

**SEE RIVER PROJECT**

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FOR RIVERS**

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# **Cross-sectoral cooperation as a basis for contemporary river corridor management: the Drava river as a case**

**6th European River Restoration Conference integrated with SEE River Project Final Event**

**Vienna, 29 October 2014**



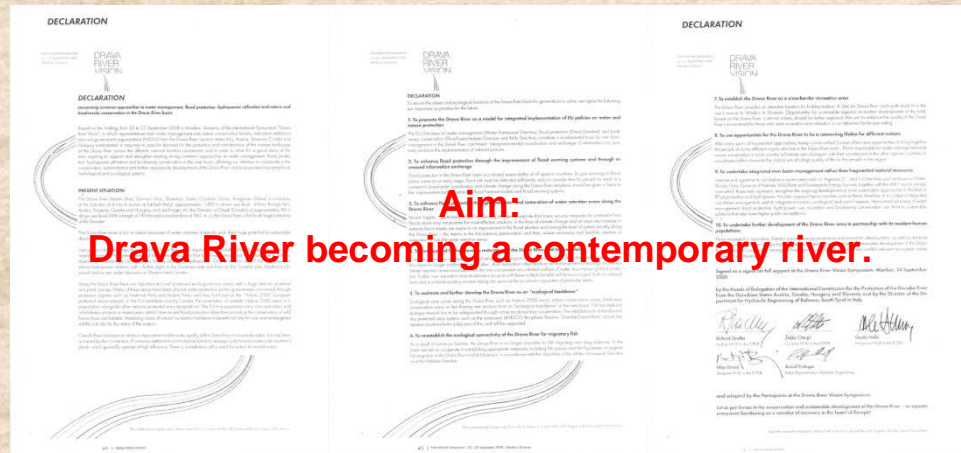


# Content

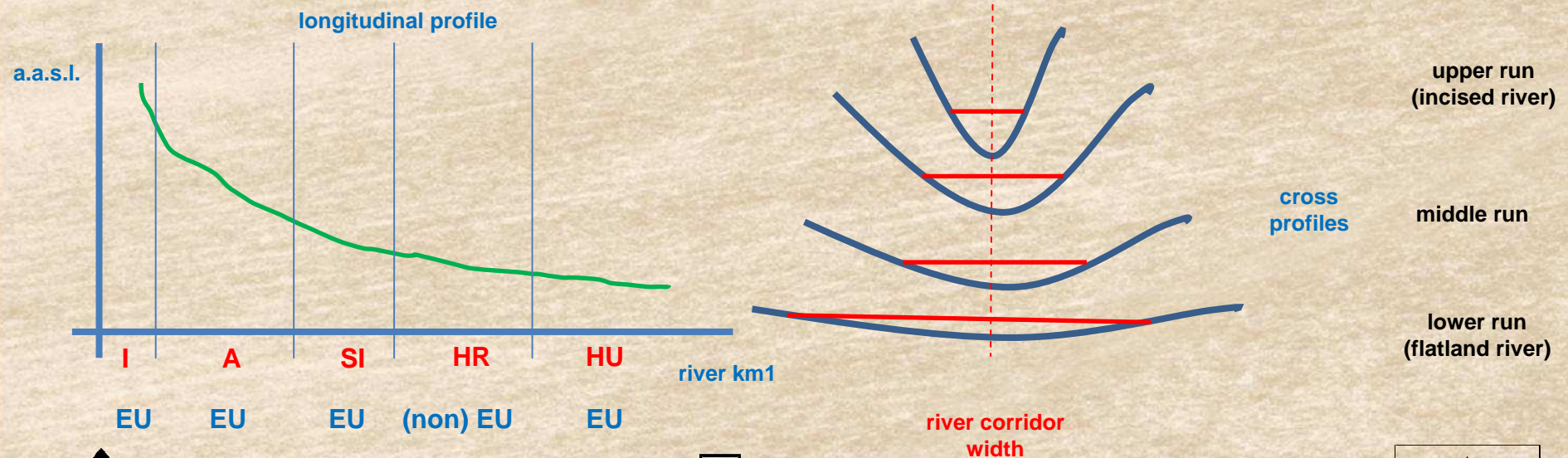
1. The Drava river as a case study.
2. The SEE River CRCM approaches on Drava river 5 pilot areas and Drava river international run.
3. Applications and outcomes.
4. CRCM contribution to the Drava river management.
5. Way Forward.



# The Drava river as a case study



**Drava River Vision Declaration, Maribor, Slovenia, 2008**





# The Drava river as a case study



Floods in the SI pilot area, 5 November 2012, Dnevnik newspaper



Floods in the SI pilot area, 5 November 2012, Delo newspaper



Hydropower utilization



# Need for a CRCM approach

1. **Experiences** in cross sectoral communication and stakeholder involvement in river management and river restoration **are not equally distributed among riparian countries.**
2. **There is general lack of practical knowledge** on how to integrate all the existing sectoral policies, plans and programmes.
3. **Antagonisms** of conservation and development interests **are often solved in sectoral manner and on national scope only**, not taking into consideration the complexity of the transboundary, regional or local dimension.
4. The administrative actors **lack the skills and operational methods** for planning and implementing the integrative management processes, especially the **cross-sectoral cooperation, consensus-building processes of stakeholder involvement in issues related to managing (transboundary) rivers.**
5. Social capital shall be enlarged and bearing capacity shall be increased in river management and river restoration processes by **strong inputs in combined approach top-down and bottom up, cross-sectoral cooperation and stakeholder involvement on local, regional, national, bilateral and transboundary levels.**

WHAT IS NEEDED?



SEE River





# SEE River elaboration levels on the Drava river

- 1) Drava river pilot areas (5).
- 2) Drava River International run.



WHERE TO APPLY?

# Selection of the 5 Drava river pilot areas

relevant (involved) sectors	Fiscalina & Drava (I) (1+4 km; 1,6+1,7 km <sup>2</sup> )	Drau (A) (80 km; 247 km <sup>2</sup> )	Drava (SI) (47 km; 160 km <sup>2</sup> )	Drava (HR) (29 km; 33 km <sup>2</sup> )	Drava (H) (62 km; 347 km <sup>2</sup> )
water management	X	X	X	X	X
nature conservation	X	X	X	X	X
forestry	X			X	X
agriculture	X	X	X		X
tourism & recreation	X	X	X	X	X
transport	X	X			
hydropower		X	X	X	
mining				X	
navigation			X		X
fishing			X		X

WHAT TO LOOK FOR?



# Innovation: river corridor as the study area

River corridors are a part of landscape ecological structure:

- river corridors,
- matrix,
- patch,
- mosaic.

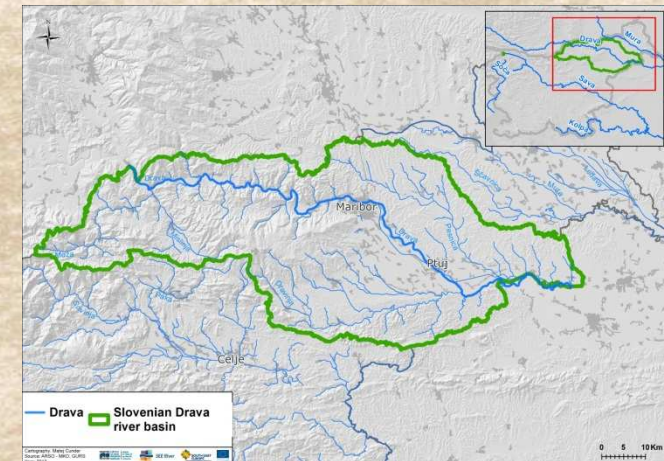
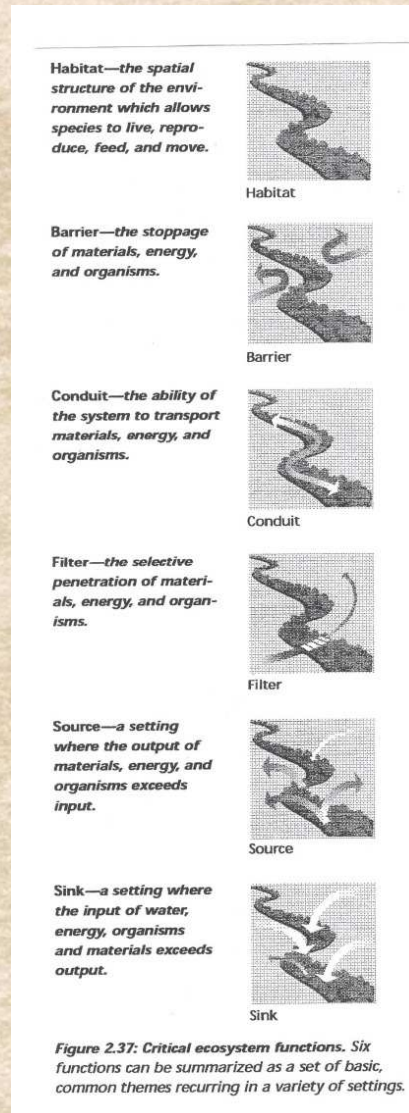
River corridor's ecological roles are:

- habitat,
- barrier,
- conduit,
- filter,
- source,
- sink.

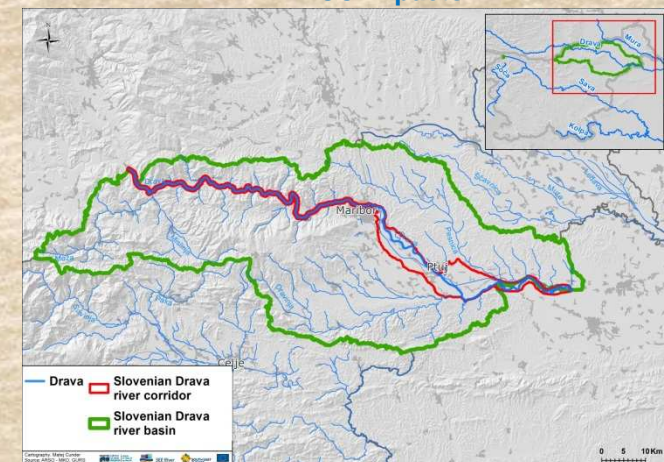
River corridor is a:

- landscape ecological category,
- spatial planning category,
- water management category.

Wells et al., 1998.



- point sources of pollution
- diffuse sources of pollution
- HYMO pressures
- CC impacts

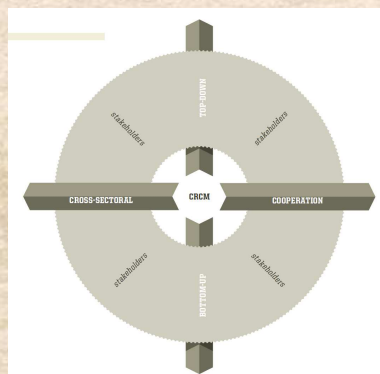


- densely populated areas
- Infrastructural structures
- flood risk (casualties, damages)

Case study Slovenia



# CRCM approach in the 5 Drava river pilot areas



## AVAILABLE TECHNIQUES OF WORK

1. Indoor and outdoor expert work and analyses.
- 2.5 national Drava river analysis report.
- 3.5 national workshops and 18 local workshops.
- 4.5 capacity building seminars.
5. Dialogues, targeted meetings, interviews, discussions, consultations, field trips, CBS with sectoral and cross-sectoral expert organizations and individuals, constant and close cooperation with stakeholders on local, regional, national and international levels.

## ARTICULATION OF THE PILOT AREA'S TECHNICAL GOALS

### TECHNICAL PROCEDURE

1. Definition of the pilot area river corridor.
2. River corridor environmental, social and economic review and analyses.
3. Comparative analysis of river corridor status VS Drava River Vision 2008 goals.
4. Analysis of sectoral administrative procedures in river corridor on national, regional and local levels.
5. Definition of pilot area relevant sectors and stakeholders on national, regional and local levels and analyses of their interests.
6. Definition of local communities involved and inventory of their interests.
7. Inventory of conservation interests and regimes.
8. Inventory of development interests.
9. Recognition of potential antagonisms among conservation and development interests.
10. Agreed solutions.

## DEFINE AND APPLY THE SUITABLE CRCM PROCESSES

## ARTICULATE THE STAKEHOLDER AGREEMENTS

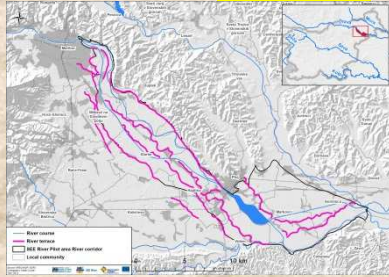


WHAT AND HOW TO DO

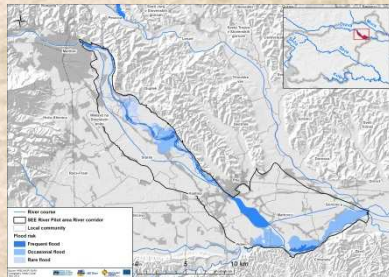


# From base line analysis to agreed river corridor development concept Drava 2030 (SI case study)

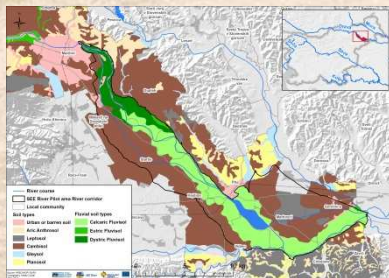
experts



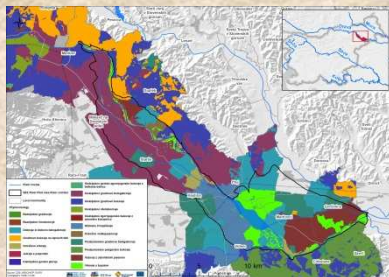
hydromorphology



hydrology



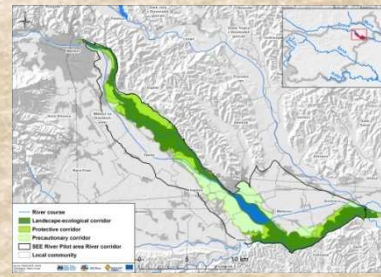
soils



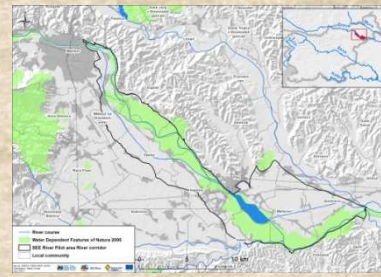
phytocoenosis

natural variables and resources analyses

experts

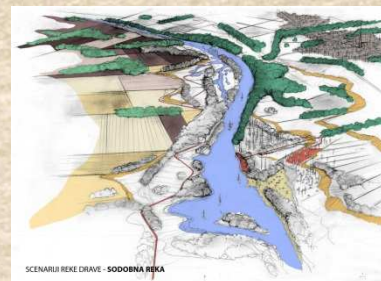


RCIR



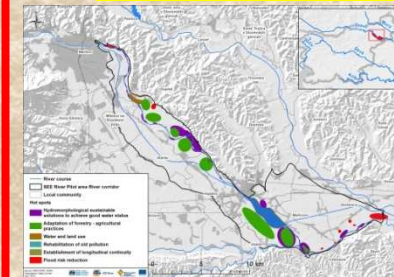
Natura 2000

experts and stakeholders

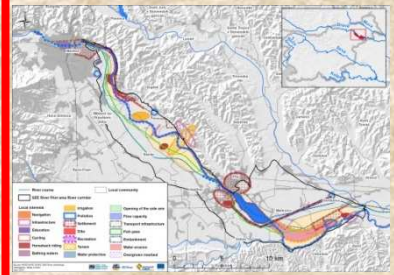


Drava 2030

experts and stakeholders



regimes



sectoral development interests



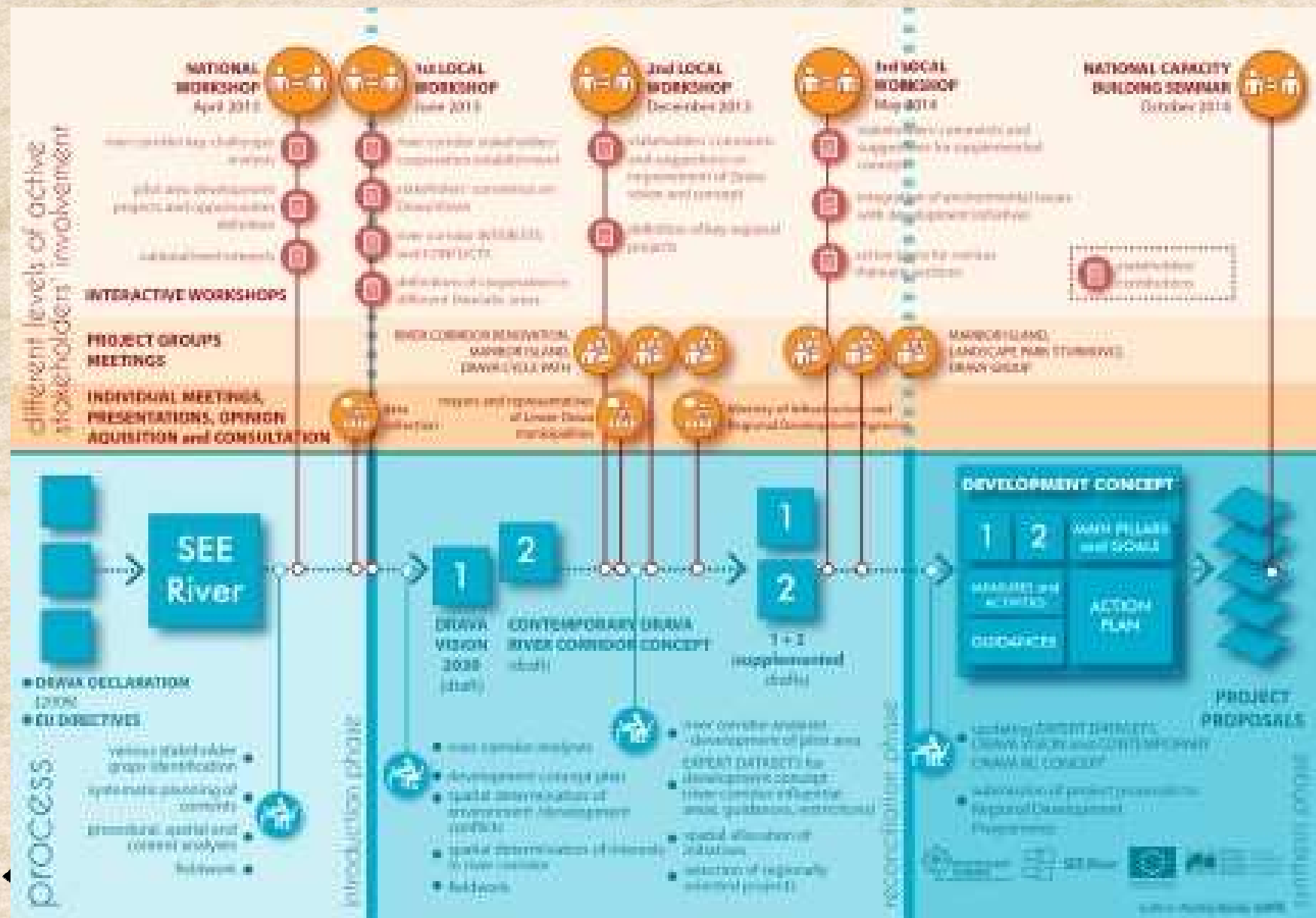
river corridor development scheme  
and action plan

environmental hot-spots analysis





# The complexity of the CRCM approach (SI case study)

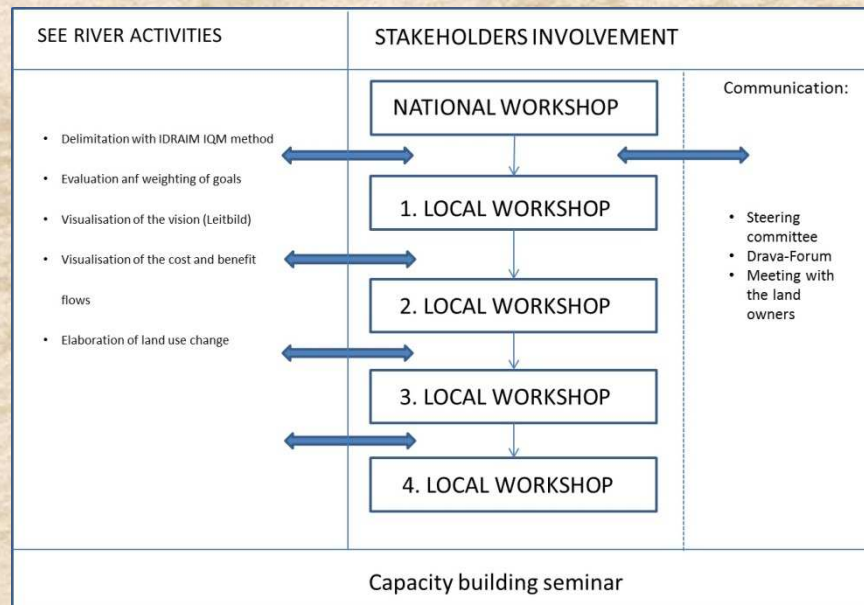




# Italy: Fiscalina and Drava pilot areas

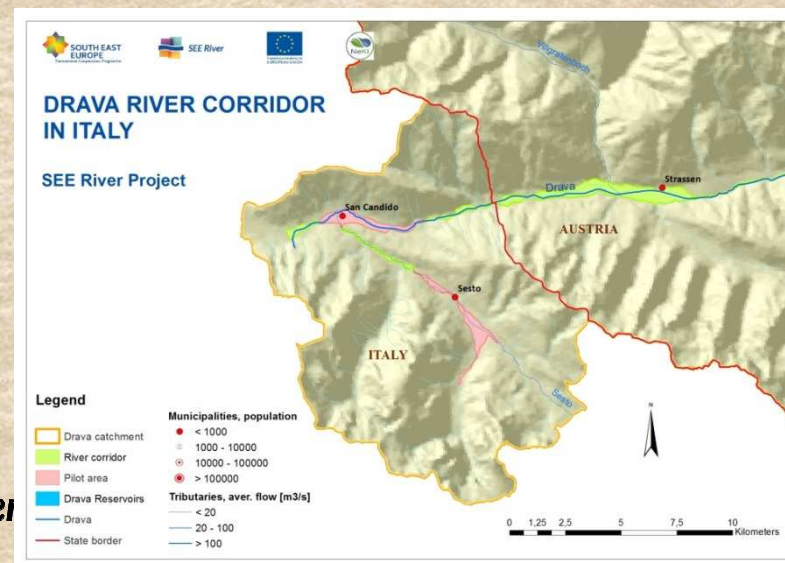
L = 1; 4 km<sup>1</sup>  
F = 1,6; 1,7 km<sup>2</sup>

## Flood Risk Management



## OPTIMIZATION OF PLANNED LOCAL FLOOD RISK MITIGATION

1. Specific **studies** to anchor the river vision, to identify the river corridor, evaluate flood risk mitigation and to find possible land use exchanges.
2. **Comparison of various local flood protection solutions** and improve hydromorphology – **strong participative approach**.
3. Proposals for protection measures for streams (hydro-morphological enhancement - **land exchange model**).





# Austria: Pilot area Oberdrauburg – Spittal a.D. $I = 80 \text{ km}^1$ $F = 247 \text{ km}^2$

## Cross – Sectoral Water Management



## CONSENSUS ON CONTINUED INTEGRATED RIVER CORRIDOR DEVELOPMENT

1. Comprehensive **evaluation** of effects from 20 years of river restoration works on **70 rkm**.
2. **Big pool of data and practical experiences** – high confidence for future measures.
3. **Regular mutual communication led to trust**.
4. Agreement to **tackle the still pending problems in the same cooperative spirit**: flood protection measures together with ecological and recreational improvements.

**SEE River**

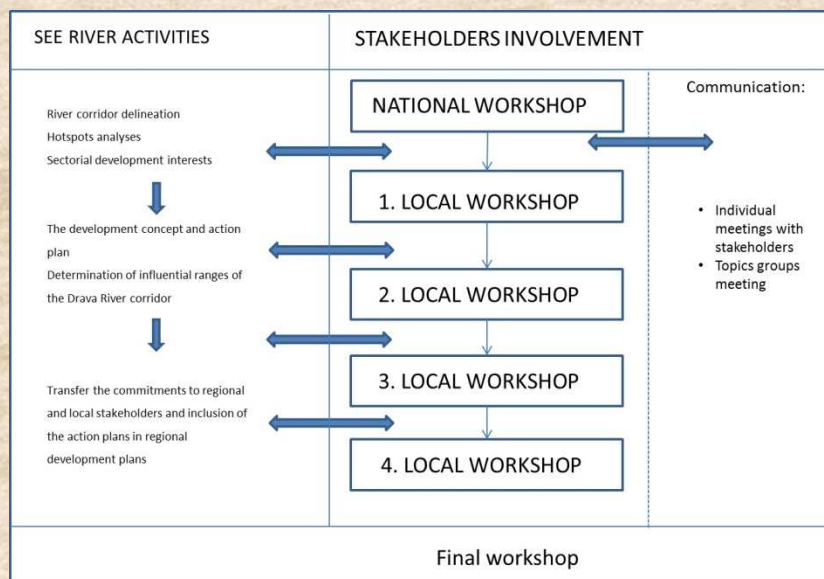




# Slovenia: Maribor – Zavrč pilot area

$L = 47\text{km}$   
 $F = 160\text{ km}^2$

## Regional Development and Regional Spatial Planning



## SECTORAL INTERESTS ALIGNED IN ONE DEVELOPMENT CONCEPT

1. First cross-sectoral communication and stakeholder involvement process on national, regional and local levels
2. Pilot river corridor as a basis for future joint work with maps of environmental hotspots and sectoral development interests
3. New guiding view »Drava 2030« as consensual development concept and action plan





# Croatia: Mura River mouth – Drava River

I = 29 km<sup>1</sup>  
F = 33 km<sup>2</sup>

## Regional Spatial Planning

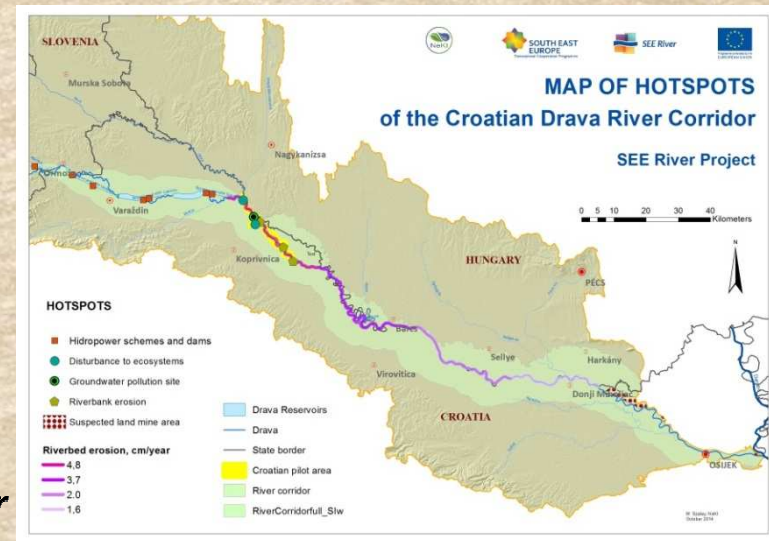
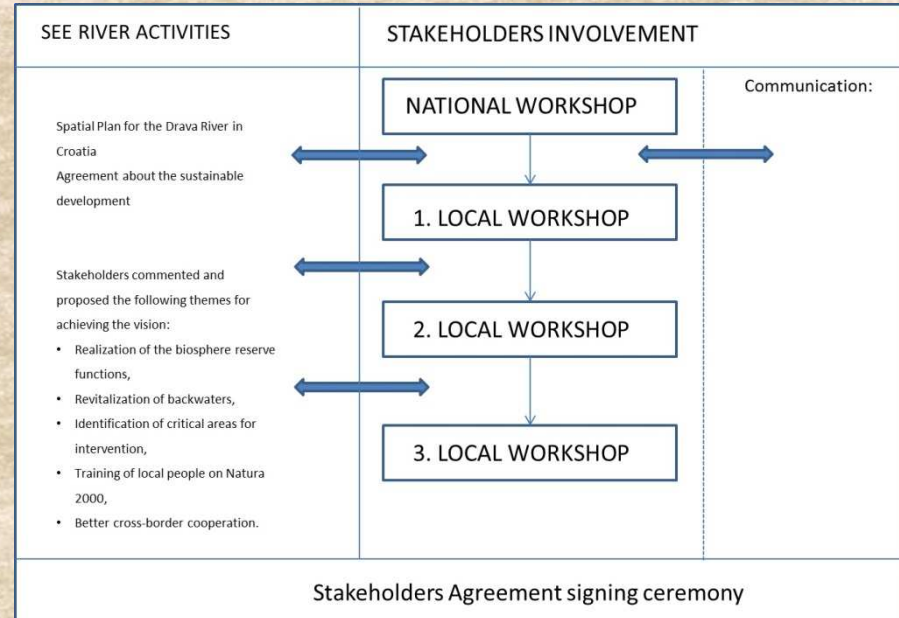


### FIRST SPATIAL PLAN OF A DRAVA COUNTY – A NEW MODEL FOR CROATIA

1. Drava River Corridor Analysis discussed and agreed with diverse stakeholders.
2. Improved cooperation and communication with stakeholders through a **new strong network: “2gether with & 4 Rivers!”**
3. **Key actions agreed** for integrated river management, nature protection and tourism development.



SEE River





# Hungary: Drava River Section (80-142 rkm)

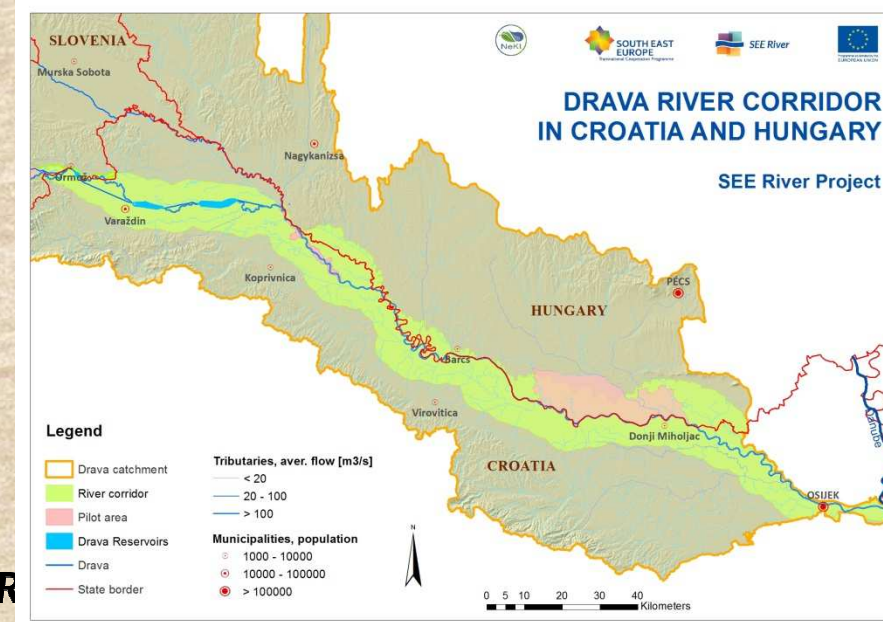
$I = 62 \text{ km}^1$   
 $F = 347 \text{ km}^2$



## Regional Development

### JOINT INTEREST IN RIVER CORRIDOR DEVELOPMENT

1. National institutions became involved into **Drava issues of transboundary origin.**
2. Dialogue facilitated **mutual understanding**, joint interests and a new network.
3. **Local stakeholders became motivated** in developing regional development and cross-border cooperation.
4. **Agreed Drava River Corridor Action Plan** will be integrated into regional development plans.





# Drava river international run approach and outcomes

- 5 National Drava River Analysis.
- 5 National River Basin Management Plans.
- Danube River Basin District Management Plan 2009.
- 5 national Drava river workshops.
- 4 international Drava river stakeholders workshops.
- Joint Drava River Corridor Analysis (*synthesis, re-evaluation and enhancement of knowledge on a larger scale*)



- 130 environmental problems identified in 5 riparian countries (15-40 per country).
- 17 types of river corridor management problems as a result of classification.



- 7 international key Drava river corridor management issues as a result of severity ranking:
  1. altered flow,
  2. flood risk,
  3. altered sediment balance processes,
  4. river regulation,
  5. altered riverine ecology,
  6. water quality and pollution risk,
  7. drought.

Joint Drava River Action Plan.



WHAT AND HOW TO DO?





# Drava river international run outcomes

**Table 5.1: Environmental impact severity and Transboundary effect scores of the key Drava issues**

EUROPEAN UNION

Identified Drava Problems		Italy		Austria		Slovenia		Croatia		Hungary		Summed score*
		Environm. impact severity	Trans-boundary effect	Environm. impact severity	Trans-boundary effect	Environm. impact severity	Trans-boundary effect	Environm. impact severity	Trans-boundary effect	Environm. impact severity	Trans-boundary effect	
Altered river hydro-morphology	3. River bed erosion			III	no	IV	medium	IV	high	IV	high	15+8
	1. Altered flow	II	medium	IV	no	IV	medium	IV, then II	high	IV, then II	high	18+10
	Sedimentation			III at upper part	no							3+1
	4. River regulation	III	medium			III	medium	II	medium	II	high	10+9
	Altered river bed/flow at 10 HPPs			III	medium							3+2
Flood risk	2. Flood risk	III	medium	III-IV at IT & SI borders IV	high /low	IV	medium	II	medium	II	medium	15+12
5. Altered river ecology	Habitat deterioration					III	medium	II	medium	II	medium	7+6
	Habitat loss (alpine pastures)	III	low			IV	medium					7+3
	Species at risk					IV	medium	II	medium	II	medium	8+6
	Obstructed migration			III at HPP near IT	medium	III	medium					3+2
6. Pollution	Water pollution					III	medium	III	medium	III	medium	9+6
	Potential accidental pollution			II	medium	IV	high	III	medium	III	high	(12+11)
Other	7. Drought					III	low	III	high	III	medium	9+6
	Intensive land use	III	medium									3+2
	Visitor management deficits			II	no							2+0

\* Sum of attributed national environmental impact severity and trans-boundary effect scores.



# CRCM contribution to the management of the Drava river

1. **Reached consensus on future management of the 5 pilot river areas** through preparation of background documents for strategic long-term planning and implementation (flood risk management, regional development, regional spatial planning) **prepared together with and endorsed by river corridor stakeholders.**
2. **Reached consensus about the Drava river international run action plan** (in elaboration), prepared in cooperation with national, regional and local stakeholders from all five riparian countries.
3. New local **stakeholder networks well established.**
4. **Increased awareness** and support of all affected stakeholders and the wider public on river corridor management.
5. **Increased knowledge and skills of experts** working in the field of river corridor management.
6. **Increased trust and knowledge of stakeholders.**
7. **Future cooperation** on cross sectoral river corridor management **ensured by over 30 follow up projects integrated into action plans.**



# Way forward in the 5 pilot areas and on the Drava river

- Articulated future developments, activities and projects on national Drava river scales.
  - Articulated future developments, activities and projects on international Drava river scale.
- 
- 

**1 International commissions:** to enable a joint platform to support further development of CRCM.

**2 Bilateral WM commissions:** to enable a transboundary communicational and operational platform for the key Drava management issues .

**3 Ministries:** to utilize the achieved results of the SEE River in their sectoral plans, policies and programmes.

**4 Public agencies and institutions:** to further develop practical knowledges and sophisticate the CRMC approaches.

**5 Regional development agencies:** to support and broadly utilize the CRMC achievements in their missions and documents.

**6 NGOs:** to contribute constructive knowledge and dialogue not only demands.

**7 Local communities:** to take an integrated active part.





# Thank you for your attention!

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