Danube Sediment Management - Restoration of the Sediment Balance in the Danube River

2016. 10. 25.

44th RBM EG Meeting

Outline

- Brief history
- Positioning
- Preliminary action
- Partnership
- Work packages
- Budget
- Acknowledgments

Brief project history

- The issue of quality and quantity of sediments has been addressed in the **1st Danube River Basin Management Plan 2009**
  - more investigations are needed to decide on the significance of this issue
- Early recognition of the importance of the „sediment issue”: **ICPDR Sediment Issue Paper** (Lead countries: AT, HU, RO)
  - – the whole basin has to be considered, homogeneous approach and data needed;
- Upon the initiative of the ICPDR Secretariat, in 2011 a core team of Austria, Hungary and Romania was called to formulate a comprehensive project team and project proposal to be supported by the EU SEE program's fourth (last) call

EU SEE project proposal

- A consortium comprising **15 partners** was formulated;
- The project proposal was compiled of 6 work packages and the total budget for the proposal was EUR 2.7M;
- Though the proposal was solid, and its quality was rather high, finally it was not supported.

Preliminary actions (DTP 1st call)

- **Meeting in November, 2013**
  - Discussion about **lessons learnt** of previous application
- Initiated by the ICPDR Secretariat, 10th July 2014 a sediment brainstorming meeting :
  - **Decision** was made to make a **new project proposal**, based on the lessons learned from the fate of the previous proposal
  - ICPDR asked **Hungary** to lead the new project proposal preparation (and the project consortium as well); same core team (HU, AT, RO)

Preliminary actions (DTP 1st call)

- 17th OM, Vienna (critics → speed up preparation)
- Project Preparatory Workshop (7-8th April 2015, Budapest)
- 13th StWG, Zagreb
- 23-24th Sep 2015 Kick-off Meeting of the DTP, Budapest
- 23rd Sep 2015 Launch of the 1st Call (EoI form made available)
- WP Leaders Meeting (19th October 2015, Budapest)
  - Advice of a professional proposal writer
  - Discussion on Project Partnership (new ASPs)
  - Discussion of the WPs
  - Discussion of the budget
  - Discussion on the Quality Control
- **EoI submitted on 2nd Nov 2015**

Preliminary actions (DTP 1st call)

- 29th March 2016 Letter of Invitation
- 29th March 2016 Opening of the Call
- 7th April → Consultation at the JS
- 11th April → Lead Applicants Seminar
- 14th April → Project Partner Meeting

- **9th May 2016 Deadline**

Positioning

- **Programme priority**:
  - PA2. Environment and culture responsible Danube Region
- **Programme Specific Objective**:
  - SO2.1 Strengthen transnational water management and flood risk prevention
- **The main objective** of the project is to improve the transnational water and sediment management as well as the morphological conditions of the Danube River

Project partnership

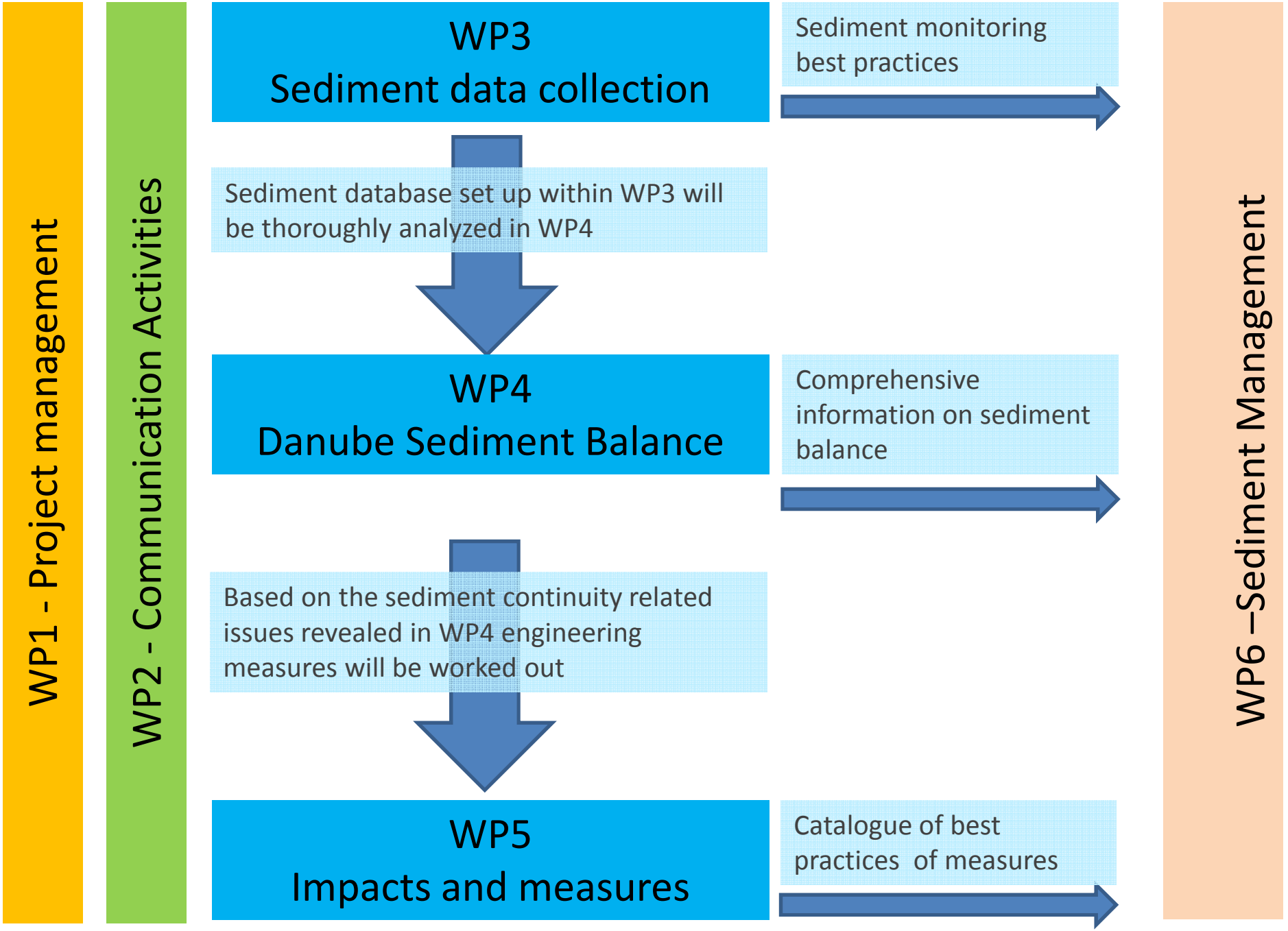
Project partners

Country	Project Partner	Acronym	Type
AT	University of Natural Resources and Life Sciences, Vienna	BOKU	ERDF
BG	National institute of Meteorology and Hydrology – Bulgarian Academy of Sciences	NIMH-BAS	ERDF
BG	Executive Agency “Exploration and Maintenance of the Danube River”	EAEMDR	ERDF
CR	CROATIAN WATERS	HRVODE	ERDF
DE	Bavarian Environment Agency	LfU	ERDF
DE	Technische Universität München (Technical University Munich) - Institute of Hydraulic and Water Resources Engineering	TUM	ERDF
HU	**Budapest University of Technology and Economics (LP)**	**BME**	ERDF
HU	General Directorate of Water Management	OVF	ERDF
RO	National Administration "Romanian Waters"	NARW	ERDF
RO	NATIONAL INSTITUTE OF HYDROLOGY AND WATER MANAGEMENT	NIHWM	ERDF
RS	Jaroslav Černi Institute for the Development of Water Resources	JCI	IPA
RS	The Republic of Serbia Ministry of Construction, Transport and Infrastructure Directorate for Inland Waterways	PLOVPUT	IPA
SK	Water Research Institute Bratislava	VUVH	ERDF
SI	Institute for Water of the Republic of Slovenia	IzVRS	ERDF
	Total Project Partners:	14	

Associated Strategic Partners

Country	Associated Strategic Partner	Acronym
AT	Federal Ministry of Agriculture, Forestry, Environment and Water Management	BMLFUW
AT	VERBUND Hydro Power GmbH	VERBUND
DE	**Bundesanstalt für Wasserbau**	**BAW**
HU	Ministry of Foreign Affairs and Trade	MFAT
INT	~~Joint Research Center~~	~~JRC~~
INT	International Commission for the Protection of the Danube River	ICPDR
INT	International Sava River Basin Commission	ISRBC
INT	Danube Commission	DC
INT	WWF Hungary	WWF
INT	Global Water Partnership Central and Eastern Europe	GWP CEE
RO	Romanian Ministry of Environment, Waters and Forests	MEWF
RO	HIDROELECTRICA SA	Hidroelectrica
SI	**SLOVENIAN WATER AGENCY**	**DRSV**
SK	**Slovak Water Management Enterprise, s.e.**	**SVP**
SK	Water Management Construction, s.e.	VVB
	Total ASP:	14

Brief introduction to Work Packages and deliverables


WP1 - Project management
WP2 - Communication Activities
WP3
Sediment data collection
Sediment monitoring best practices
Sediment database set up within WP3 will be thoroughly analyzed in WP4
WP4
Danube Sediment Balance
Comprehensive information on sediment balance
Based on the sediment continuity related issues revealed in WP4 engineering measures will be worked out
WP5
Impacts and measures
Catalogue of best practices of measures
WP6 –Sediment Management

WP1
Project Management

Most important tasks:

- Project preparation and closure
- Project coordination
- Financial Management
- Project quality management

WP 2
Project communication

Most important tasks:

- Internal communication
- External communication

WP 3
Sediment data collection

Most important tasks:

- Inventory of existing data
  - Overview of sediment monitoring methods
  - Exploring the available (meta) database (who has what)
  - Checking data accessibility and, if needed, improving the accessibility between countries
  - Data evaluation
  - Data processing
- Comparative analysis
  - Theoretical comparison
  - Comparison of existing sediment data collected on the same Danube reach and major tributaries at the confluence by different institutions
- Assessment of sediment data
  - Analysis of harmonised flow and sediment measurement of significant flood events for the Danube
  - Analysis of the sediment transport and morphodynamics of the transition zone from upper to lower fluvial regime

WP 4
Sediment data analysis, setup of sediment balance

Most important tasks:

- Data analyses for sediment balance
  - Topographic data – river channel/floodplains
  - Hydrological data (at least daily time step) necessary for the evaluation of sediment fluxes
  - Bedload regime – changes of the Danube transport capacity
  - Suspended sediment concentrations in the main river channel and main tributaries
  - Characteristic size of sediments (grain-size distribution curves: river bed material, suspended load, bedload)
  - Dredging volumes in the main river channel (possibly also in major tributaries)
- Assessment of the sediment balance for the Danube and major selected tributaries
- Long-term morphological development of the River Danube in relation to the sediment balance

WP 5
Impacts, pilot studies

Most important tasks:

- Review of key drivers and the impacts of significant pressures on sediment quantity for Danube River
- Risk assessment related to sediment regime (continuity and quantity)
- Measures and good practices for improving the sediment regime

WP 6
Synthesis: Danube Sediment Management Guidance

Most important tasks:

- Synthesis of WP 2 to 5
- Development of the **Danube Sediment Management Guidance**
- Stakeholder Involvement
- Preparation of a Sediment Manual for Stakeholders
  - Hydropower
  - Navigation
  - Flood Risk Management
  - River Engineering
  - Ecology (e.g. water and habitat protection and restoration)
  - Commercial gravel extraction
  - Drinking water supply
  - Agriculture

Most important deliverables

- Harmonized database including metadata (maps, tables)
- Guidelines on best practices on sediment transport monitoring
- Maps showing sediment transport rates along the Danube River and major tributaries at the confluence
- Maps, tables, text on long, mid and short term morphodynamics (riverbed aggradation, degradation, river geometry)
- Maps and reports on **sediment balance**
- Report on significant pressures
- Catalogue of practical measures and recommendations to improve the Danube River sediment management
- Website, press releases
- **Danube Sediment Management Guidance**
  - Guideline on sediment transport monitoring and modelling
  - Danube River Sediment Balance (incl. Figures and Tables)
  - Guideline for improved planning of sediment related measures
- **Manual on Sediment Management** in the DRB

Budget

Funding source	Budget in EUR	Budget in EUR
ERDF	€ 3,458,536.86	€ 3,331,067.86
IPA	€ 232,203.76	€ 232,203.76
Total Community Funding	€ 2,939,756.31	€ 2,850,617.30
Total Project Budget	€ 3,690,740.62	€ 3,639,100.62

Budget reduction ~EUR215K compared to EoI

Budget reduction ~EUR51.6K compared to 2nd round

Application Form

- Submitted on **9th May 2016** (Final AF)
- **6th Oct 2016** Proposal accepted with conditions
- Submitted on **19th Oct 2016** (Final AF + corr)
- **26th Oct 2016** Observations and comments of DTP
- **07th Nov 2016** Deadline to answer

Acknowledgement

- Thanks for the **ICPDR PS**, the **EUSDR Hungarian Secretariat** and the **EUSDR PA4 and PA5** for the support of the project preparation, active and constructive participation at the Budapest project meeting
- Thanks for **all project partners**, who were enthusiastic to provide information and contributing to the tasks accomplished so far and assure the project preparation with their ceaseless support
- Thanks for the **Bavarian HoD** for the offer of the services of **BayFOR** and
- Special thanks to **Andrea Reiter**, BayFOR for providing the Projectplace platform for communication, her continuous advice and contribution for the preparation of the draft proposal
- Thanks to **Christine Hamza** for her expert advices

Thank you for your attention