Interreg Danube Region

Co-funded by the European Union

Tethys

Joint development of a **transnational strategy** to tackle complex new challenges and targets of HS water pollution in the Danube River Basin

Key recommendations

Tethys Final Conference
02.06.2026, Vienna/Austria

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Objectives & Vision

AIM

- Development of a **transnational strategy** to tackle HS water pollution in the DRB by a targeted, **modelling-based approach**

HOW?

- Synthetizing **various activities** of the project, co-creation by several partners
- Indicating **needs and gaps**, setting specific **priorities** and defining coordinated **actions**
- Covering **relevant aspects** such as monitoring, data management & modelling
- Discussing key elements of the strategy with **stakeholders** at an international workshop

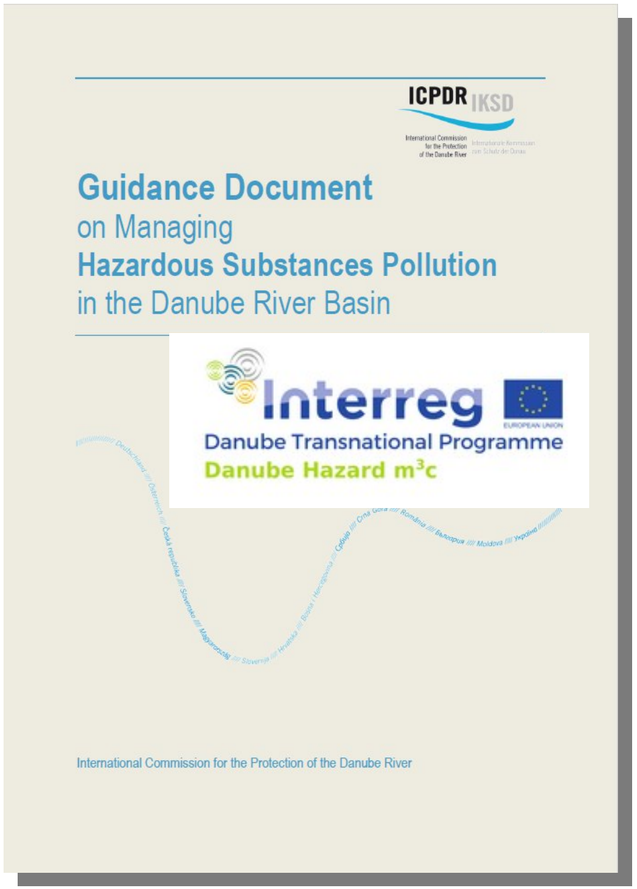
RESULTS

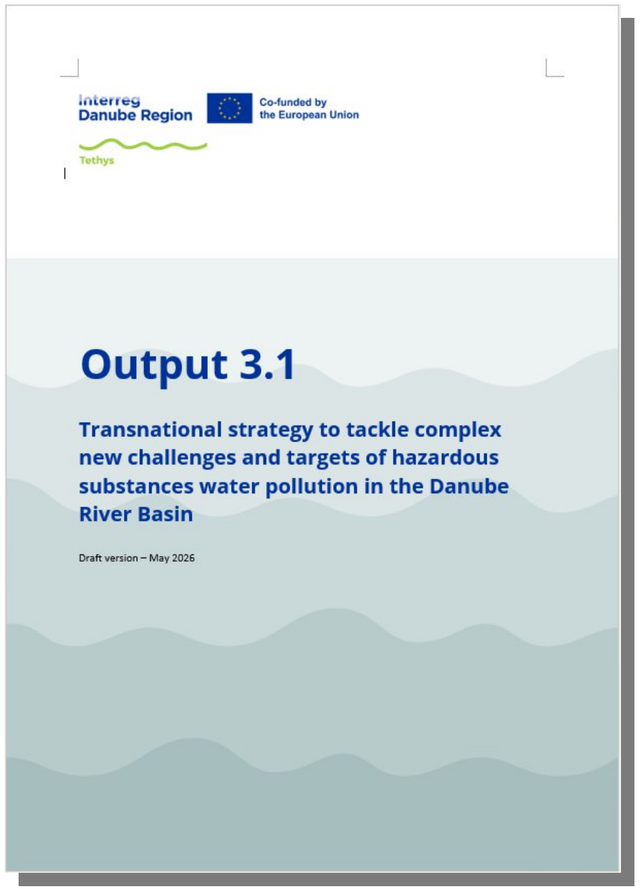
- Coordinated strategy to be integrated into the **4th DRBMP** and **adopted by the ICPDR**
- **Recommendations** to the Danube countries & ICPDR to be implemented

Partner(s) involved

LP1 TU Wien | PP2 BME | PP3 ICPDR | PP4 BWA | PP5 NARW | PP6 WRI | PP7 JSI | PP8 CETI | PP9 UHMI | PP10 HV | PP11 JUVS | PP12 UBA | PP13 JCWI

From a Guidance to a Strategy





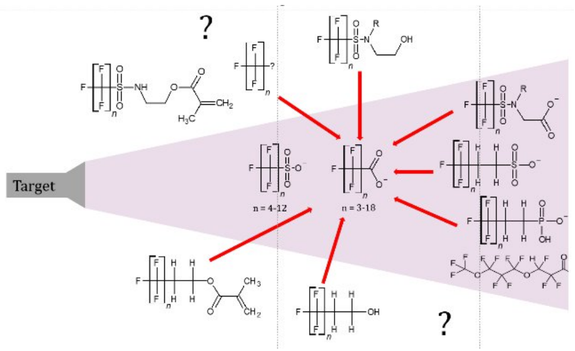
- Policy changes & external drivers
- Knowledge & management gaps
- Monitoring activities
- Data management
- Emission models
- Key recommendations
- Outlook to implementation

Defining Needs and Challenges

- **Huge challenges** in relation to revised EU water acquis
- Recognized environmental importance of the revised **EU Directives**
- Considerable differences among countries in:
  - **funding schemes**
  - **infrastructure quality**
  - **monitoring systems**
  - **analytical capacities**
  - **technical expertise**
  - and **institutional coordination**
- **Partial preparedness** for effective implementation

Identifying knowledge and management gaps

Improving monitoring



Multi-compartment monitoring for input data

Ensure **coupled planning** of monitoring & modelling

Exploit synergies with other **national surveys**

Exploit synergies with **transnational surveys**

River monitoring for model calibration and validation

Expand the **scope of contaminants**

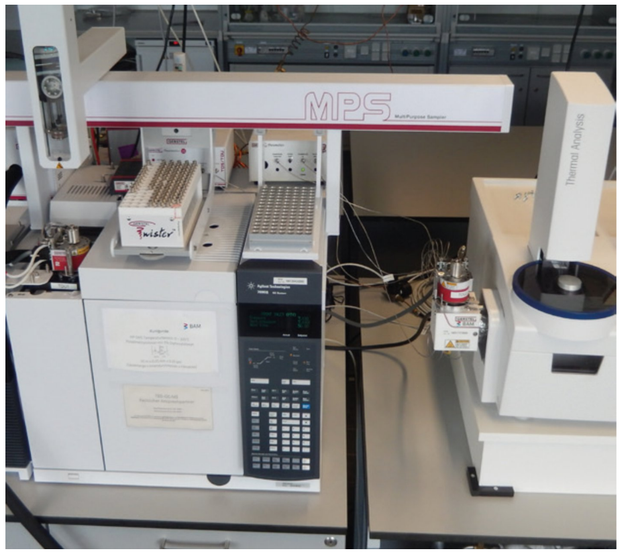
Include **additional sites** from national monitoring

Adjust **sampling frequency** at key sites

Short list of key contaminants subject to long-term, regular monitoring

Elaborate and regularly update a **list of relevant trace contaminants** to be prioritised in future multi-compartment & river monitoring and emission modelling

Improving analytical methods



Enhance **information sharing at national level** regarding analytical needs, legal requirements and novel technologies

Establish an **expert platform** focused on developing analytical methods for monitoring

Intensify **capacity development** in analytical methods (EU JRC, WFD Monitoring Facility NORMAN network)

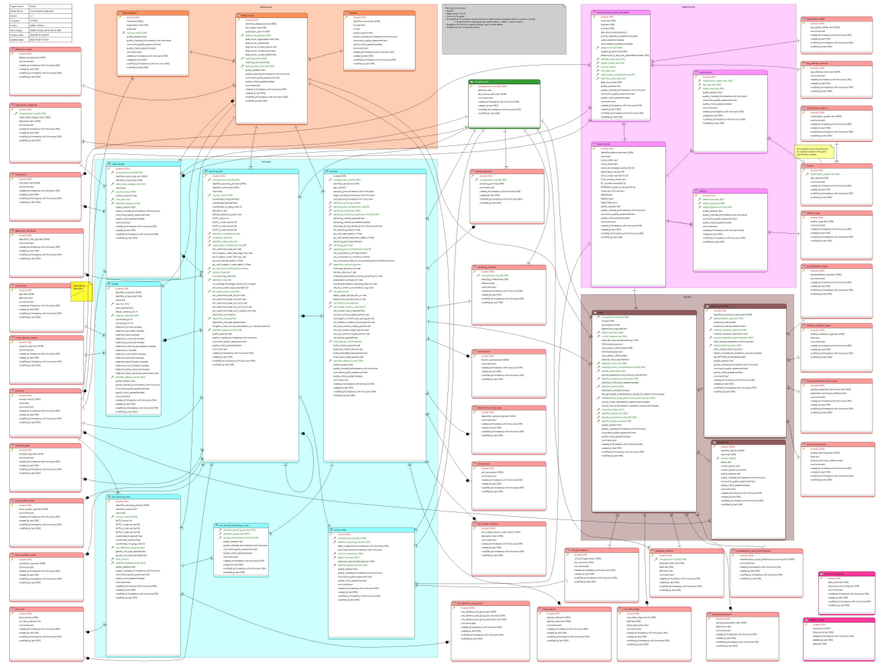
Improving data accessibility

- **Establishment of sound procedures and rules for data acquisition and data use/re-use, following the Reuse principle (of FAIR principles)**
  - *The level of data aggregation that is publicly accessible (e.g, monthly, annual levels).*
  - *Procedures for data acquisition (e.g. upon request or free access; fee).*
  - *The type of license for data use and/or reuse – it is recommendable to use standard licences*
- **Establishment of appropriate digital environment for data acquisition**
  - *Establishment of user-friendly formats for data visualization (e.g. using GIS) and data downloads*
  - *Digital communication possibilities with existing ICPDR systems (TNMN and DanubeGIS)*

Make efforts on **improving the public access to data** necessary for HS modelling, their use and re-use with ensured quality, usable formats and clear use licenses

Developing HS a concentration database

- Providing quality-checked data and rich metadata for **model parametrisation, validation** & trend analyses
- Supporting future Danube-wide applications of the **MoRE emission model**
- Offering a harmonized transnational data source for **science, policy support and public information**
- Dedicated Tool (**PET**) for data **evaluation**, **processing**, and **visualisation**



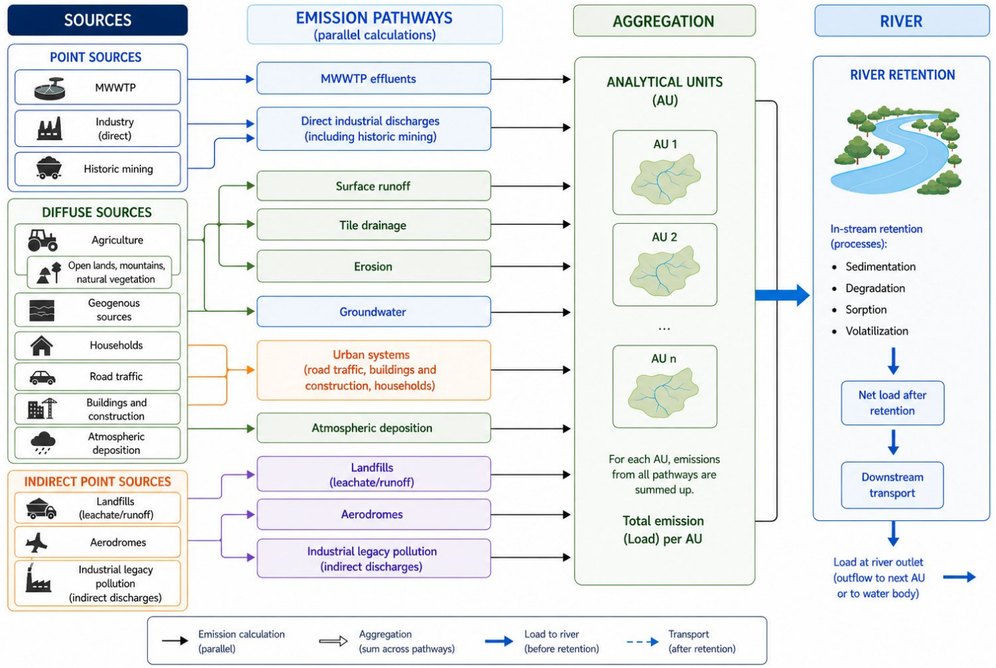
HS concentration database

Adopt and operationalize the transnational HS concentration database for water management purposes

Consider integrating selected parameters of the transnational HS concentration database into the TNMN to ensure **broader dissemination** to stakeholders and the public

Developing a HS emission model (MoRE)

- Assessment of **sources and pathways** of emissions and their spatial distribution
- **Risk assessment** of ungauged water bodies
- **Optimizing monitoring programmes** with focus of problematic regions
- **What-if assessments** according to various management and climate change scnearios

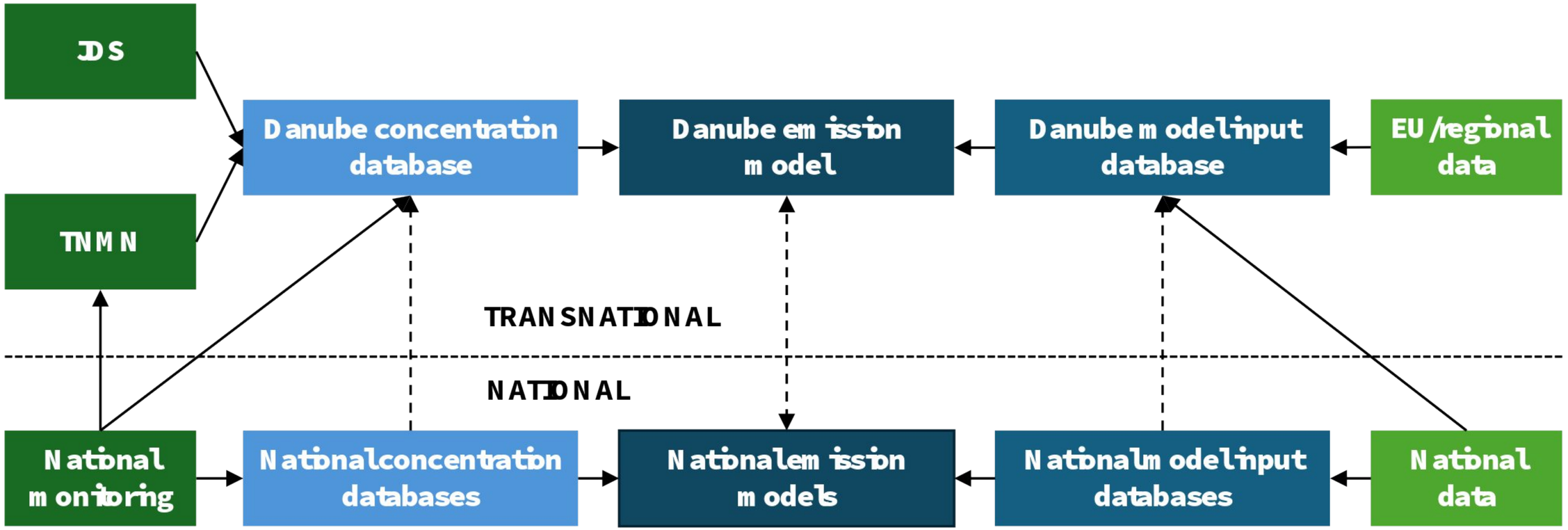


HS emission model

Adopt an operationalize the transnational HS emission model along with its input database for water management purposes, closely connected with the HS concentration database

Ensure further **development of institutional capacities** at the national administrations with regard to modelling-based approaches

Maintaining tools in good synergy



Ensuring sustainability of the tools

- Proposals on TNMN expansion and MoRE model adoption presented to **relevant ICPDR expert groups**:
  - **Full support of the PM EG** regarding the adoption of the transnational emission model
  - Conditions of the TNMN expansion to be **discussed with the MA EG** (substances, stations)
- Upon **agreement and support of the Danube countries**, practical steps towards the recommended TNMN expansion and model adoption to be discussed
- Hosting of the model and database: temporarily hosted by project partners; long-term solution: **scientific institutes of the Danube countries**, ideally closely linked to each other
- Future maintenance and update to be implemented as a **collaborative effort based on agreement** and request of the Danube countries
- ICPDR: ensuring **overall coordination** and organizational support; hosting institute(s): performing the necessary **technical work** as appropriate

Thank you for your attention!

TETHYS

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