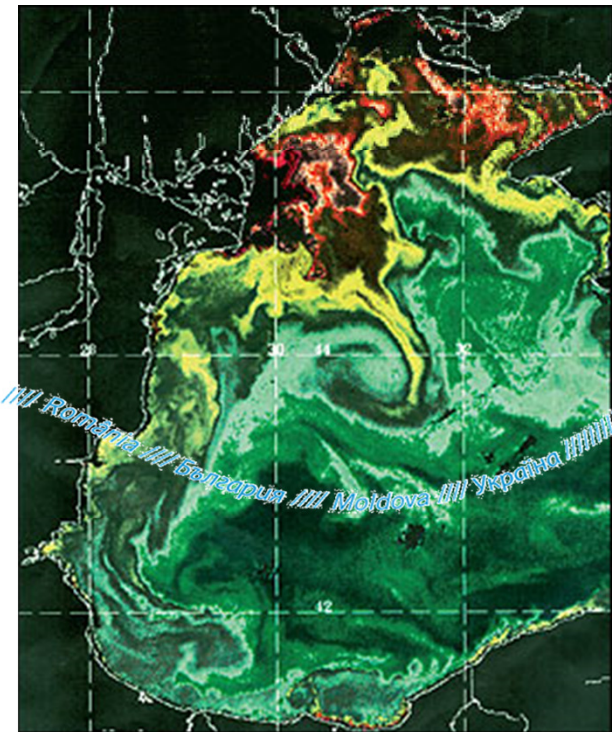
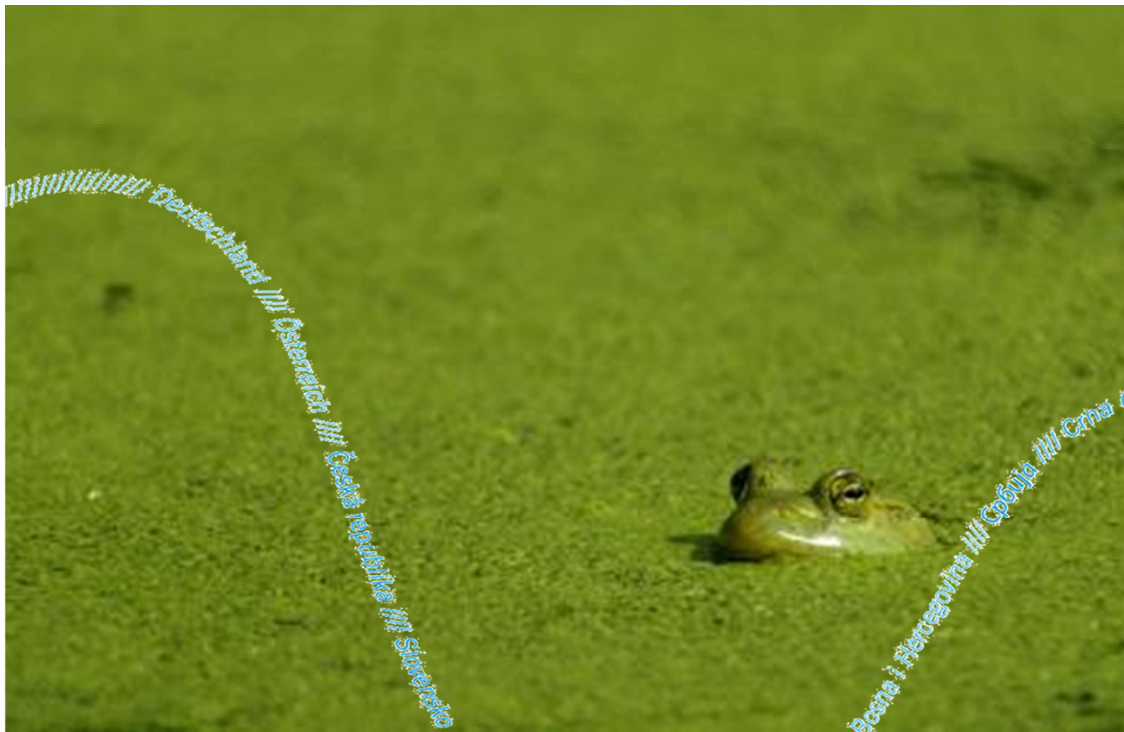


Agricultural nutrient pollution in the Danube Basin - is it still a real concern?

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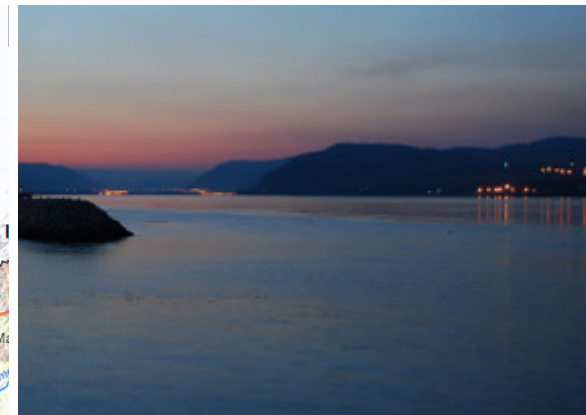
Adam Kovacs
ICPDR

Danube River Basin

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■ Lake water bodies (with surface area > 100 km²) ■ > 1,000,000 inhabitants
■ Transitional water bodies

Large variety of natural factors and socio-economic conditions

Role of the ICPDR



ICPDR: platform for **transboundary cooperation** on water management



Sustainable & equitable
use of water



Protection of water &
ecological resources



Reduce nutrients &
hazardous substances



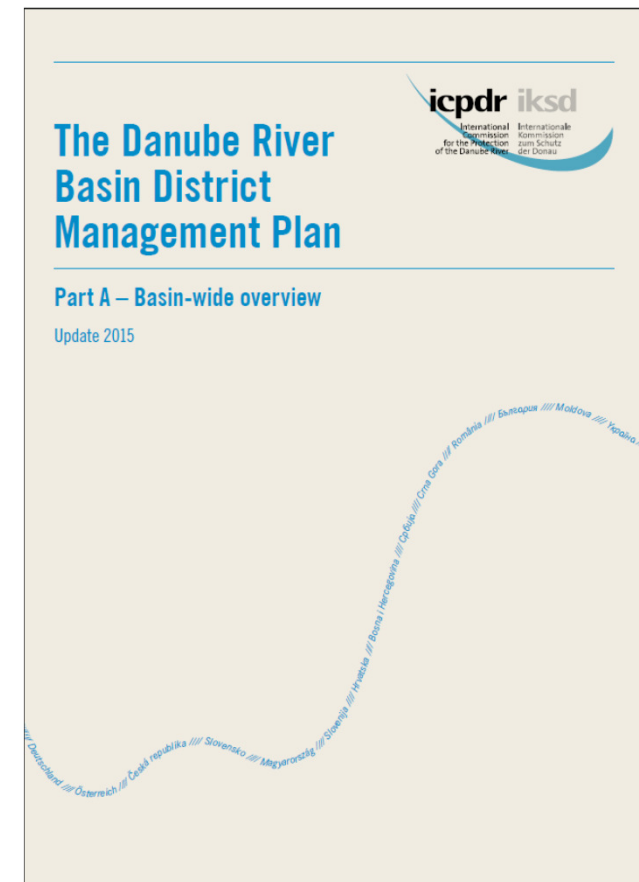
Manage floods
& ice hazards

- Implementation of the **Danube River Protection Convention** (1998)
- Coordination of the implementation of EU **Water Framework** Directive (2000) & EU **Floods** Directive (2007)

DRBM Plan – Update 2015



- Determining **priorities** for transboundary water management on the basin-wide level for the period 2015 to 2021
- **Pressures** assessment, **status** assessment, Joint Program of **Measures**
- **December 2015**: Final version adopted by Heads of Delegations
- **February 2016**: Danube Ministerial Conference for endorsement
- Specific **attention** to nutrient pollution and agriculture (Danube Declaration)

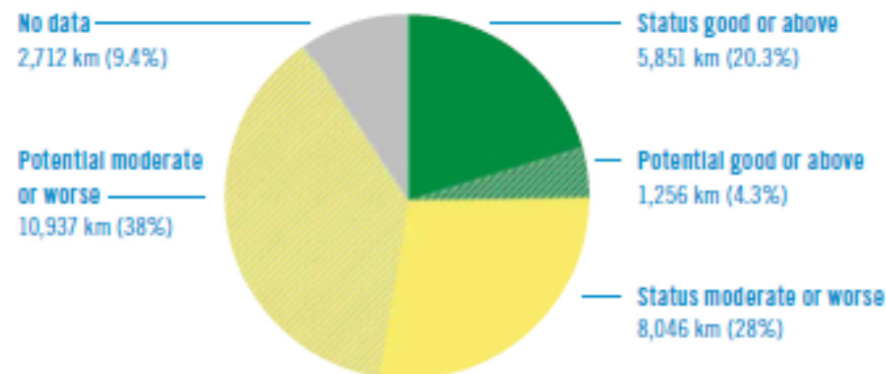


Status assessment - surface water bodies

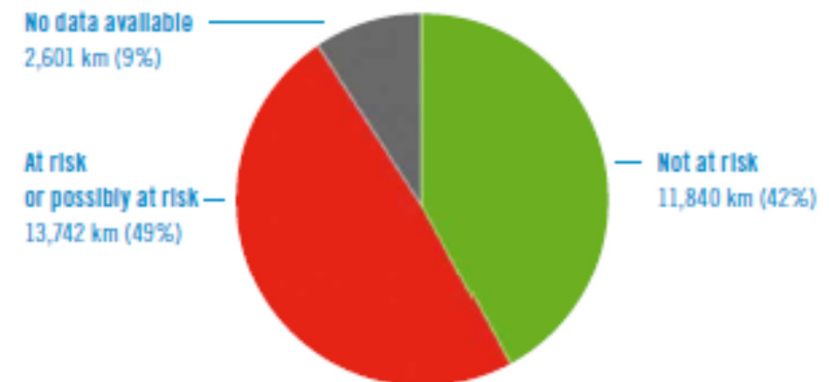
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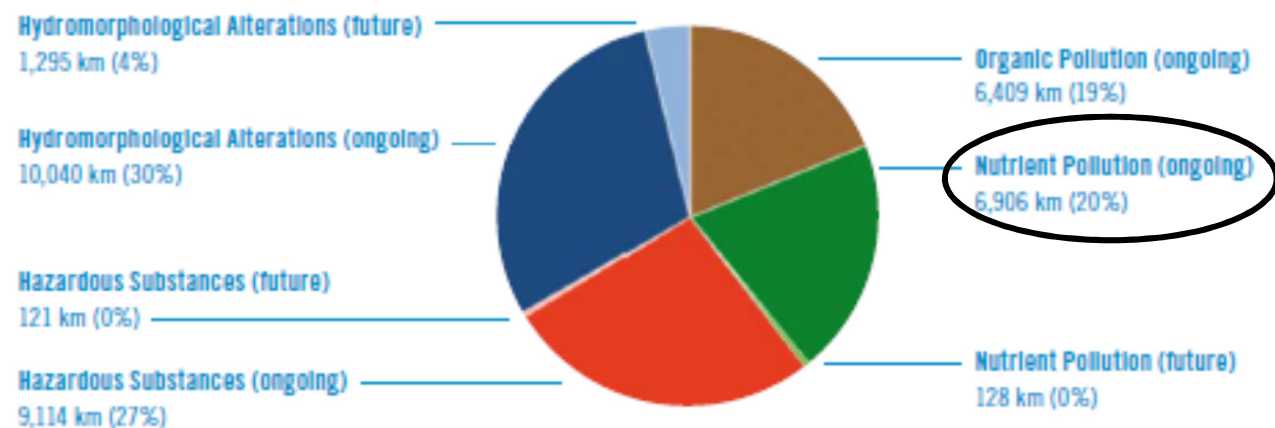
Ecological status (2015)



Risk to fail good status by 2021



Risk by pressures

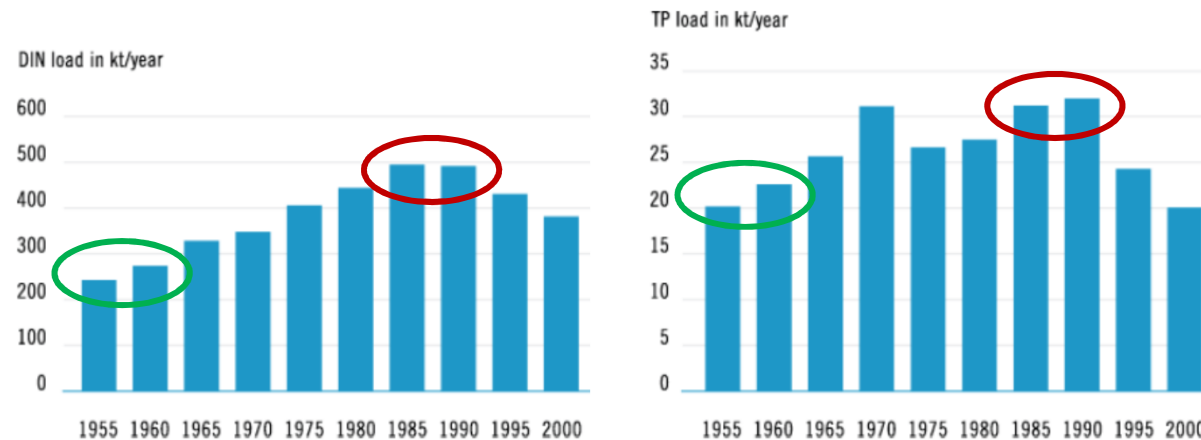


Nutrient discharges to the Black Sea

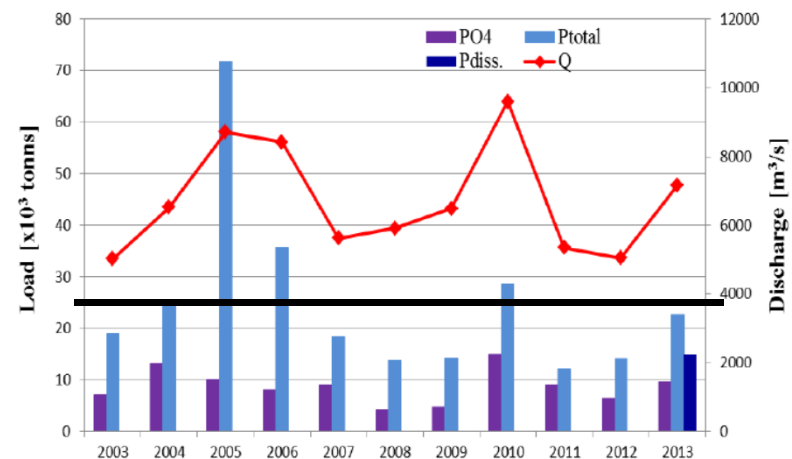
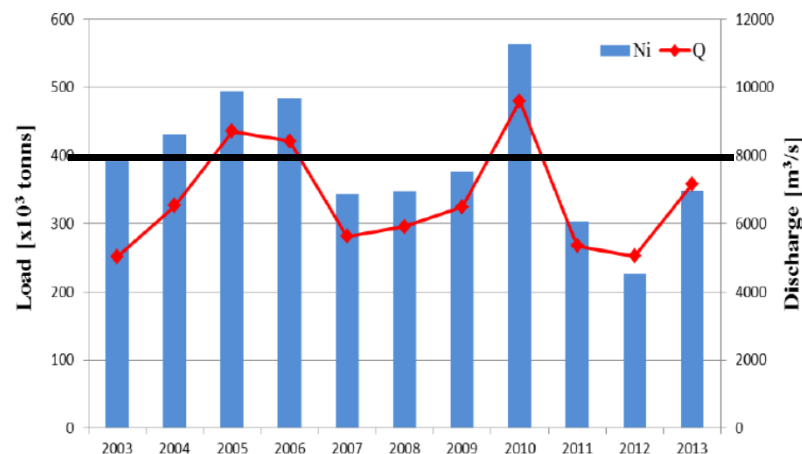
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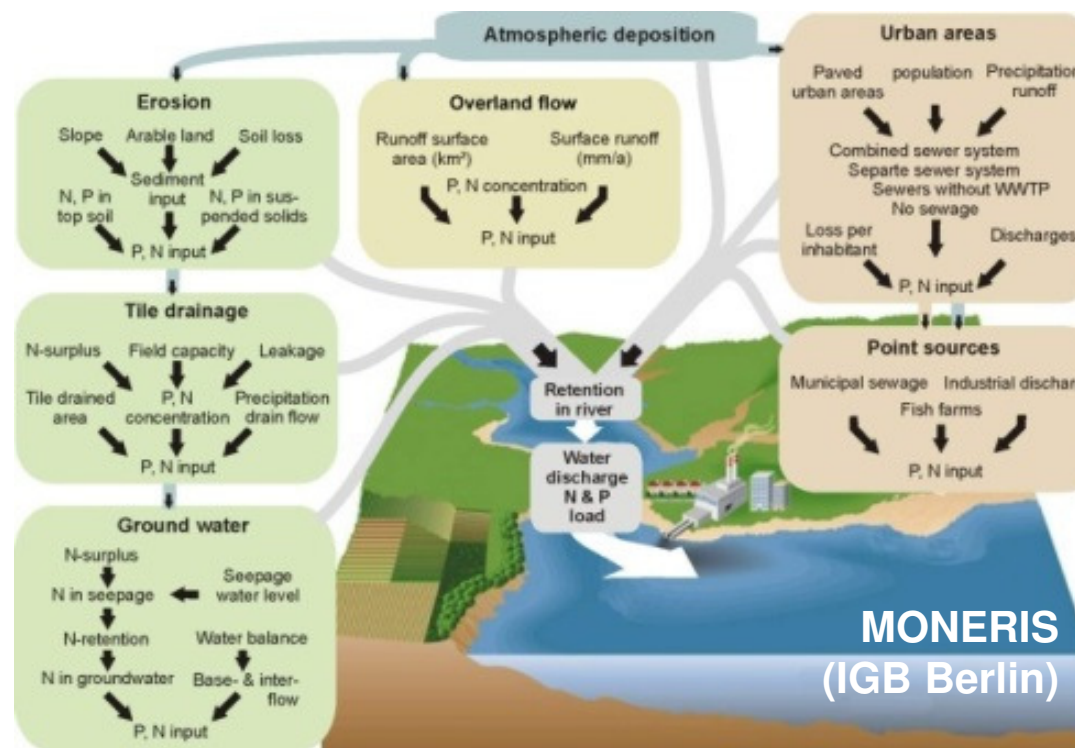
Historical (1955-2000) and current (2003-2013) river load profiles



- Target: status at the **early 60ies**
- Reduction potential: **40% (N), 20% (P)**

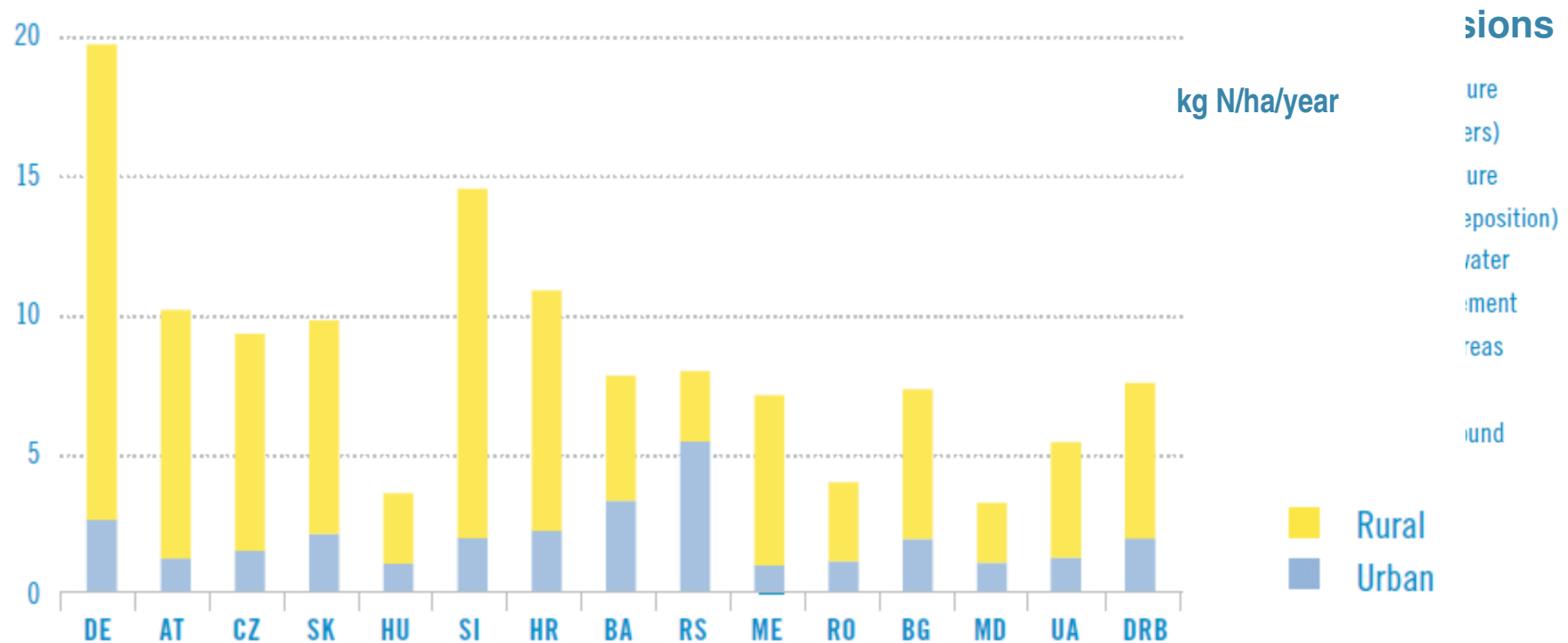


Assessment of nutrient emissions



- Application of the **MONERIS** model for the entire basin (2009-2012)
- Updated database, **liaison** with countries, international data sources
- Regional **hotspots**, pathways and **sources**, **loads** to Black Sea, management **scenarios**

Nitrogen pollution: current status and progress



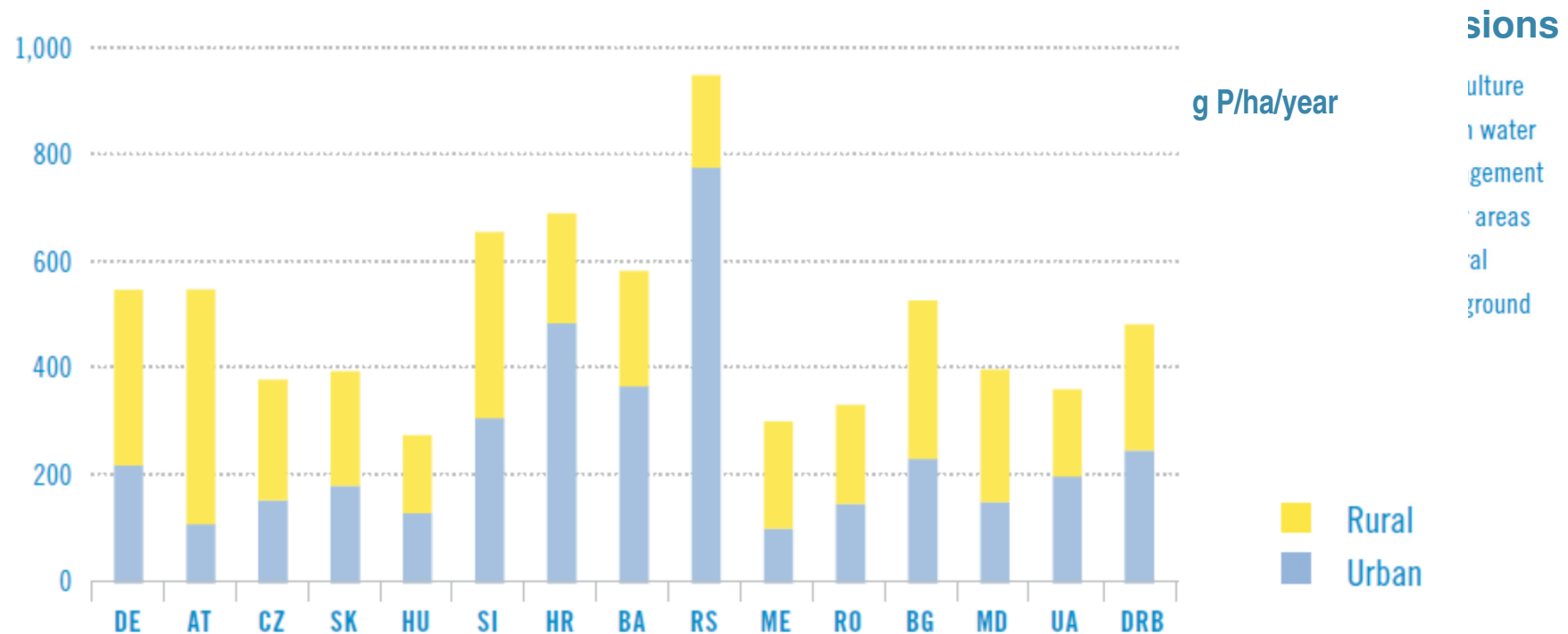
- Emissions: about **600,000 t N/a**
- Dominance of **diffuse** pathways, strong influence of **agriculture**, urban areas and natural lands
- **Slight decrease** (12%), 32% reduction for point sources, 20% for agricultural sources

Phosphorus pollution: current status and progress

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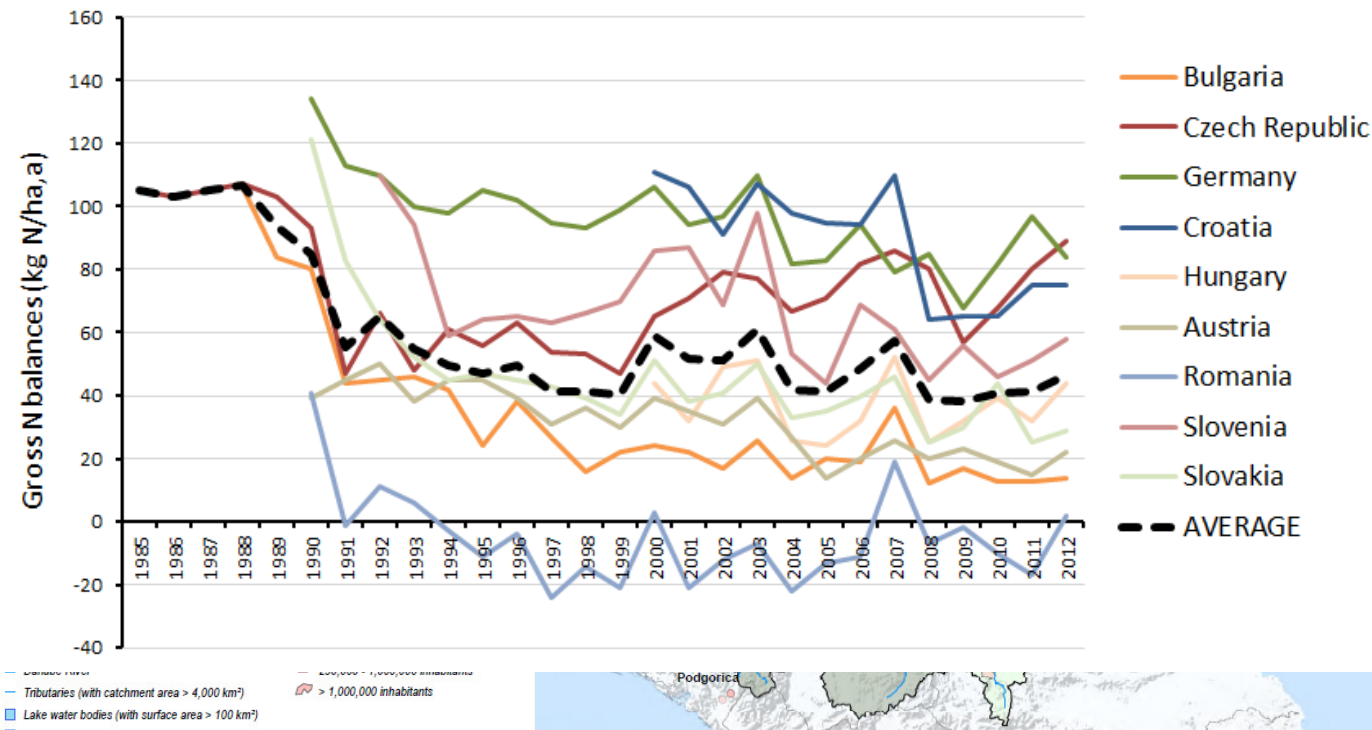
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- Emissions: about **40,000 t P/a**
- Dominance of **diffuse** pathways, strong influence of urban water management and **agriculture**
- **Remarkable decrease** (34%), 45% reduction for point sources, 10% for agricultural sources

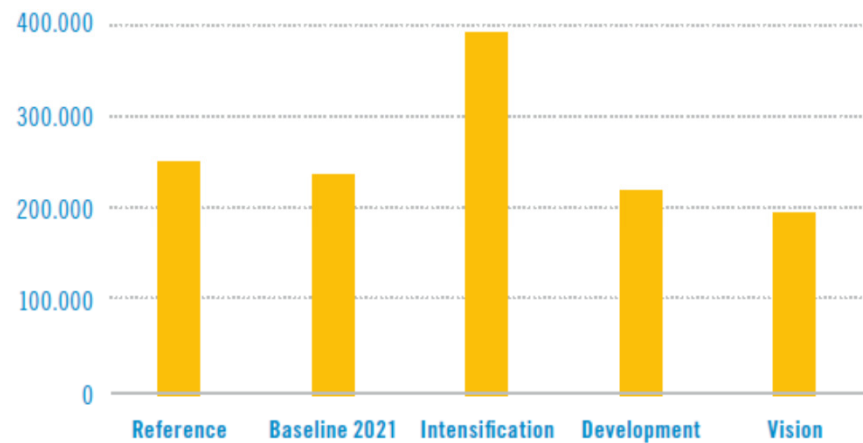
Measures and agricultural intensity



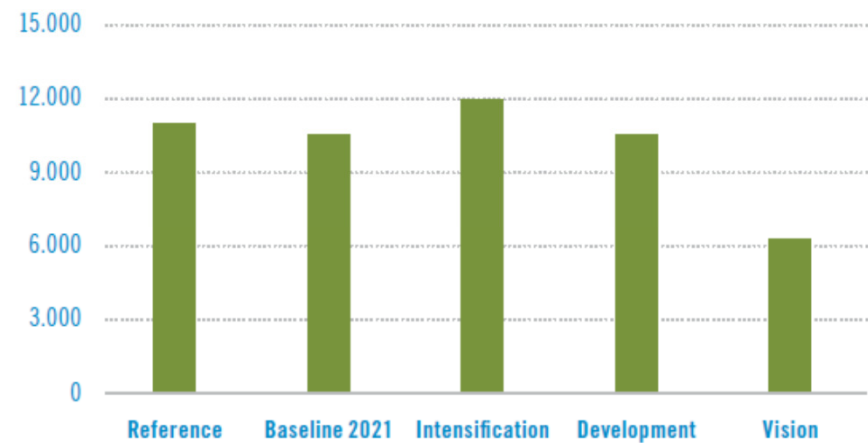
- EU subsidies from the **CAP budget**: ca. 6 billion EUR for agri-environmental measures (EAFRD, 2007-2013), direct payment and rural development programs (EAGF & EAFRD)
- **Better implementation** of agri-environmental measures to be ensured (hot-spots)

Scenario results for agriculture

TN emissions (t/a)



TP emissions (t/a)



Scenario	Change TN (%)	Change TP (%)
Reference		
Baseline 2021	-6	-4
Intensification	55	9
Development	-13	-4
Vision	-23	-43

Management objectives and ICPDR activities



- Vision: **balanced** nutrient management, **no threat** by eutrophication
- **Measures** to be implemented (Joint Program of Measures by 2021)
 - a) Implementation of the **Nitrates Directive** (EU MS)
 - b) Implementation of **agri-environmental measures** linked to the **Common Agricultural Policy** (EU MS) and **best management practices** (Non-EU MS)
- Technical assessment on current **status**, **progress** achieved & **scenarios**
- **Promoting** best agricultural practices and cost-effective measures
- **Policy recommendations** for water protection & sustainable agriculture

Conclusions

- Danube countries have made **significant efforts** to reduce nutrient pollution by implementing respective measures
- Nutrient **emissions** and river **loads** are **lower** in comparison to those of the past decades but **further efforts** are needed
- Further actions are required in the next management cycle in terms of **measures implementation** (appropriate policy instruments)
- **Diffuse** nutrient **emissions** should be particularly addressed (Nitrate action programs, agri-environmental measures)
- There is a need to **reduce knowledge gaps** (marine ecosystem and agricultural changes)



And finally...

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Thank you for your kind attention!

For more information please visit the ICPDR website

<http://www.icpdr.org>

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