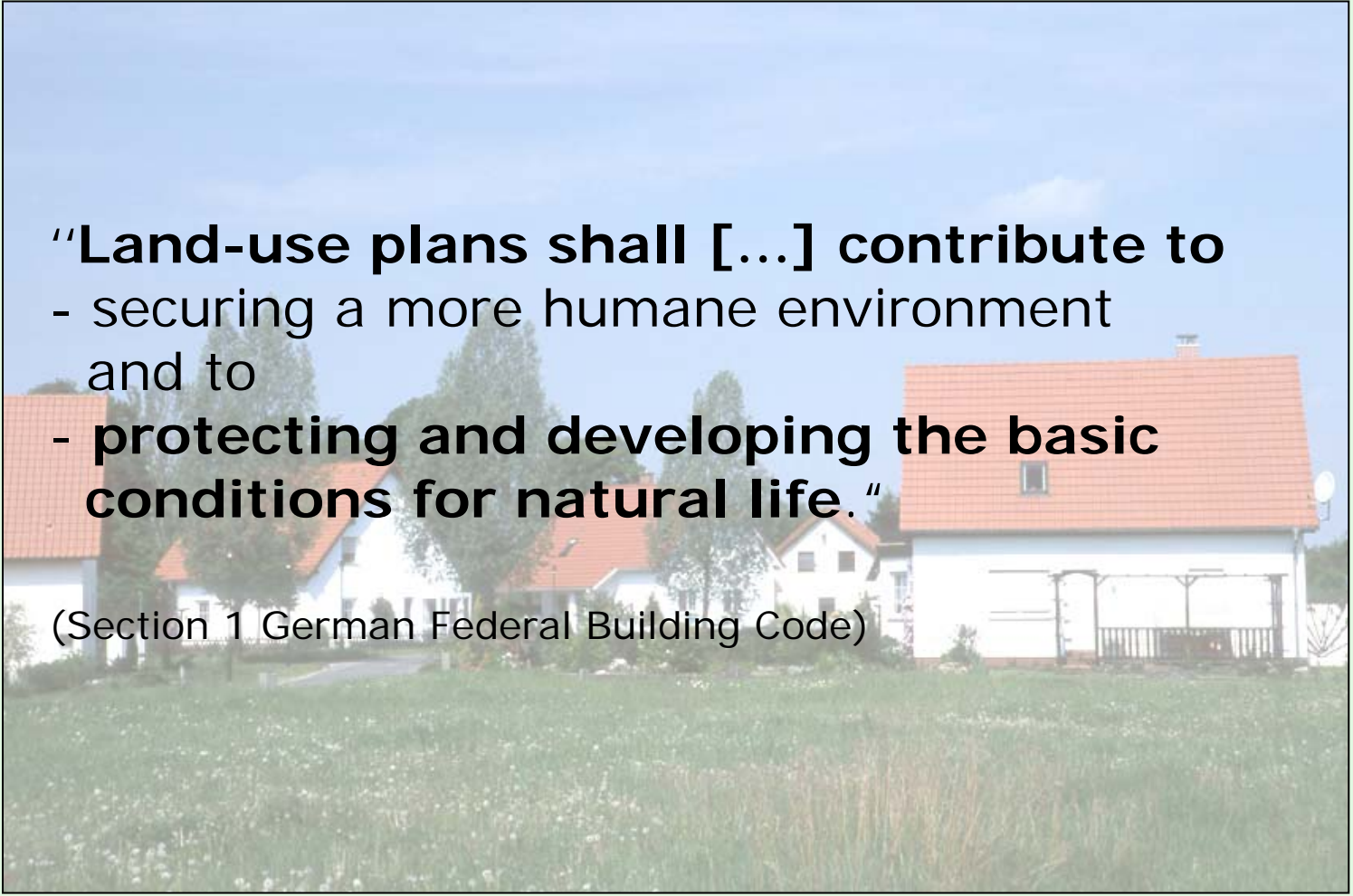
size and location of new  
settlement areas

Legally binding land-use plan  
(„Bebauungsplan“)  
(scale 1:1.000)

density, floor-space-index  
etc. of the building  
development



# Legal obligations to consider environmental aspects in urban land-use planning



**“Land-use plans shall [...] contribute to**  
- securing a more humane environment  
and to  
- **protecting and developing the basic  
conditions for natural life.”**

(Section 1 German Federal Building Code)

# Legal obligations to consider environmental aspects in urban land-use planning

**„In the preparation of land-use plans, attention is to be paid to**

- the requirements of environmental protection, including nature protection and the preservation of the countryside, in particular:

- a) the effects on fauna, flora, soil, water, air, climate [...] as well as landscape and biodiversity [...]
- g) **the content of landscape and other plans**, in particular those produced under water, waste and pollution control legislation

(Section 1 German Federal Building Code)

# The landscape plan is

- (1) a special plan for nature protection and landscape conservation
- (2) an important basis to ensure that environmental considerations are taken into account in urban land-use planning

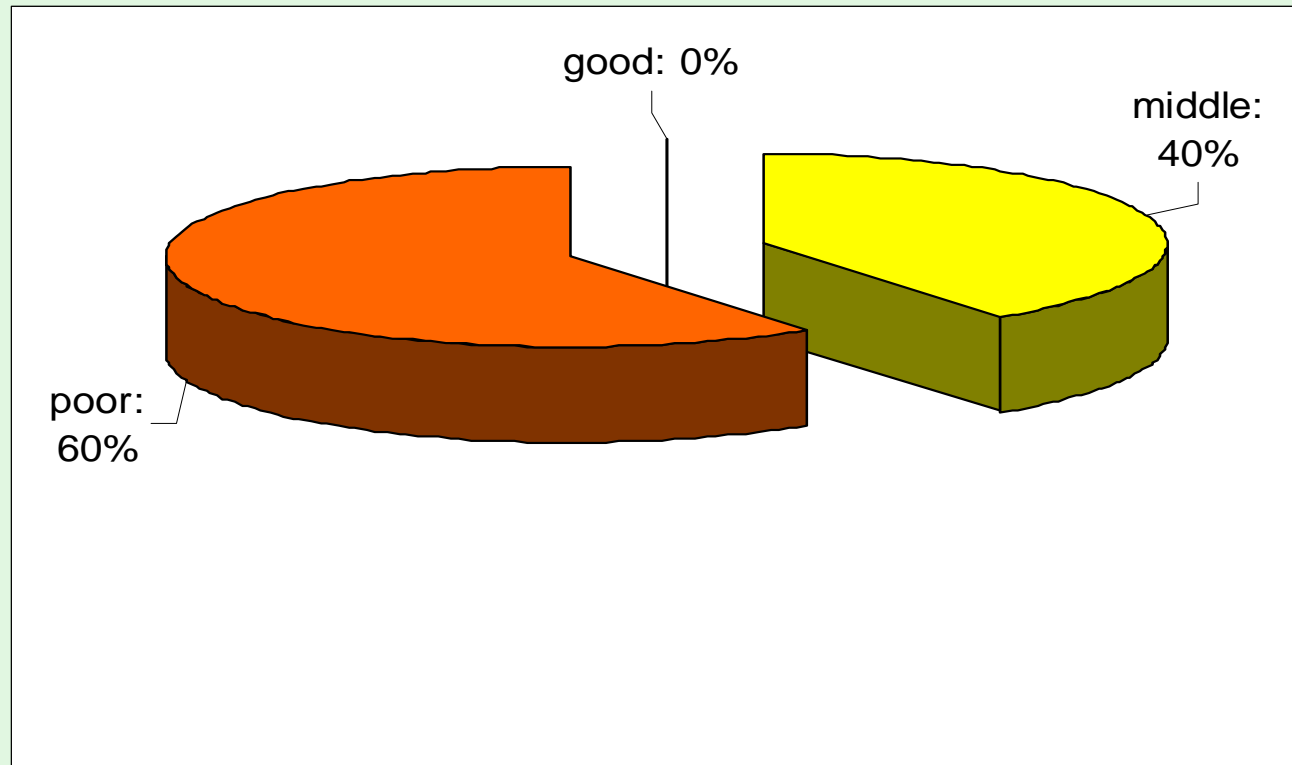


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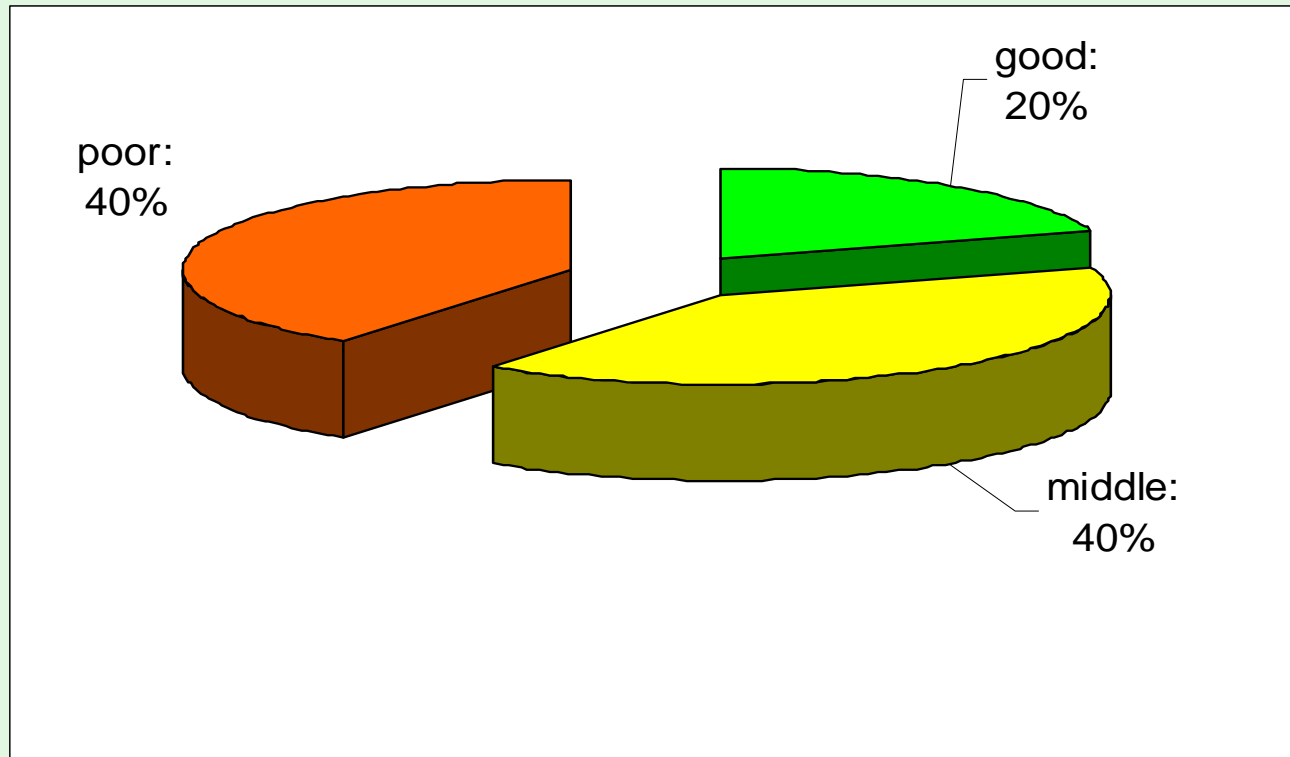
# Quality of preparatory land-use plans referring to the consideration of environmental aspects when choosing new settlement areas



→ without a landscape plan as a basis

source: Reinke, Markus (2001): Quality of the local landscape planning and their consideration in the preparatory land-use planning in the Free State Saxony

# Quality of preparatory land-use plans referring to the consideration of environmental aspects when choosing new settlement areas



→ with a landscape plan as a basis

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# Appearance of residential areas with/without a landscape plan



residential area without a landscape plan as a basis for the land-use plan



residential area with a landscape plan as a basis for the land-use plan

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# Intentions and Functions of SEA:

- Assessment of the effects of certain plans and programmes on the environment
- Contribution to the integration of environmental considerations into the preparation and adoption of plans and programmes (including urban land-use plans)

# SEA and landscape planning

→ SEA and German landscape planning shall both contribute to an environmental-friendly urban land-use planning

# **To which extent can landscape planning contribute to the SEA of urban land-use plans?**

# Research project „SEA and landscape planning (Rothenburg)“

## Objective of the research project:

Analysis of the local landscape plan with regard to its usefulness for the SEA of the preparatory land-use plan

## Research area:

Administrative collectivity Rothenburg-Hähnichen (Federal State Saxony)



# Research project „SEA and landscape planning (Rothenburg)“

**1993:** Work on the preparatory land-use plan started

**1995:** Interruption of the planning process

**2002:** Preparation of the landscape plan

**2003:** Restart of the preparation of the preparatory land-use plan – accompanied by a voluntary SEA

# Results of the research project

Usefulness of the local landscape plan for SEA of the preparatory land-use plan:

(A) The landscape plan is **suitable as a data basis for the SEA** of the preparatory land-use plan

# (A) Landscape plan is suitable as a data basis for the SEA

Comparison of the subjects of German landscape planning and SEA:

## Landscape planning

- Flora and fauna
- Landscape
- Soil
- Water
- Climate factors

## SEA

- Flora and fauna
- Landscape
- Soil
- Water
- Climate factors
- human health*
- cultural- and real assets*



## (A) Landscape plan is suitable as a data basis for the SEA

- SEA can use already existing data (the data provided by the landscape plan) and therefore will become more efficient



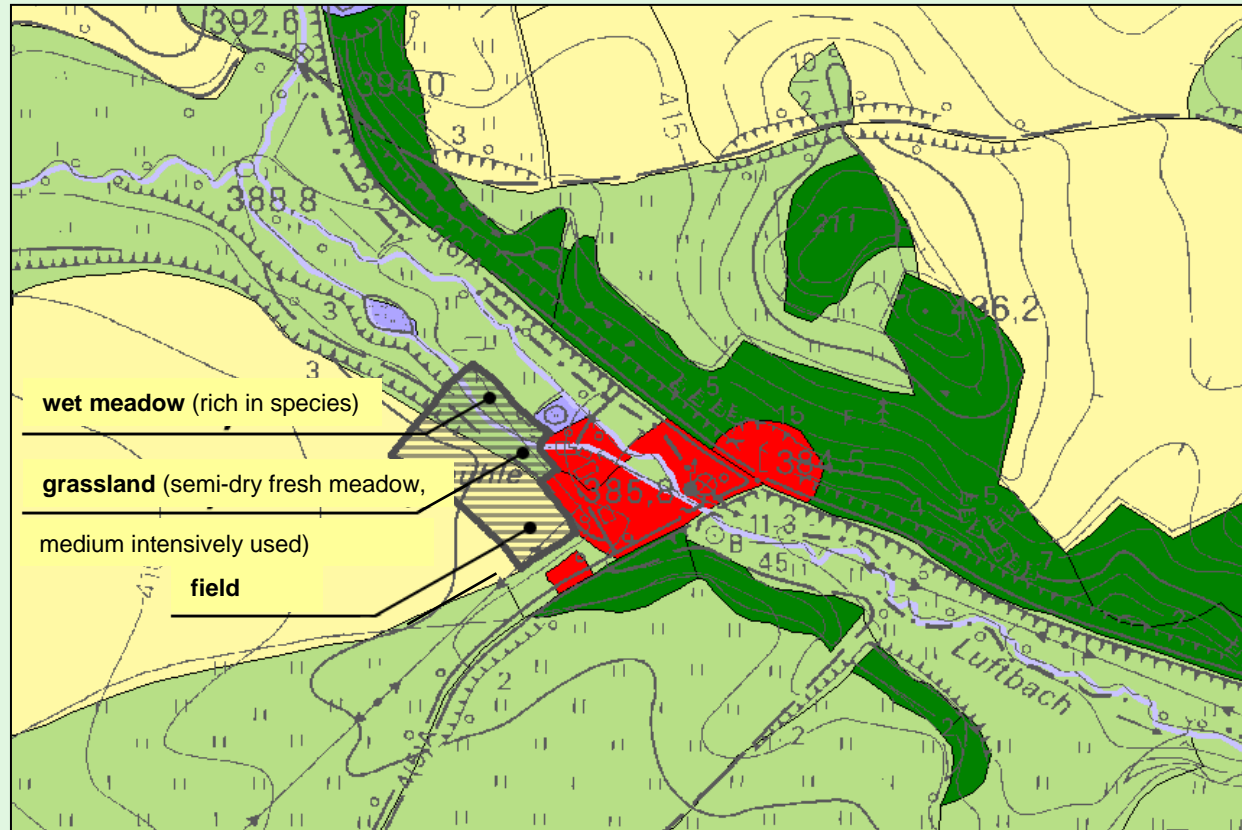
## (A) Landscape plan is suitable as a data basis for the SEA

- SEA can use already existing data (the data provided by the landscape plan) and is therefore more efficiently
- the data from the landscape plan are more detailed and therefore of a higher quality and more useful for the assessment of environmental impacts of the preparatory land-use plan than data from other plans

The topographic map shows the study area with contour lines and elevation points. The 'Luftmühle' (windmill) is marked with a black dot and a label. The 'Luftbach' (stream) is shown as a blue line. The map includes a legend with 'grasland' (grassland) and 'field' (field). The map also shows a road and a railway line.

Data basis: state-wide map of biotope types (planning area: Federal State Saxony)

# (A) Landscape plan is suitable as a data basis for the SEA



Information about biotope types in a planned settlement extension

Data basis: local landscape plan (planning area: Administrative collectivity Rothenburg-Hähnichen)

# Results of the research project

Usefulness of the local landscape plan for SEA of the preparatory land-use plan:

(A) The landscape plan is suitable as a **data basis for the SEA** of the preparatory land-use plan

(B) The landscape plan **provides environmental objectives** – a development concept for nature and landscape



## (B) Landscape plan provides environmental objectives

The environmental objectives (provided by the development concept)...

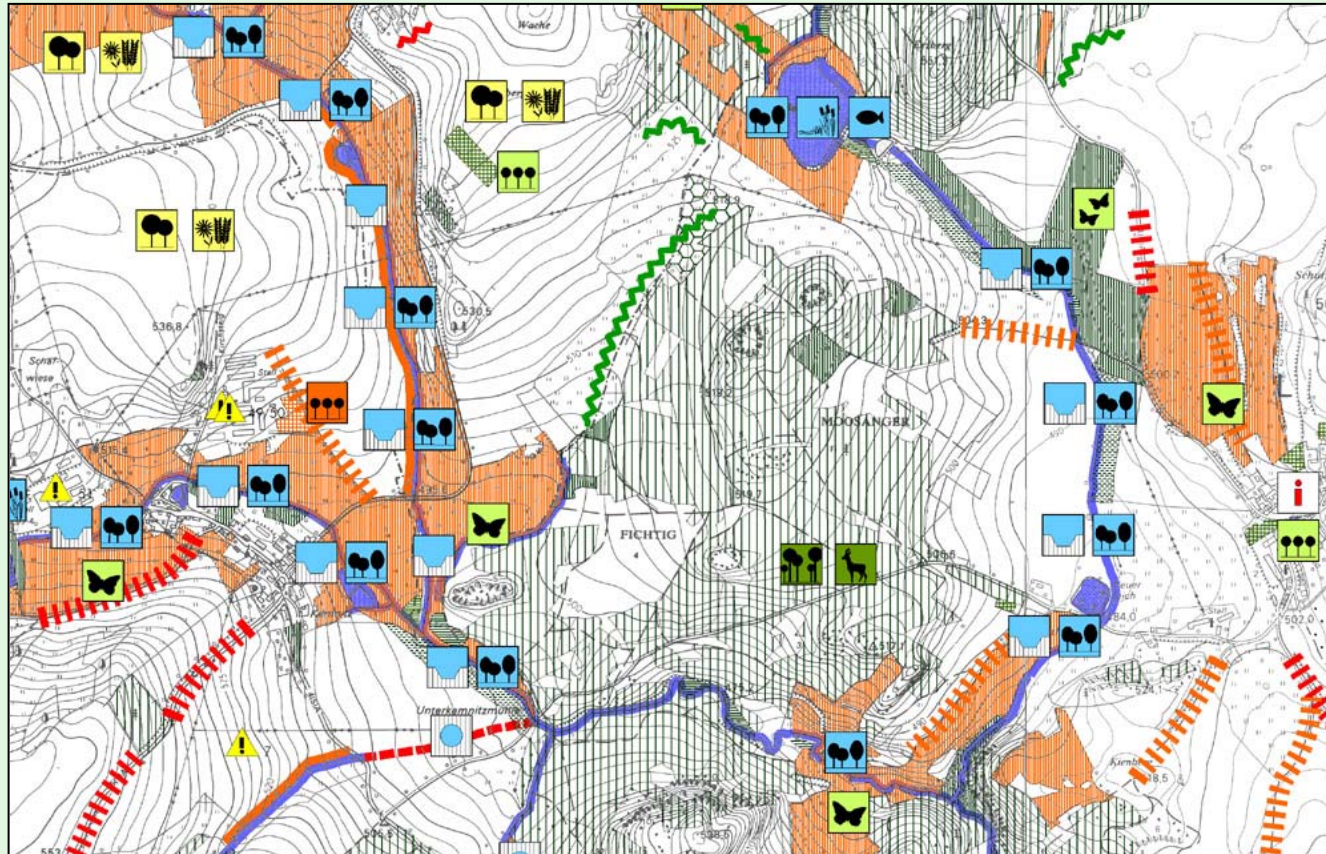
...have to be taken into account as demanded in the SEA-EU-directive\* and in the German Federal Building Code

...are needed for the assessment of the impact of the plan on the environment

...gives an orientation for the formulation of mitigation measures as demanded in the SEA-EU-directive\*

\* Article 5(1) and Annex I (e), (g)

# (B) Landscape plan provides environmental objectives



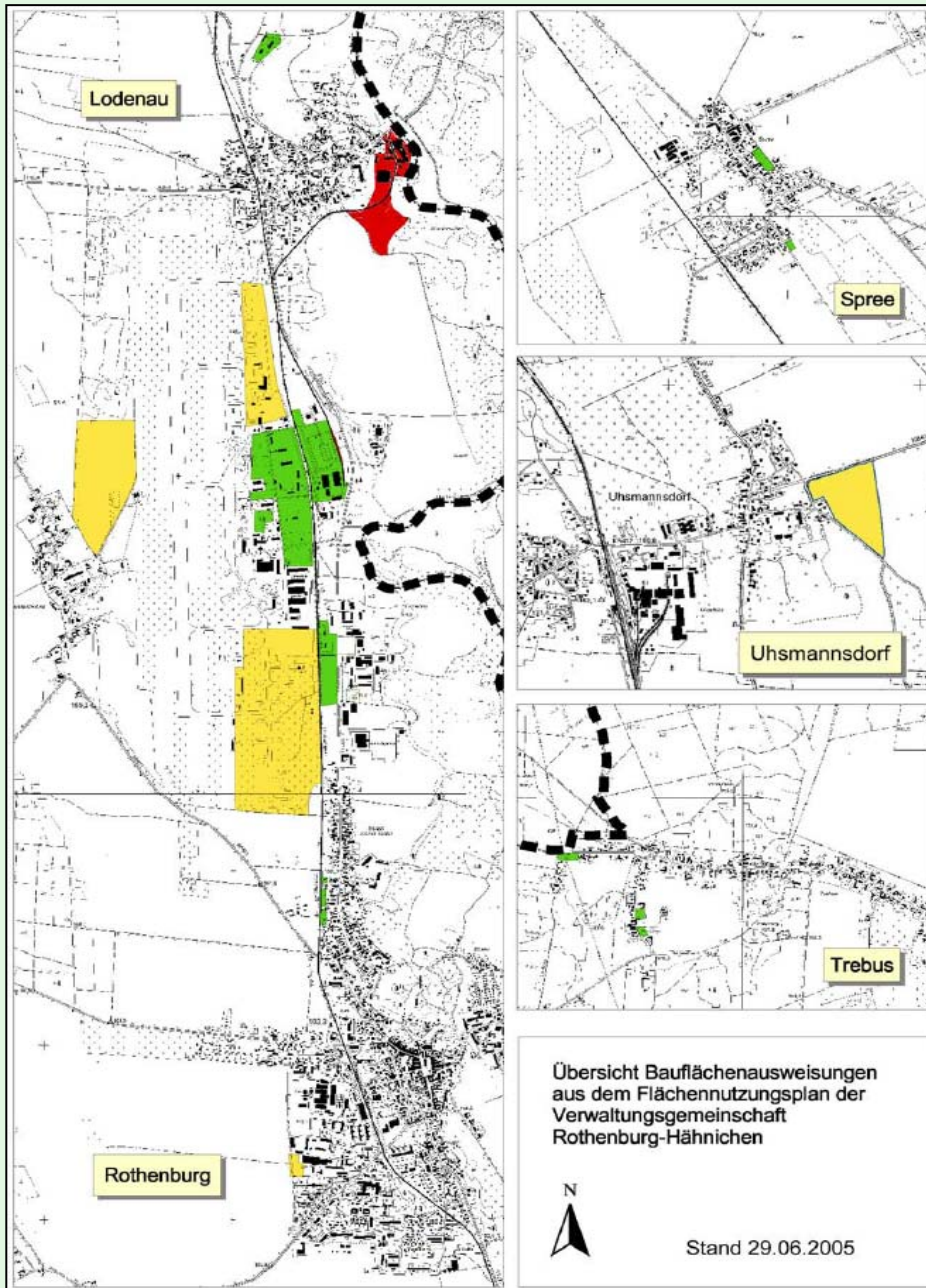
Section of the development concept of the landscape plan

## (B) Landscape plan provides environmental objectives

Examples for **objectives of the landscape plan**:

- “conservation of the areas with high groundwater formation rates ( $> 200\text{mm/m}^2/\text{year}$ )”
- “avoidance of land sealing and designation of land-use areas in the flood plain of the river “Neiße”

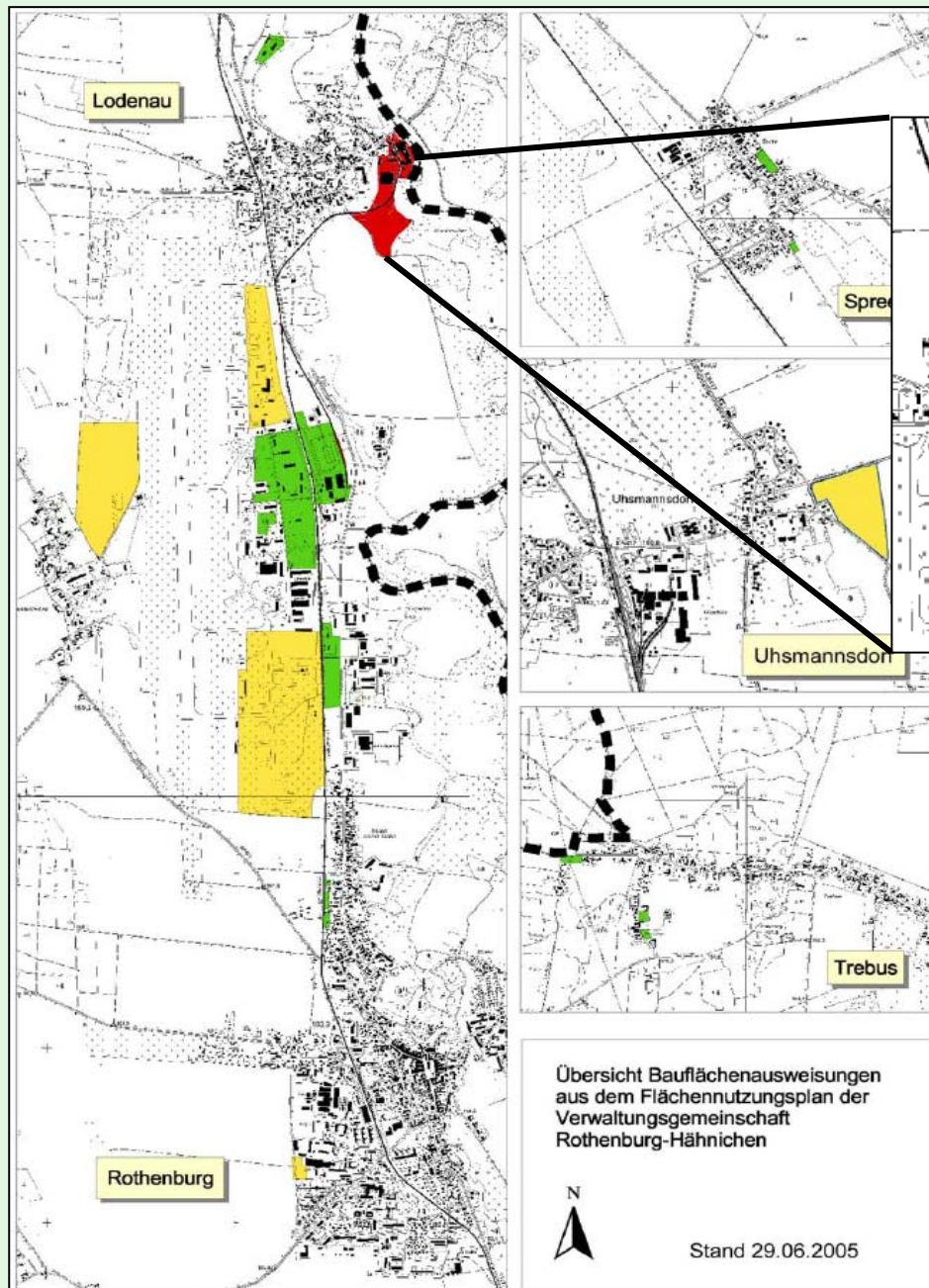




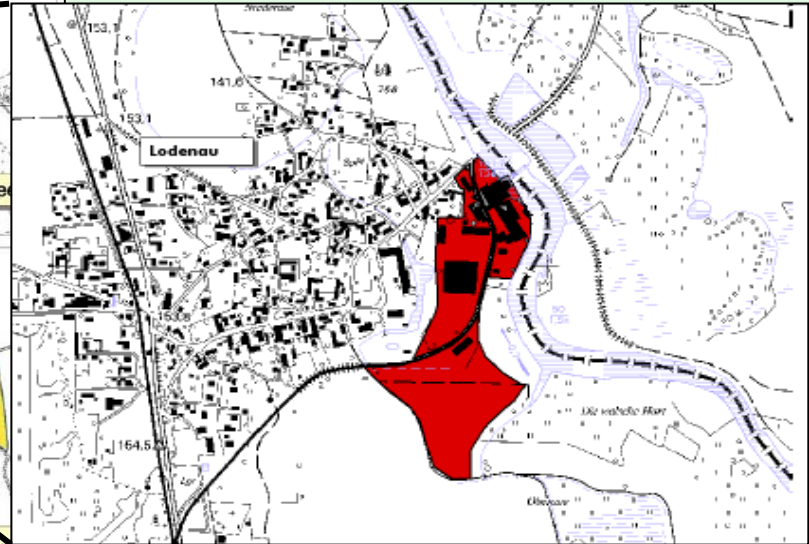
**Conflict analysis:**  
Overlaying the  
environmental  
information from the  
landscape plan with  
the specific land-use  
areas

- related to environmental interests  
the location is not problematic
- related to environmental interests  
the location is partly problematic
- related to environmental interests  
the location is problematic



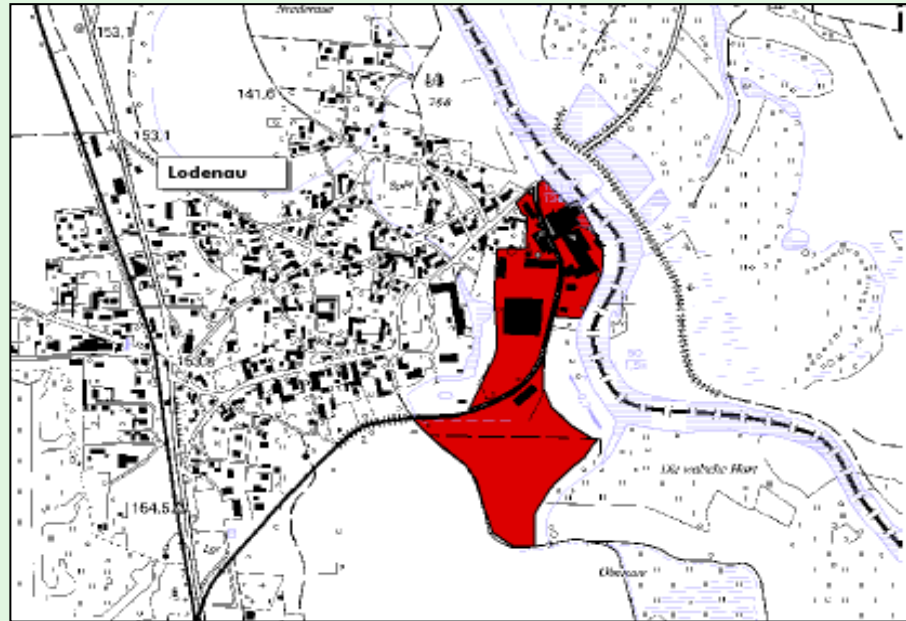


Planned commercial area (expansion of the industrial company "Celltechnik")



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# Planned commercial area (expansion of the industrial company "Celltechnik ")

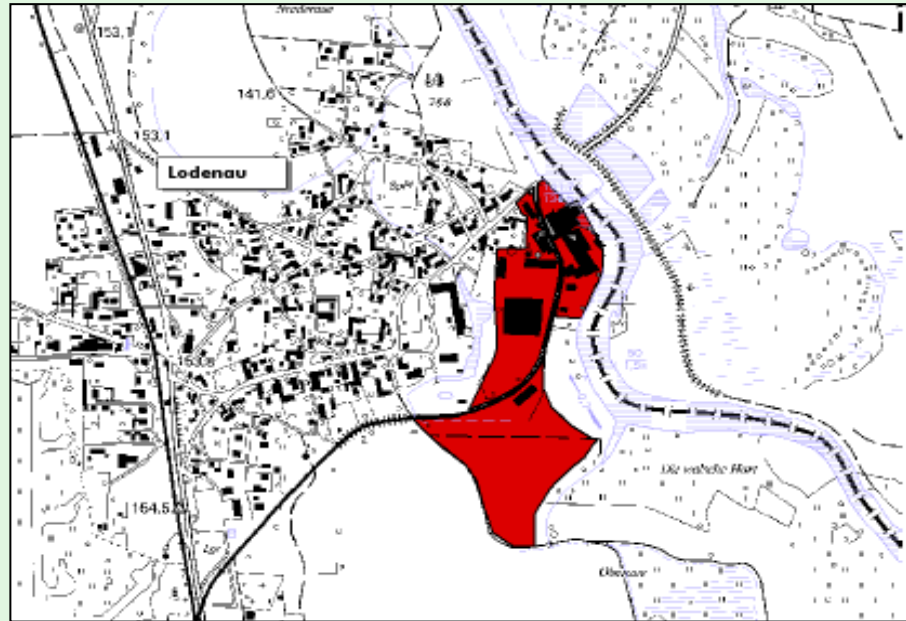


## Detailed information for the specific land-use area about:

- **value / priority and description of the overall appearance of the landscape:**  
High value / priority
- **type of land-use:**  
commercial area
- **size:**  
approx. 4,9 ha
- **status of protection and superordinate planning:**  
planned landscape conservation area, neighboring fauna-flora-habitat-area, etc.



# Planned commercial area (expansion of the industrial company "Celltechnik ")



## Examples of conflicts (if the plan is realized):

- subject *"water"*: high level of groundwater and a poor groundwater protection  
→ serious danger of groundwater contamination
- subject *"landscape"*: high quality of the landscape, high suitability for recreation  
→ serious damage to the landscape and the recovery function of the area
- subject *"flora / fauna – biodiversity"*: serious loss of habitats with high relevance

# Summary

Most important results of the research project:

- (1) The landscape plan is **suitable as data basis for the SEA** of the preparatory land-use plan
- (2) The landscape plan **provides environmental objectives** (development concept for nature and landscape)

If a qualified landscape plan exists as a basis...

...the quality of SEA increases

...SEA can be focused on other process steps such as "consultation"





# Thank you for your attention!

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