

The role of nature conservation in cross-sectoral adaptation strategies to climate change - and related activities of the BfN

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Starting Point

Ecosystems are part of the climate system

Climate change has impacts on ecosystems
(including biodiversity and services to society)

- ▶ Climate change mitigation, adaptation to climate change and biodiversity conservation cannot be treated separately
- ▶ Adaptation strategies must follow an integrated approach – nature conservation has to be both an independent topic and a cross-cutting issue

Consequences for the work of the BfN

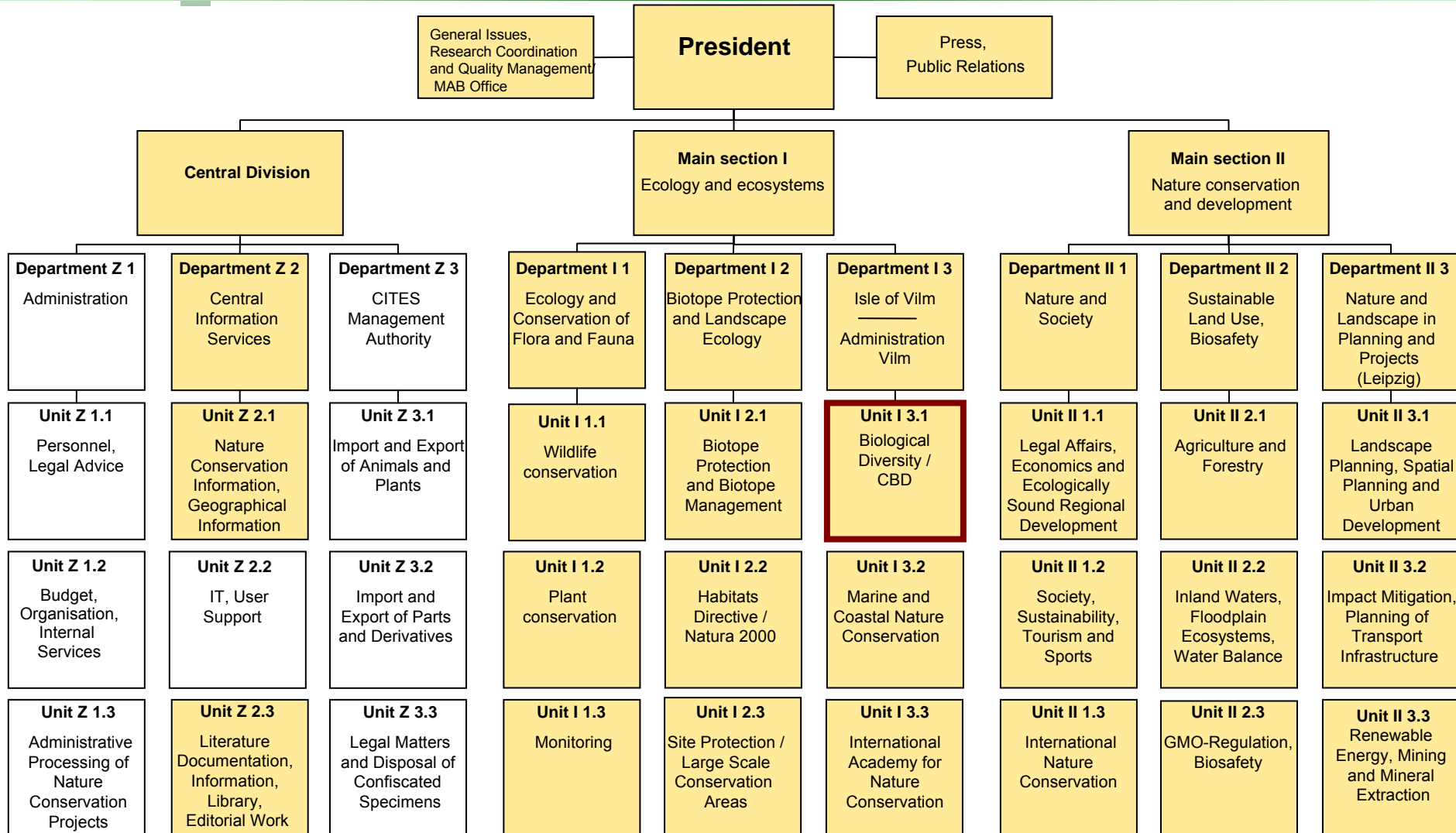
Advocating the development of integrated adaptation policy frameworks

Consequences for the work of the BfN

Advocating the development of integrated adaptation policy frameworks

Taking climate change into account in our own activities

Working units directly concerned by climate change



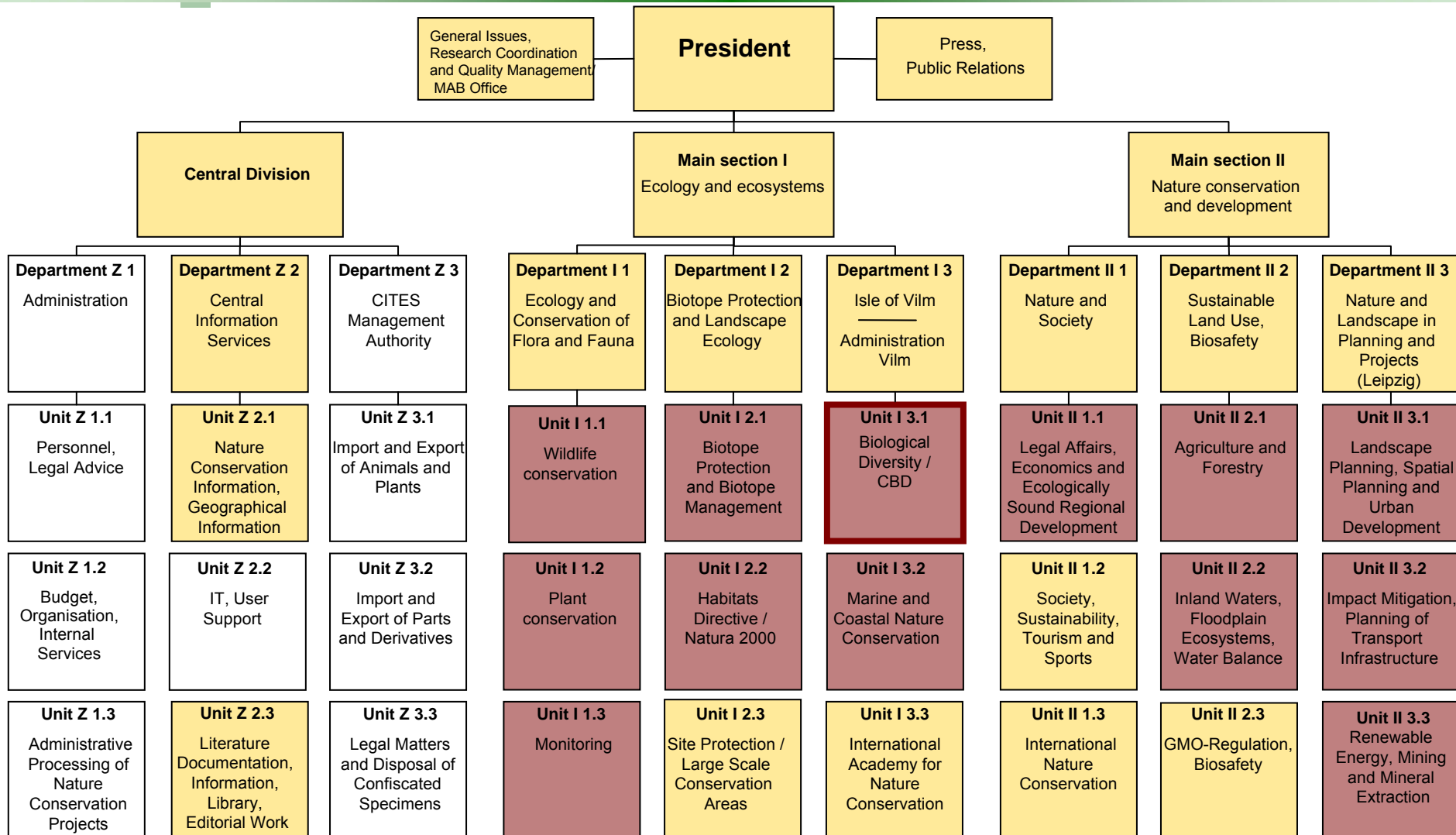
Consequences for the work of the BfN

Advocating the development of integrated adaptation policy frameworks

Taking climate change into account in our own activities

Closing gaps in the knowledge base for decision-makers and practitioners

Working units supervising research and development related to climate change



Policy frameworks on adaptation



International:

United Nations Framework Convention on Climate Change (UNFCCC)

Art. 4.1: All Parties (...) shall:

(...) (b) Formulate, implement, publish and regularly update national and, where appropriate, regional **programmes containing** measures to mitigate climate change (...) and **measures to facilitate adequate adaptation to climate change;**

Policy frameworks on adaptation



International:

United Nations Framework Convention on Climate Change (UNFCCC)

Art. 4.1: All Parties (...) shall:

(...) (f) Take **climate change considerations** into account (...) in their relevant **social, economic and environmental policies and actions**, and employ appropriate methods (...) with a view to **minimizing adverse effects** on the economy, on public health and on the **quality of the environment**, of projects or measures undertaken by them to mitigate or adapt to climate change;

Policy frameworks on adaptation



International:

United Nations Framework Convention on Climate Change (UNFCCC)

Buenos Aires Programme of Work on Adaptation (Dec. 1/CP.10):

The Conference of the Parties (...) insists that action relating to **adaptation follow an assessment and evaluation process** (...) so as to prevent maladaptation and to **ensure that adaptation actions are environmentally sound** and will produce real benefits in support of sustainable development;

Policy frameworks on adaptation

EU:

- 2007 Policy Paper („Green Paper“) „Adapting to climate change in Europe – Towards a framework for EU action”

Inter alia calls for Integration of Adaptation in the implementation of EU Regulations and Funding instruments

- Advanced Policy Paper („White Paper“) to be released in late spring 2009

Expected to start assessment process on priority steps within each policy area

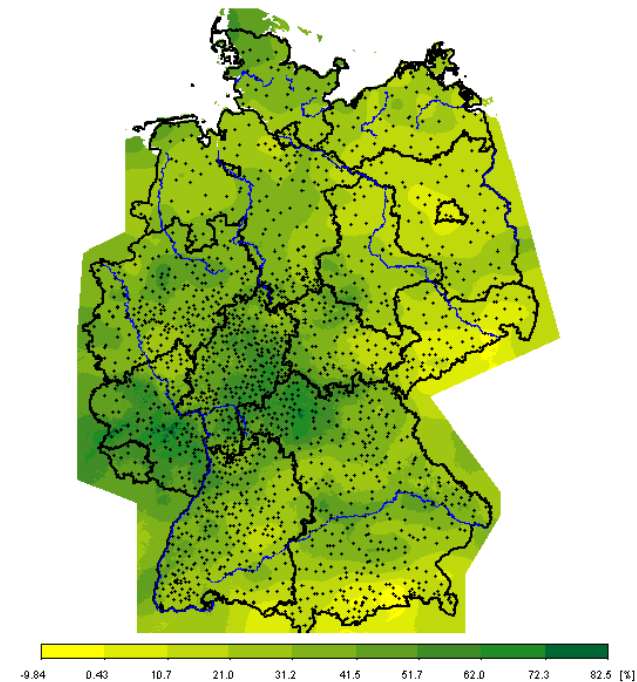


Policy frameworks on adaptation

National level:

German strategy for adaptation to climate change (DAS)

- Adopted by the Federal government in December 2008
- Identifies problems and possible approaches for action
- To be specified by an Action Programme by spring 2011



Challenges in realizing an integrated approach

The example of the German Adaptation Strategy

- Possibility of increasing competition for land and resources - and of synergies and conflicts between sectoral adaptation decisions - acknowledged
- Commitment to cross-sectoral, integrated approach
- Adaptation strategy to be seen as part of the German government's policy for sustainability

But: Strategy is only a framework - actual outcomes will depend on further specification

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Biodiversity chapter

Introduction:

- Importance of „traditional“ nature conservation measures in order to strengthen adaptive capacity (e.g. biotope networks, ecosystem restoration, minimization of nutrient and pollutant loads)
- ➔ **Implementation of the National Biodiversity Strategy as an important element of the German Adaptation Strategy**

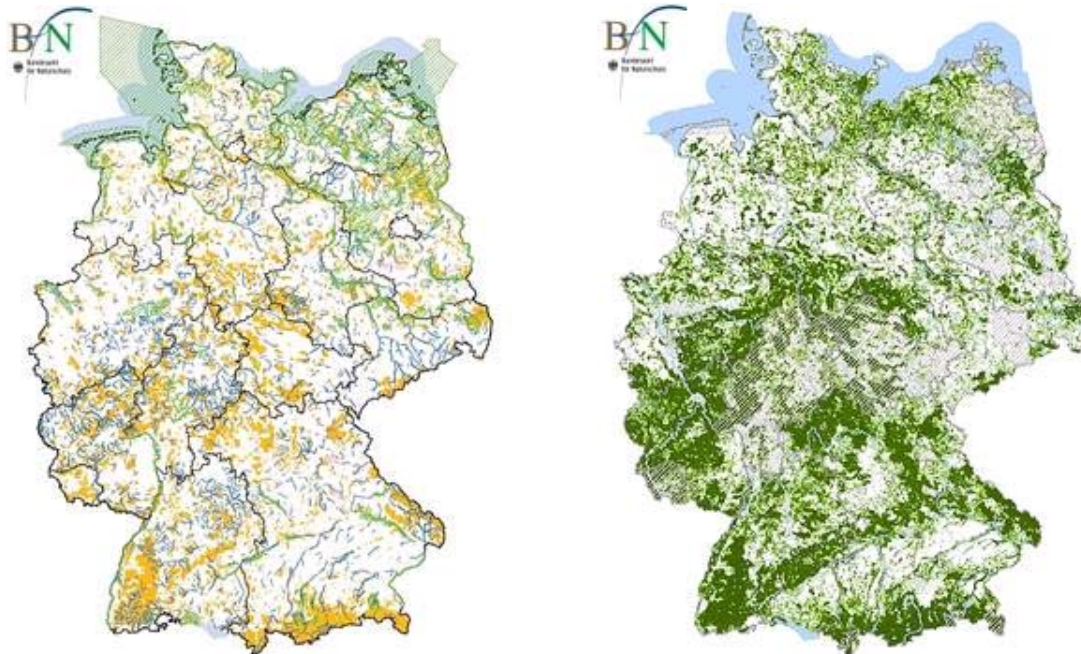


Biodiversity chapter

Biotope networks:

Development of effective biotope networks

Inter alia consideration in agri-environmental payment schemes, planning of settlements, infrastructure and traffic networks

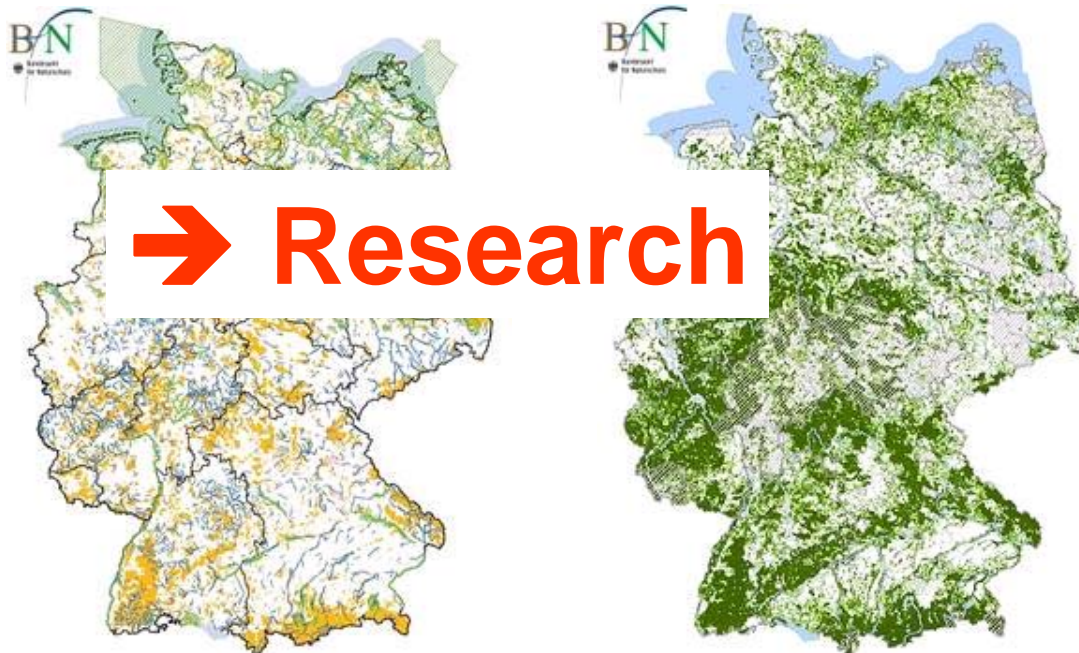


Biodiversity chapter

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Development of effective biotope networks

Inter alia consideration in agri-environmental payment schemes, planning of settlements, infrastructure and traffic networks



Project „Biotope networking as an adaptation strategy to climate change?“



2080

GRAS
(A1FI)

- Analysis of the potential of biotope networks to mitigate negative impacts of climate change on sensitive biotope types, species groups and species
- Elaboration of recommendations and criteria to improve current biotope networking approaches

First results:

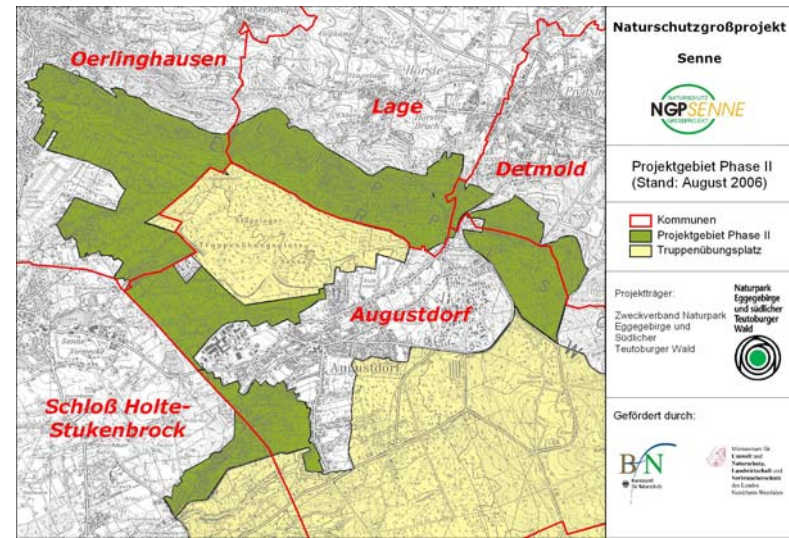
- Biotope networking most appropriate for species with medium mobility
- Current biotope networking approaches do not consider climate change impacts
- New requirements: e.g. connectivity along environmental gradients

Biodiversity chapter

Further development of the protected areas system:

Analysing adaptation options

Reflecting climate change in protected area management plans



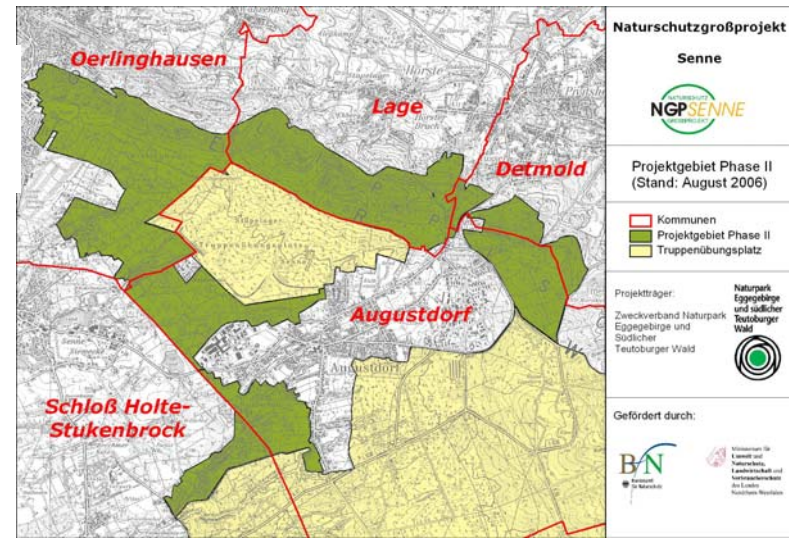
Biodiversity chapter

Further development of the protected areas system:

Analysing adaptation options

Reflecting climate change in protected area management plans

→ Research



Project „Protected Areas under Climate Change – Risks and options for Action“

- Analysis of the risks arising from climate change for the protection targets of representative protected areas
- Elaboration of response options

Methods:

Inter alia climate envelope modelling, dynamic vegetation modelling



Biodiversity chapter

Supporting species and biotopes which are likely to be most affected by climate change:

→ **Research and Monitoring**

Reflecting findings on threats and on the achievability of current targets in programmes and instruments

e.g. enhanced efforts in conservation of wetlands, coastal areas and estuaries



Biodiversity chapter

Management of invasive species:

Harmonized procedures of central government and the regions (federal states)

Early warning systems between neighbouring countries



Biodiversity chapter

Consideration of biodiversity concerns in support to and production of renewable energies:

Complying with sustainability criteria

Respecting priority areas for conservation when choosing production sites



Biodiversity chapter

Consideration of biodiversity concerns in support to and production of renewable energies:

Complying with sustainability criteria

Respecting priority areas for conservation when choosing production sites

→ Research



Project „Efficient use of bioenergy from a nature conservation point of view“

- Elaboration of criteria for evaluation of biomass production systems on a regional scale
- 3 requirements towards efficiency:
 - Economic use of available space
 - Efficiency in terms of climate protection
 - Minimizing any negative environmental impacts
- Assessment of available options in terms of crops, production methods and choice of sites
- Assessment of feasible steering instruments

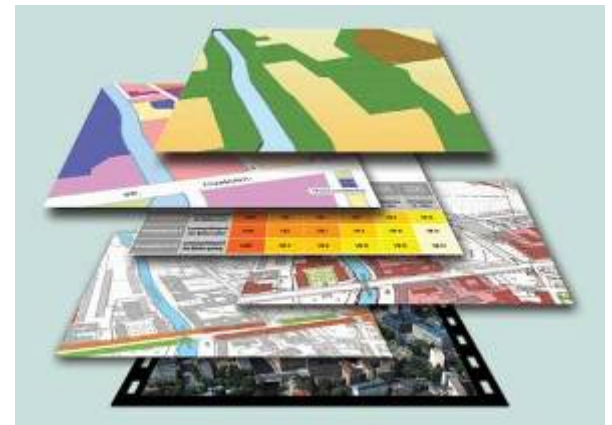


Biodiversity chapter

Landscape planning as a management approach:

Further research on options to enhance consideration of

- Natural dynamics and change
- Climate protection functions of nature and open spaces in urban areas



Other chapters (selection)

Human health:



Research on biological control of disease vectors

Review of potential measures against further spread of the allergenic invasive plant *Ambrosia artemisiifolia*

Decreasing soil sealing in urban areas



Other chapters (selection)



Water balance, water management, protection of Coastal and Marine Areas:

Enhanced support to coastal protection

Consideration of climate change in catchment area management plans required by EU law

- ➔ Preference to be given to robust and efficient measures, including restoration of natural states of watercourses and floodplains, promoting water retention in the landscape



Other chapters (selection)



Water balance, water management, protection of Coastal and Marine Areas:

Enhanced support to coastal protection

Consideration of climate change in catchment area management plans required by EU law

→ Preference to be given to robust and efficient measures,

→ **Research** natural states of watercourses
g water retention in the

landscape



Project „A national floodplains programme – contributing to adaptation and biodiversity conservation“

Project aims:

- Identifying and quantifying the potential benefits of floodplain restoration for adaptation to climate change, climate change mitigation and biodiversity conservation
- Identifying priority areas



Other chapters (selection)



Agriculture:

More support for:

- Water retention in drought-prone areas
- Irrigation infrastructure

Maintaining a wide range of genetic resources

Making use of renewable energy cultivation to enhance crop variety and enlarge crop rotation



Other chapters (selection)

Fishery:

Within the framework of EU fisheries policy

- Providing for wider safety margins in fishing quota
- Assessing options for no-take areas
- Enhancing monitoring systems
- Sustainable aquaculture



Other chapters (selection)

Traffic, traffic infrastructure:

Further research on changes in currents, erosion and sedimentation in estuaries and marine waterways

Further research on the development of water supply at inland waterways

Development of adaptation measures for marine and inland water shipping and waterways



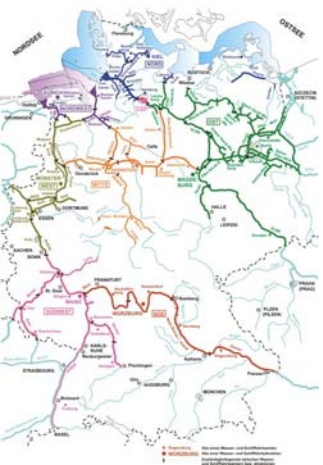
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Further research on the development of water supply at inland waterways

De
inla → **Research** 1 measures for marine and waterways



Projects on adaptation of traffic infrastructures

a) Conservation-oriented management strategies for the establishment and upgrading of Federal Waterways

Examining potential negative impacts and mitigation options

b) Ecological compatibility of traffic networks under changing climate conditions

Examining new requirements towards the design of traffic networks and compensation measures in the light of climate-related stresses on biotopes and species



Other chapters (selection)

Spatial, regional and municipal planning:

Development of visions for adaptable and resilient spatial structures

Identification of priority areas to be earmarked for flood protection purposes

Reduction of area consumption for infrastructure and settlements

Maintaining corridors for fresh air flows in settlement areas

Providing for the protection of water resources

Supporting adaptation measures for tourism

Supporting biotope networks

Conclusion

Adaptation strategies provide many opportunities, but also risks and challenges to nature conservation

- ➔ Need for further applied research, but also for dialogue and awareness-raising with stakeholders and decision-makers



**Thank you for your
attention!**

**Do you have any
questions?**

