



## 2.B. Transboundary cooperation and water quality management *- Cooperation in the Sava River Basin-*

Dragan Zeljko  
Executive Secretary of the ISRBC

INBO WORLD GENERAL ASSEMBLY  
2.B. Transboundary cooperation and water quality management

## Sava River Basin

- Area: app 97.700 km<sup>2</sup>
- Length of the Sava River 945 km
- Population: app 8.1 million
- Average discharge (confluence) 1.700 m<sup>3</sup>/s



## Framework Agreement on the Sava River Basin (2004)

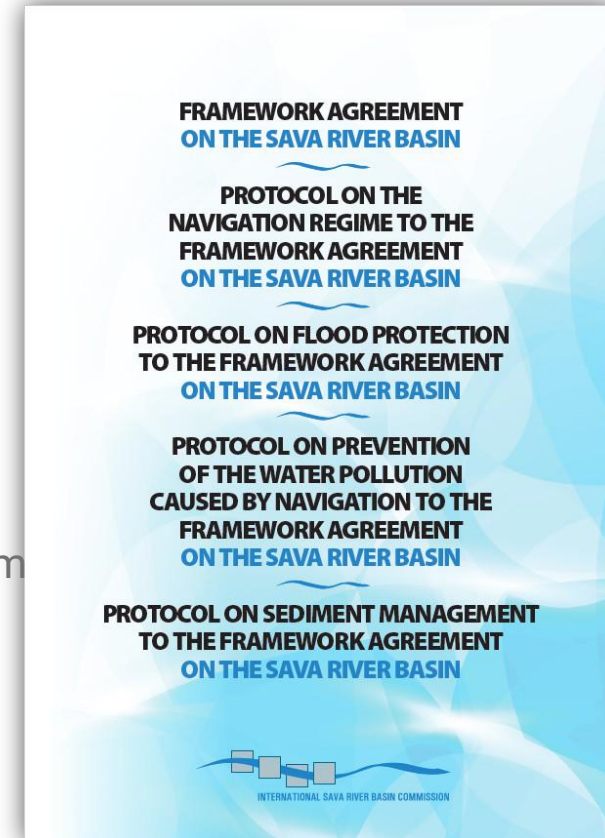
- The Parties: SI, HR, BiH, RS
- Key objective: Transboundary cooperation for sustainable development of the region

## Protocols to the FASRB

- Navigation Regime (2004)
- Flood Protection (2015)
- Prevention of Water Pollution caused by Navigation (2017)
- Sediment Management (2017)

## ISRBC

- The only sub-regional mechanism of water cooperation in the Danube River Basin
- Scope of work
  - water management
  - navigation



# River Basin Management Planning in the frame of ISRBC



## □ Significant water management issues

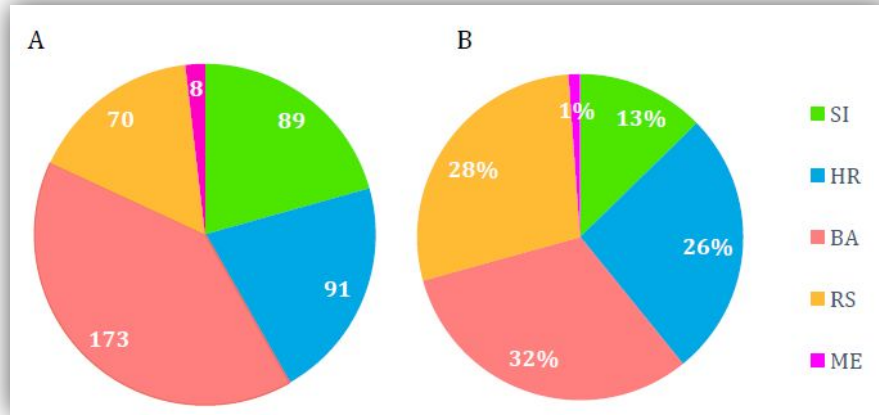
- Organic pollution
- Nutrient pollution
- Hazardous substances pollution
- Hydromorphological alterations
- Groundwater quantity and quality

## □ Other issues

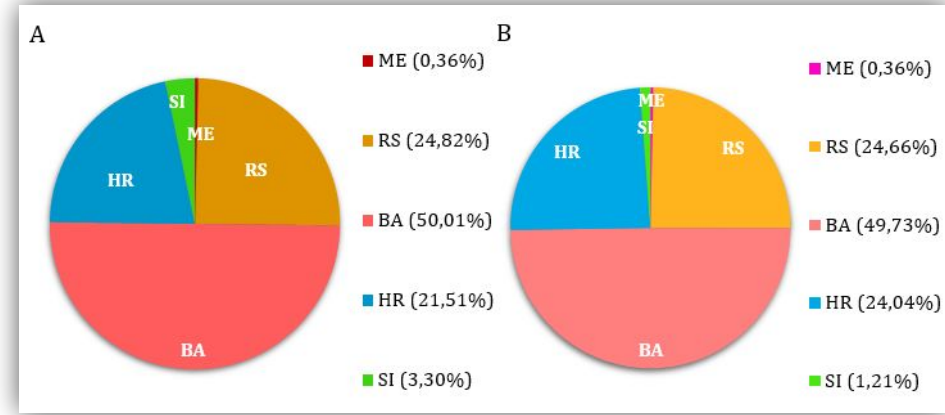
- Sediment quantity and quality
- Invasive alien species

# Organic, nutrient and accidental pollution in the Sava RB

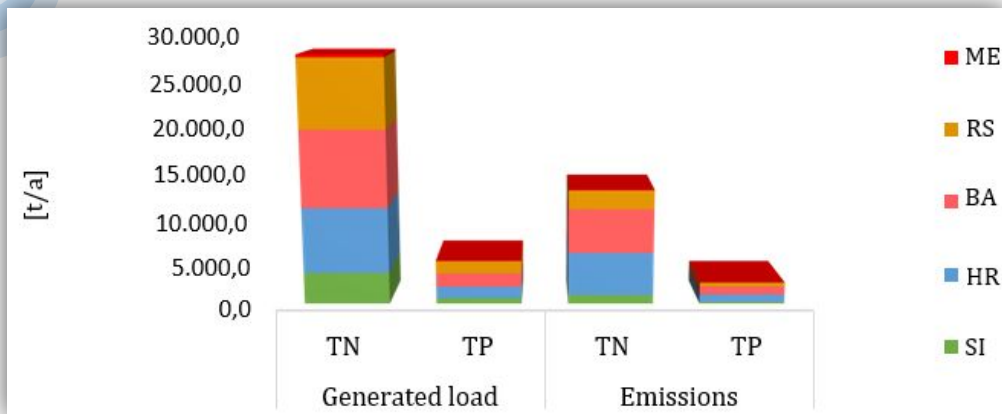
□ 431 agglomerations >2,000 PE identified, generating a load of approx. 7,6 million PE



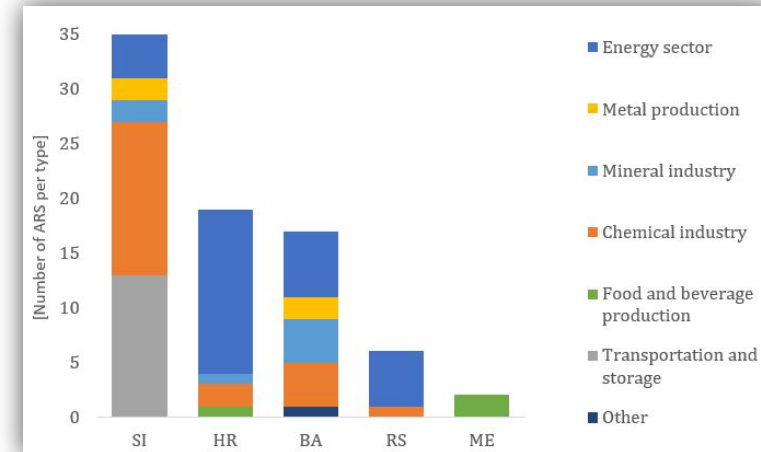
Number (A) of agglomerations >2,000 PE and share (B) of generated load for countries in the Sava RB



Contribution to the emission load to the surface water in the Sava RB of riparian countries [A] COD and [B] BOD5



Nutrient emissions from agglomerations >2,000 PE



79 facilities-risk spots for accidental pollution.



# Urban wastewater discharges –Ref.Year 2016



Danube RB - sensitive area under Article 5(5) of the UWWT Directive (91/271/EEC)=> the Sava RB should have a more stringent treatment level (nutrient removal) for all agglomerations with >10.000 PE.

Of all agglomerations in Sava RB with PE>10.000, 16% (19 of 117 agglomerations) have nutrient removal while 64% (75 of 117 agglomerations) discharge wastewater in the recipients without any type of treatment applied.



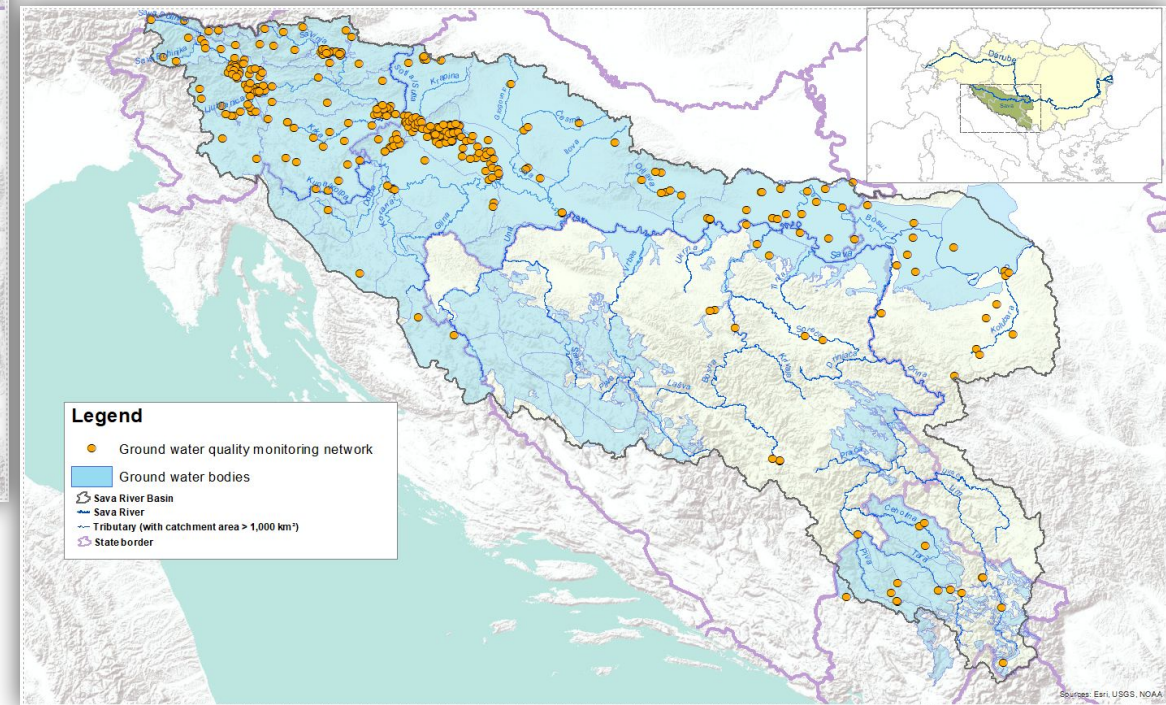
# Surface and groundwater quality monitoring networks in the Sava RB

- 163 surface water monitoring sites (used for status assessment, in accordance to WFD)
  - 20 part of the Danube TNMN network
- 335 groundwater monitoring sites (used for chemical status assessment and other purposes)



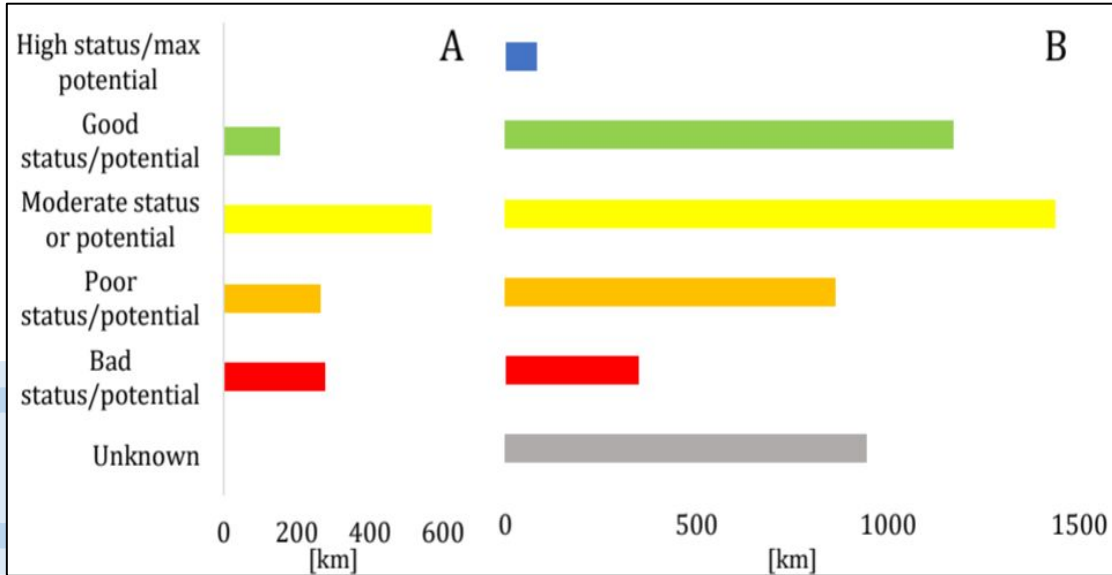
Surface water monitoring sites, source [SavaGIS](#)

Groundwater monitoring sites, source [SavaGIS](#)

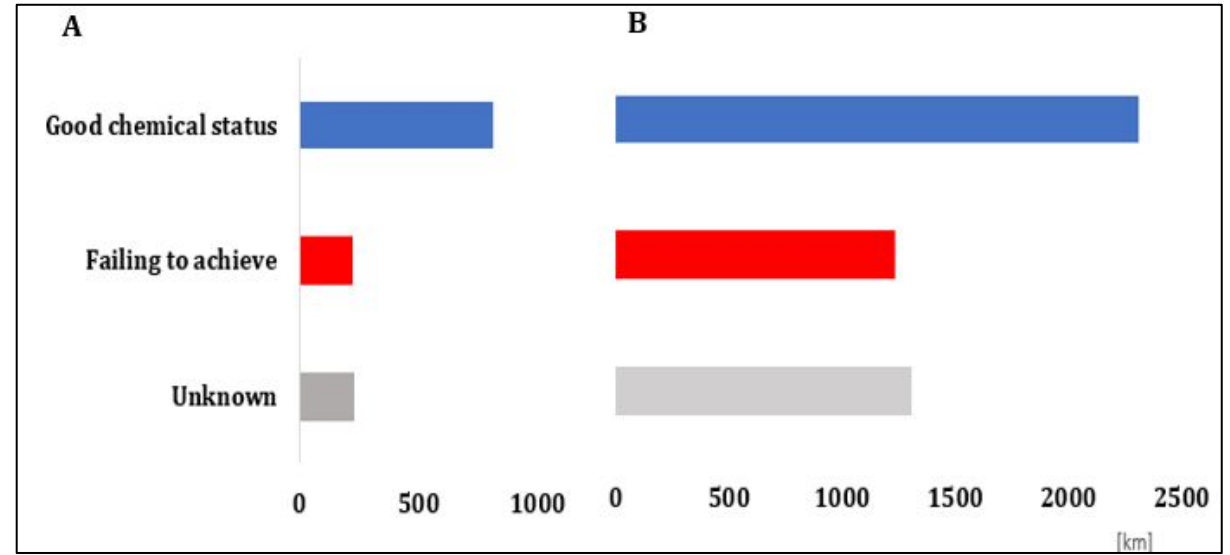


# Water status in the Sava River Basin

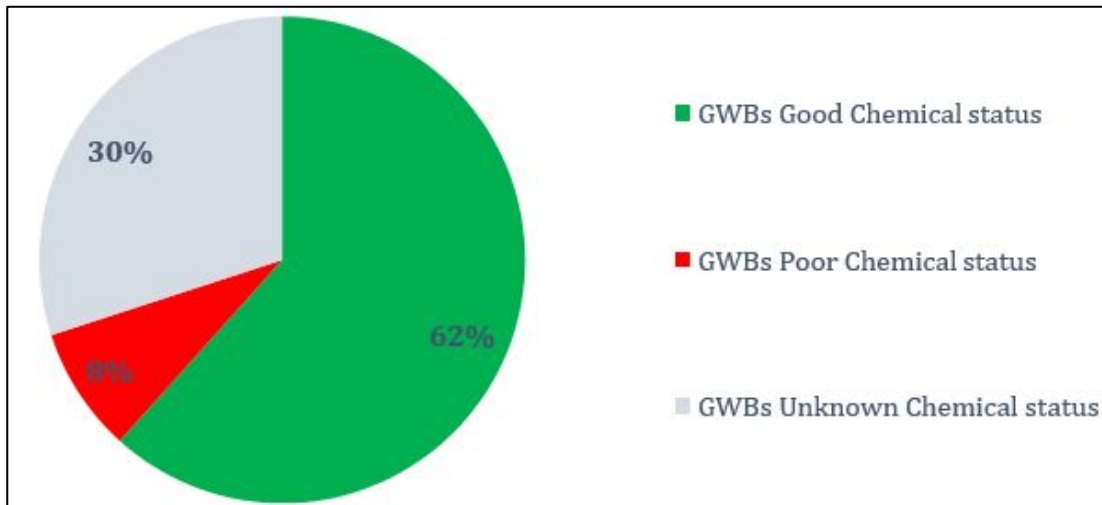
## Surface water ecological status /potential



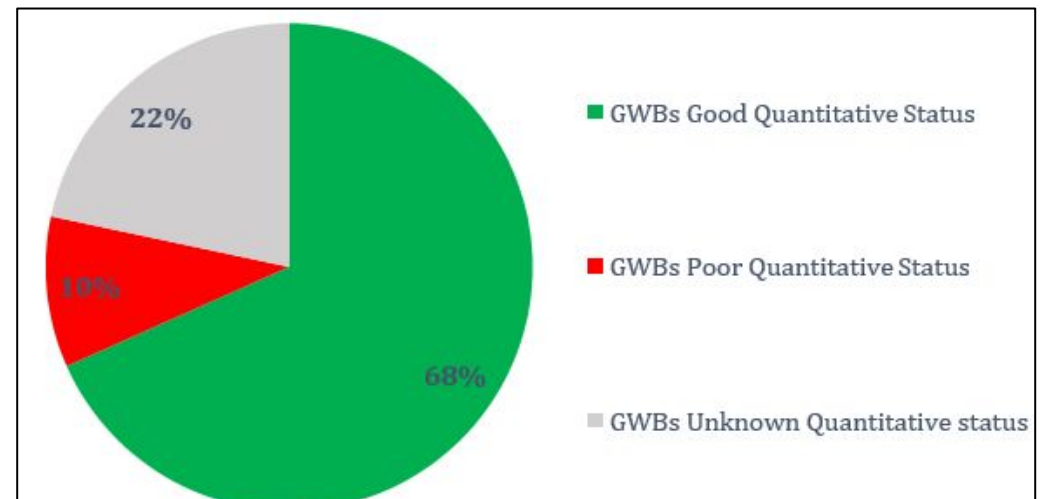
## Chemical status of water bodies



## Chemical status of GWBs of the basin wide importance



## Quantitative status of GWBs of basin wide importance





# Main achievements in the „Sava” RBM cycles related to water quality

TOTAL NUTRIENT LOAD CONTRIBUTION FROM THE SAVA RIVER BASIN TO THE DANUBE RIVER **DECREASE APPROX. FOR TN AND TP BY 15%**



CALCULATED POINT SOURCES' EMISSION OF COD AND BOD5 DISCHARGED IN THE BASIN, FROM AGGLOMERATIONS >2,000 PE **DECREASED BY 40% AND 34%, RESPECTIVELY.**



CALCULATED POINT SOURCES' EMISSION OF TN AND TP FROM AGGLOMERATIONS >2,000 PE IN THE BASIN **DECREASED BY 24% AND 32%, RESPECTIVELY.**



PROTECTED AREA IMPORTANT FOR BIODIVERSITY PROTECTION **INCREASED FOR MORE THAN 20%.**  
NUMBER OF AREAS PROTECTED IN ACCORDANCE WITH **HABITAT DIRECTIVE INCREASED BY 25% AND WITH BIRDS DIRECTIVE BY 14%.**

- Significantly decreased nutrient and organic pollution contribution to the Danube River Basin





INTERNATIONAL SAVA RIVER BASIN COMMISSION

THANK YOU FOR YOUR ATTENTION