

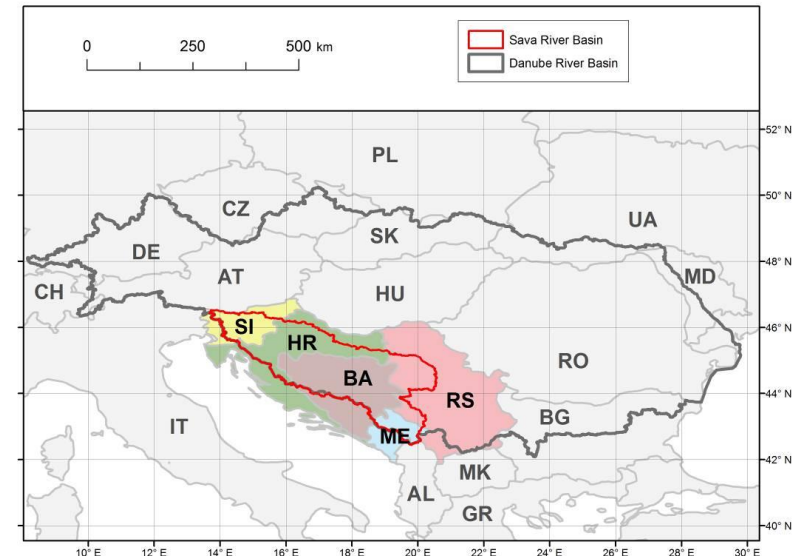
Water – Food – Energy – Ecosystems Nexus Assessment in the Sava River Basin

2nd Meeting of the Task Force on the Water-Food-Energy-Nexus
under the Water Convention
Geneva, 8-9 September 2014

Dr Dejan Komatina,
Secretary, ISRBC

Sava river basin

- **Challenges**
 - **Use of resources:** development and protection
 - **Management of resources:** national → transboundary
- **Legal and institutional framework** for cooperation
 - **Framework Agreement** on the Sava River Basin
 - **ISRBC**
- **Broad scope** of work → **Many sectors** involved



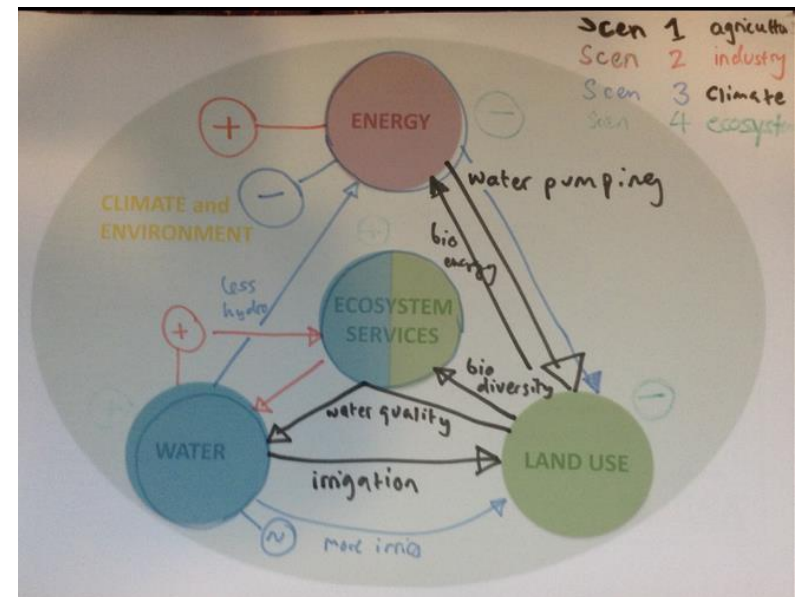
Sava nexus assessment

- **Objectives / expectations** – to contribute to:
 - **Dialogue** with sectoral stakeholders
 - **Integration** of policies
 - Inter-sectoral **coordination**
 - **RBM planning**



Introductory workshop

- **Development plans** and **sectoral goals** shared (national & basin level)
- Key **intersectoral linkages** identified (future development of sectors; climate change)
- **Scenarios** discussed
 - **Hydropower** development
 - **Agriculture** expansion
 - **Climate change**



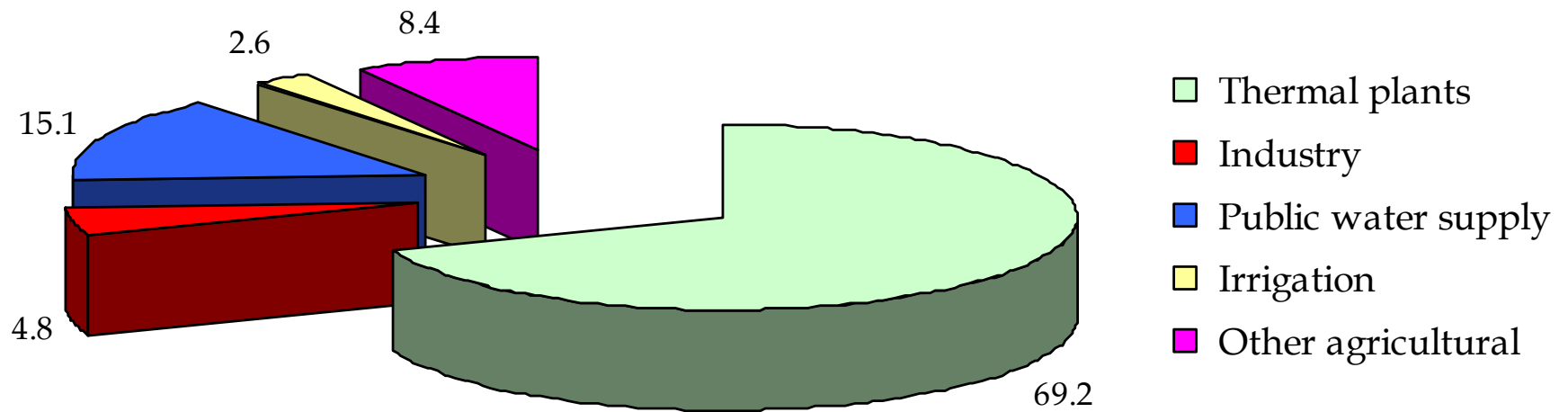
Emerging issues

- **Hydropower expansion** upstream and on tributaries
- Need for **flood protection measures** and related transboundary coordination



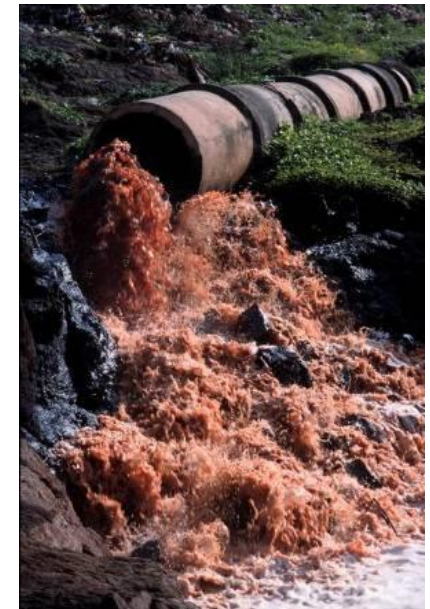
Emerging issues

- **Agricultural land expansion** (irrigated)
- **Dependence on energy production** from thermal power plants (using water for cooling)



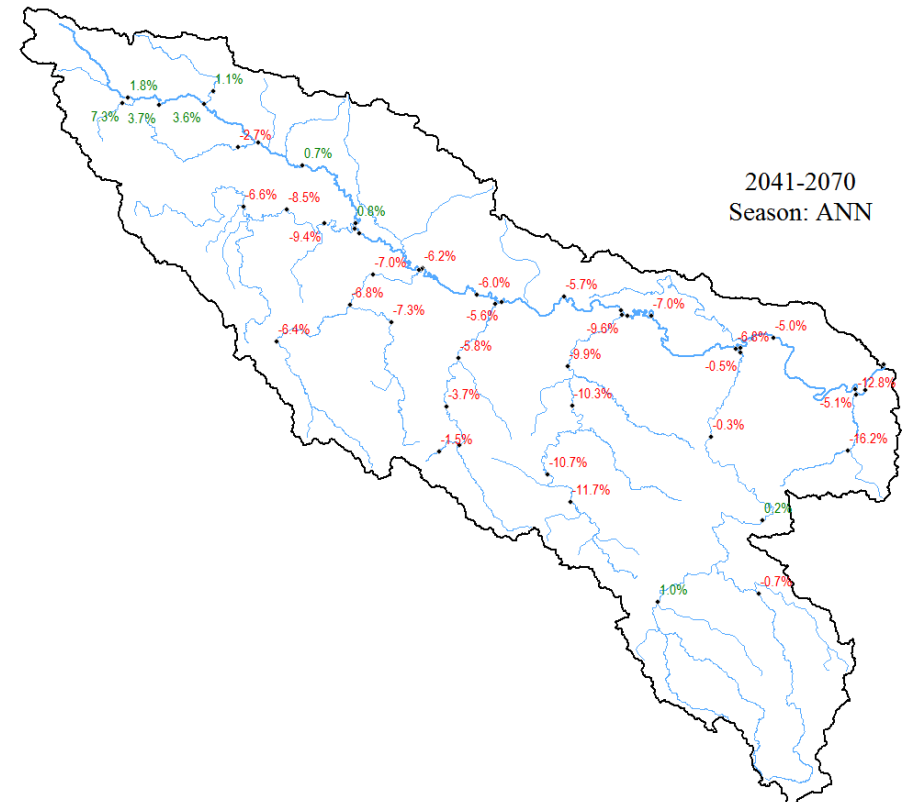
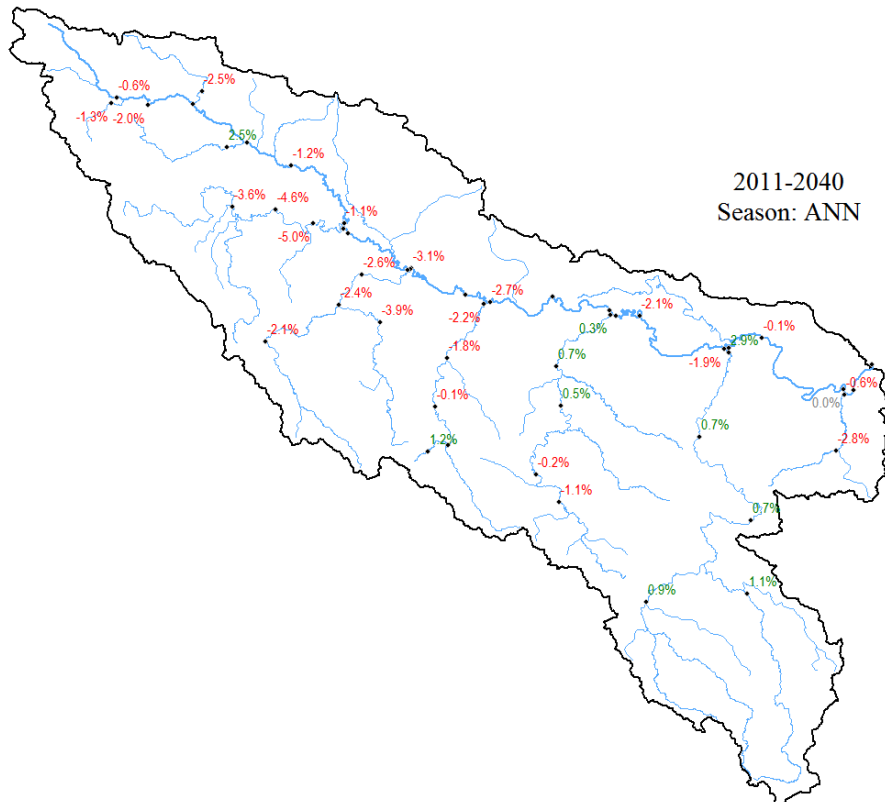
Emerging issues

- **Point source pollution** (lack of wastewater treatment) and **diffuse pollution** (from agriculture, in particular)
- **Sedimentation and erosion** (depending on land use and practices)
- **Hydromorphologic alterations** of the river
- **Pressure on groundwater** (increasing)



Emerging issues

- Climate change**
 (mean flow reduction; increase in frequency of extreme events)



Potential solutions

- **Multipurpose** use of the existing and planned **infrastructure** (including dams) across countries (example from Croatia and Slovenia)
- **Navigation & sediment control** at the basin level
- Targeting **energy efficiency** (proposal from Energy Community)
- Further **integration of the energy and agriculture sectors** in the RBM planning and implementation process

Potential solutions

- Improvement of **flood protection infrastructure** and **flood management** (e.g. operation of reservoirs and dams)
- **Economically valuing ecosystems** (proposal from WWF)
- **Drought resilience** – water management and in particular demand for cooling water in power plants
- Development of **renewable solutions** to supply local demand (solar and wind integrated with hydropower)

Ongoing activities

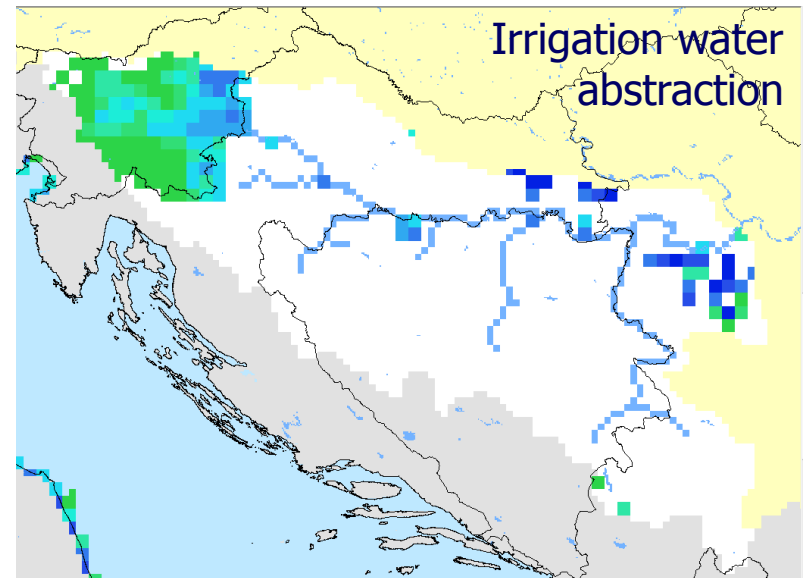
- **Data collection**
- **Analyses** and (limited) **quantification** (KTH + JRC)
- Development of **maps and graphics**
- **Preparation** of the institutional assessment

Challenges (data collection)

- **Considerable amount of data** needed
- Data owned by **many institutions**
- **Different level of the data availability** in the countries
- Data collection is **not an easy process**
- Difference between **data existence** and **data availability**
- **Consultation** with national experts

Modelling by JRC

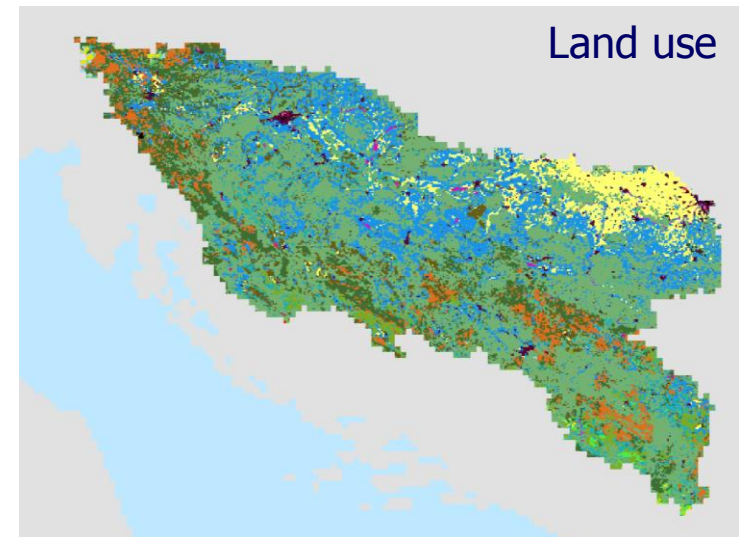
- **Hydro-economical models** linked to a **multi-criteria optimisation toolbox**
 - To identify **combination of measures** that would best fulfill the **water needs of various sectors**
 - **Cooperation** with partners involved in the UNECE study
- Modelling at **1 km resolution**
- **Special attention** paid to:
 - **Irrigation** requirements
 - **Hydropower**
 - **Other** specific demands



Taken from JRC, 2014

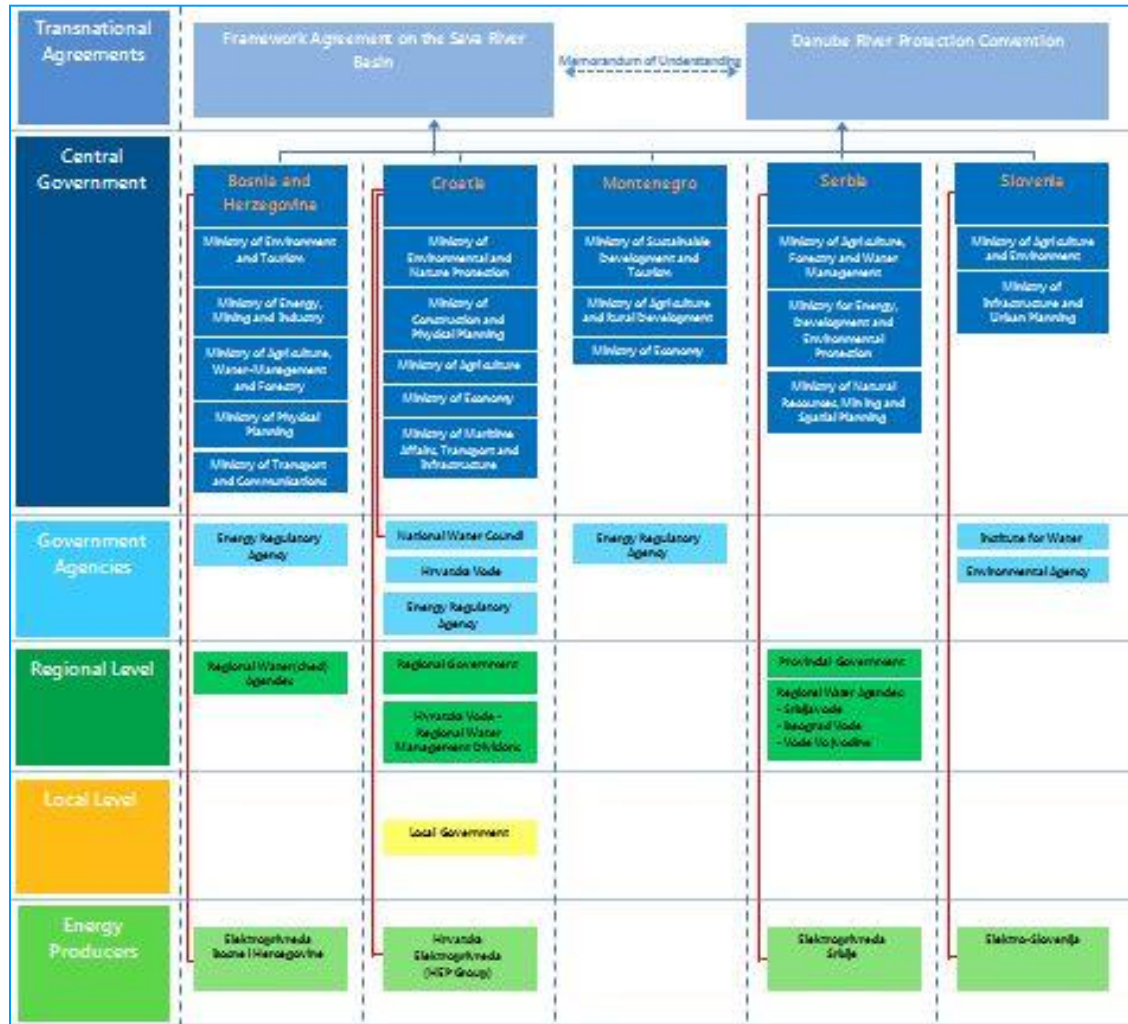
Modelling by JRC

- Modelling **water availability** versus **water demand** (identifying areas and sectors with water scarcity)
 - For **current** and **future climate**
 - For **current** and **modified land use** (e.g. increased irrigation)
- **Water demands** (agriculture, industry, public sector) taken into account
- Addressing **ecological flow**
- Estimation of **economic damage** of individual sectors under water scarcity



Taken from JRC, 2014

Institutions considered



Further steps

- **Meeting with the RBM Expert Group** (October 6, 2014) – Consultation with national experts
- **Review** of the draft assessment (Parties, ISRBC Secretariat)
- **5th Meeting of the Parties** to the FASRB (December 2, 2014) – presentation of findings
- **Review and endorsement** by the nexus Task Force (April 2015)

Recommendations

- **Templates for data collection**
 - Keep them as simple as possible
 - Make clear what the data will be used for
- **National 'facilitators'**: give them a more important role in the process (more responsibility, more time)
- **Plan a consultation meeting** on the data to be used for the assessment (moderate costs, considerable benefit)
- **Plan an additional workshop** at the end of the consultation process on the draft assessment report (best feedback of the countries, best outcome of the assessment)

Contact information

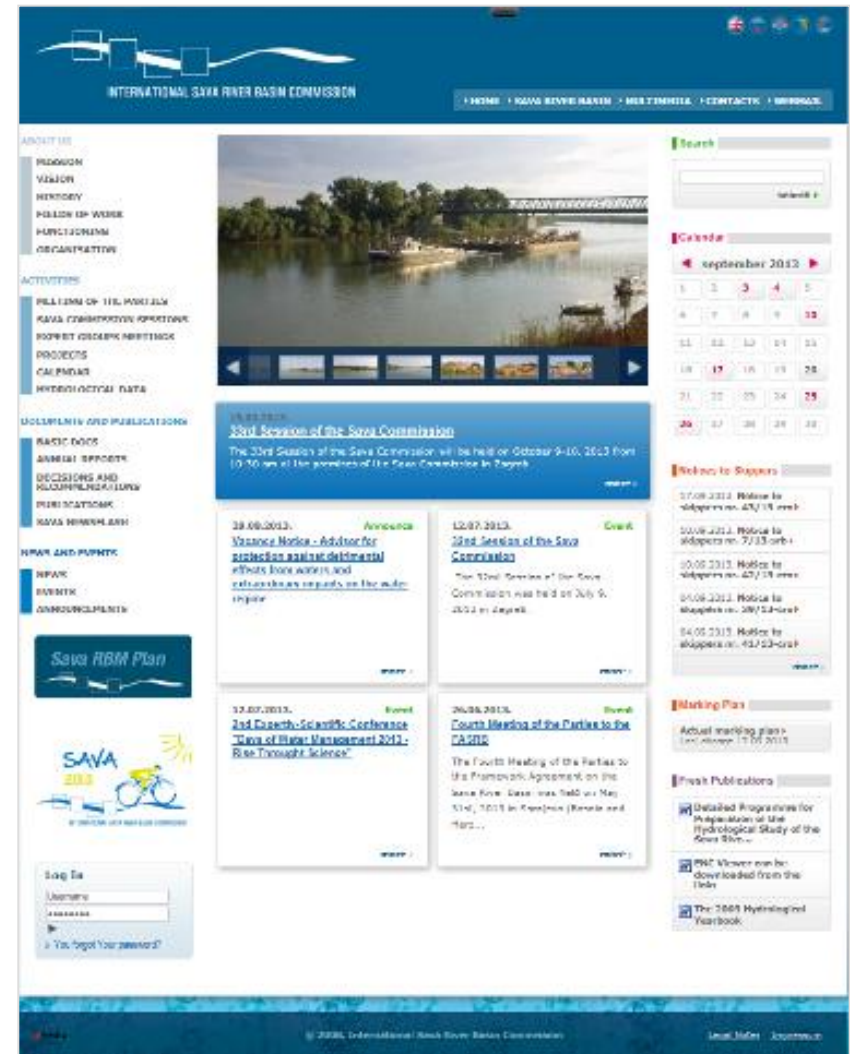
**International Sava River Basin
Commission**

Kneza Branimira 29

10000 Zagreb

Croatia

www.savacommission.org



The screenshot shows the homepage of the International Sava River Basin Commission website. The header features the organization's logo and navigation links for Home, Sava River Basin, Multimedia, Contacts, and News. The main content area includes a large image of a river scene, a search bar, a calendar for September 2013, and a list of recent news items. The news items include:

- 18.09.2013: **Yasica Notice - Advisor for protection against delimitation effects from water and infrastructure projects on the sub-region**
- 12.07.2013: **2nd Earth-Science Conference "Tiers of River Management 2013: Rise Through Science"**
- 26.06.2013: **Fourth Meeting of the Parties to the SPMR**
- 12.07.2013: **22nd Session of the Sava Commission**
- 02.06.2013: **Notice to Shipper no. 42/13-001**
- 02.06.2013: **Notice to Shipper no. 42/13-002**
- 04.05.2013: **Notice to Shipper no. 42/13-004**

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