

Issues for integration in the Tisza River Basin

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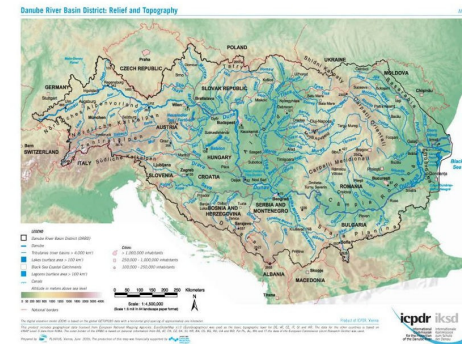
Ministry of Environment, Water and Forest, Romania

ECRAN Taiex Workshop, Podgorica, 10-12 March 2015

MAP 1



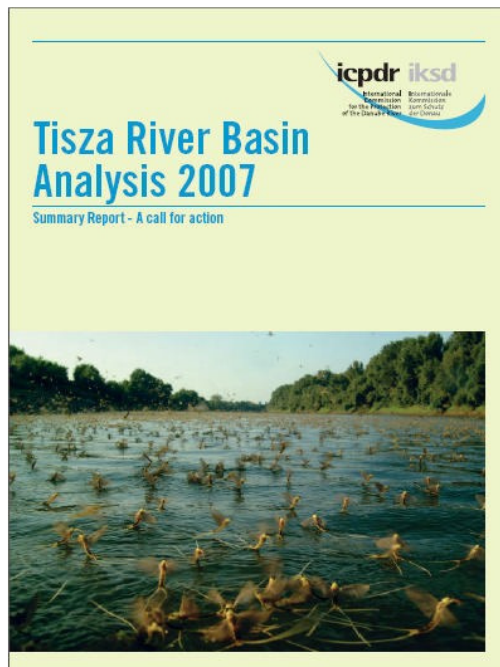
The ICPDR & the Tisza



- 2004 : ICPDR meeting: Tisza Memorandum of Understanding
- Towards a River Basin Management Plan for the Tisza river supporting sustainable development of the region
- Tisza Expert Group was established
- Plan in addition to Danube RBMP

First step: Tisza Analysis Report

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Tisza region faces serious threats from pollution, structural changes as well as from floods and droughts

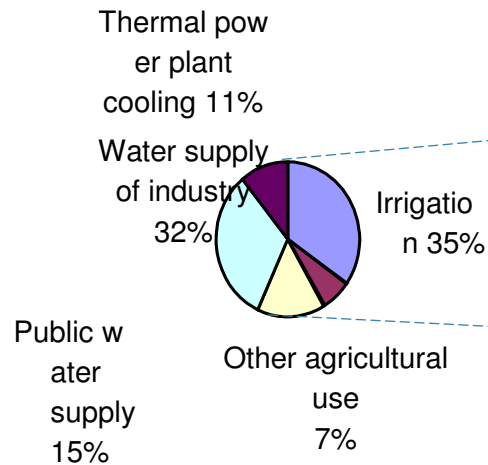
current water reserves are in future insufficient, problematic because of increasing demands for agricultural irrigation, together with a fluctuating climate

integration of water quality and quantity in land and water planning is an essential issue

First step: Tisza Analysis Report

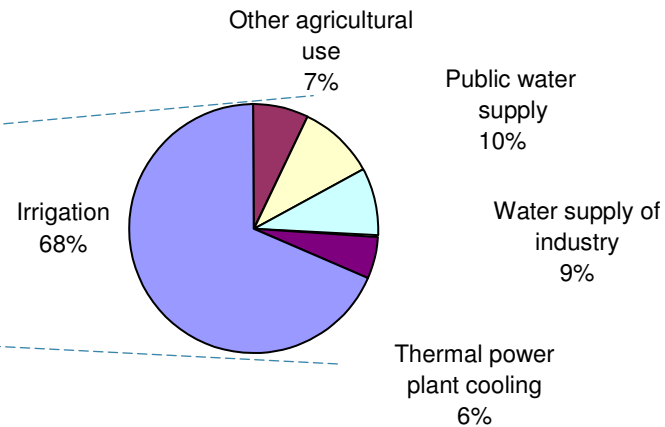
Estimation of consumptive use (present)

Total consumptive use: $720 \cdot 10^6 \text{ m}^3$



Estimation of consumptive use (scenario - 2015)

Total consumptive use: $1390 \cdot 10^6 \text{ m}^3$



Agriculture – irrigation has the highest demand for water, which will significantly increase by 2015

ITRBM Plan - Objectives

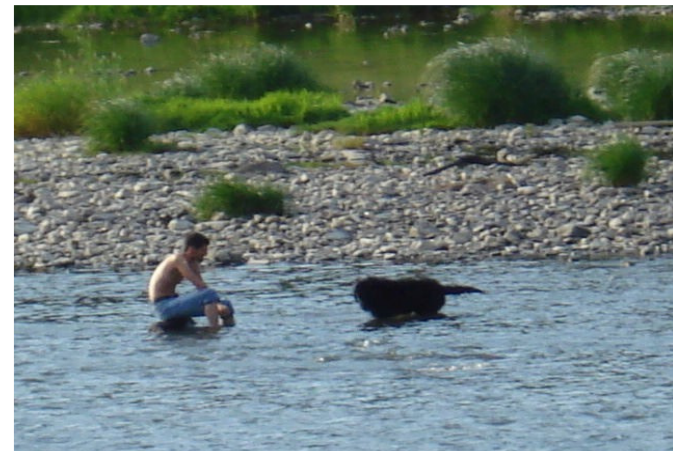
The Integrated Tisza River Basin Management Plan objectives are twofold:

- Discuss and manage water quality related significant water management issues in line with the approach for the Danube River Basin District;
- Discuss and manage water quantity related management issues (floods and excess water, drought and water scarcity, climate change) in an integrated way by focusing on measures that are contributing to reaching good water status by 2015.

Scale ITRBM Plan

More detailed scale than the Danube RBMP:

- Tisza River and its tributaries with a catchment size of $>1,000 \text{ km}^2$;
- Natural lakes $>10 \text{ km}^2$; main canals;
- Groundwater bodies $>1,000 \text{ km}^2$ and as of basin wide importance



Integration - Key water quantity issues

Key water quantity management relevant for integrated water management are divided in the following three categories:

- A) Floods and Excess water
- B) Droughts and Water scarcity
- C) Climate change

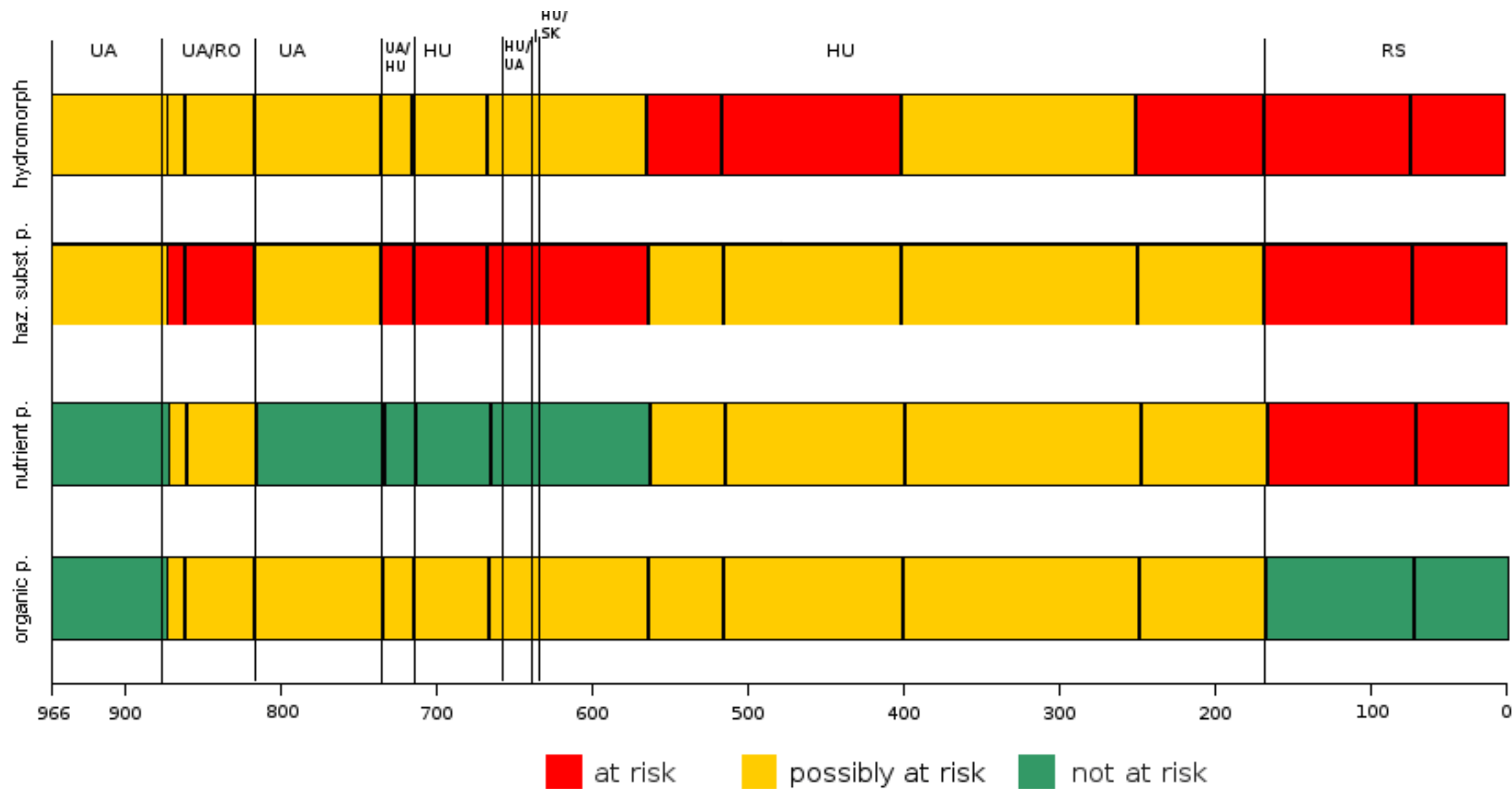


Integration - Key water quantity pressures

- The following priority pressures are identified:
- Groundwater depletion
- Increased irrigation
- Hydromorphological pressures from flood protection measures
- Accidental pollution due to flooding
- Loss of wetlands
- Impacts on climate change on low water flow
- Solid waste

Significant Water Management Issues in the Tisza River Basin

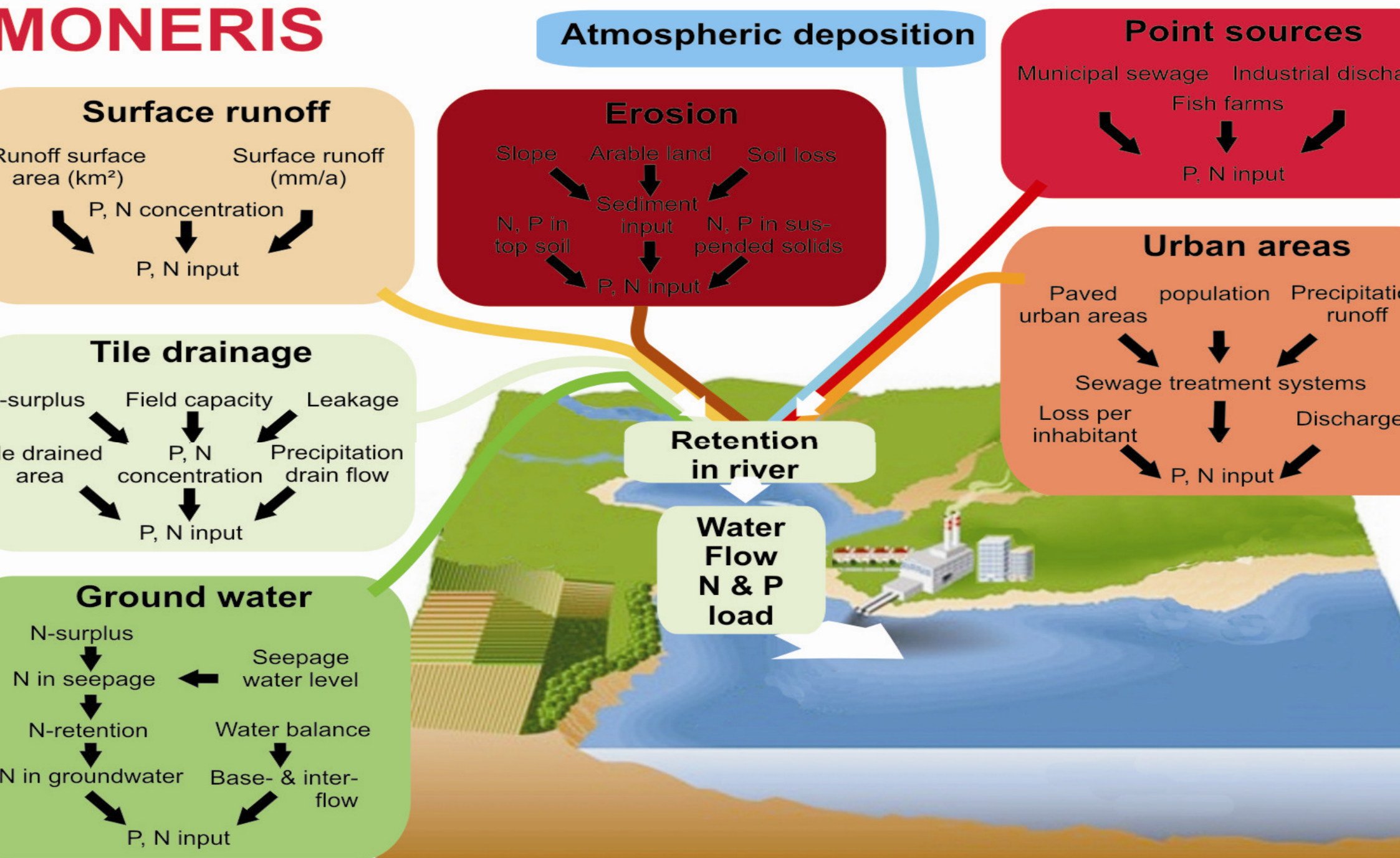
- **Pollution by organic substances**
- **Pollution by nutrients**
- **Pollution by hazardous substances (special attention to mining and related pollution)**
- **Hydromorphological alterations**



Identified gaps and uncertainties in the Tisza River Basin

- Lack of or insufficient monitoring data;
- Missing intercalibration of biological methods for individual quality elements;
- Impossibility of statistical correlations between BQEs and physical and chemical support elements because of monitoring data collected at different times;
- Missing data on hydromorphological elements and
- Lack of WFD-compliant methodologies for certain BQEs.

MONERIS





This ICPRD product is based on national information provided by the Tisza countries to the ICPRD (HU, RO, RS, SK, UA), except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of HU, RO, SK and UA; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer.

MAP 4



Tisza River Sub - Basin: Quantitative Status - Groundwater

MAP 15



In case of Hungary and Romania the dashed lines indicates overlap of shallow and deeper groundwater bodies.

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Tisza River Sub - Basin: Future Infrastructure Projects Planned by 2015

MAP 8



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Vision for integration of water quality and quantity management in the Tisza River Basin (1)

- Hydrological alterations are managed in a way to minimize impacts on ecosystem development and distribution.
- Land is managed in such a way that the negative impacts as a consequence of floods and droughts on good water status (e.g. pollution from contaminated sites or agricultural impacts) are minimized.
- Floodplains/wetlands in the entire Tisza River Basin are reconnected and restored. The integrated function of these riverine systems ensures the development of self-sustaining aquatic populations, flood protection and reduction of pollution in the Tisza River Basin.
- Future infrastructure projects are conducted transparently using BEP and BAT in the entire Tisza River
- Basin. Impacts on or deterioration of the good status and negative transboundary effects are fully prevented, mitigated or compensated.

Vision for integration of water quality and quantity management in the Tisza River Basin (2)

- Water scarcity is managed in such a way, that water resources are used efficiently, that resource availability, demand and supply is balanced and that water-related ecosystems are not influenced in their natural development and distribution.
- Flood management follows the entire cycle of risk assessment (prevention, protection, mitigation and restoration) and performed in an integrated way to ensure both flood protection and the good status of water bodies.
- The negative effects of the natural phenomena (floods, flash floods, drought, soil erosion) on life, property and human activities as well as on water quality are reduced or mitigated.
- Climate change and its hydrological impacts (droughts, floods and flash floods) are fully addressed in decision-making to ensure the sustainability of ecosystems.

Management Objectives for an Integrated Approach in the Tisza River Basin (1)

- Ensure that all adverse effects linked to any additional water supply/water quantity infrastructure (like dams or reservoirs) are fully taken into account in the environmental assessments for such infrastructure.
- Protect, conserve and restore wetlands/floodplains to ensure biodiversity, pollution reduction in relation to the achieving of good status in the connected river and flood protection.
- Progress towards a harmonised implementation of the WFD and the Floods Directive.
- Design land-use development measures (e.g. agriculture, future irrigation projects) and overall flood management measures in such a way that they contribute to reaching good ecological status and good ecological potential.

Management Objectives for an Integrated Approach in the Tisza River Basin (2)

- Put in place water tariffs based on a consistent economic assessment of water uses and water value, with adequate incentives to use water resources efficiently and an adequate contribution of the different water uses to the recovery of the costs of water services, in compliance with WFD requirements.
- Set up appropriate coordinated measures to restore sustainable balance between water resource availability, water demands and supply.
- Set up appropriate coordinated measures to ensure good groundwater quantity.
- Identify climate change impacts at the Tisza Basin-wide scale and assess whether and how these impacts affect the Tisza Programme of Measures and vice versa (e.g. are certain measures effective or can certain measures be considered as no-regret measures in relation to climate change adaptation).

Thank you for your attention !