

Catchment area management, nature conservation and landscape planning

Prof. Dr. Beate Jessel
**President of the German Federal
Agency for Nature Conservation,
Bonn**

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Catchment areas

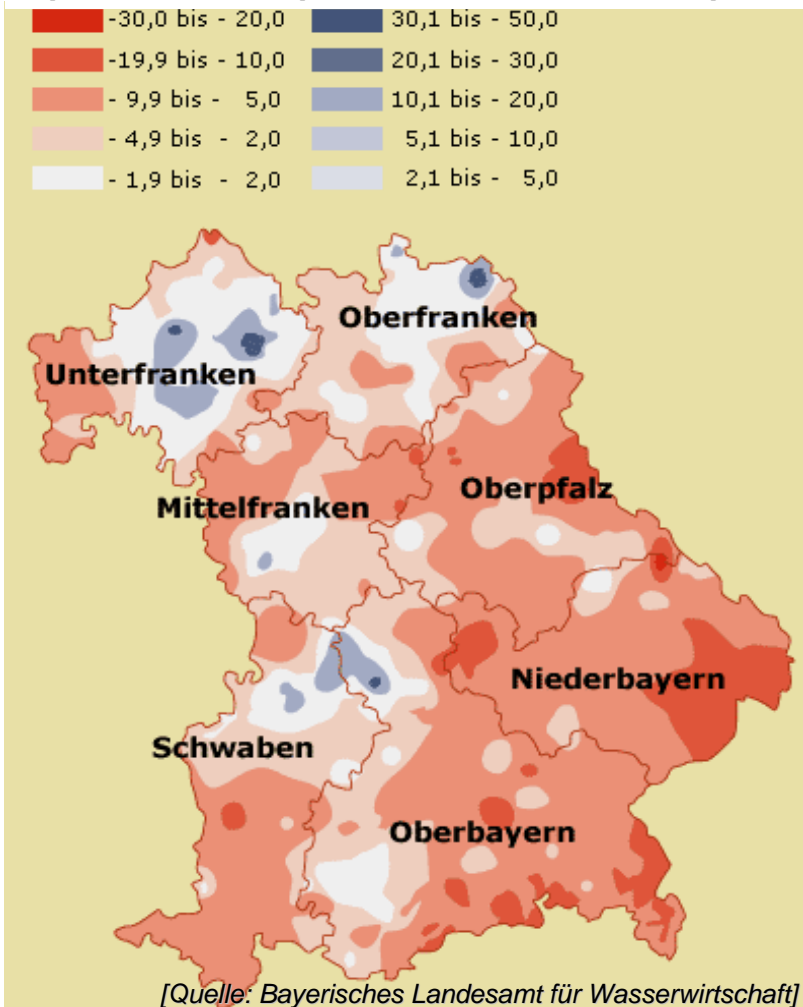
- Catchment Areas are, at least in middle-europe, cultivated landscapes
- Relatively high nutrient input
- Human impact on shore zones



Climate change will affect water-sheds in different ways

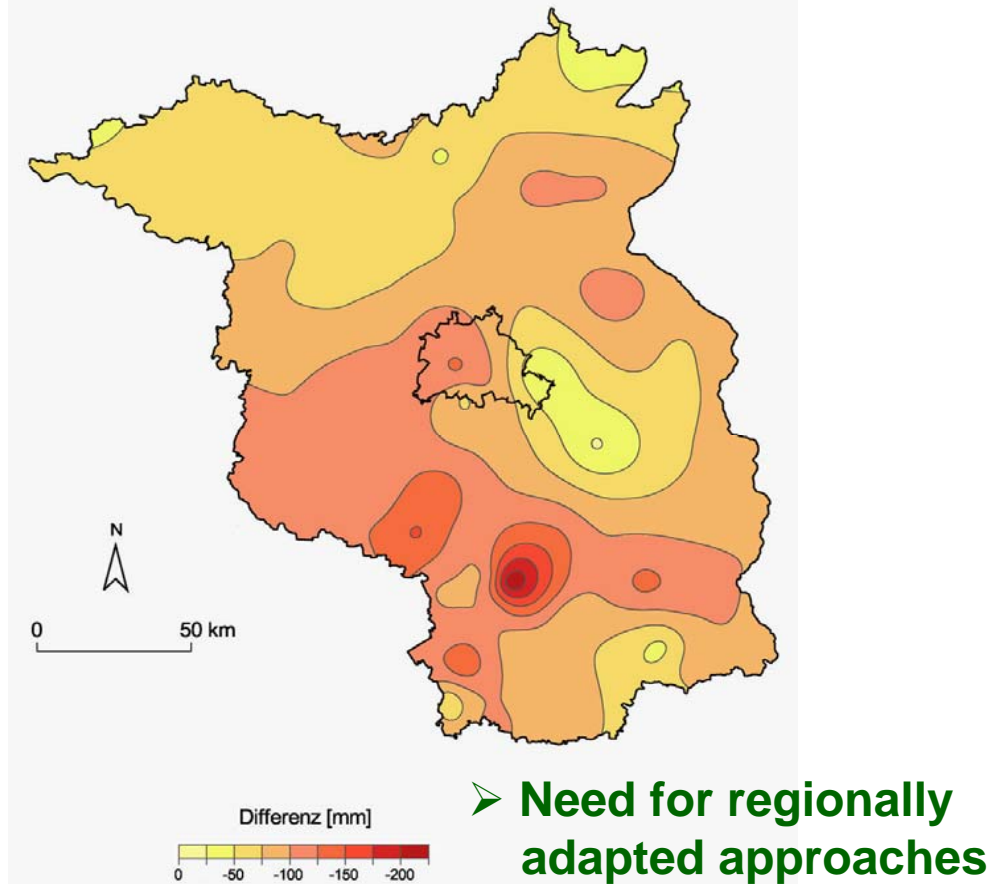
Change in average precipitation:

a) In Bavaria (in % 2021 until 2050)



b) In Brandenburg

(in mm, 2015/2000 compared to 2046 / 2050)



[Quelle: Gerstengarbe et al. (2003): PIK-report No. 83, S. 21]

Multifunctional use and requirements of lakes and rivers



Hydroelectric power



Navigation



Agriculture



Housing

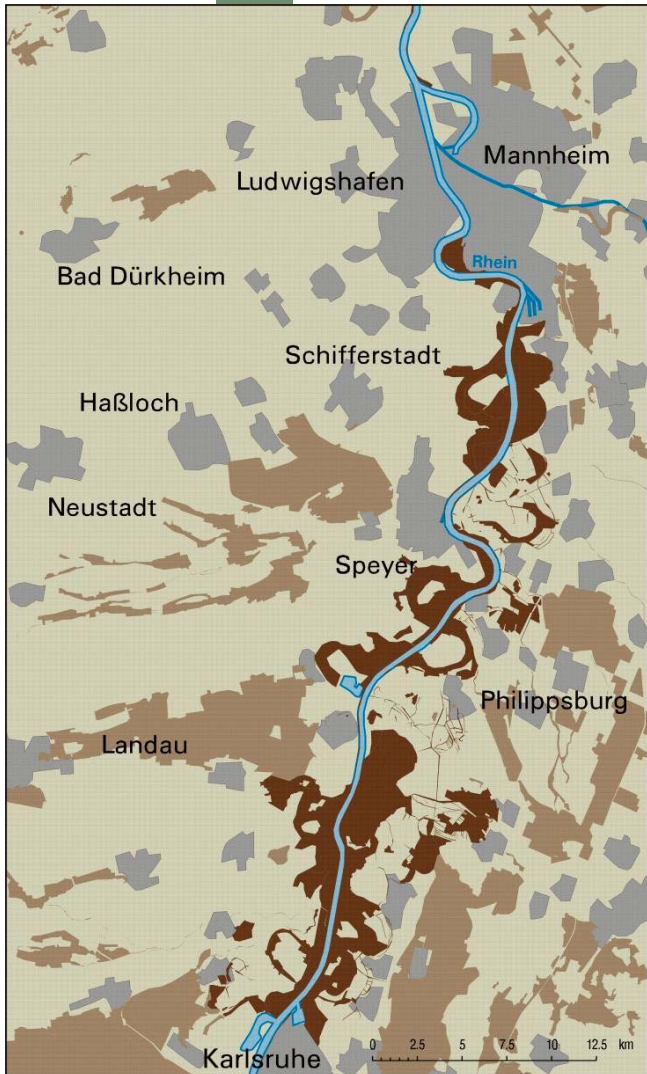
WFD
Habitats Directive

➤ **Need for an integrated management of catchment areas**

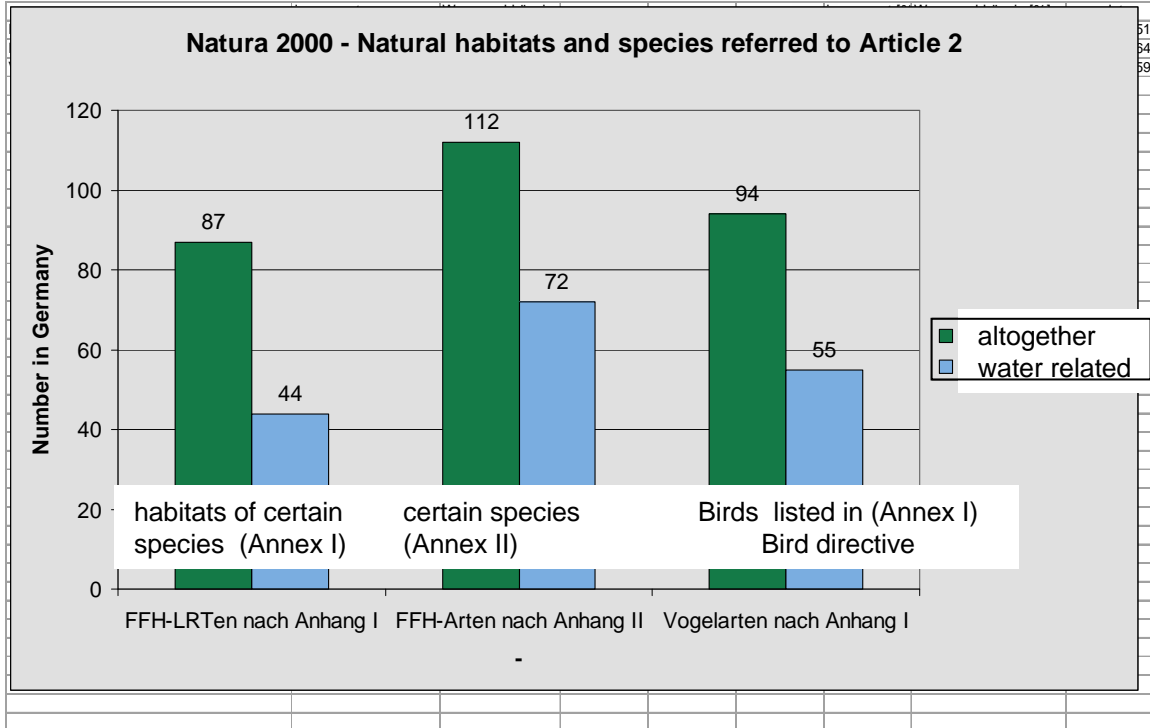
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Natura 2000 – Waterbodies

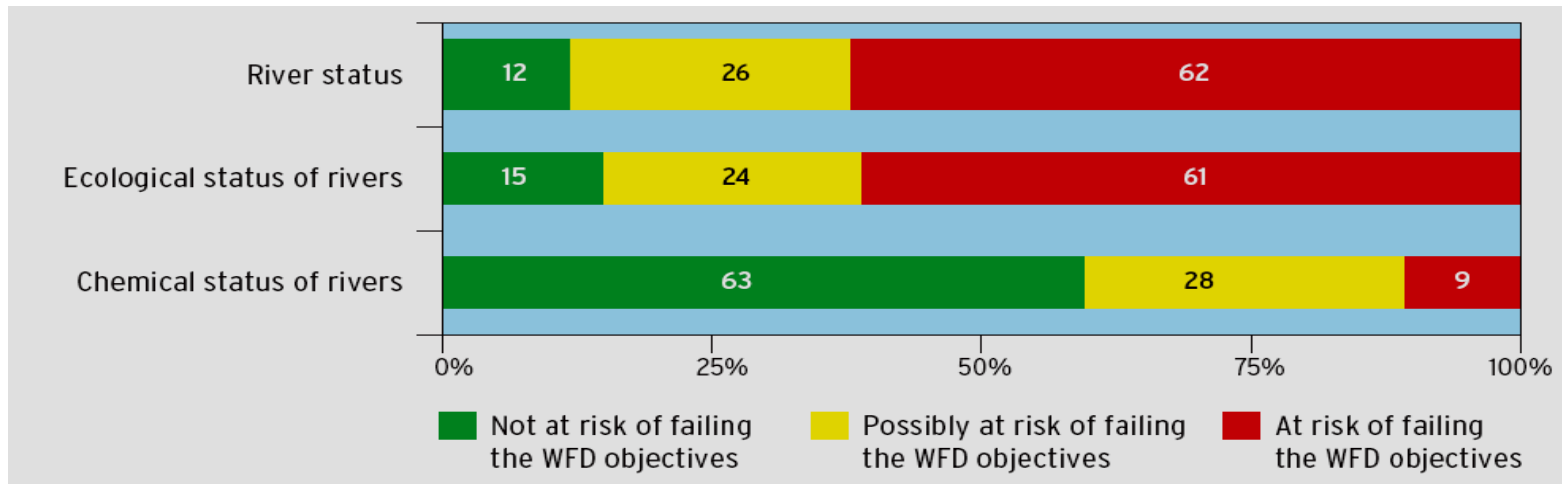


- Natura 2000 - Area close to the Rhine River
- Natura 2000 - Area distant from the Rhine River
- Settlement Area

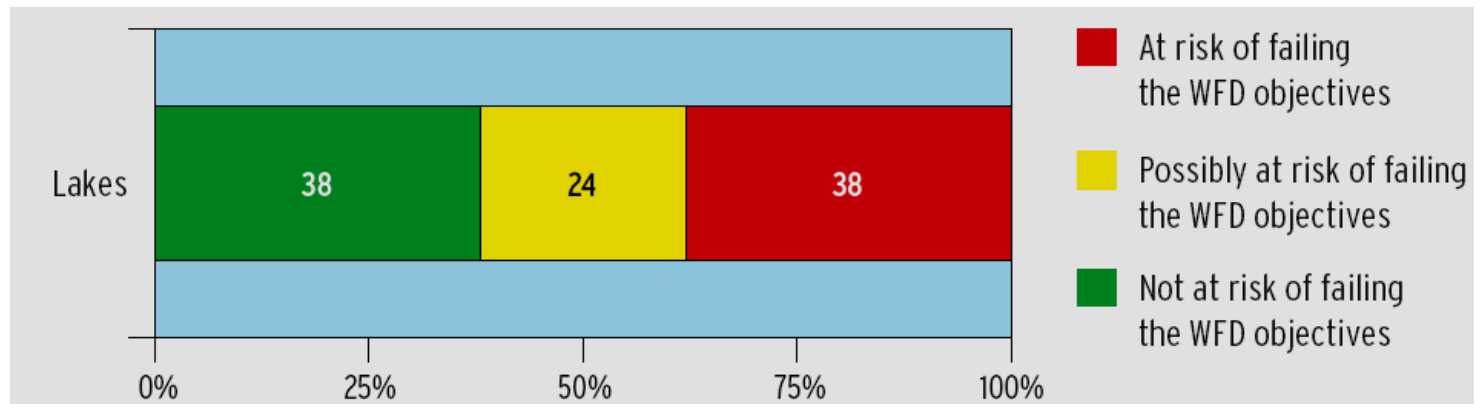


Some results for rivers:

- It is unlikely to achieve the “good status” for 62 percent of the water bodies in Germany by 2015
- Only about 12 percent of the water bodies are likely to achieve a “good status”



- About 38 percent of the evaluated 780 bodies of standing water covered in the survey are likely to achieve the objectives of good chemical and good ecological status as set out in the Water Framework directive.
- For 24 percent of lakes, achievement of this status remains uncertain and for 38 percent it is unlikely (BMU 2005).
- Excessive nutrient inputs and the state of riparian zones are reported to be the most common reasons for a lake not to achieve the objectives.







WFD programs of measures and management plans are aiming to involve an integrated management



Need to interrelate / harmonize objectives and resulting measures from WFD and Habitats Directive

Rüdiger Bless



WFD proposes to use existing management instruments like landscape planning

Requirements for an integrated management of watersheds

- **Focus management objectives less on individual species but more on the functional configuration of the landscape**
- **Water related goals for habitats, river basin and catchment area management have to be integrated and interrelated to other directives**
 - ***Integrated perspective at landscape level***
 - ***Need for management instruments for sustainable development of all relevant objectives***



- Area-wide planning instrument for nature conservation and landscape management
- Its purpose is to translate general nature conservation and landscape management objectives into regionally differentiated spatial terms and provide an instrument for Implementation

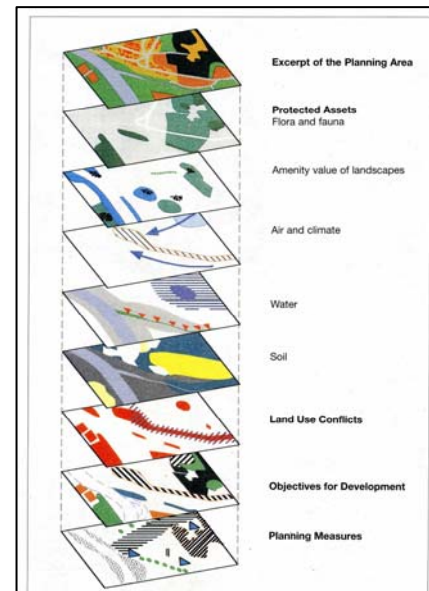
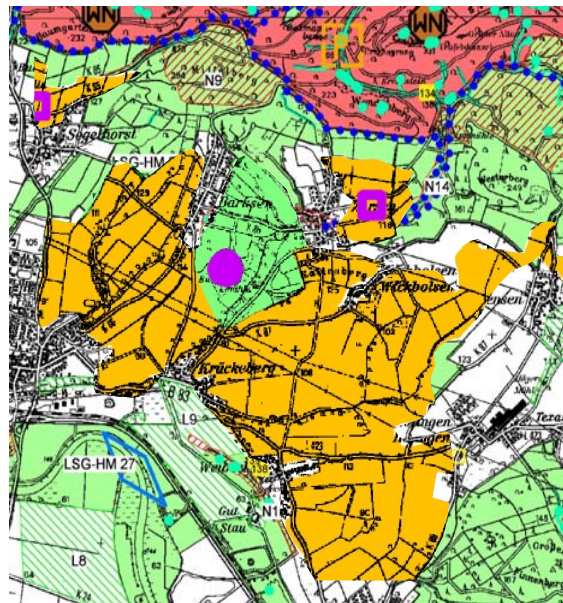
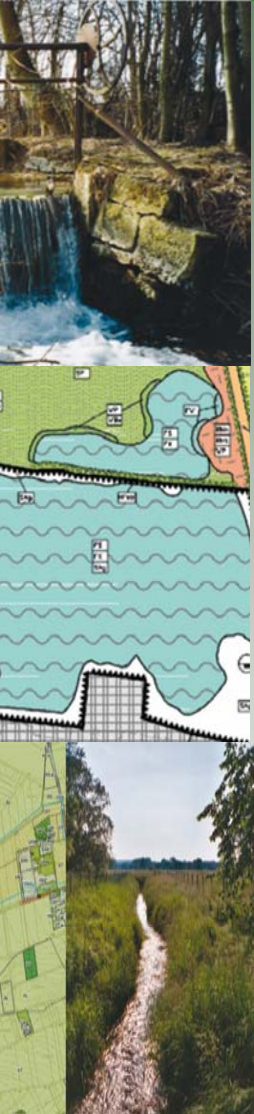


Fig. 10: Landscape planning: an illustration of the individual steps involved in the decision-making process pertaining to the protection and development of nature and landscapes.



- Landscape planning is area-wide and interrelated to all environmental functions (species, soil, water, air/climate, visual landscape).
- It translates general nature conservation objectives into spatial terms at different levels.
- Landscape planning formulates requirements for planning in other policy areas and land uses.
- Landscape planning provides contributions and management tools for a sustainable development.
- The strategic level of landscape planning and the planning of management measures support evidently the management of HD and WFD.
- But: Landscape planning is related not to watershed but to administrative units

- **Increased requirements of integrated approaches on a landscape level demand**
 - increased importance of area-wide, overall spatial concepts, e. g. implementation of WFD, habitat networks and habitat corridors
 - increased need for landscape plans for in-depth consideration of water management issues
- **Increased uncertainty of future development require**
 - augmented thinking in alternatives
 - description of scenarios
 - participative processes for awareness raising and target setting
- **Action on different levels are in great demand of**
 - integrated approaches on different levels
(so far landscape planning in Germany takes place on a local, regional and federal state level)



- **Setting the targets:**
Water Framework Directive
Habitat Directive
- **National implementation:**
By making use of existing instruments,
e. g. Landscape planning

**to achieve the good ecological status of
water bodies**



- **Development of a National Program for Floodplain Protection: map of floodplain quality**
- **Assessment of retention**
- **Joint implementation of flood protection and nature conservation: new projects for dike relocation and floodplain restoration**
- **Sustainable river policy: expert advice for draft legislation (like GAP), using management tools like landscape planning**
- **Climate change and water balance: sustainable use of wetlands**



What has to be done?

- **Reduce the diffuse pollution of water bodies**
- **Support nature-sound farming**
- **Improve the structure of lakeshores and watercourses**
- **Restoration of floodplains (national program for floodplain protection)**
- **Improve the instruments for management on a river basin level, lakes and the corresponding landscape level.**



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Isar River (Plattling)

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