Interreg
EUROPEAN UNION
Danube Transnational Programme
Danube Hazard m³c

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WP T1: Inventory of hazardous substances

Kick-off web conference
23.09.2020

Project co-funded by European Union funds (ERDF, IPA, ENI) and National Funds of the participating countries

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Budapest University of Technology and Economics

BME (founded in 1782) is one of the leading research universities in Hungary and it is among the most prominent technical universities of Central Europe. **Department of Sanitary and Environmental Engineering**, under the Faculty of Civil Engineering of BME, focuses among others on the environmental aspects of water.

Expertise related to the project needs

- *Nationwide implementation of the WFD, preparation of Water Management Plans for Hungary in cooperation with General Directorate of Water Management (OVF)*
- *International project experience in the field of water management*
- *Nutrient Management in the Danube Basin* daNUbs

ASP: Ágnes Tahy, Katalin Dudás

Role in the project

- overall coordination of the work in WPT1,
- coordination of the collection of data from the DRB countries (in cooperation with ICPDR),
- carrying out a measurement campaigns of hazardous substances in two pilot regions,
- support implementation and validation of pilot scale modelling, and conduct the system analysis and assessment for pilot regions they are responsible for,
- development a catalogue of measures and scenarios for the pilot regions and the Danube Basin
- organization local and transnational trainings for end-users and stakeholders.

Adrienne Clement

Máté Kardos

Zsolt Jolánkai

WP T1

Inventory of HS substances

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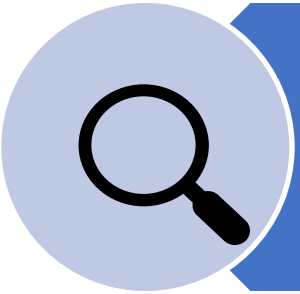
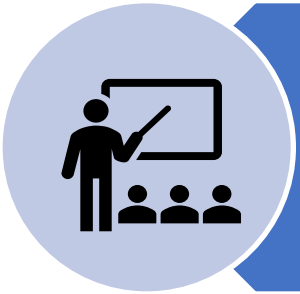
We aim to …



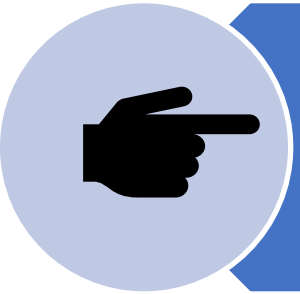
Provide a solid database on HS concentration levels in surface waters and in pathways of emissions into surface waters within the DRB

← Pre existing data collection



Demonstrate through a pilot action an innovative measurement concept in order to fill gaps which are critical for the implementation of WPs T2 and T3

← Monitoring campaign



In accordance with EU Guidance Document No. 28. on the Preparation of an Inventory of Emissions, Discharges and Losses of Priority and Priority Hazardous Substances

← Data analysis

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Data base development: pre existing data on HS concentrations

Substance specific data

European regulated (Directive 2013/39/EU) substances and Watchlist candidates;
Relevant on Danube River Basin.

Pathways - matrixes

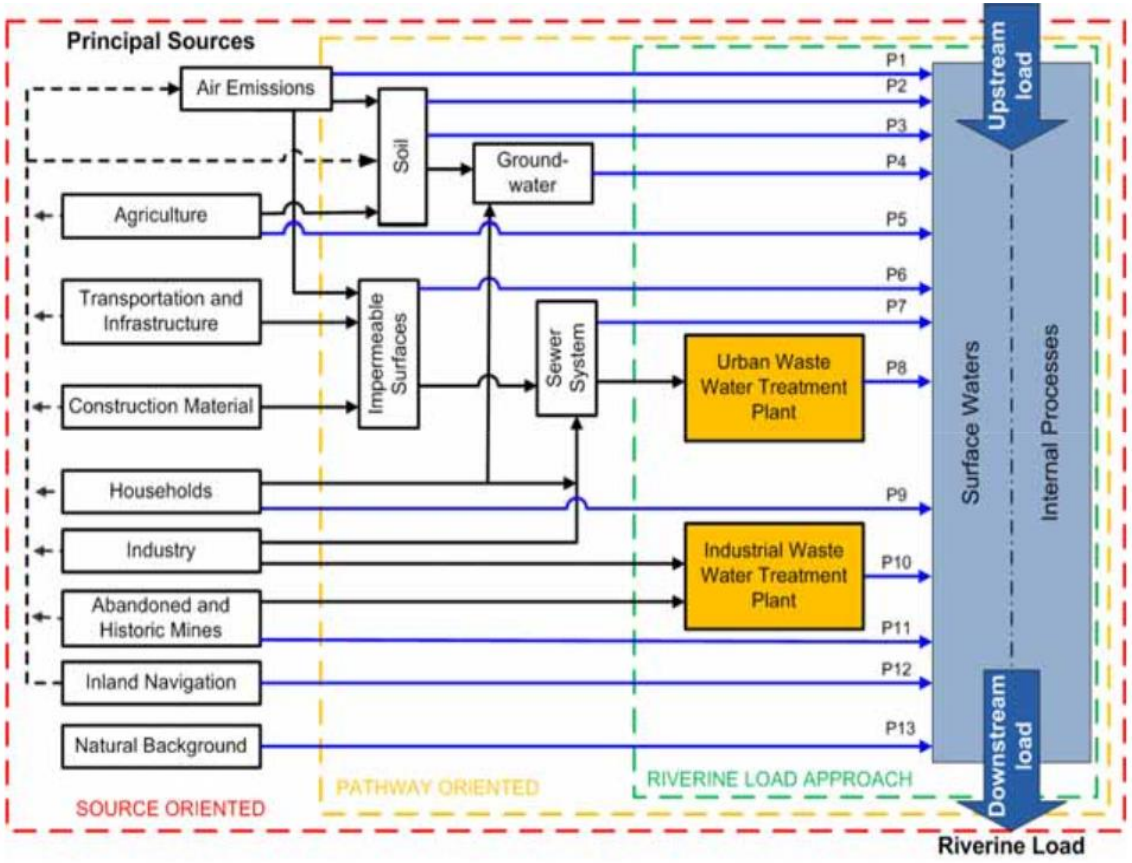
surface water and groundwater
municipal/industrial WWTP eff.
rainwater (urban runoff) and combined sewer overflows
atmospheric deposition, soil, mining sites: runoff + effluents.

Data type:

single measurements and aggregated values, metadata

Data sources:

National monitoring programs,
TNMN monitoring network of the ICPDR and JDS(1-4),
EEA (EIONET- WISE),
Data generated in EU projects.



Project partners with ASPs are responsible for data collection of their countries.

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Monitoring in pilot catchments

Measurement campaigns will be carried out in 7 pilot regions in the DRB, to cover differences and major aspects of micropollutants contamination.

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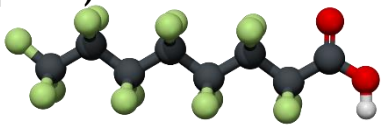
Monitoring in pilot catchments

Measurement campaigns will be carried out in 7 pilot regions in the DRB to cover differences and major aspects of micropollutants contamination.

Preselected substances:

- As, Cd, Cu, Cr, Pb, Hg, Ni, Zn (total+dissolved for riverine samples)
- Tebuconazol (fungicide)
- Metolachlor, Metolachlor -ESA, Metolachlor –OA (herbicide)
- PFOS, PFOA, Octylphenol, Bisphenol-A, Nonylphenol (industrial chemicals)
- PAH16 (total+dissolved for riverine samples)
- Diclofenac, Carbamazepine (pharmaceuticals)



Sampling procedure:

- All important pathways will be sampled;
- Composite samples will be taken and river sampling will be supported by online measurements of some indicator parameters;
- Sampling campaigns will be conducted over one year.

Measurement of concentrations:

- Each sample will be measured in the same laboratory;
- Labs of PPs: NARW, JSI, UBA and external lab (tenders).

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Project specific outputs

- Statistical analysis **to prepare an integrated inventory** of concentrations of the selected HS **in the DRB (WP T1),**
- **Provide data for models applied in WP T2** (pilot regions) **and WP T3** (DRB Transnational HS pollution assessment),
- **Provide information** (e.g. the lessons learned during the implementation) **for WP T4 (capacity building),**
- Demonstration of a **harmonized and cost-effective monitoring -** based on the identified data gaps for basin-wide modelling, future monitoring requirements will be specified.

Further utilization

- Contribution to the 1st specific project goal: *„the improved knowledge on the status quo of HS water pollution and enhanced system understanding on the relevance of different emission pathways in the DRB"*
- The inventory could be integrated within the ICPDR database,
- and will be a valuable tool for public authorities in charge of planning and implementing river basin management plans.

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Thank you very much for your attention!

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