
AGRICULTURE AND DIFFUSE POLLUTION



Final Seminar UNDP/GEF DRP
21-22 February 2007, Bucharest, Romania

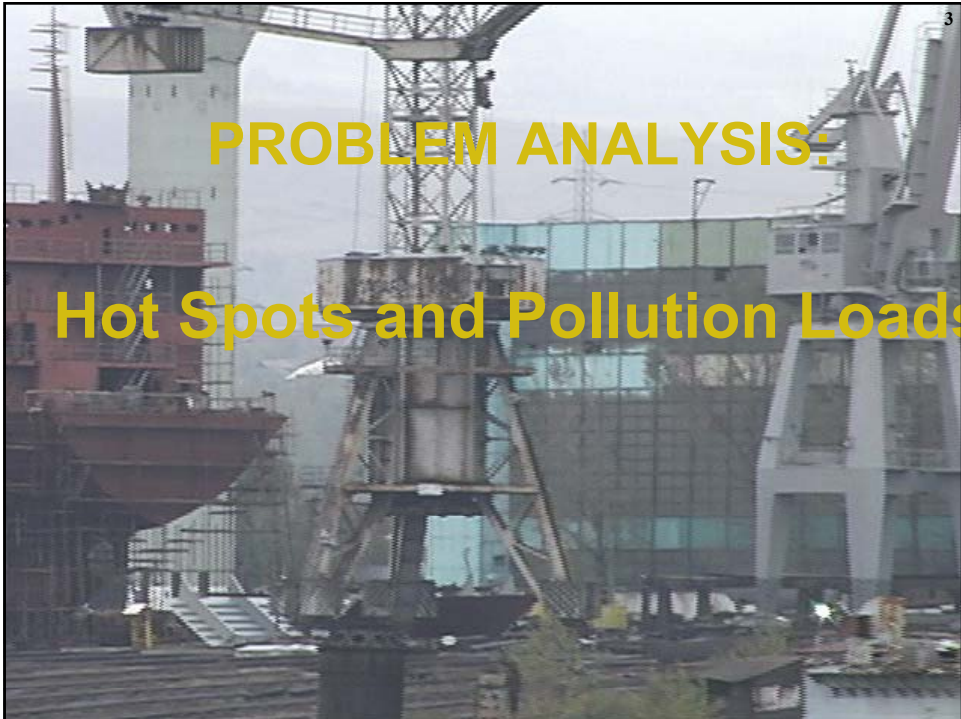
Dr. Mihaela Popovici
Technical Expert Water Management, ICPDR

Structure of Presentation



- The DRB Hot Spots Analysis
- ICPDR Joint Action Program
- Results of the Danube Analysis
- MONERIS

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Key Problems Identified in the SAP, TDA and DPRP



CORE PROBLEM:

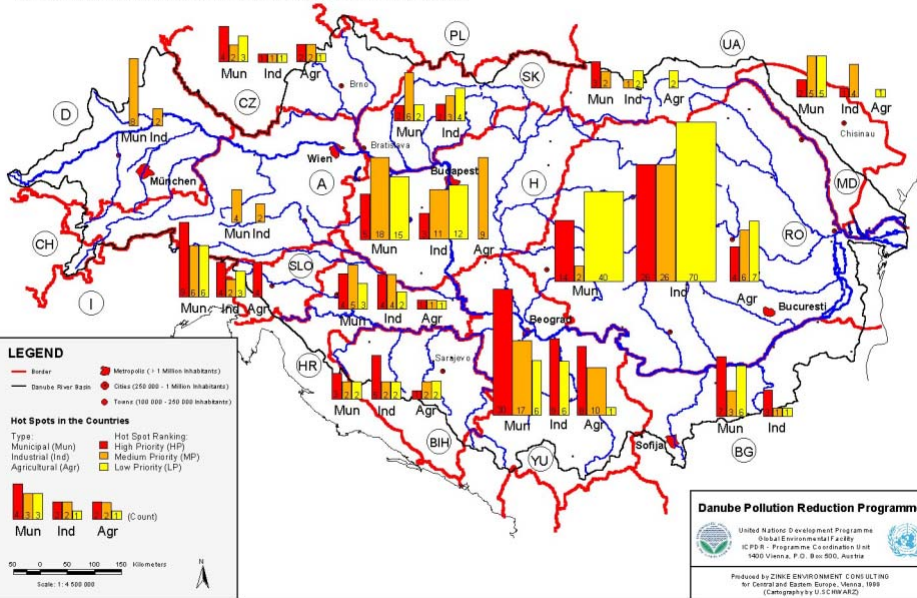
"Ecologically Unsustainable Development and Inadequate Water Resources Management in the Danube River Basin"

DIRECT CAUSES:

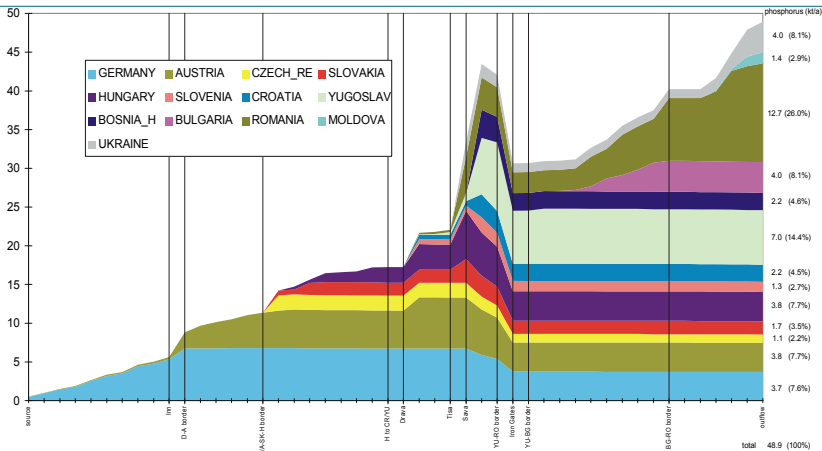
- Municipalities: Inadequate management of wastewater
- Industry: Ecologically unsustainable industrial and mining activities
- Agriculture: Inadequate land management and improper agricultural practices
- Wetlands and floodplains: loss of wetlands and floodplains

Map 8: Hot Spots in the Danube Basin Countries

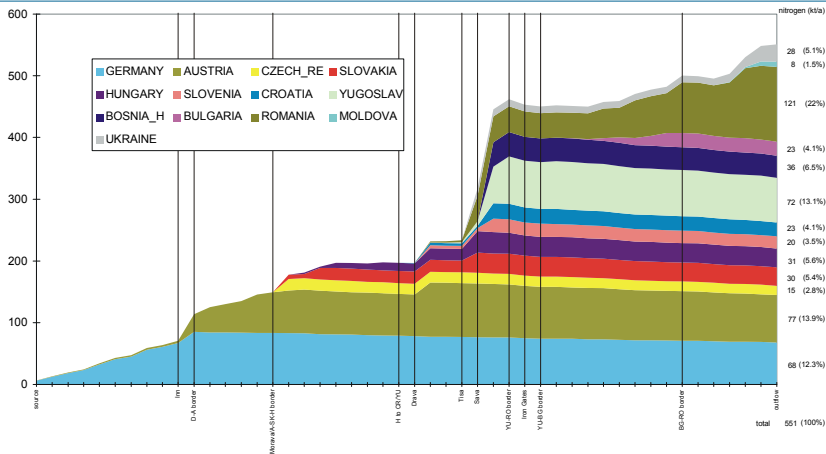
Based on National Planning Workshop Reports 1998, Updates March 1999



Annual Phosphorus Load in the Danube (in kt/y), subdivided over the countries of origin



Annual Nitrogen Load in the Danube (in kt/y), subdivided over the countries of origin



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JOINT ACTION PROGRAMME

for the Danube River Basin
January 2001 - December 2005

icpdr



JOINT ACTION PROGRAMME

ICPDR Policy for Pollution Abatement

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INVESTMENTS AND EXPECTED RESULTS OF THE JAP



Investments:

» Municipal wastewater collection & treatment:	3.709 billion USD
» Industrial waste water treatment:	0.276 billion USD
» Agricultural projects and land use:	0.113 billion USD
» Rehabilitation of wetlands:	0.323 billion USD

Nitrogen reduction:

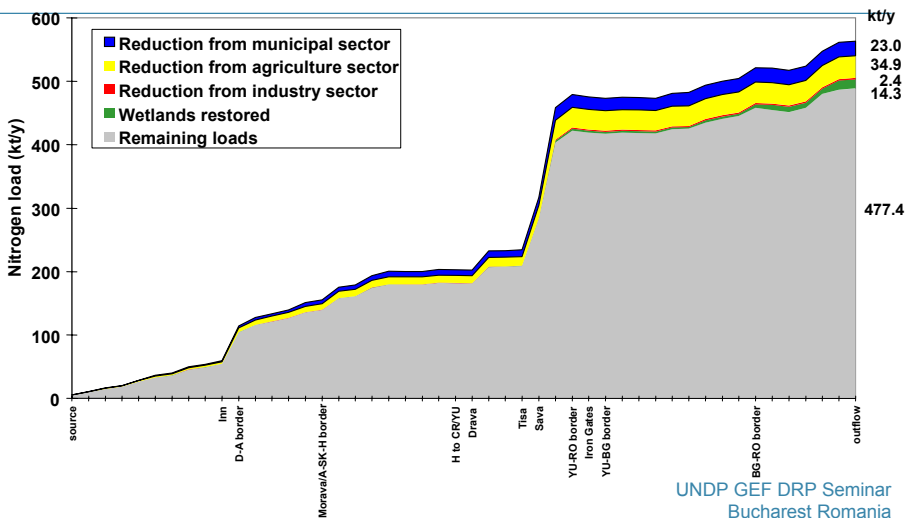
» from point sources :	58,600 t/y
» from diffuse sources :	60,000 t/y
» total emission reduction :	22 %

Phosphorus reduction:

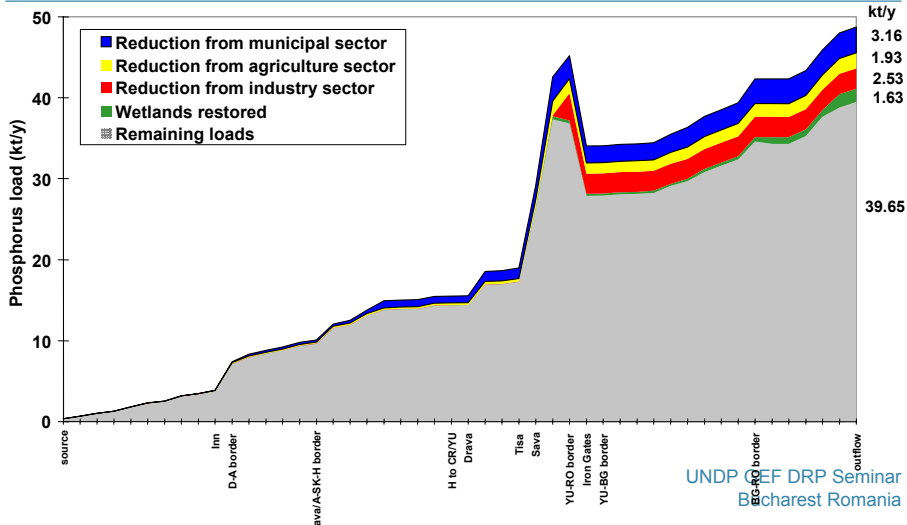
» from point sources :	12,000 t/y
» from diffuse sources :	4,000 t/y
» total emission reduction :	33 %

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Reduction of in-stream Nitrogen load for Danube River through implementation of the JAP

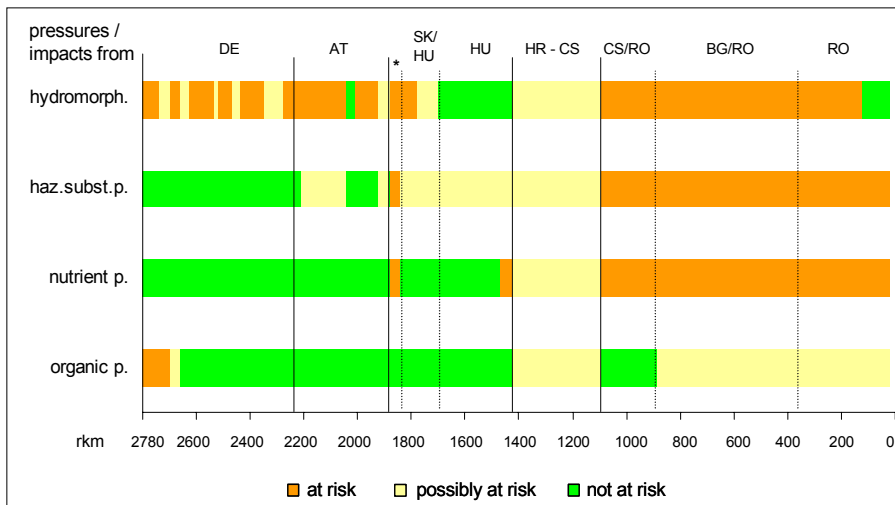


Reduction of in-stream Phosphorus load for Danube through implementation of the JAP



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DRB ANALYSIS – Risk of Failure



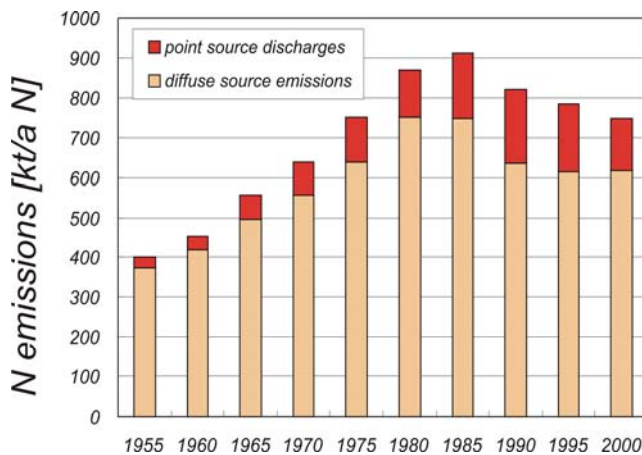
Intensive agricultural practices....

....have provoked high concentrations of nutrients



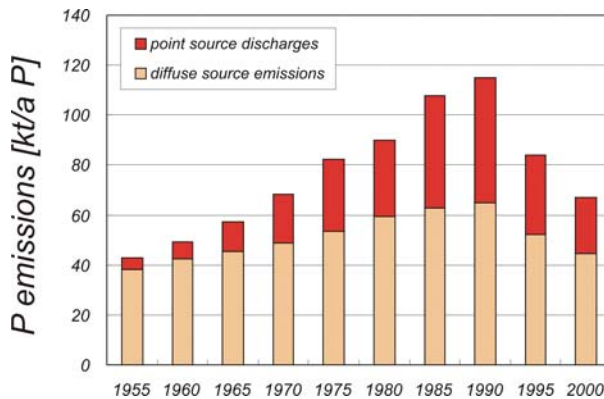
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Temporal changes of N emissions into the total Danube river system MONERIS (1955 to 2000)

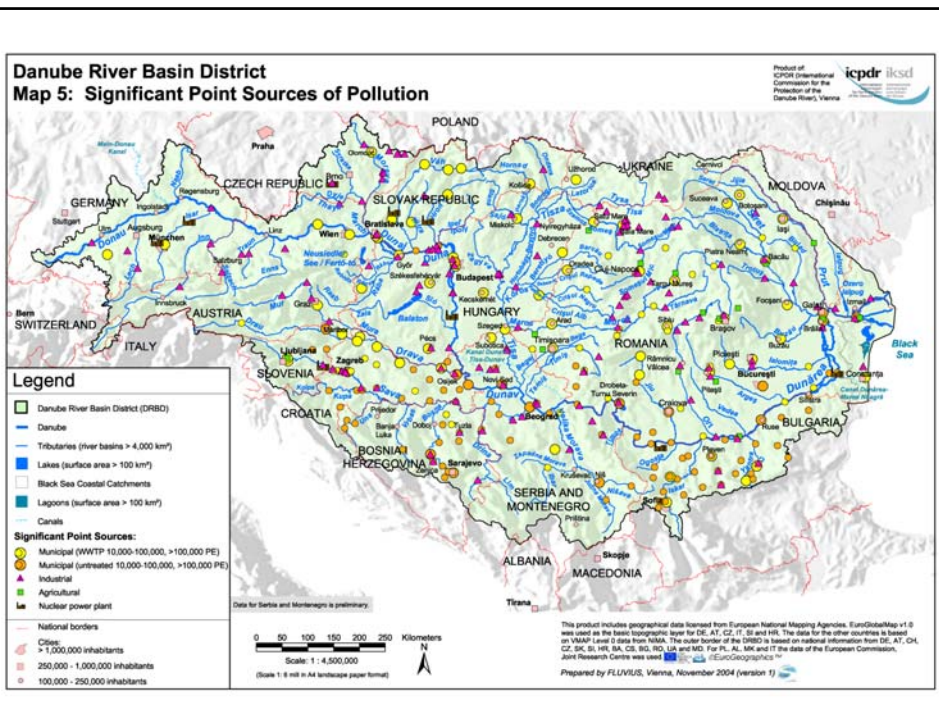


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Temporal changes of P emissions into the total Danube river system MONERIS (1955 to 2000)



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Thank you!



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