

Water Framework Directive and Heavily Modified Water Bodies Common Implementation Strategy Workshop 12 – 13 March 2009, Brussels

**WG III - Agriculture and Flood protection:
Designation of heavily modified waterbodies -
Experiences in North Rhine Westphalia, Germany**



North Rhine - Westphalia



surface: 34082 km²

inhabitants: appr. 18 million

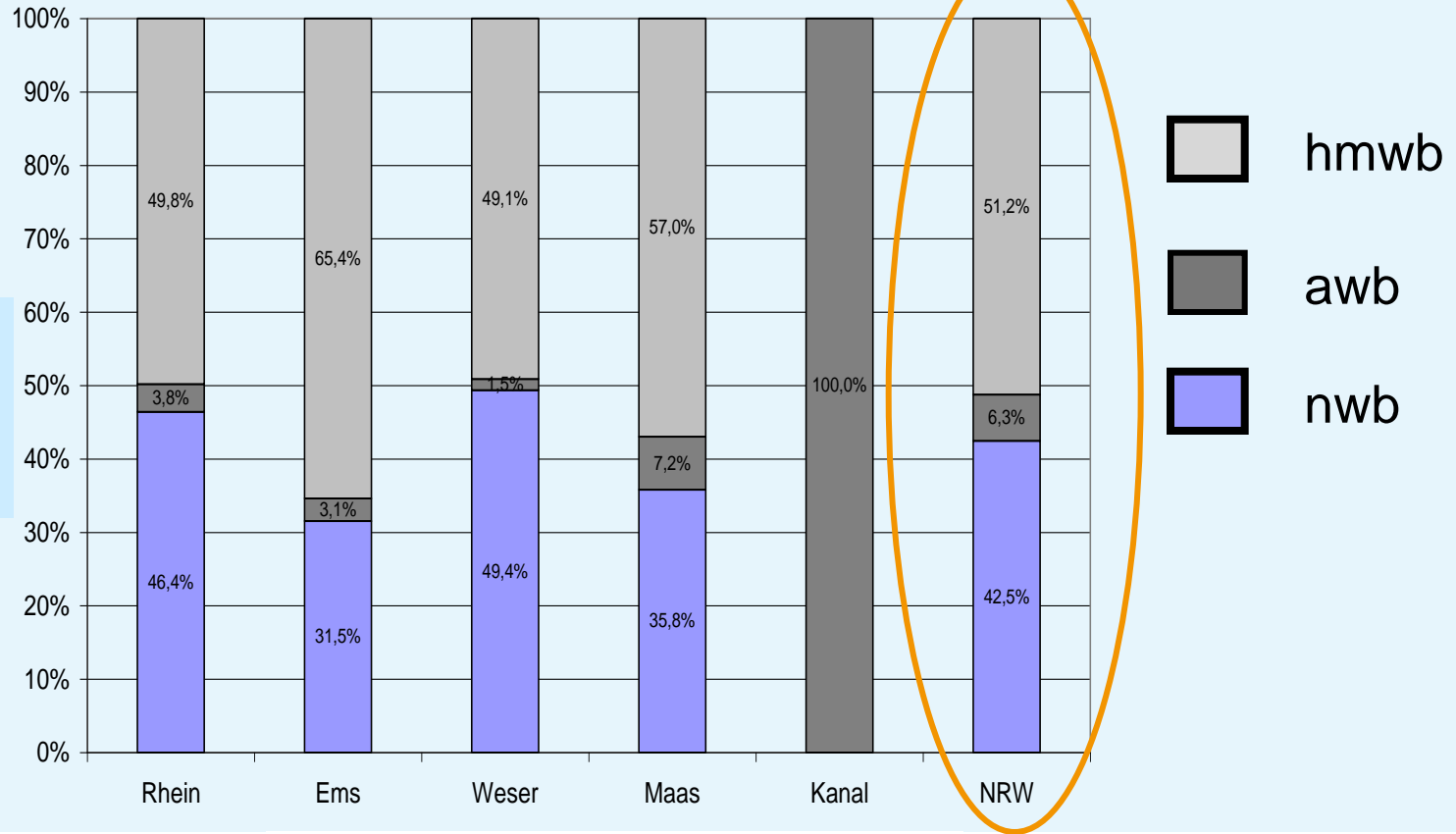
population density:

530 inhabitants/km²

land use: settlement, industry,
power generation, agriculture,
forestry

designation of nwb/awb/hmwb - results

% of total length of
all waterbodies

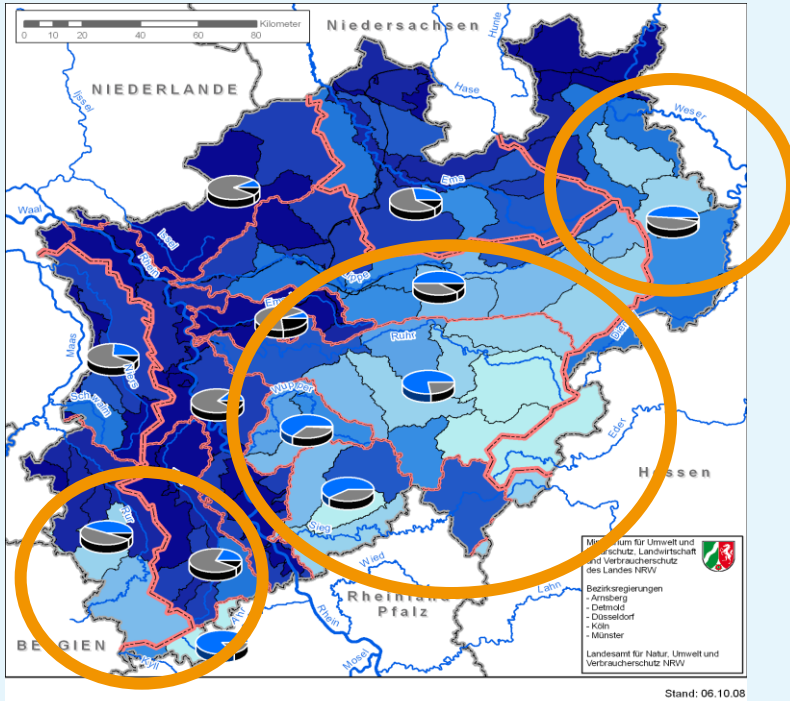


Art. 4 (3): Good status would have significant adverse effects on:

art. 4 (3) WFD	reason	% of total length of all waterbodies
i) wider environment	protected areas	0.5
	settlement	13.6
	protection of historical monuments	0.1
	dams	1.3
	others	1.7
ii) navigation, etc.	navigation	2.5
	port facilities	0.4
	recreation	1.1
iii) water storage	drinking water supply	0.4
	power generation	1.7
	irrigation	1.9
iv) water regulation, etc.	water regulation	2.5
	flood protection	4.4
	land drainage	31.2
v) other sustainable human development activities	subsidence caused by mining	1.5
	need for surface for future sustainable development activities	1.8

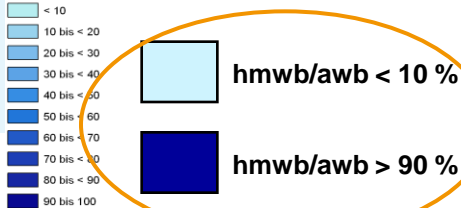
designation of nwb/hmwb

topography

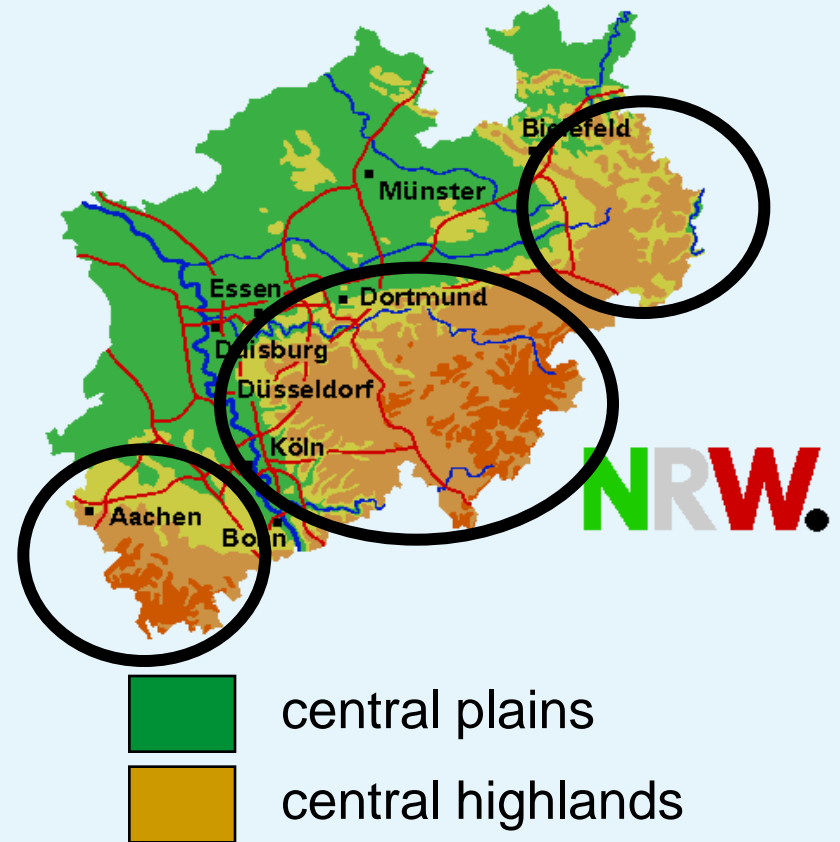
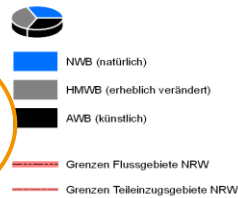


Anteil AWB und HMWB

Anteil AWB und HMWB in der Planungseinheit (in % der Gewässerlänge)



Anteil an OFWK-Länge im Teileinzugsgebiet



Designation process:

North Rhine Westphalia: stepwise approach according to CIS guidance document

Step 1: water body identification

no substantial changes in water body identification compared to article 5 report; 1898 surface water bodies, total length of all water bodies: 13747 kilometers

Step 2: is water body artificial?

few changes in designation of awb compared to article 5 report, because new information was delivered by representatives of agriculture; awb represent now 6.3 % of total length of all waterbodies

Designation process:

Step 3 – 5: Are there any changes in hydromorphology? Is it likely that water body will fail good ecological status due to changes in hydromorphology?

Yes, if:

- A) > 30 % of water body length is in structure class > 5, or
- B) water body is part of an impoundment section of a surface water, or
- C) water body has reverse flow direction (due to subsidence caused by mining)

Structure class: hydromorphological conditions („structure“ of bed, banks and floodplains) were evaluated for all water bodies before 2004; result: a structure class between 1 and 7 (1 = best = reference conditions, 7 = worst) was assigned to each section of a water body; structure class 6 and 7: GES for benthic invertebrates will not be reached; structure class reflects all land uses

Designation process:

Step 6: is the water body substantially changed in character due to physical alterations by human activity?

Yes, if there is/was land use (human activity) in those river sections which are physically altered (North Rhine Westphalia: very intense land use)

Data base for steps 1- 6:

- A. in general: information in existing data banks (for example regarding structure class) was sufficient
- B. exception: further information on agriculture was delivered by representatives of agriculture (chamber of agriculture) via questionnaire

Designation process:

Step 7: identify restoration measures necessary to achieve GES. Do these measures have significant adverse effects on the wider environment or the specified uses?

Yes, if:

- restoration measures reduce the level of flood protection, or
- restoration measures cause raising groundwater levels

Several groups of typical hydromorphological deficiencies were defined, for each group the necessary restoration measures to reach good ecological status were identified, effects of measures were evaluated

Designation process:

Step 8: Can the beneficial objectives served by the modifications of the hmwb/awb be achieved by other means, which are a significantly better environmental option, technically feasible and not disproportionate costly?

No, if:

- shifting of existing flood protection devices (dike relocation, etc.) is impossible or causes disproportionate costs,
- agricultural activities can't be shifted elsewhere due to intense land use

Designation process:

Data base for steps 7 an 8: Answers were given after discussion on the local level (expert judgement). In round tables (administration and stakeholders) measures for reaching GES were identified and effects on the wider environment or specific uses were discussed. Feasible measures without significant adverse effect (Prague approach) were defined.

Agriculture: Framework agreement was adopted in 2008 between state government and representatives of agriculture/forestry (chamber of agriculture, associations responsible for the maintenance of waters, association of forest owners) on feasible mitigation measures in agriculture/forestry.