



SEDDON II - Sediment Research and Management at the Danube River

Michael Tritthart
BOKU – University of Natural Resources and Life Sciences, Vienna

SWARM – Inter-Project Coaching

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

University of Nis



www.swarm.ni.ac.rs

Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders
Project number: 597888-EPP-1-2018-1-RS-EPPKA2-CBHE-JP



Sediment Research and Management at the Danube River II

The project leads to concrete proposals for a new water management strategy to improve the ecological status and flood risk management of water bodies in the Upper and Middle Danube, with sediments playing an important role.



The new hydraulic engineering laboratory as an open research center as well as joint monitoring and modeling provide the basis for targeted and efficient measures to improve ecological status and flood risk management.

SEDDON II ATHU10

The aim of SEDDON II is the gain of knowledge and knowledge transfer from research to water management.

Project budget in EUR: **10.735.567,50**

ERDF funding in EUR: **7.500.232,37**

Project duration: **04/2016-12/2020**

<http://www.interreg-athu.eu/seddon2>

Contact:

Name of institution
Contact person
E-mail address



This project is supported by



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II Project overview

- continues the basic achievements reached in SEDDON
- focuses on the implementation of the suggested improvements
- aims to improve knowledge and knowledge transfer from science to river management
- studies based on longer-term programs will lead to targeted and efficient measures in order to improve the ecological status and flood risk management
- exchanging knowledge between AT and HU

Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II Key Outputs

- Hydraulic engineering laboratory in Vienna
- Joint monitoring and modelling strategy
- Guideline for joint river engineering measures

Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II Partner Structure

- LP1 University of Natural Resources and Life Sciences, Vienna BOKU
- PP2 Budapest University of Technology and Economics BME
- PP3 North Transdanubian Water Directorate ÈDUVIZIG
- PP4 BOKU - Wasserbaulabor Errichtungs- und Betriebs-Gesellschaft m.b.H.
- SP5 Federal Agency for Water Management, Vienna BAW

Strengthening of master curricula in water resources management
for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II Work Packages

- WP M: Project Management
- WP T1: Modelling
- WP T2: Field measurements
- WP T3: River engineering
- WP I1: Hydraulic Engineering Lab
- WP C: Communication

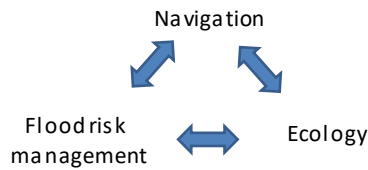
Strengthening of master curricula in water resources management
for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs

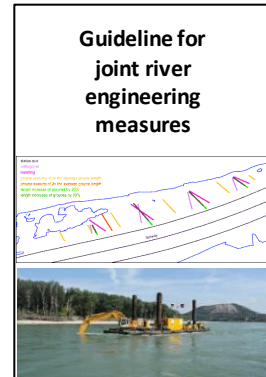


SEDDON II WP T3 - Overview

- Based on the gained experiences of WP T1 (Modelling) and WP T2 (Measurements)
- Development of optimized river engineering measures
- Integrated approach to improve situation in the field of river engineering



Core Output



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

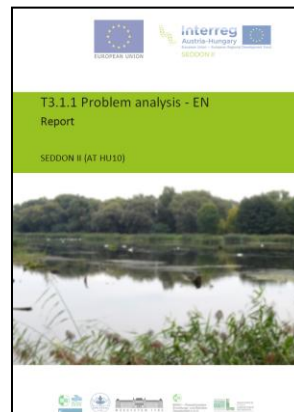
www.swarm.ni.ac.rs



SEDDON II WP T3 – Problem analysis report

Report contains:

- Description of problems AT & HU
- Common Problems in AT & HU
- Differences
- Processes



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP T3 – List of problems (example)

Problem	Description
Flood risk protection	<ul style="list-style-type: none"> causes decoupling of river and floodplain cut-off of side arms reduced flood retention volumes reduction of river length and width increased flow velocities increased shear stresses river bed degradation
Instream channel alterations	<ul style="list-style-type: none"> affect hydrodynamics and morphodynamics, cause increased erosion of river bed sediment aggradation in groyne fields
River bed incision	<ul style="list-style-type: none"> bed load transport inhibited by torrent controls and hydropower plants risk of riverbed breakthrough
Prevented side erosion	<ul style="list-style-type: none"> river engineering measures inhibit lateral erosion reduced channel width causes enhanced sediment transport capacity both lead to river bed incision



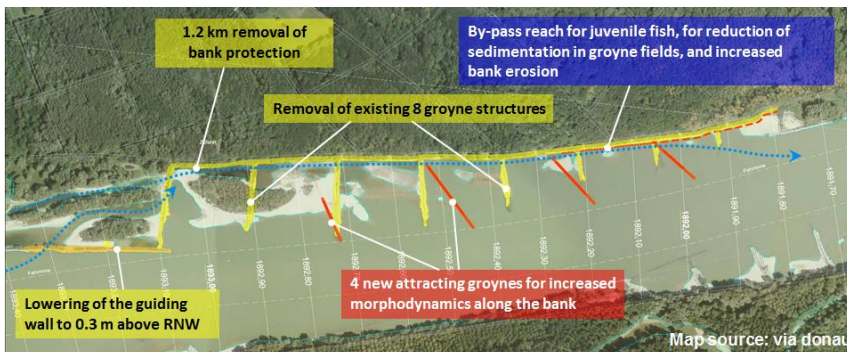
Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP T3 – Examples of best practice projects

- Pilot project Witzelsdorf (2009)



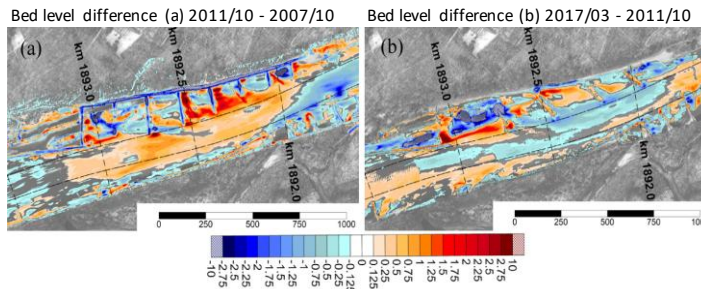
Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP T3 – Examples of best practice projects

- Pilot project Witzelsdorf (2009)
 - Improvement of ecological situation
 - Trend of sedimentation higher than expected → navigation restrictions/maintenance
 - Optimisation of groyne structures (2015) after variation 3D-numerical modelling study



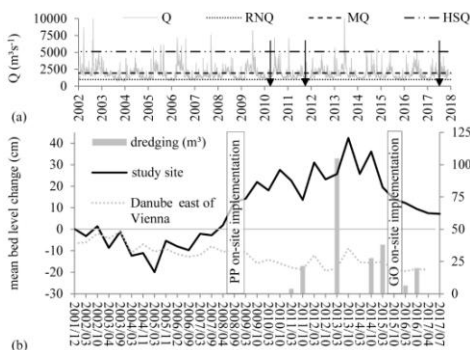
Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP T3 – Examples of best practice projects

- Pilot project Witzelsdorf (2009)



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP I1 – Hydraulic Engineering Laboratory

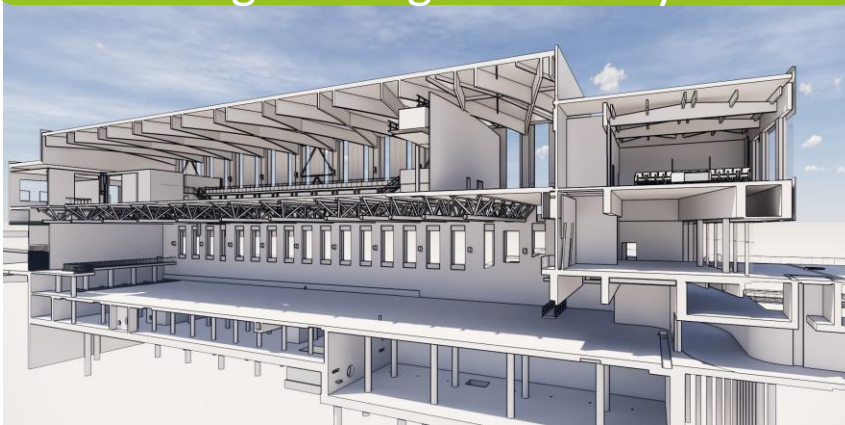


Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP I1 – Hydraulic Engineering Laboratory

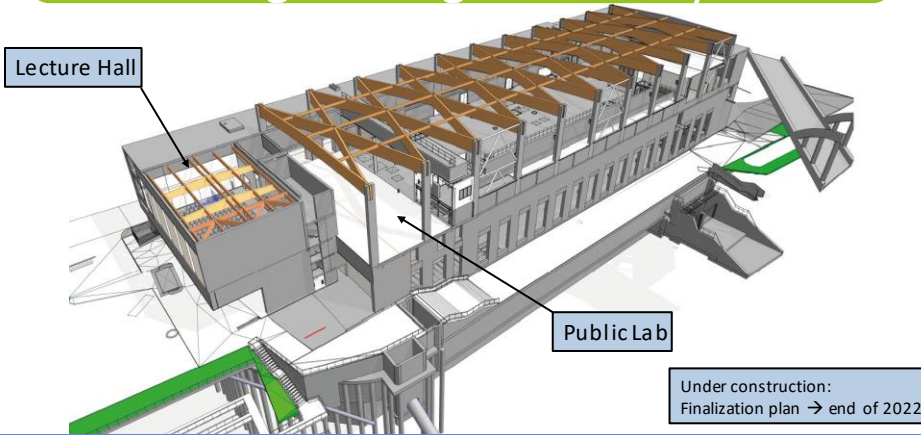


Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders

www.swarm.ni.ac.rs



SEDDON II WP I1 – Hydraulic Engineering Laboratory



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders www.swarm.ni.ac.rs



Thank you for your attention!



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders www.swarm.ni.ac.rs