

A future task in good hands



Floodplains and Wetlands in Germany

Significance, threat and measures for protection and restoration

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photo: T. Ehlert, BfN

Wetlands in Germany



photo: T. Ehlert



photo: J. Heyden, BfN



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Threats to wetlands in Germany

- Industrialization
- Urbanization
- Land use change
- Drainage
- Falling groundwater levels
- Global warming
- Changed discharges
- etc.

Global Change



photo: J. Heyden, BfN



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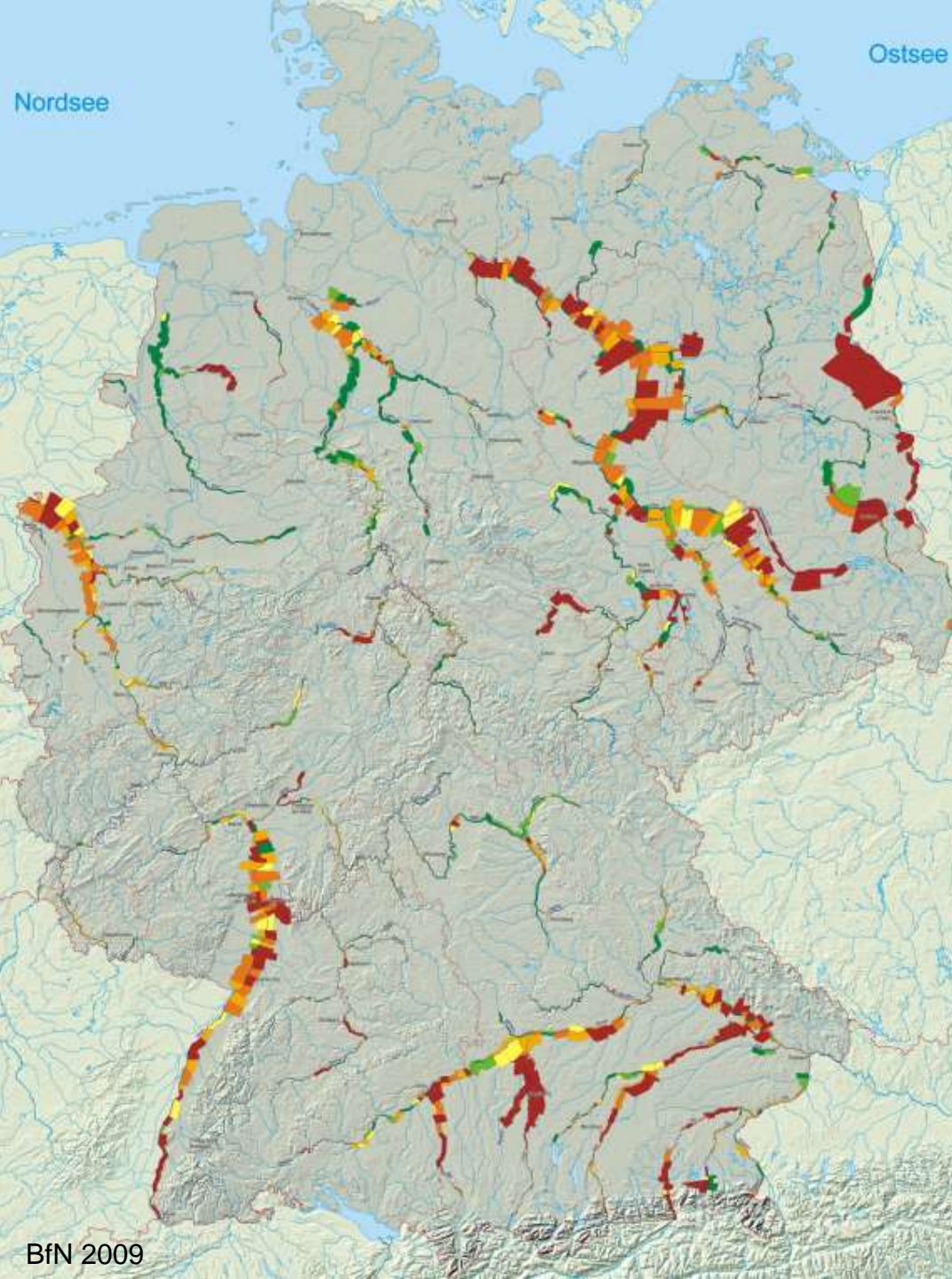
Past anthropogenic activities in bogs and floodplains

Changes in Lower Saxony's landscape between 1800 and 1980

Costs for water management and land improvement in floodplains 1954-2000

	EUR billion
Drainage	23.25
Irrigation	0.99
River training	11.69
River maintenance	8.42
Σ	44.34

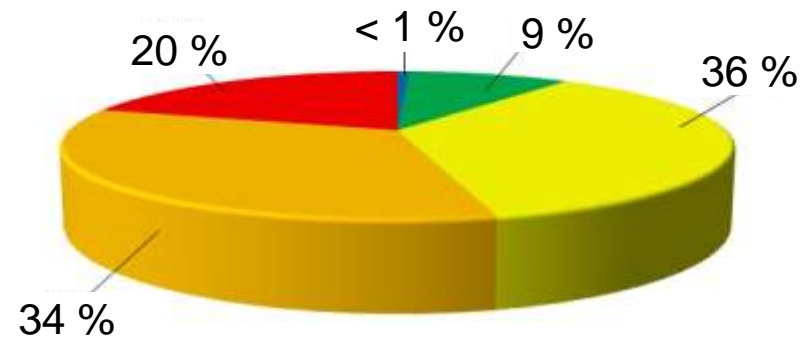
Loss of inundation areas



2/3 of former floodplains have been lost due to dike construction,

in many places at the Rhine, Danube, Elbe and Oder even more than 80%

Status of active floodplains

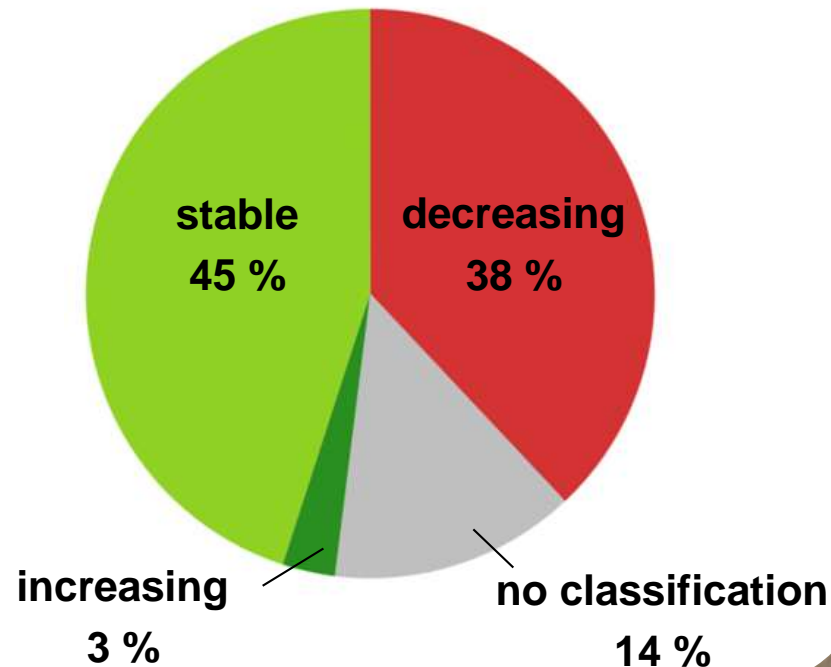


Only 10% of active floodplains are ecologically intact

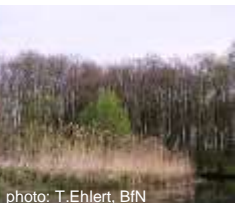
Endangered floodplain and water habitats

80 % of floodplain and water habitat types are endangered
(Finck et al., 2017)






Current trend

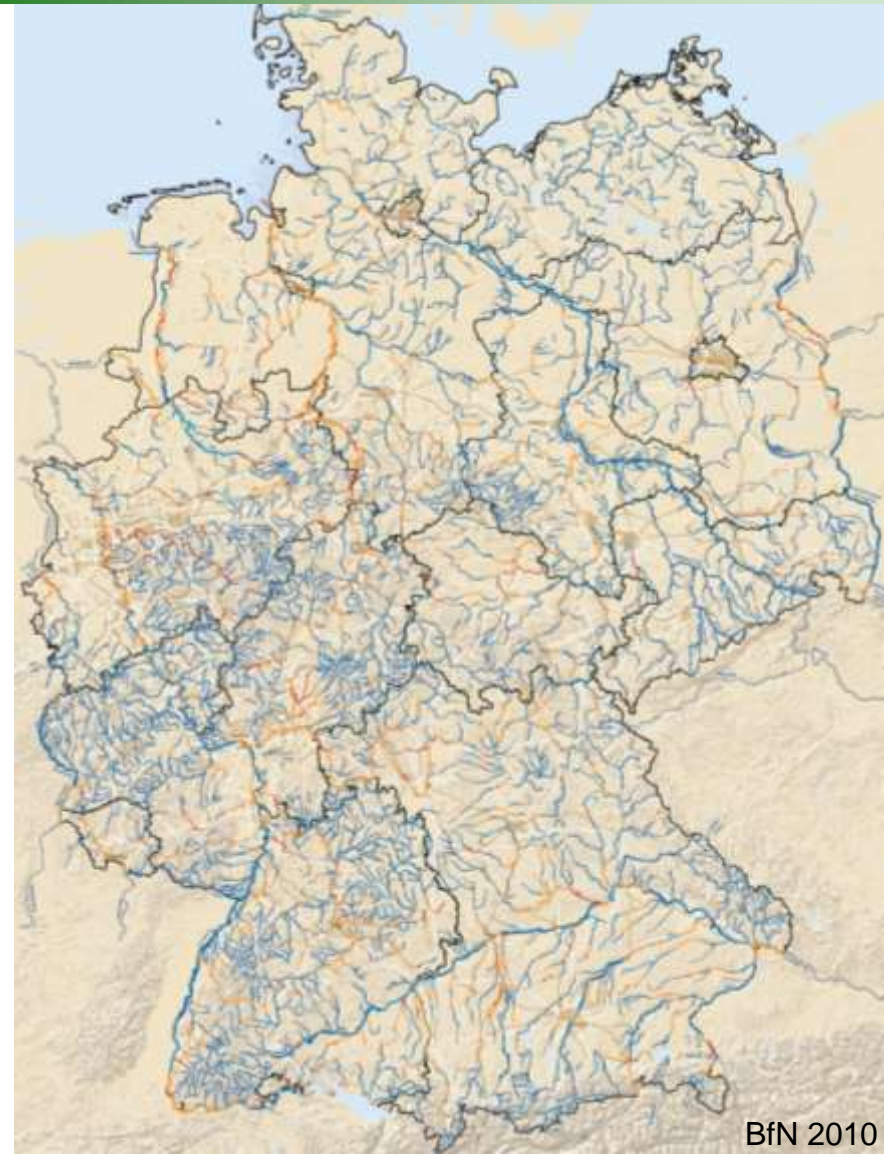


Ecological network of rivers and wetlands



Network quality of rivers

-  High quality
-  Medium quality
-  High need for development
-  Very high need for development
-  No data

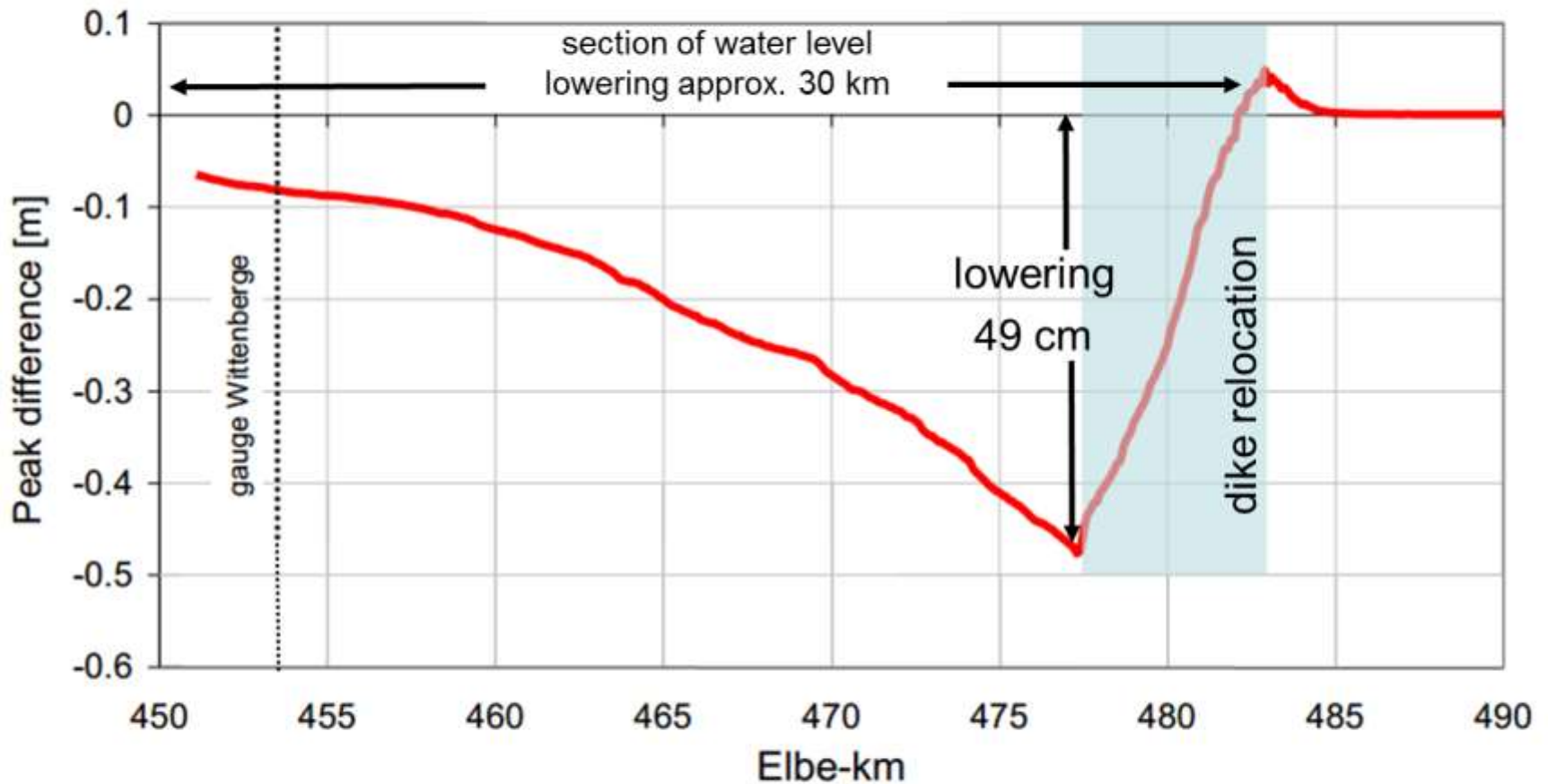


Floodplain restoration at Lenzen, Elbe



Natural flood protection of floodplains

Effect of dyke relocation Lenzen during flood 2013



Source: Promny et al. (2014): Untersuchungen zur Wirkung der Deichrückverlegung Lenzen auf das Hochwasser vom Juni 2013 an der unteren Mittelelbe, Korrespondenz Wasserwirtschaft 7, S. 348

National political programs



2014: National Flood Protection Program

- > 30 dike relocations covering more than 20,000 ha
 - > 60 projects for controlled flood retention by polders
- BfN research project investigating synergies with nature protection an the aims of WFD



2017: Federal Government Program “Germany’s Blue Belt”

- Establish of national biotope network along federal waterways
- Restoration of minor waterways
- Ecological stepping stones at major waterways

What is going on in floodplain restoration?



170 large floodplain restoration projects at rivers throughout Germany

- Reconnection of oxbow lakes
- Restoration of alluvial forests, wet meadows, alluvial waters
- Relocation of dikes
- More extensively use
- ...

Causes for implementation

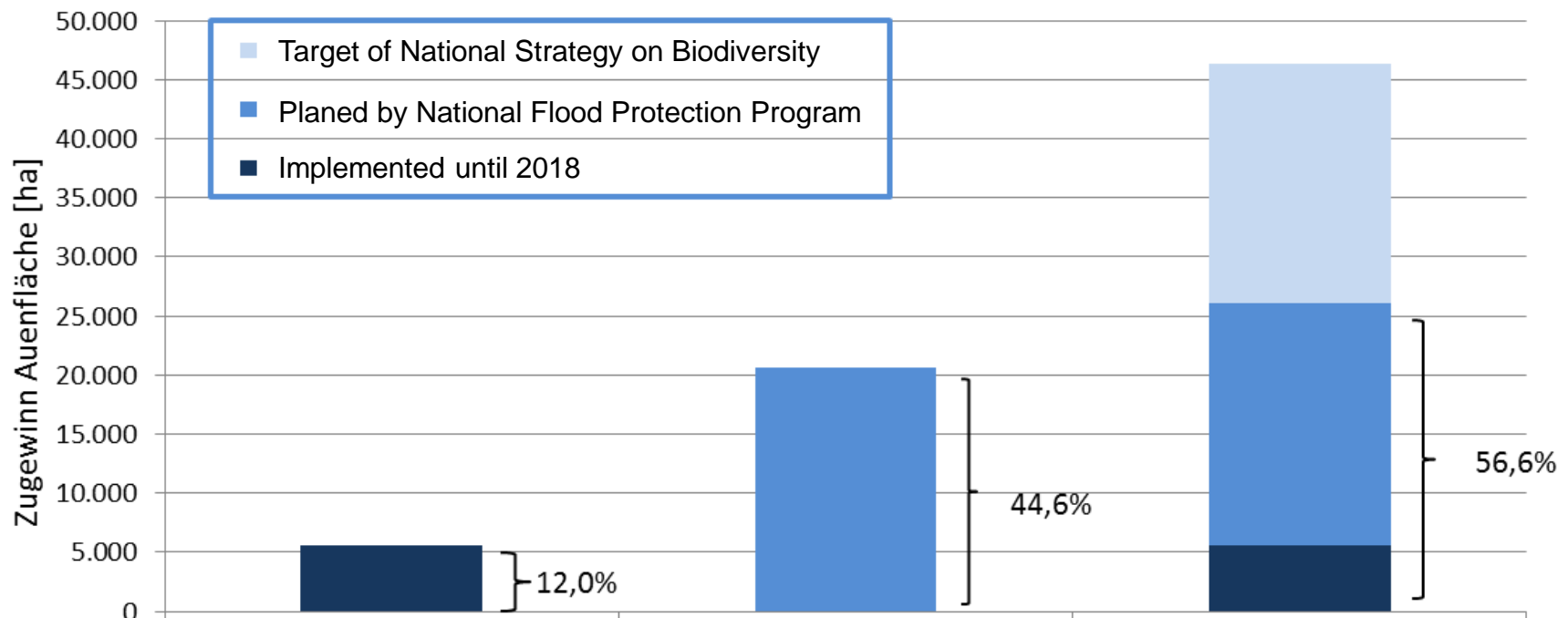
- 50 % water protection, conservation
- 20 % flood protection

Nationwide, the impact of the measures implemented so far is still limited

Regaining inundation areas

- 5,500 ha reconnected so far
- Only 14 projects > 100 ha
(gain in inundation area ~ 3,800 ha)
- Most measures < 50 ha

Still, major efforts are needed to recover former floodplains



Conclusions

Protection and restoration of wetlands such as floodplains...

- **is urgently necessary**
- **improves ecosystem services** like biodiversity or flood prevention sustainably
- **is challenging but feasible** ► promote good and large-scale projects
- **should be implemented in cooperation** with water management (FD, WFD), lokal authorities, agriculture, forestry, etc.
- **is a task for generations**



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Thank you for your attention

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