Sediment Management in the Sava River Basin

11th International SedNet Conference
Dubrovnik, April 3-5 2019

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Deputy Secretary for protection of waters and aquatic eco-system
Sava River Basin

- **Main geopolitical facts**
  - **Area:** 97,713 km² (the second largest Danube sub-basin; share: 12%)
  - **River length:** 990 km (~600 km of which is the waterway)
  - **Population:** approx. 9 million

<table>
<thead>
<tr>
<th>Country</th>
<th>Share of the basin (%)</th>
<th>Share of the territory (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>0.2</td>
<td>0.6</td>
</tr>
<tr>
<td>Bosnia &amp; Herzegovina</td>
<td>39.2</td>
<td>75.8</td>
</tr>
<tr>
<td>Croatia</td>
<td>26.0</td>
<td>45.2</td>
</tr>
<tr>
<td>Montenegro</td>
<td>7.1</td>
<td>49.6</td>
</tr>
<tr>
<td>Serbia</td>
<td>15.5</td>
<td>17.4</td>
</tr>
<tr>
<td>Slovenia</td>
<td>12.0</td>
<td>52.8</td>
</tr>
</tbody>
</table>

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Background for cooperation

• **Legal Background in the Sava River Basin**
  
  – Framework Agreement on SRB
    
    *(entered into force on December 29, 2004, the framework for transboundary cooperation in WM, navigation, etc.)*
  
  – Protocol on Sediment management
    
    *(signed in July 6, 2015, enterend into force on October 8, 2017)*
Framework Agreement on the SRB

- **Main objectives – to establish:**
  - Sustainable **water management**
  - Sustainable **hazard management** (floods, droughts, accidents, etc.)
  - International regime of **navigation**

- **International Sava River Basin Commission (ISRBC)**
  (4 member countries + Montenegro)
Framework Agreement on the SRB

Article 8
Transboundary Impact

1) The Parties shall agree on how to regulate all issues concerning measures aimed at securing integrity of the water regime in the SRB and the elimination or reduction of transboundary impacts on the waters of the other parties caused by economic or other activities.

Article 10
Regime of Navigation

4) The Parties shall undertake measures to maintain the waterways within their territories in navigable condition, as well as to undertake measures to improve the conditions of navigation and not to prevent or obstruct navigation.
Framework Agreement on the SRB

Article 11
Sustainable Water Management

The Parties agree to cooperate on management of the waters of the SRB in a sustainable manner in a manner that shall provide for:

a) Water in sufficient quantity and of appropriate quality for the preservation, protection and improvement of aquatic eco-systems;

b) Waters in sufficient quantity and of appropriate quality for navigation and other kinds of use/utilization;
Framework Agreement on the SRB

Article 30

Protocols

1) In implementing this Agreement, the Parties shall, in addition to the protocols referred to in other provisions of this Agreement, conclude other protocols for regulating:

c) Exploitation of stone, sand, gravel and clay;
Protocol on Sediment Management

The main purpose is cooperation of the Parties to achieve sustainable sediment management in the SRB by respecting:

- natural processes and water regime,
- quality and quantity conditions
  \textit{(i.e. biological, hydromorphological and physico-chemical elements)}
Protocol on Sediment Management

The Parties will adopt **Sediment Management Plan** covering:

- evaluation of **sediment balance**, quality and quantity;
- **monitoring** of sediment;
- **measures** to
  - prevent impacts and pollution;
  - control erosion processes;
  - ensure integrity of water regime (quality and quantity);
  - protect wetland, floodplains and retention areas;
  - provide, ensure and maintain conditions for safe navigation;
  - control reservoir sedimentation;
- determination of **designated areas** for capital dredging;
- **guidance** for sediment disposal, treatment and use;
- **institutional arrangements** for implementation of SMP
Protocol on Sediment Management

The SRB Sediment Management Plan will be:

− adopted six years after the Protocol enters into force
− revised in the six year cycles afterwards
− harmonized with the SRBMP and other plans and programmes.
Protocol on Sediment Management

On the yearly basis the **Information on Planned Dredging** including of the report on realization for previous year will be developed.

The Parties will be informed on:

- planned locations and types of dredging, including assessment of quantity and quality of sediment;
- methods for sediment disposal and sediment treatment;
- summarized quantities for the tributaries.
**Project:** Towards practical guidance for SSM

- **Main objectives:**
  - To develop and validate practical guidance to achieve SSM plan on the river basin scale
  - Sava River Basin used as a showcase

- **Partners:**

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Project: Towards practical guidance for SSM

• Outcomes
  – Development and execution of a practical SSM training course:
    • Practical SSM course;
    • Practical guidance (document) on how to achieve SSM plan;
    • Draft implementing program for development of Sava SSM plan;
    • Draft project fiches for different modules of Sava SSM plan.
  – Applying of the guidance in practice:
    • Overview of monitoring and sampling gaps and data uncertainties;
    • Estimation of a sediment balance for the SRB;
    • Proposal for the establishment of an effective sediment monitoring system.

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**Project:** Towards practical guidance for SSM

- **Project status:**
  - The practical SSM course was held on October 15-18, 2012, in Zagreb (HR).
  - Issues concerned on the SSM course:
    - Engineered river system;
    - Ecosystem functioning, biodiversity
    - Ecology
    - Sediment quality
    - Ecotoxicology
    - Geochemistry / Environmental chemistry
    - Sediment budget (including hydrology)
    - Sediment status in BA, HR, RS and SI
**Project: Towards practical guidance for SSM**

- **Project status:**
  - Application of the part 1 guidance in the Sava practice
  - Estimation of Sediment Balance for the Sava River (**BALSES**)
  - Proposal of the Establishment of the Sediment Monitoring System for the Sava River
    - Establishment of strategic goals and specific objectives of the monitoring
    - Review of technical international standards and technics of monitoring and assessment of their application in the SRB;
    - Establishment of on-line free database on sediment taking into account the initial functionalities of Sava Geoportal
  - Execution on sediment monitoring

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Project: Towards practical guidance for SSM

- Future steps:
  - SSM course part 2:
    - Review of the application of part 1 guidance
    - Training of best practice on measures of SSM, sediment disposal, treatment and use, institutional arrangements and public participation.
  - Continuation of the application of part 1 guidance in the Sava practice
  - Final workshop for finalization of the guidance document
Implementation of the Protocol

**Future steps:**

- Development of the *Sava River Basin Sediment Management Plan* harmonized with the River Basin Management plan for the SRB;
- Establishment of the coordinated system for *sediment monitoring*;
- Exchange of sediment data within the Sava riparian countries through the existing *Sava Geoportal*.
**Project: INAS**

- Inter-sectoral approach with hydropower and navigation sectors for operative flood prevention measures in Sava River Basin – INAS
  
  - Main objective
    
    - Development of *common approach* of **hydropower** and **navigation** sectors to implement the operative **flood prevention measures**, based on good governance practices for efficient flood prevention in SRB
  
  - **LP**: Institute for Water of SI
  
  - The project proposal has been submitted to the **DTP 3rd call**
Contact information

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