EEA expert workshop
Environmental effects of floods and flood protection measures

Management and Integration of Flood, water & nature protection legislation
– practical realities
– green versus grey infrastructure

Case study on measures

Georg Rast, WWF Germany

Case study Elbe floodplains close to Vockerode

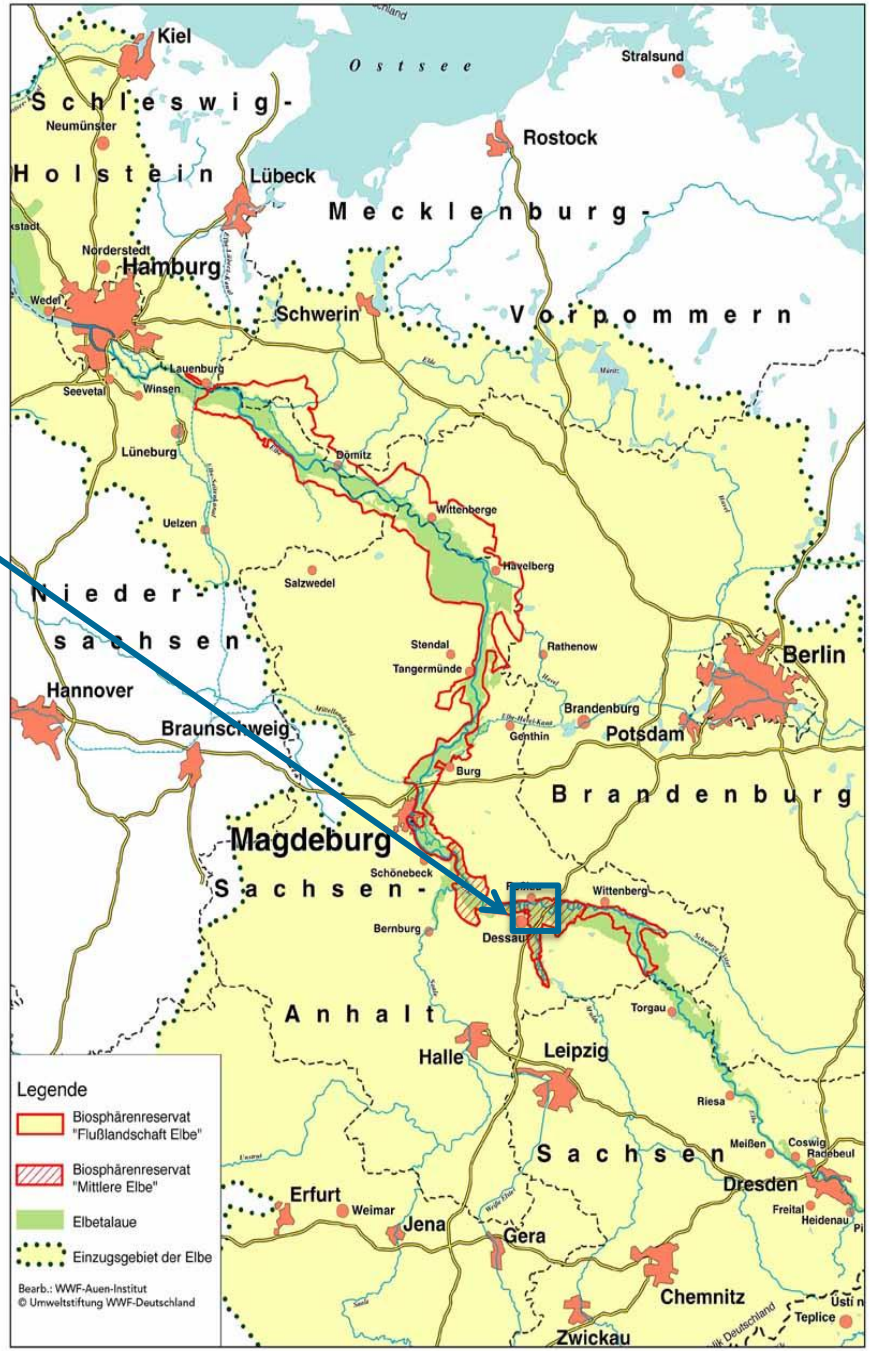
Life+Natur-project area

Within biosphere reserve ‚Flusslandschaft Elbe‘ (riverlandscape Elbe)

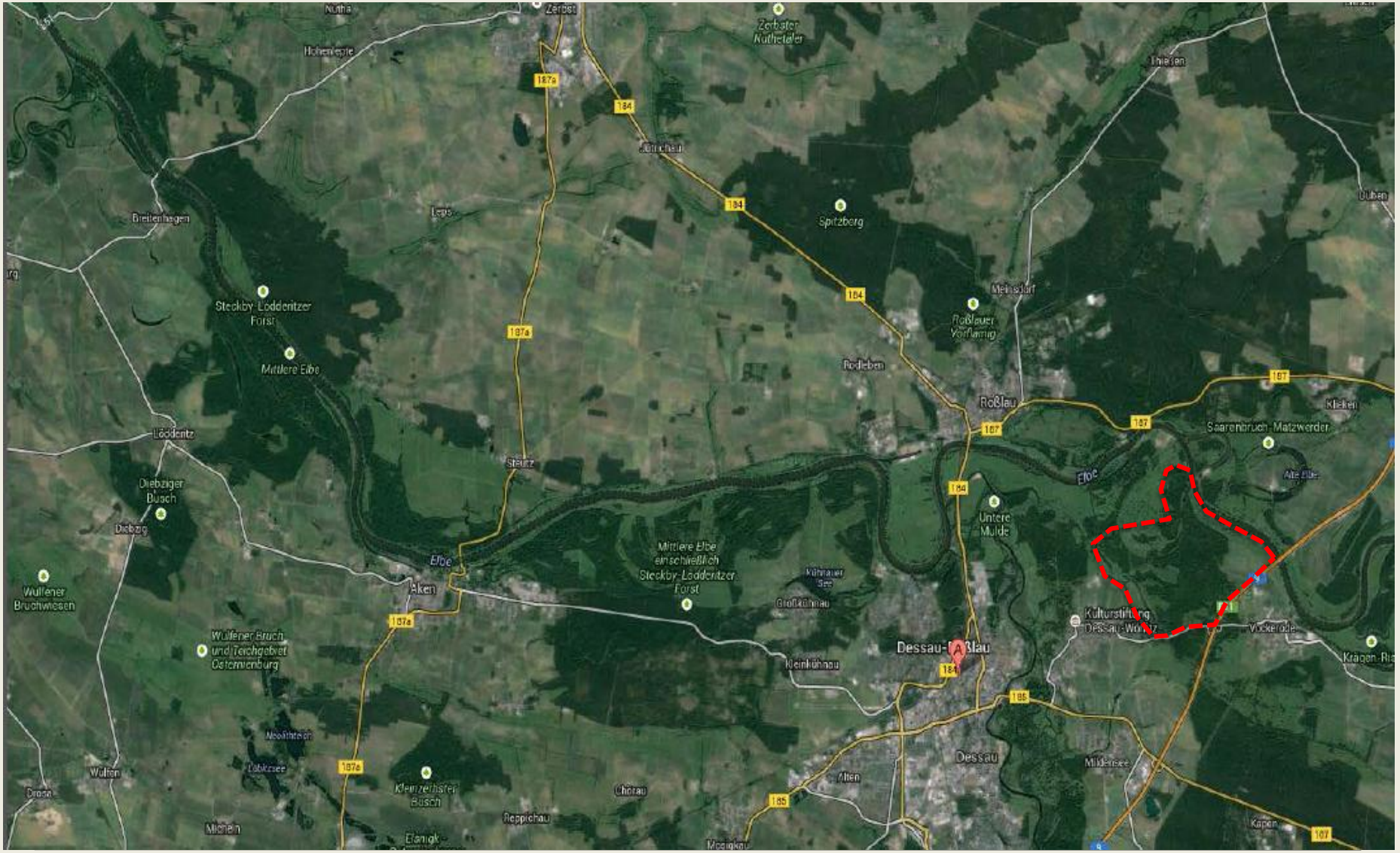
Red line: border of biophere reserve
Green area: potential floodplain

Total area: 370.000 ha
of which 50.000 ha N2000 area

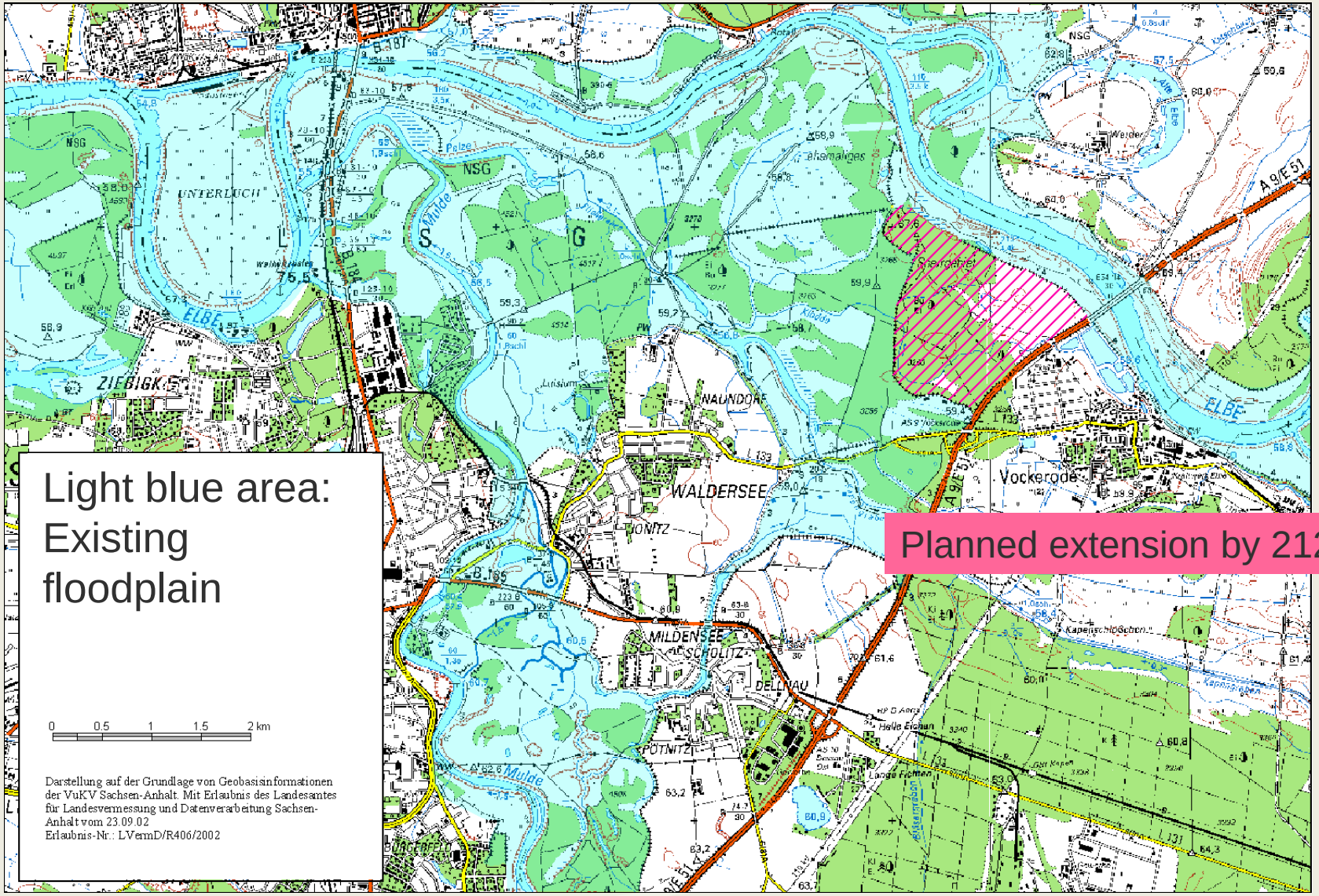
(planned reduction in area of biosphere reserve to 225.000 ha)



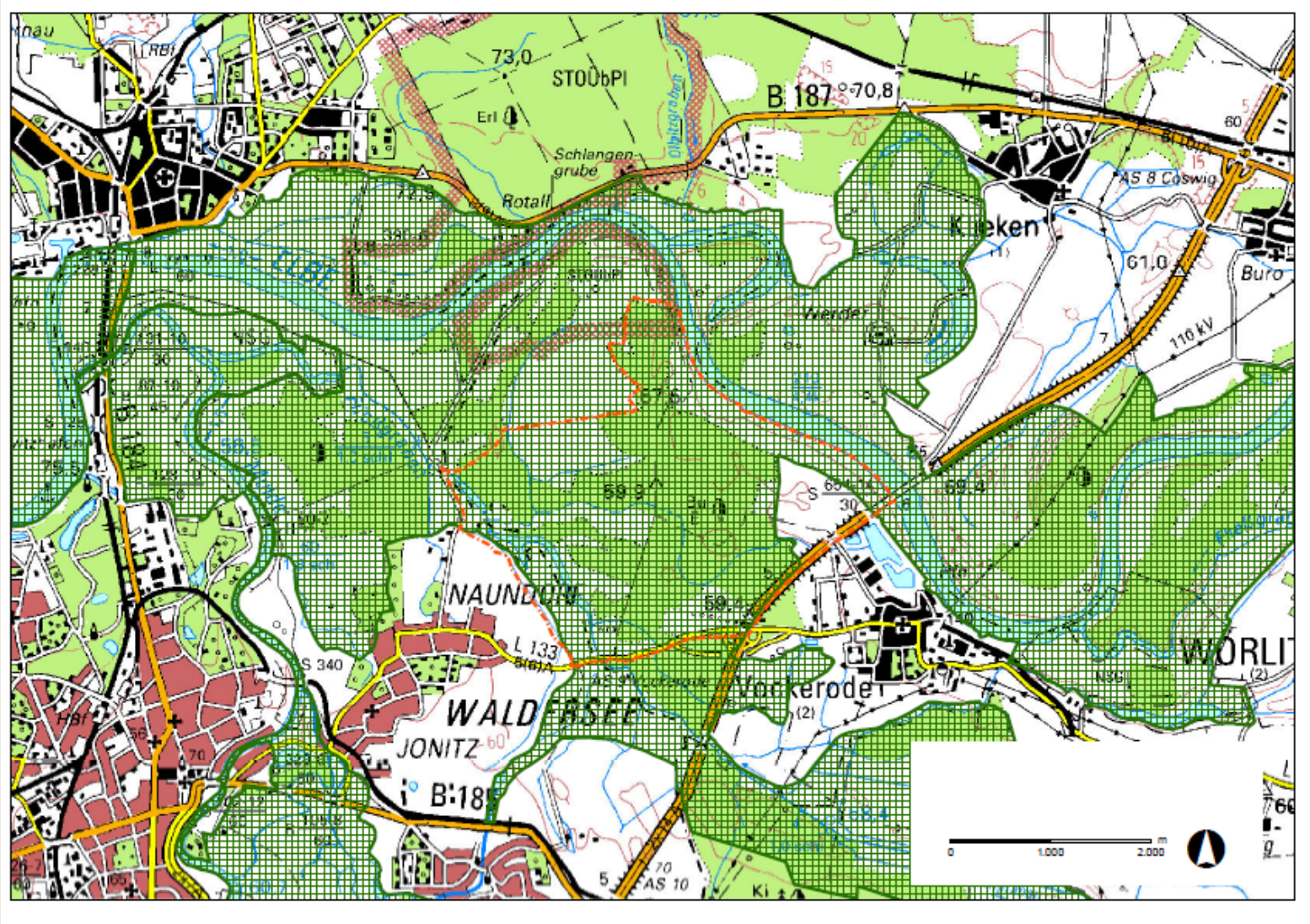
Project area



Setting in floodplain landscape



Project area and N2000 coverage



Key biodiversity features





Active partners in the Life+-project

- WWF Germany (lead)
- Biosphere reserve Mittelelbe
- State agency for flood protection and water management
- Agency for cultural heritage DessauWörlitz

Other main partners

- Farm cooperative Wörlitz
- County Wittenberg, commune Vockerode
- Agency for state property Sachsen-Anhalt

Project duration and resources

Duration: 2010 till 2018

Budget: 2,2 Millionen €

Shareholders:

50 % EU

37 % WWF

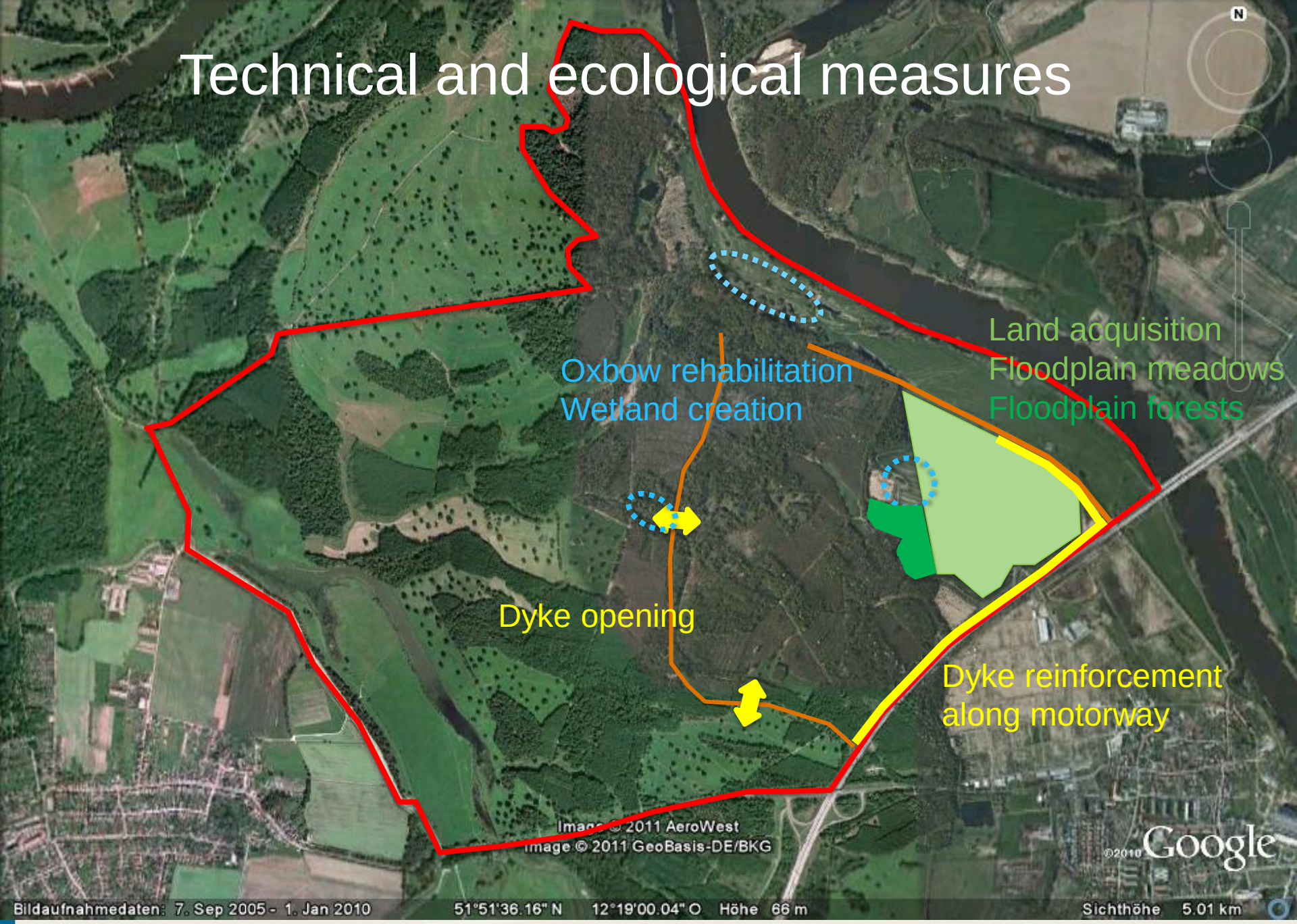
11 % Water mgt. agency (plus 5 mil € construction costs)

2 % Biosphere reserve.

(plus extra contribution by cultural heritage agency)

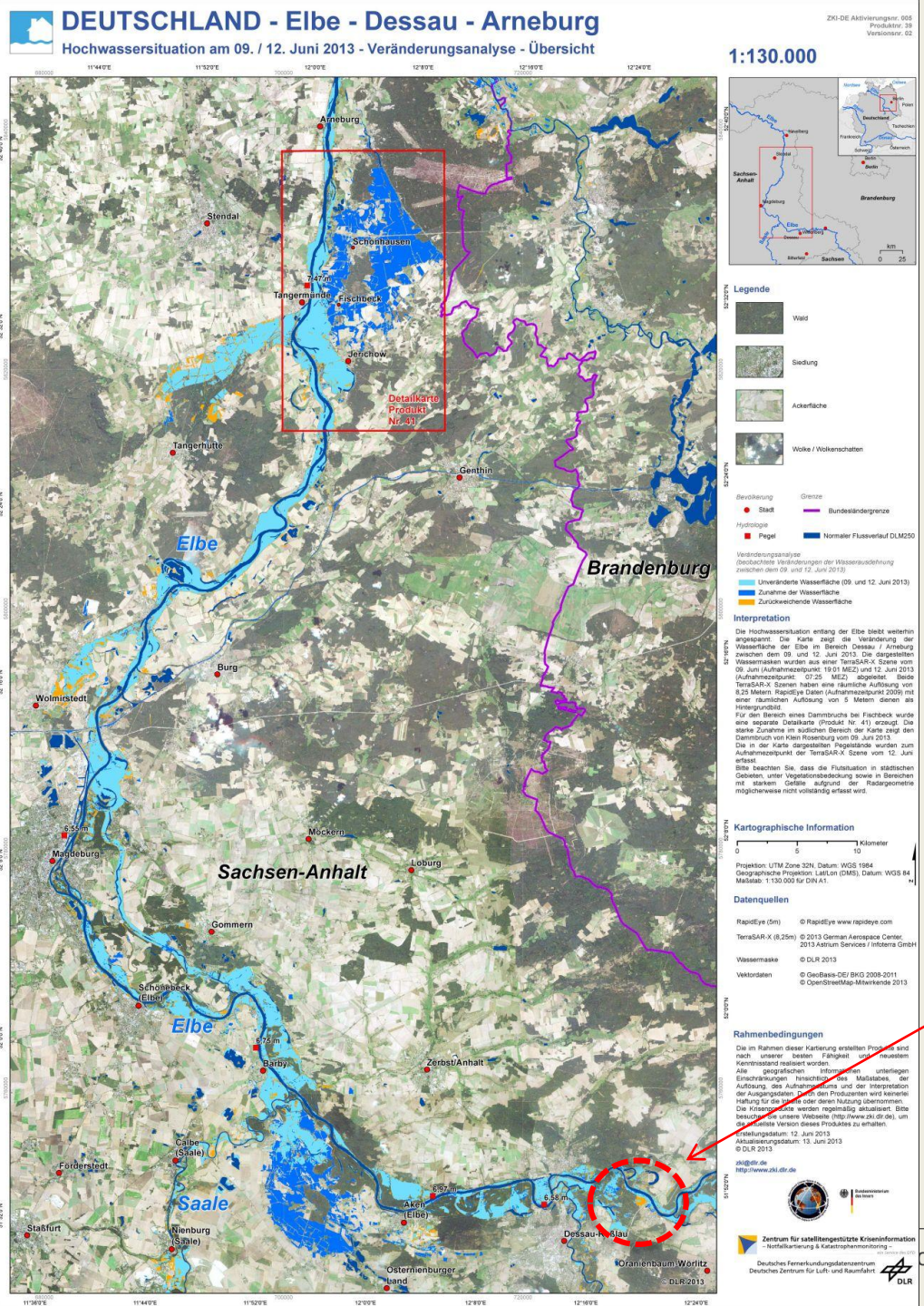
Staff: 1,2 manpower units in project office

Technical and ecological measures



Flooding in 2002 (2013) of project area

Flooding in 2013



Project area

Restoration of floodplain meadows

45 ha
5 ha as habitat type
3-years process
plus many years with special management

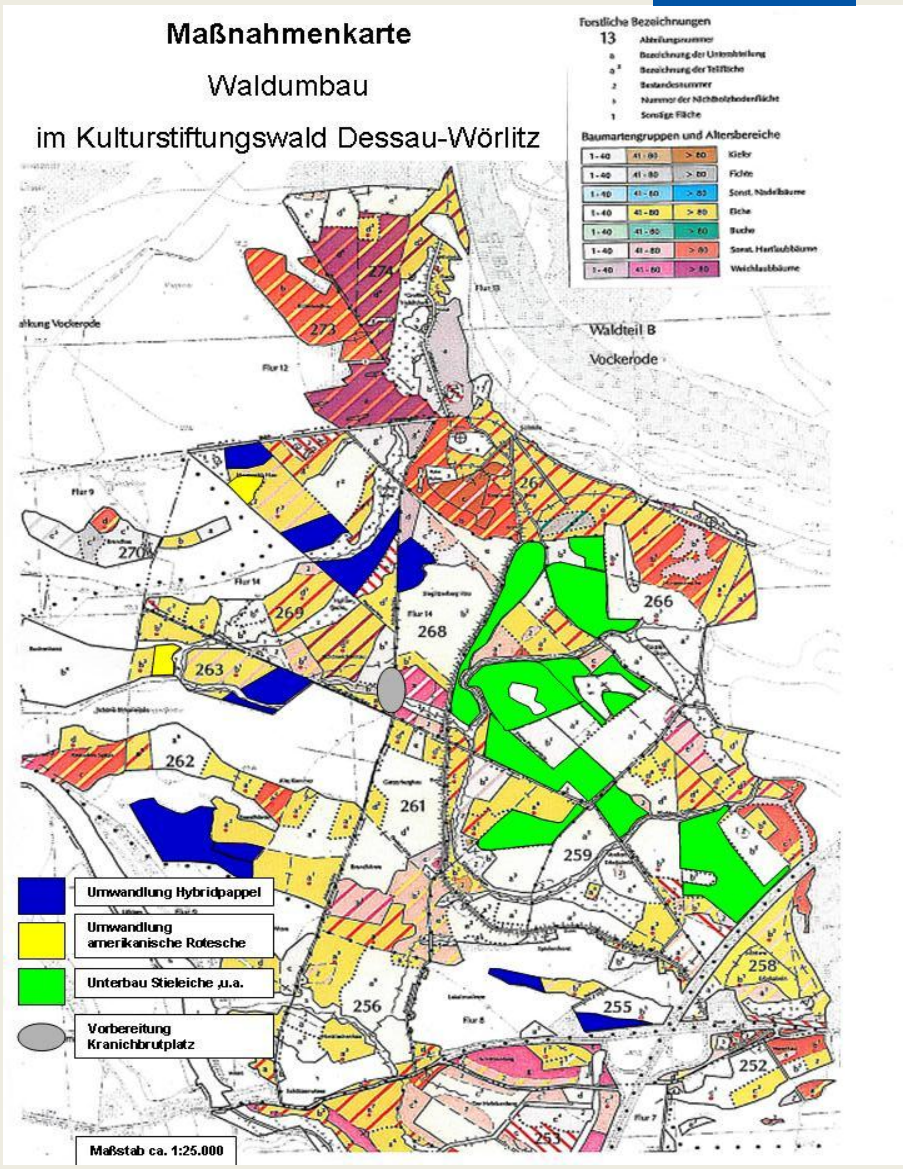
Adaptation of floodplain forests

130 ha of managed forest under new flooding regime
On 32 ha adaptation measures planned

Forest adaptation and management

Heritage foundation DessauWörlitz

- Change of hybrid poplars
- Elimination of green ash (*Fraxinus pennsylvanica*)
- support of hardwood stands (e.g. British oak – quercus robur, wild apple/pear)
- selective harvest of flood sensitive tree species



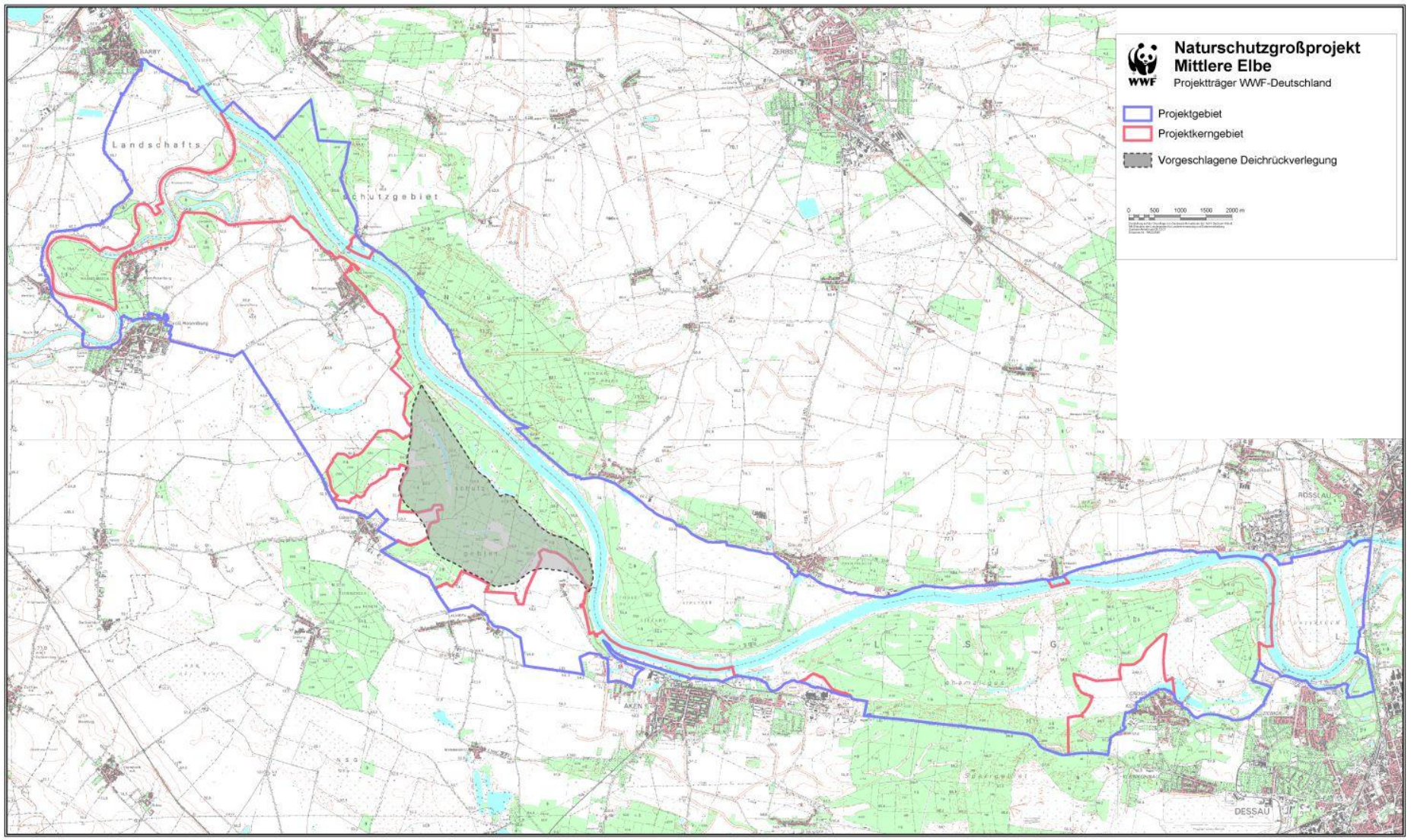
Benefits apart from N2000

- Improved resilience of the floodplain ecosystem
- Reduced risk of flooding though quantitatively very limited as stand alone
- WFD objectives almost not relevant/touched
- Improved ecosystem services:
  - Flood retention
  - Water purification
  - Positive effects on micro climate
  - Carbon sequestration (forests and meadows)
  - Amenities (tourism, local-regional…)
  - Reduced maintenance for water management

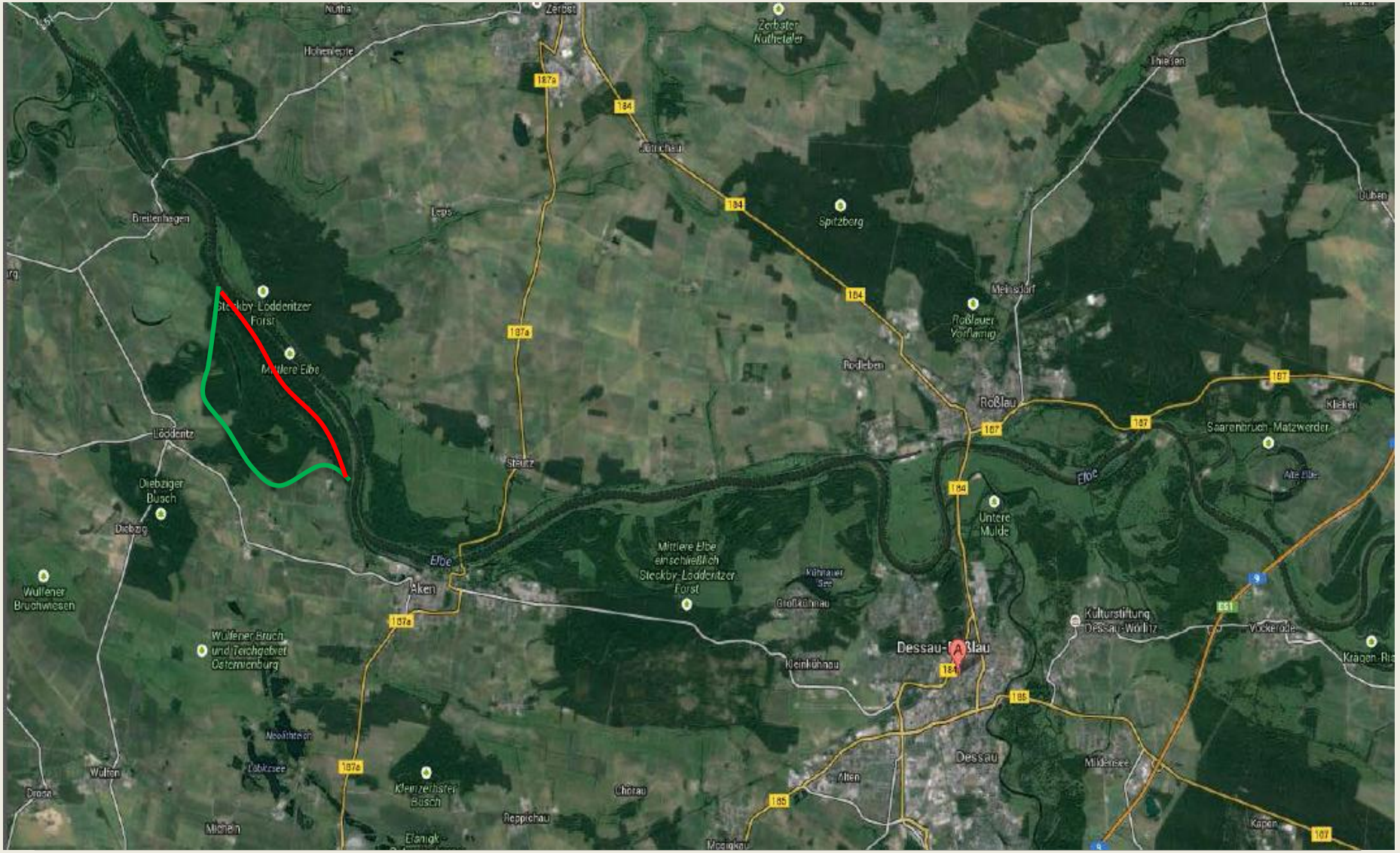
Challenges

- Scaling-up in area means 10’s of thousand hectares to create significant effect on design of **grey** flood defence structures (heightening of dykes, retention basins)
  - Only feasible with new land use approach together with landowners and farmers (e.g. no cash crop but biomass utilization for energy or material utilization for insulation?)
  - Plus compensation to farmers for improved ecosystem services

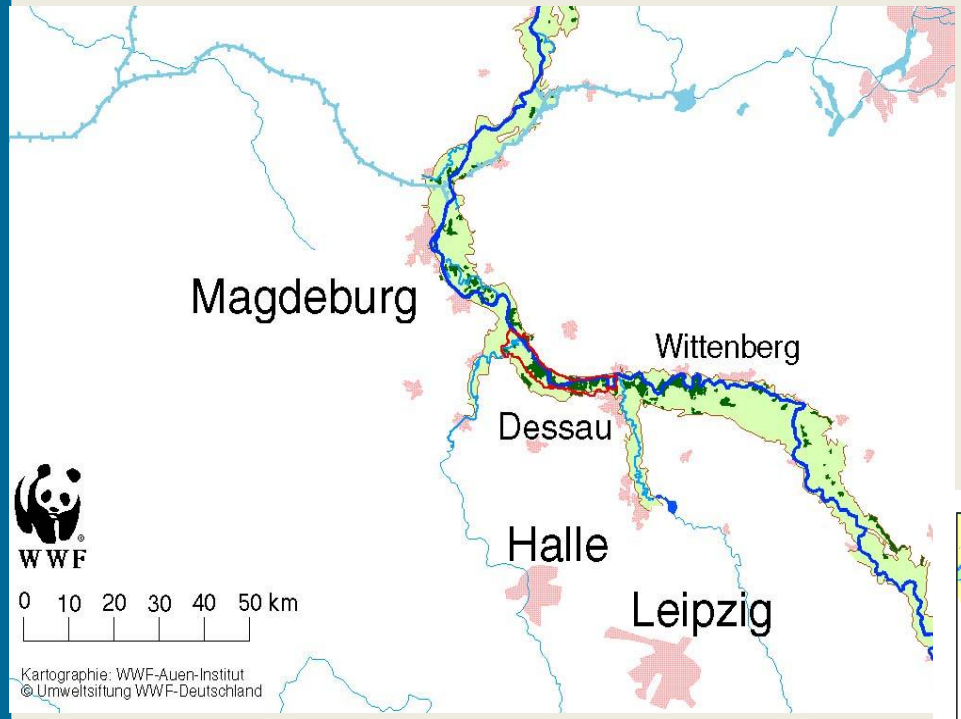
Case study “Dyke relocation at Lödderitz/Elbe”



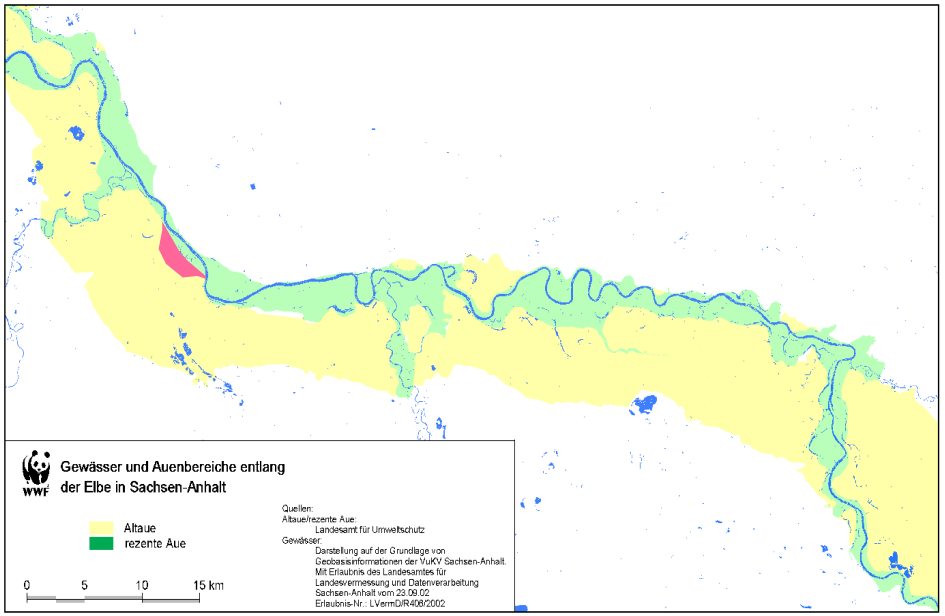
Project area dyke relocation at Lödderitz



Status of floodplains, case study Lödderitz



Status report on floodplains BfN 2009
In general:
Natural vegetation only remnant
(50 % grassland, 25 % arable land,
13 % forests
1 % natural floodplain forest)



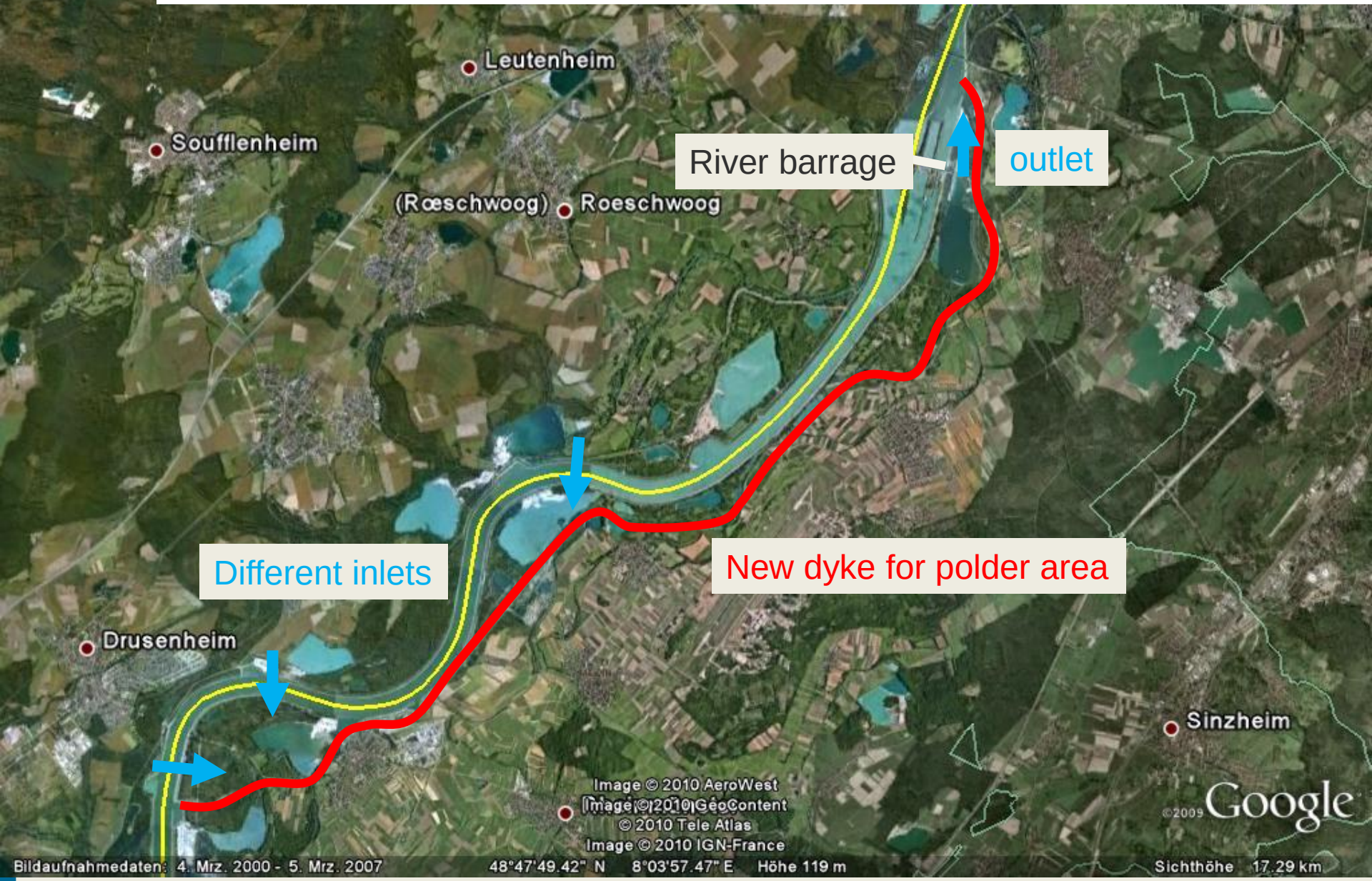
green= active floodplain
Yellow= former floodplain (protected from flooding by dykes)
red= relocation area

Renaturierung von Auenwäldern

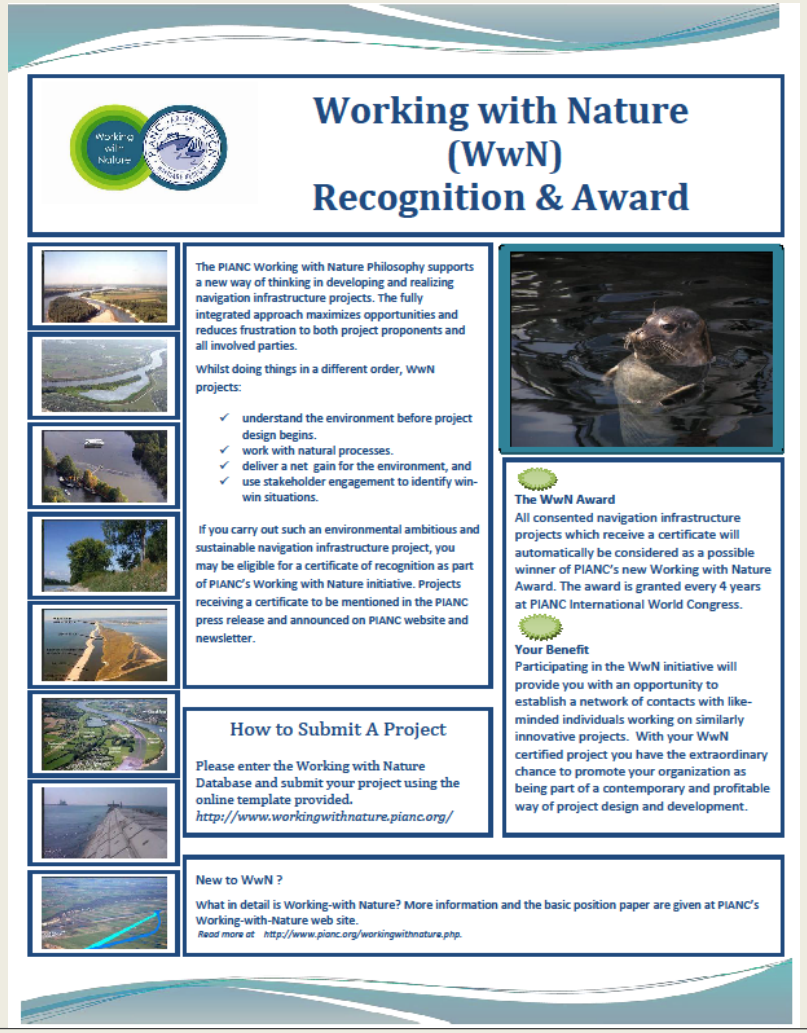
Case study Life+Nature Elbe floodplains at Vockerode

Existing dyke

Rhine river barrage Iffezheim: controlled retention basin with ‚ecological flooding' at normal flood stages



Case study – Floodway Rees – 2014 WwN-award



Working with Nature (WwN) Recognition & Award

The PIANC Working with Nature Philosophy supports a new way of thinking in developing and realizing navigation infrastructure projects. The fully integrated approach maximizes opportunities and reduces frustration to both project proponents and all involved parties.

Whilst doing things in a different order, WwN projects:

- ✓ understand the environment before project design begins.
- ✓ work with natural processes.
- ✓ deliver a net gain for the environment, and
- ✓ use stakeholder engagement to identify win-win situations.

If you carry out such an environmental ambitious and sustainable navigation infrastructure project, you may be eligible for a certificate of recognition as part of PIANC's Working with Nature initiative. Projects receiving a certificate to be mentioned in the PIANC press release and announced on PIANC website and newsletter.

The WwN Award

All consented navigation infrastructure projects which receive a certificate will automatically be considered as a possible winner of PIANC's new Working with Nature Award. The award is granted every 4 years at PIANC International World Congress.

Your Benefit

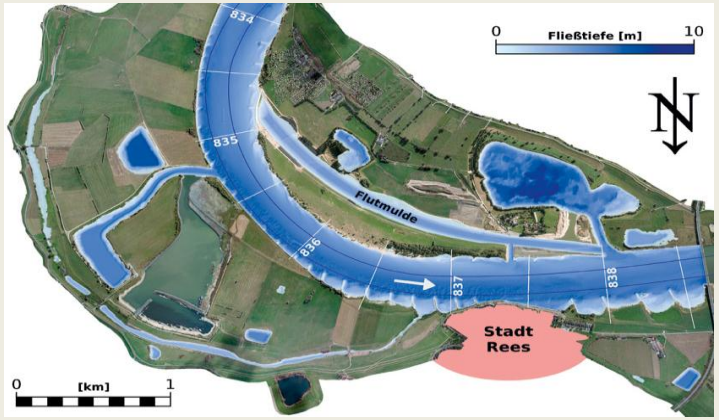
Participating in the WwN initiative will provide you with an opportunity to establish a network of contacts with like-minded individuals working on similarly innovative projects. With your WwN certified project you have the extraordinary chance to promote your organization as being part of a contemporary and profitable way of project design and development.

How to Submit A Project

Please enter the Working with Nature Database and submit your project using the online template provided.
http://www.workingwithnature.pianc.org/

New to WwN ?

What in detail is Working-with Nature? More information and the basic position paper are given at PIANC's Working-with-Nature web site.
Read more at http://www.pianc.org/workingwithnature.php.



Quellen: PIANC, WSA Duisburg

Case study Rhine-Waal branch near Nijmegen

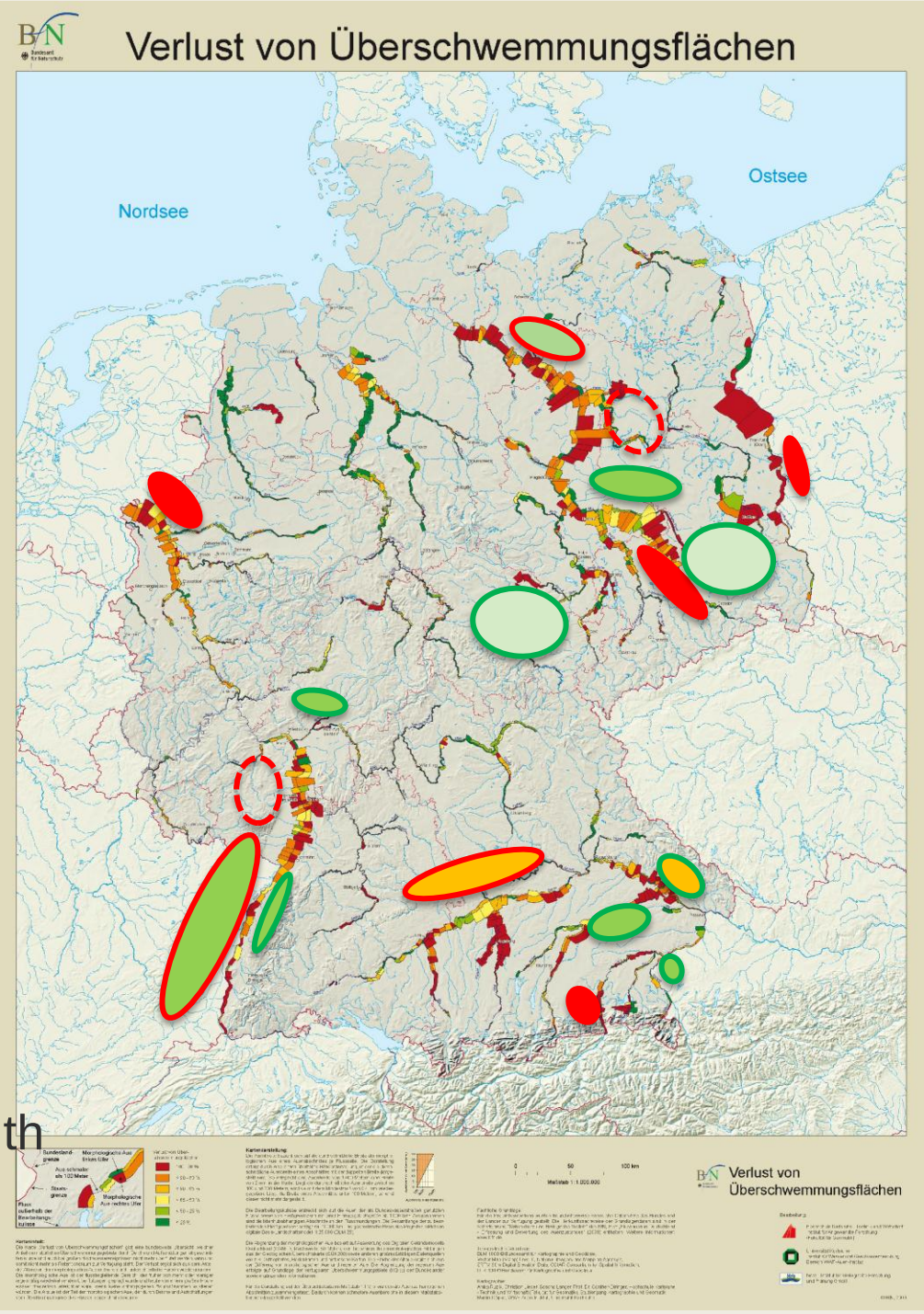
Source: Hr. B. Boekhoven (RWS, NL)

PoM NFPP (20 years perspective)

Regional focus areas for controlled and uncontrolled retention

Preliminiary qualitative assesssment (Georg Rast):

- uncontrolled retention: high potential for synergy with WFD, BHD, Biodivstrategy
- Controlled retention: Low potential for synergy with WFD, BHD, Biodivstrategy



Lessons learned

- Time scale
  - Decades not 6 years cycle period of EU directives
- Strategy
  - Cooperation of public sectors
  - Catchment approach (hydrological efficiency)
  - Ecoregion approach (functional connectivity for BHD and WFD)
  - Spatial planning and securement of potential areas
  - ESS approach in Cost-benefit at long term
  - Respect socio-economic effects in rural areas
- Compensation schemes for land users, 15 to 20 years perspective required > CAP?


Vision:
Existing and new/extended floodplains/retention areas
get a positive image
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