AGRICULTURE AND DIFFUSE POLLUTION

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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
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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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 %

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

DRB ANALYSIS – Risk of Failure
Intensive agricultural practices....

....have provoked high concentrations of nutrients

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

Danube River Basin District
Map 5: Significant Point Sources of Pollution

Legend

- Mark Ne Coasts Catchments
- Segments (water area > 1 km²)
- Ores
- Significant Point Sources
  - Municipal (IMP): 10,000-100,000 PTE
  - Industrial: 100,000-1,000,000 PTE
  - Agricultural
  - Nuclear power plant

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Thank you!