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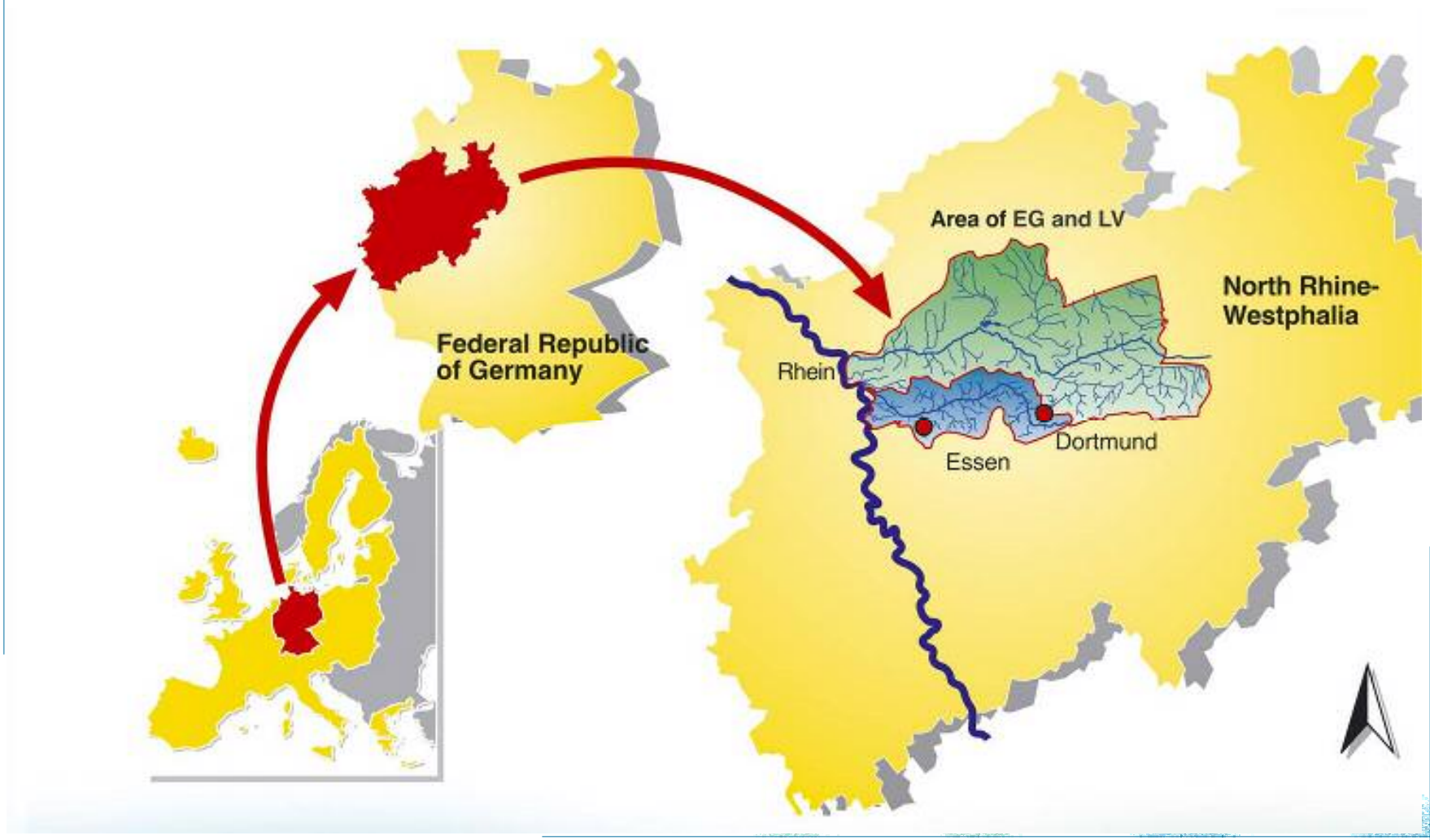
LIPPE VERBAND

Optimised waste water disposal in a specific river basin

... a river manager introduces itself

VI-Brüssel-11-06-01

The Emscher and Lippe Region



Key Figures – Performance Data
(30.12.2004)

Watercourses	733	km
Sewers	263	km
Pumping stations	212	
Polder Areas	842	km²
Wastewater Treatment Plants	59	
Facilities Size	6,7	mil. PE
Sewage Discharge	1	bil. m³/a
Rainwater Treatment		
- Sites	106	
- Volume	265.000	m³
Flood Protection		
- Retention Volume	3,1	mil. m³
- Dikes	216	km

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Key Figures – Financial Data
(31.12.2005)

Turnover	299 mil. EUR
Investments	224 mil. EUR
Balance Sheet Total	2.5 bil. EUR
Assets	2.4 bil. EUR
Cash-flow	52 mil. EUR
Profit	non profit
employees	1,492

Members / Clients

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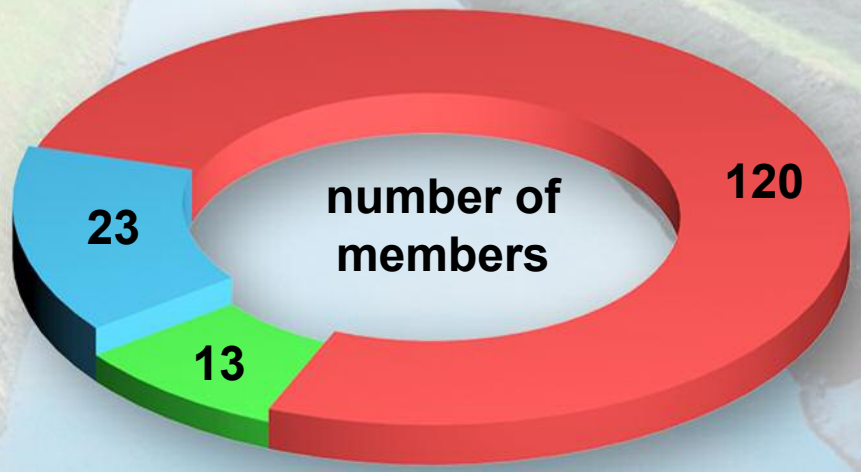
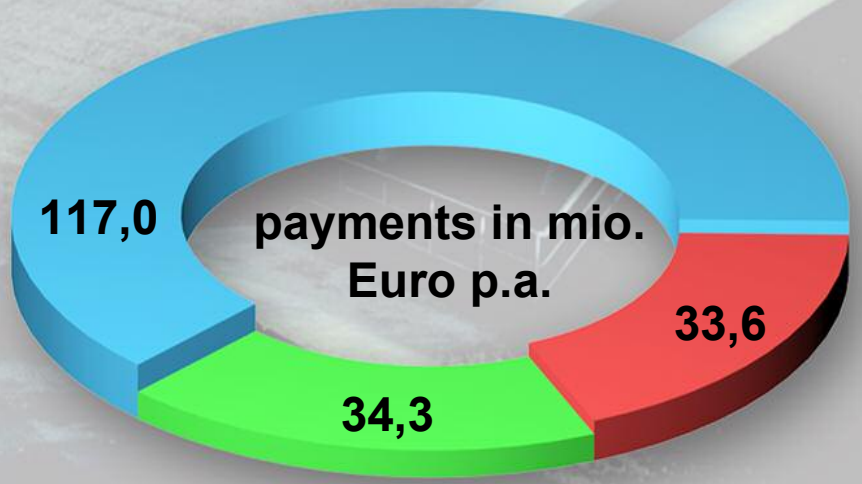
- Industrial Companies
- Municipalities
- Mining Companies





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Where we are working

	Emscher-genossenschaft	Lippe-verband
Area (km²)	865	3,280
Inhabitants (mil.)	2.4	1.4
Inhabitants / km²	2,775	427

Brussels capital reg.	161 km²
Inhabitants	1 million
Communes	19

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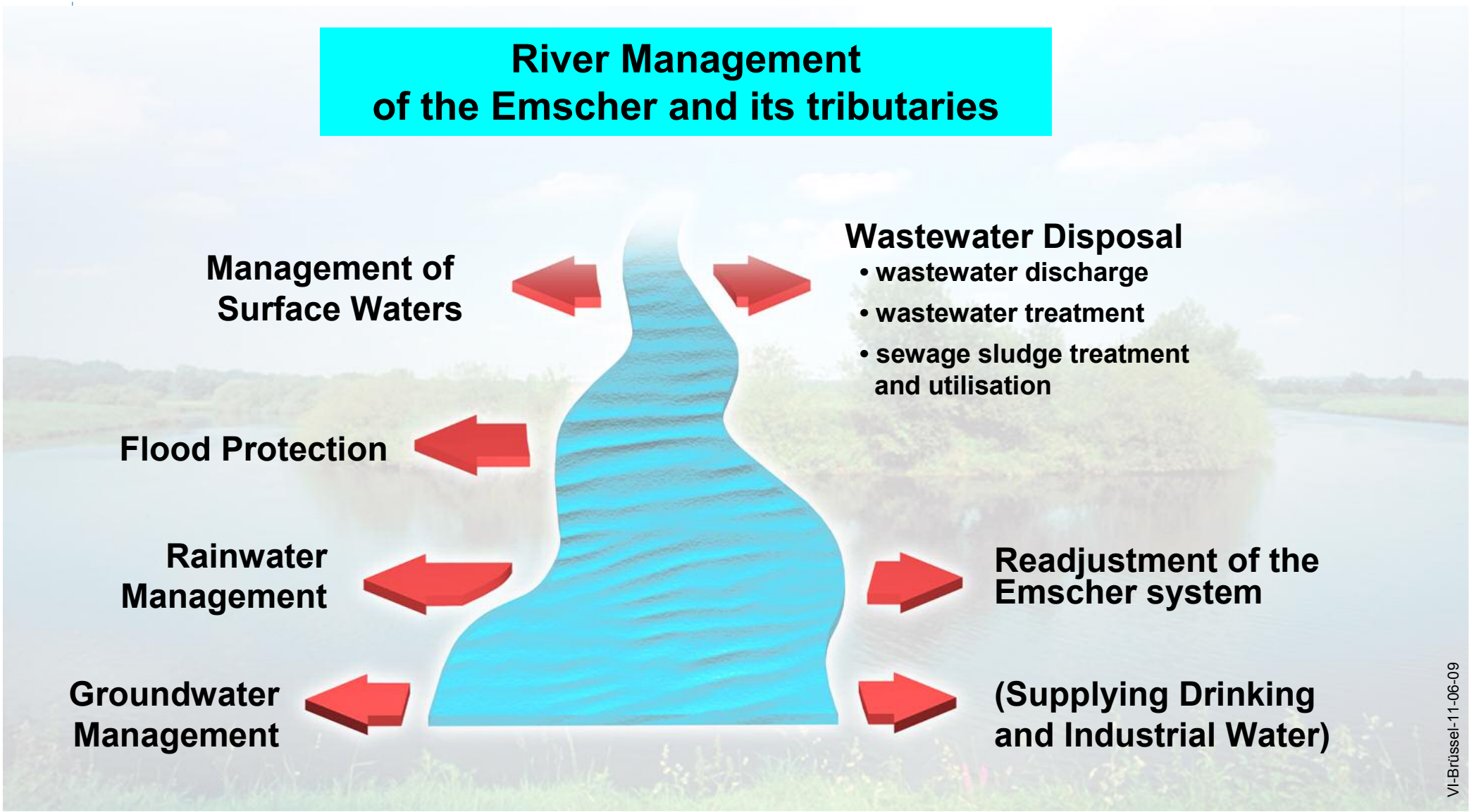
Duties of the Emschergenossenschaft

River Management of the Emscher and its tributaries



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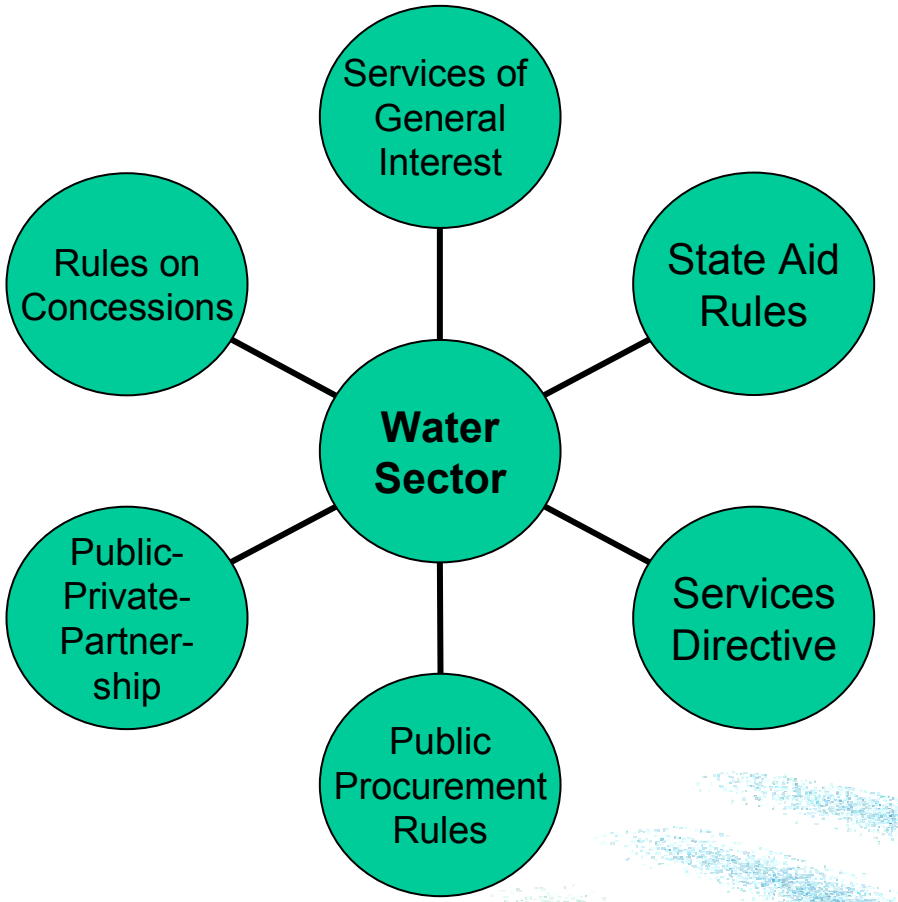
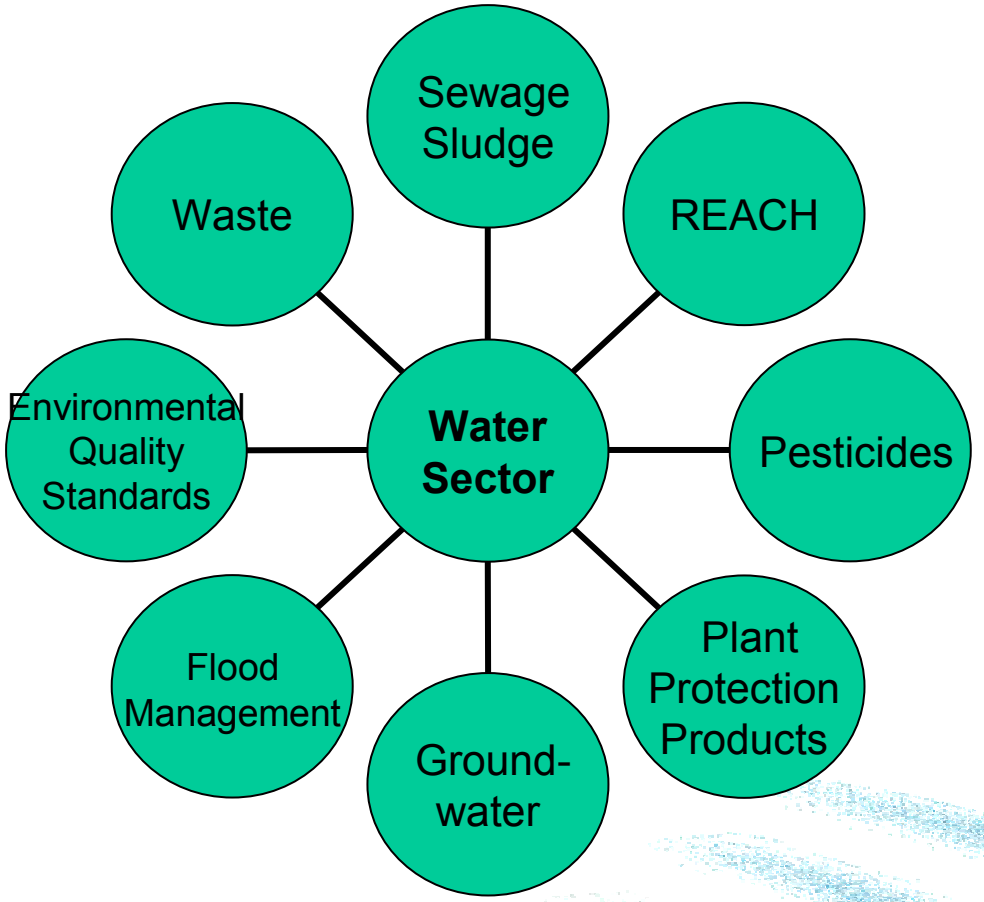
Politically Regulatory EU framework

Overview about the pending procedures in this area



Environmental EU framework

Overview about the pending legislative procedures in this area



Environmental EU framework

Overview about the pending legislative procedures in this area

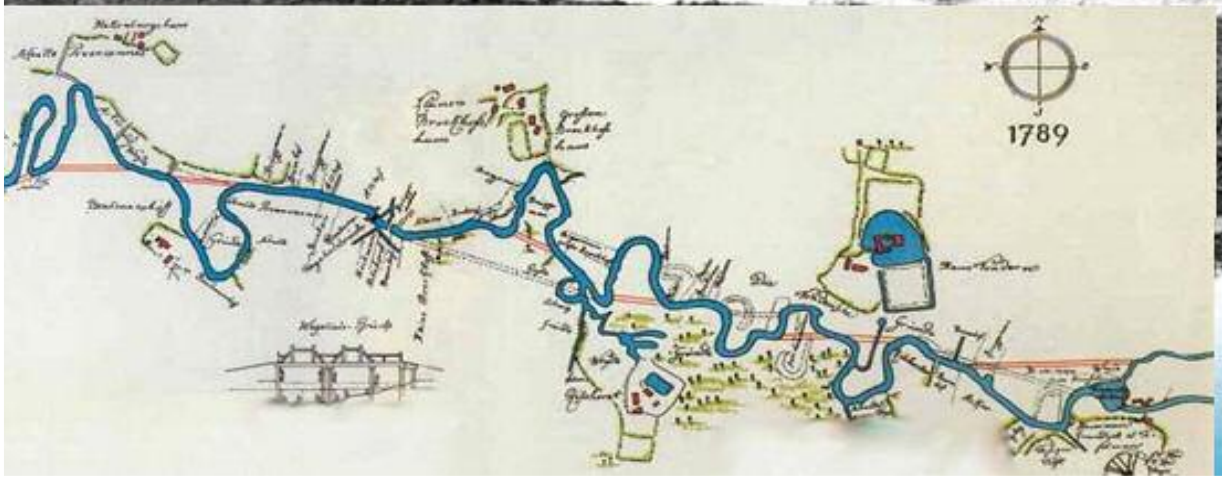
Further Initiatives:

Soil Protection Strategy

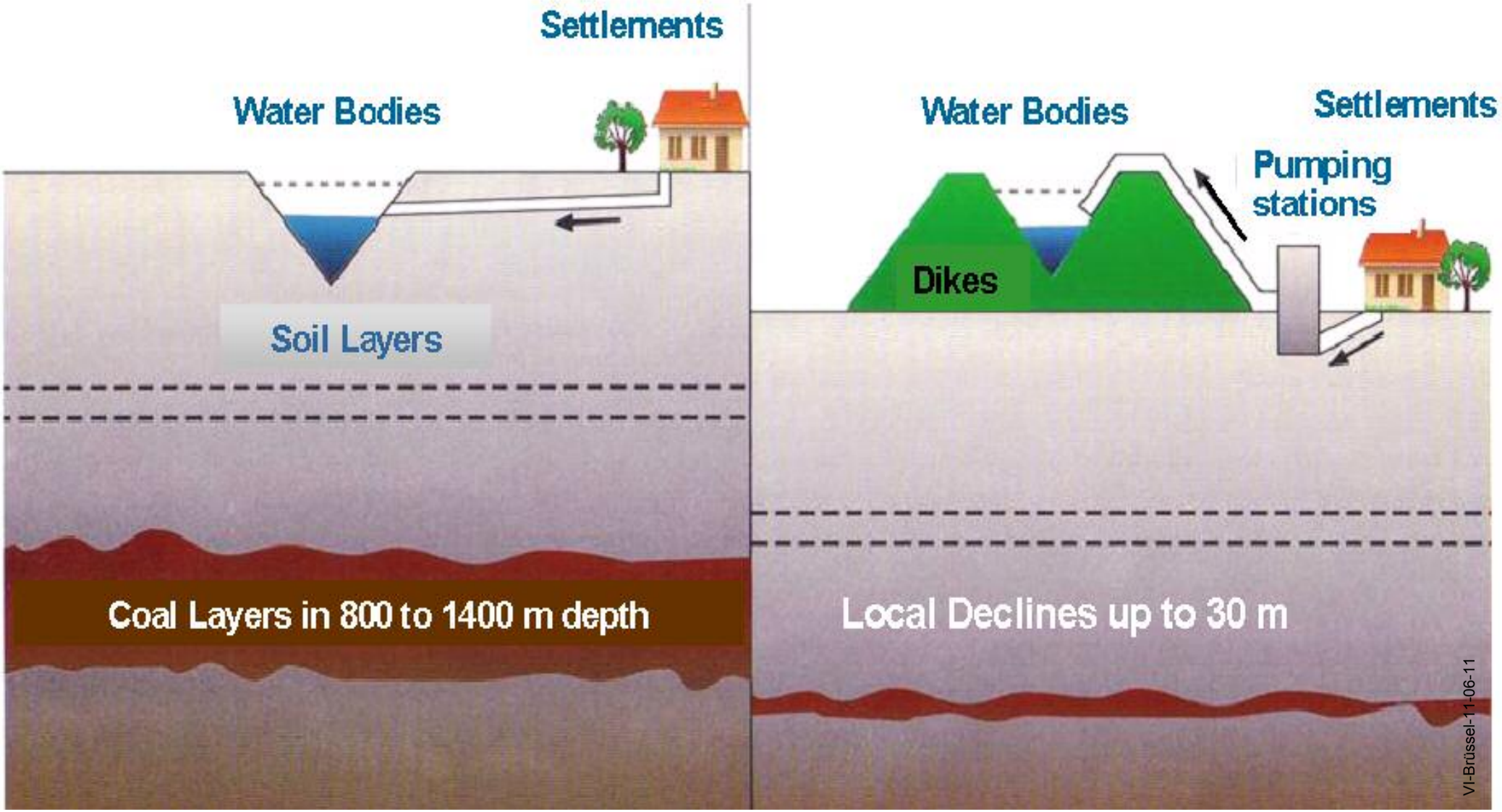
Water Sector

Climate Change Policy

The Emscher before the 20th century



Mining influence on drainage and flow regimes since the 19th century



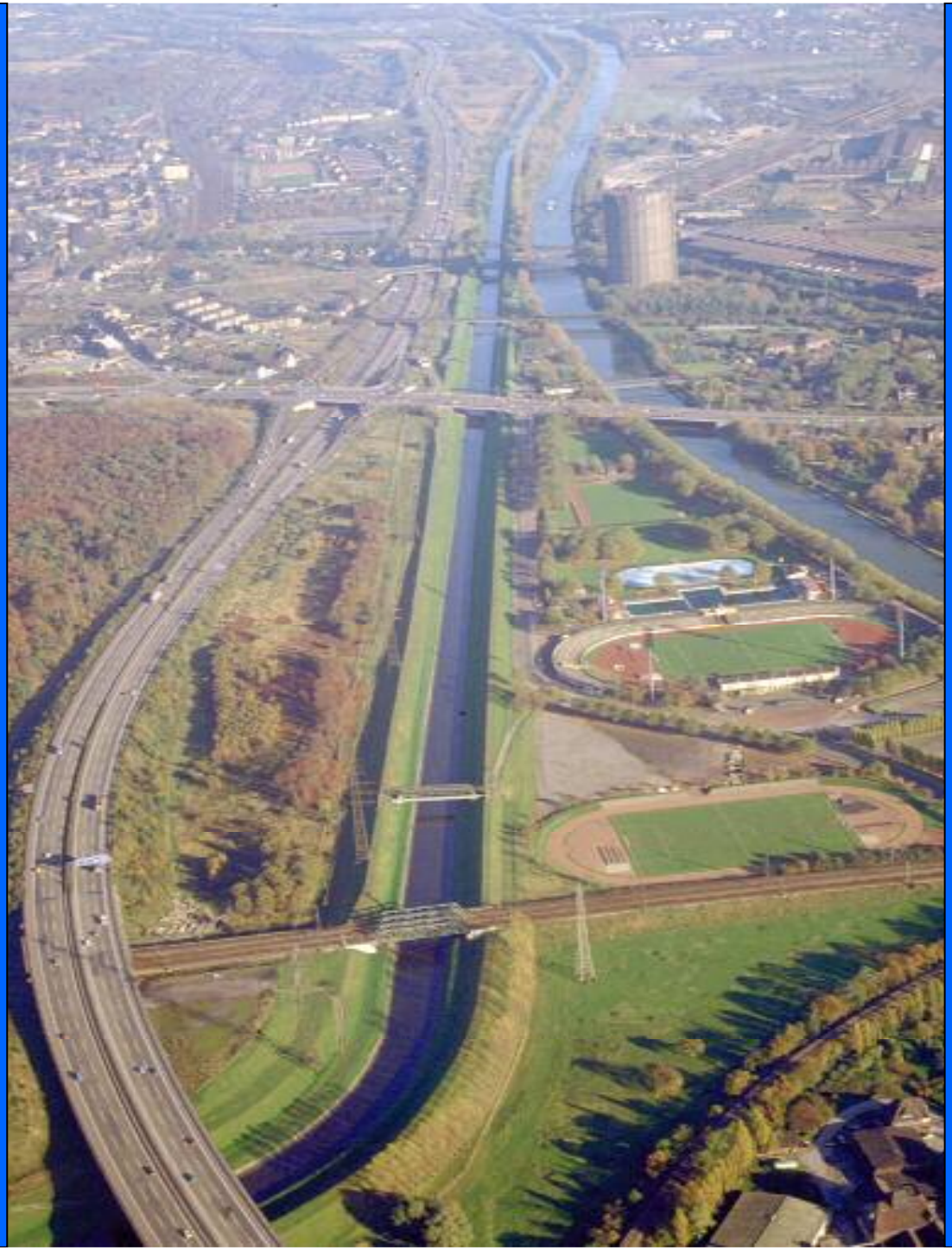
The Emscher today – open sewers

The Emscher with open sewers and its geogra-phical con-straints

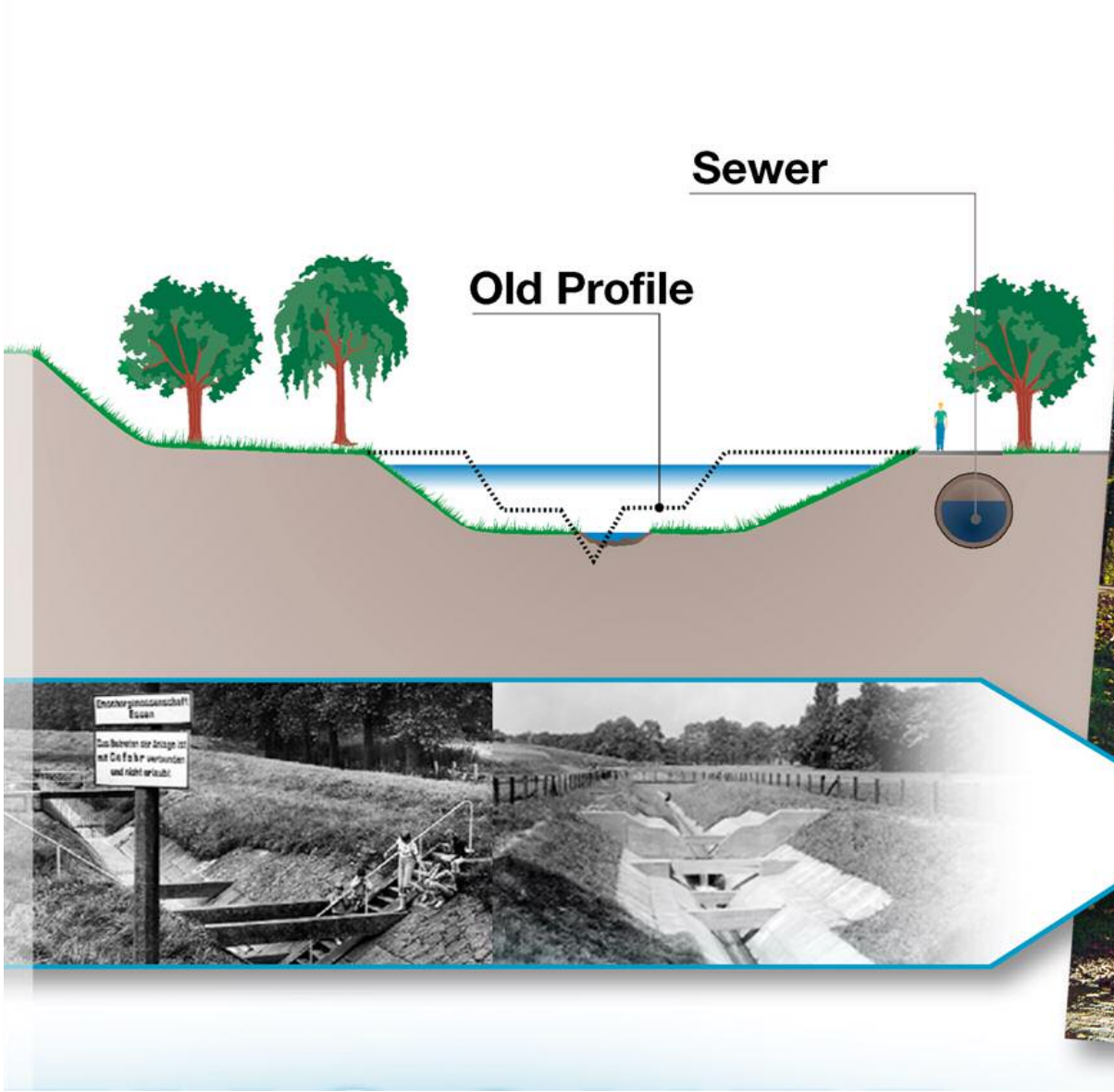
- canal

- highway

- residential areas



The aim – sustainable water management



Emscher – Remodelling
Project spanning over generations

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15-20 years
for infrastructure

1992

25-30 years
for ecological
development

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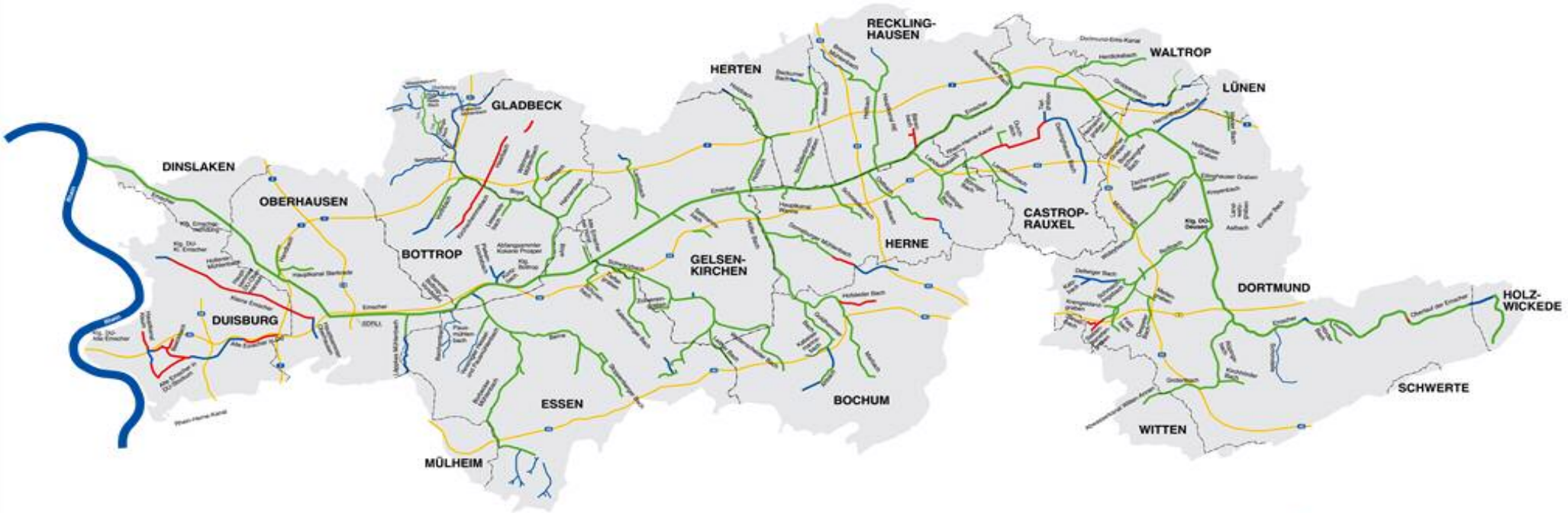
Our vision

Measures already carried out or to be realized by the Emschergenossenschaft



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Requirement for Remodelling

Emscher Wastewater Treatment Plants

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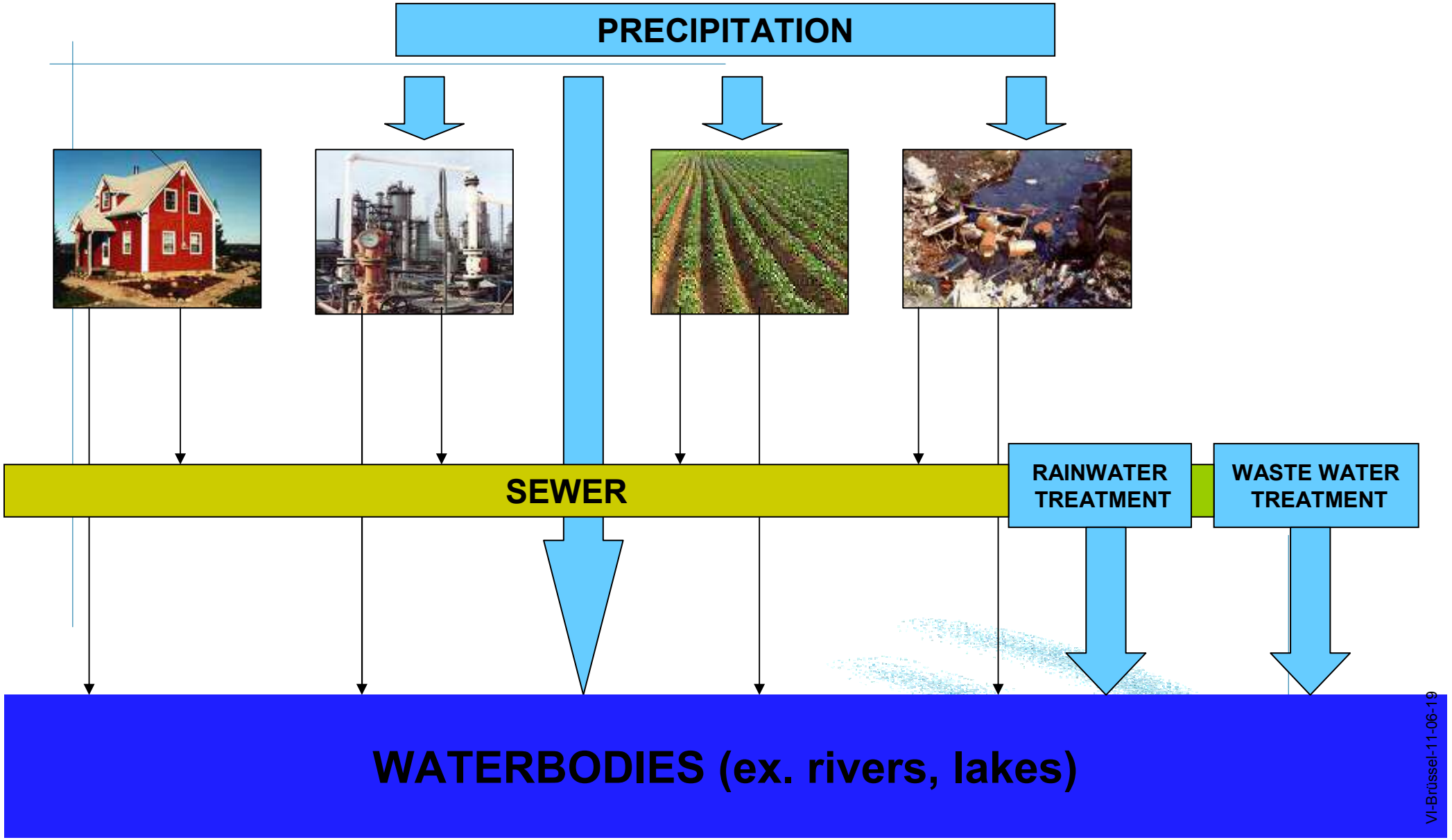
Where do diffuse discharges come from?



From the Immission‘s Angle

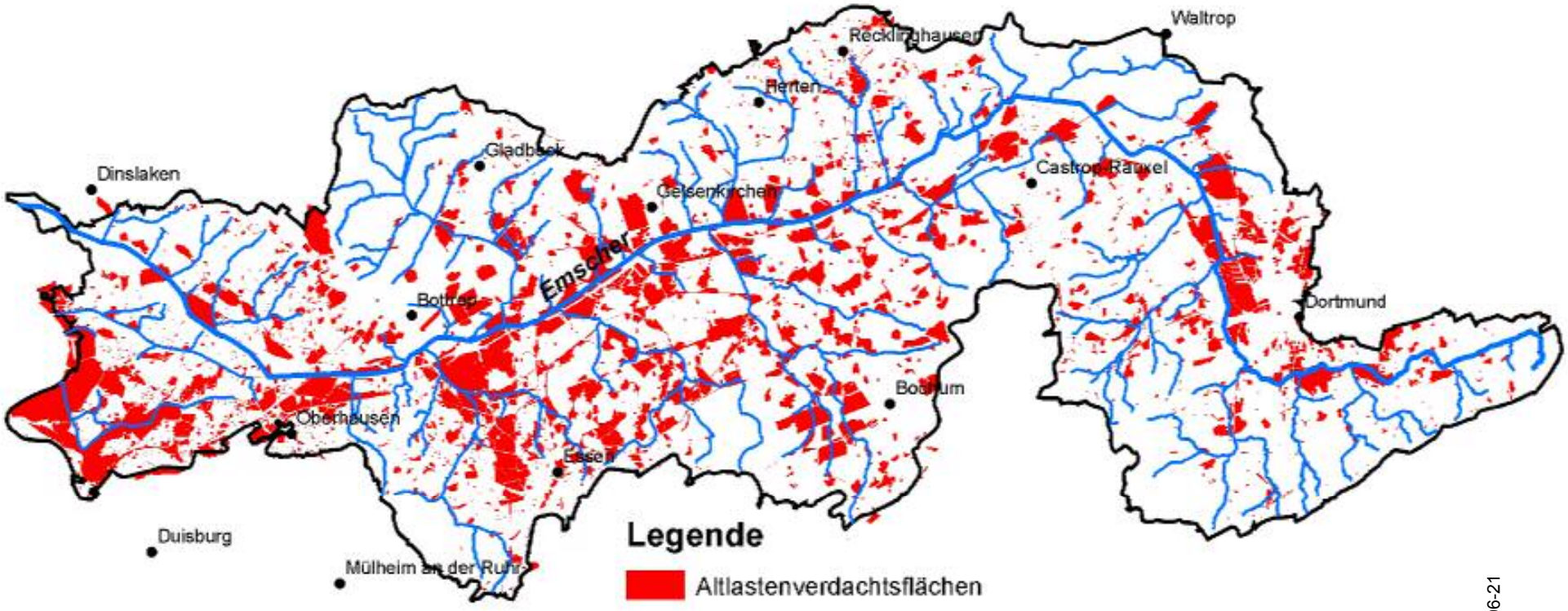
Analysis of the quality of the waterbody through measure programms (Emscher-plus, …)

→ Quality of the waterbody at specific points (ex. mouth)

Balance: „Sum of **discharged** load (quality*$Q_{discharge}$)
plus load from **natural** drain (quality*$Q_{natural}$)
compared with the **overall** load (quality*$Q_{overall}$)“

Example: PAK of the Hüller beck with 96 companies and specific inputs from running water

Potentially contaminated areas around the river Emscher



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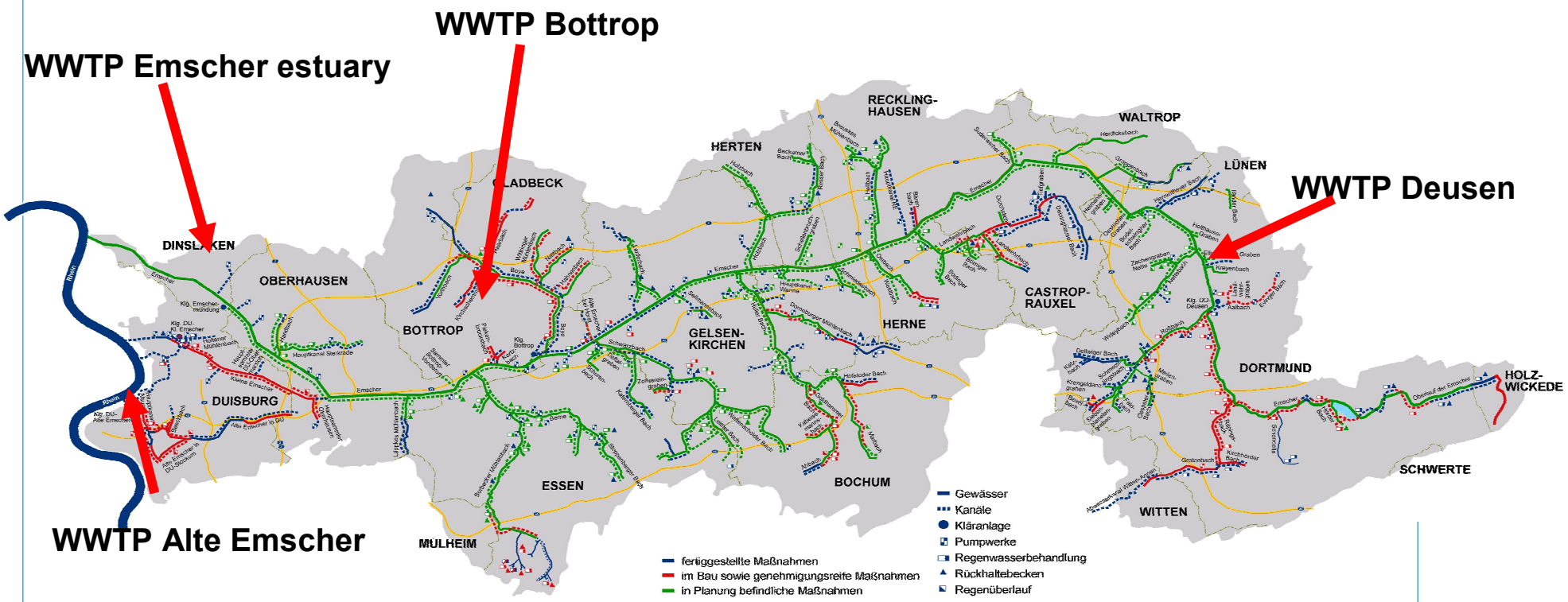
Area-wide – rain-water management



WWTP = waste water treatment plant