

# **Raab/Rába Basin**

**The second Assessment of transboundary rivers, lakes and groundwaters  
in Western and Central Europe**

**Workshop**  
*Ministry of Rural Development*

**West-Transdanubian**  
*Environmental and Water Directorate*

**Péter Somogyi**

**Budapest, February 8-10th 2011.**



## Topics of the presentation

### Concept of presentation, scope and background of data

- main information about the Hungarian part
- source of information from RBMP or A-HU Water Committee

### 1. About Rába catchment - general presentation

based on Hungarian Rába RBMP

### 2. Transboundary characteristics in A-HU border region

based on A-HU Water Committee, RBMP compliance

### 3. Major common transboundary issues

Rába action program



**international basin;**

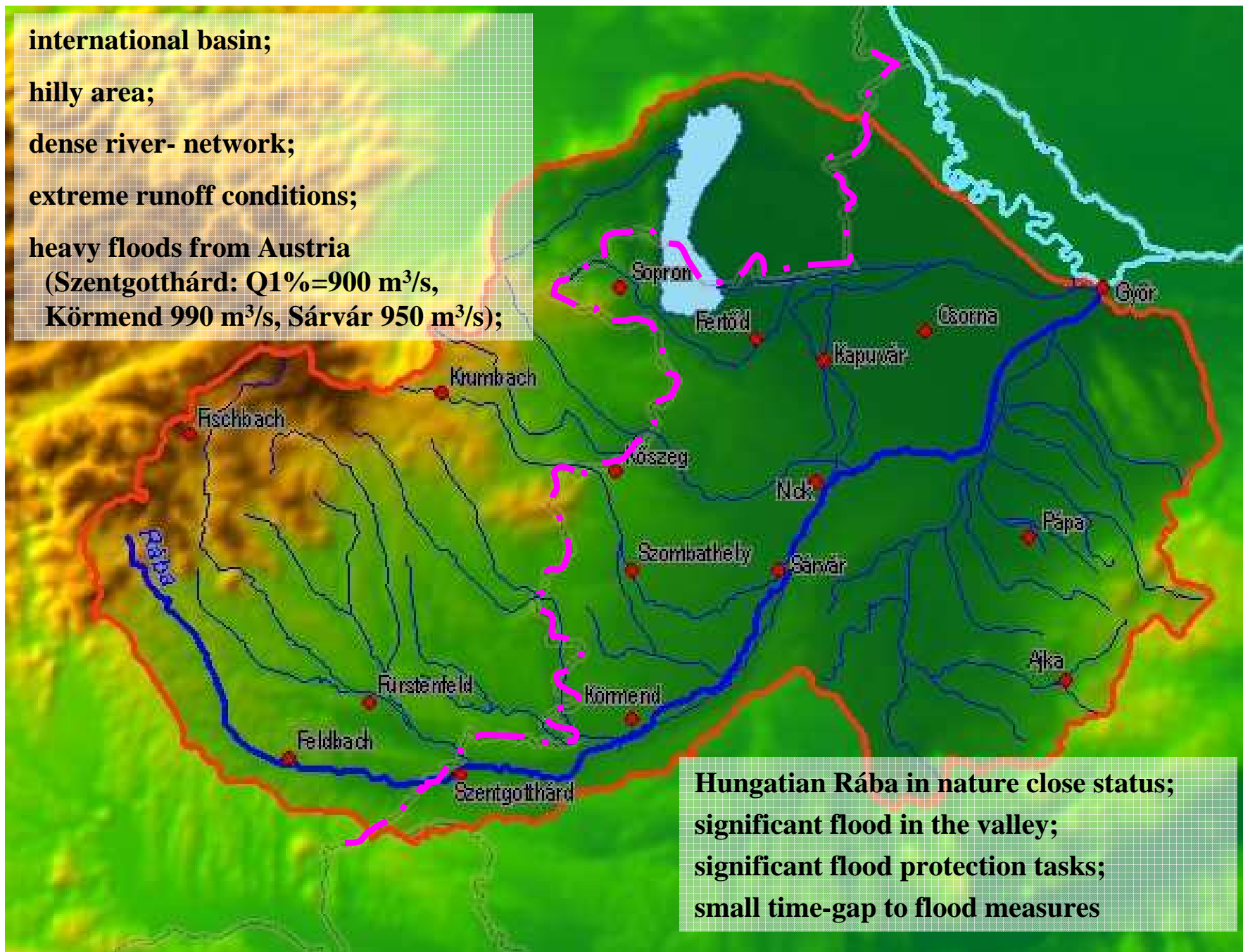
**hilly area;**

**dense river- network;**

**extreme runoff conditions;**

**heavy floods from Austria**

**(Szentgotthárd:  $Q_{1\%}=900 \text{ m}^3/\text{s}$ ,  
Körmend  $990 \text{ m}^3/\text{s}$ , Sárvár  $950 \text{ m}^3/\text{s}$ );**

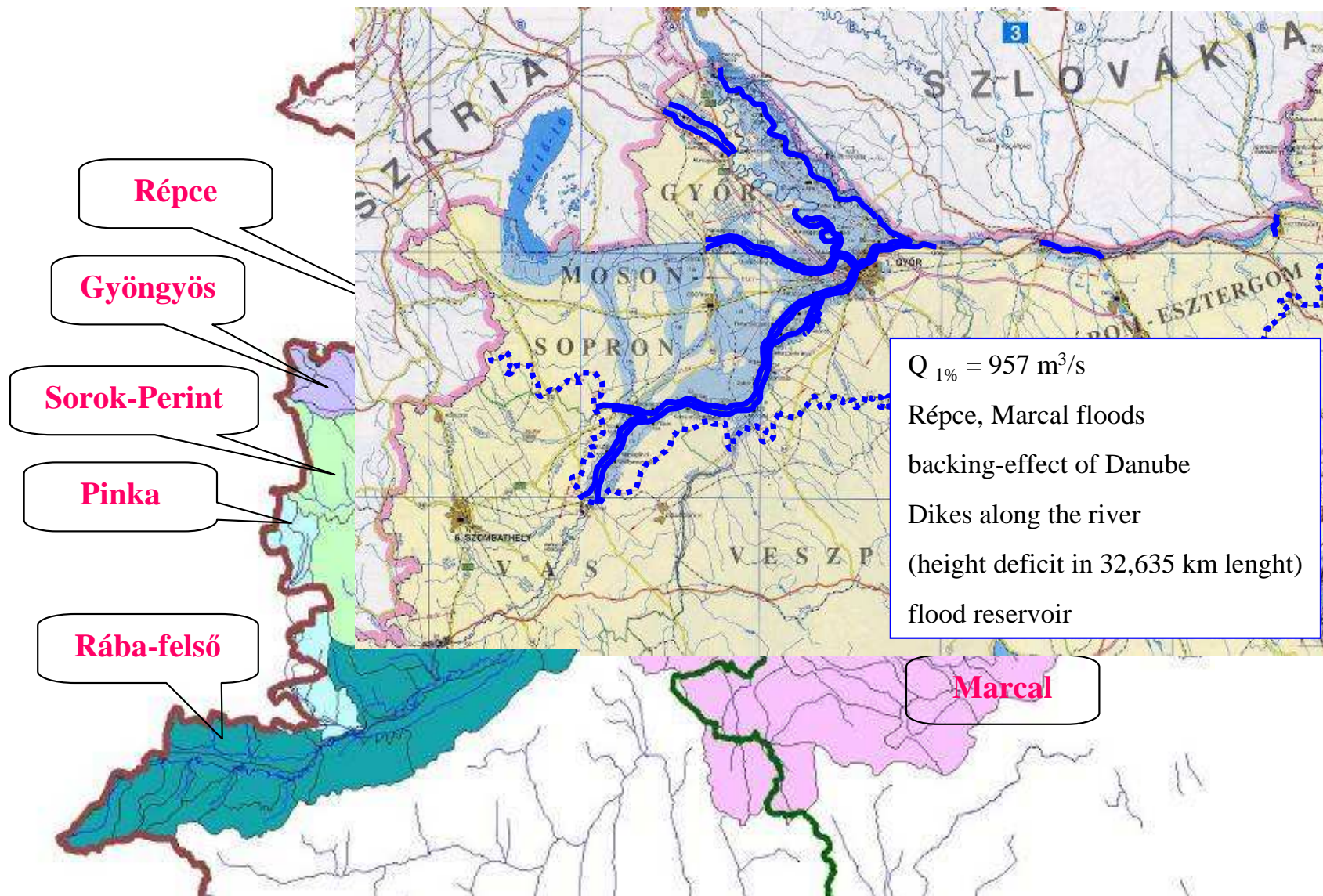


**Hungarian Rába in nature close status;  
significant flood in the valley;  
significant flood protection tasks;  
small time-gap to flood measures**



# Hungarian Rába catchment

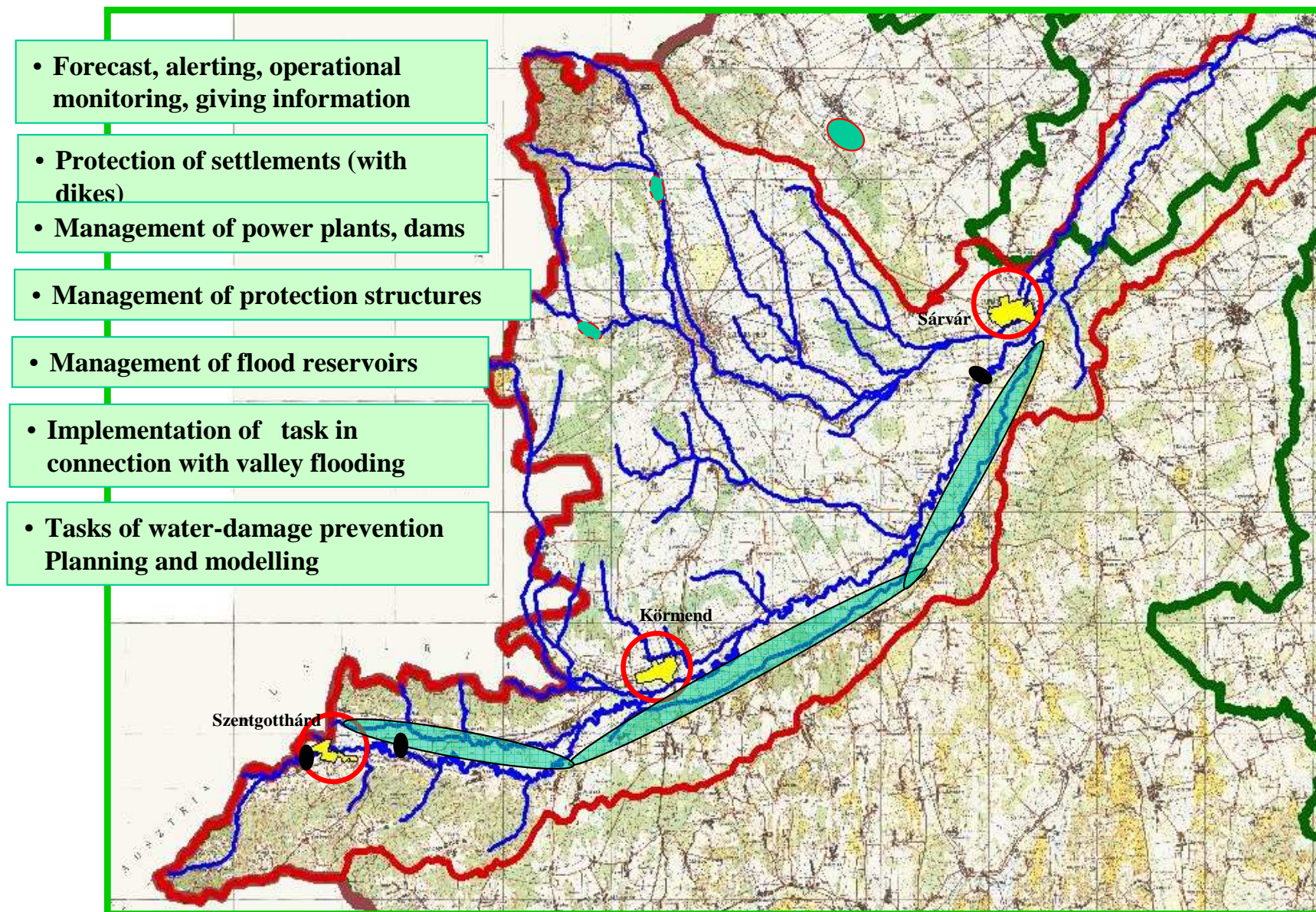
## Main tributaries





# Hungarian Rába catchment

## Protection tasks

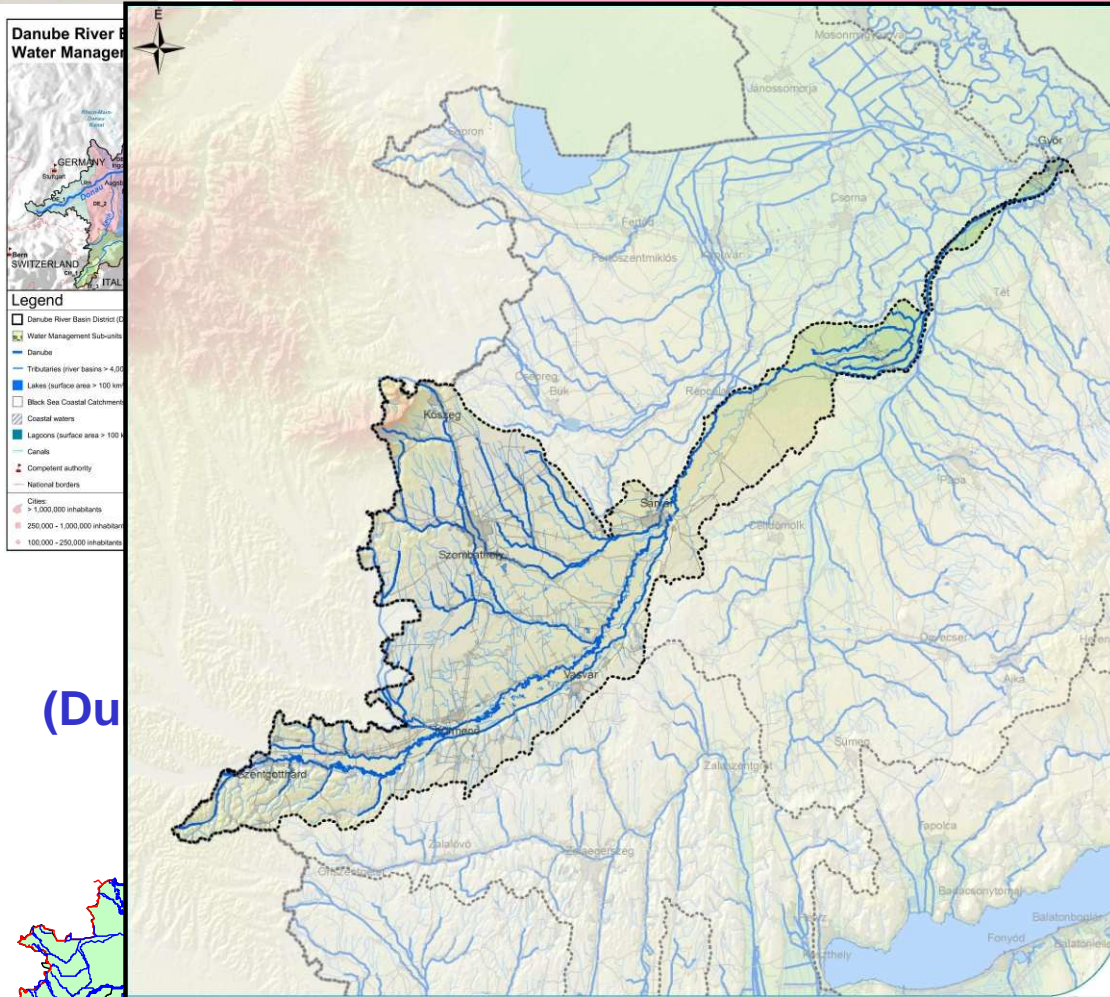






# Hungarian Rába catchment

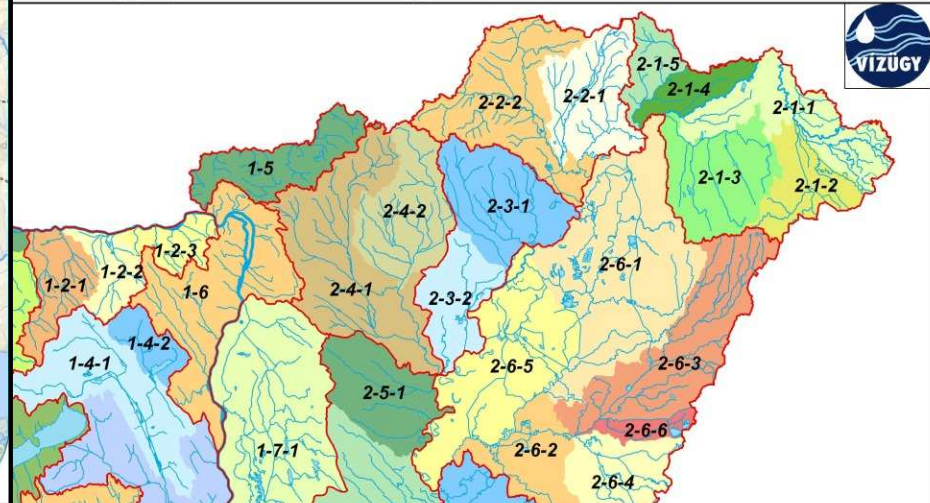
## Units of River Basin Management Planning (RBMP)



1 district

2 river basin sub-units

OKI: Vízyűjtő-tervezési alegységek, 2007



Small landscapes in the sub-unit: Kőszegi mountain, Pinka plain, Rába terracing plain, Rába valley, Gyöngyös plain, Vasi Hegyhát, Vas mountain és Kőszeghegyalja, Alsó- és Felső-Kemeneshát, Upper-Őrség, Csornai plain

1-1-1 Szigetköz	1-2-3 Gerecse	1-5 Ipoly	2-1-3 Lónyai-főcsatorna	2-3-2 Hevesi-sík	2-6-2 Hámas-Körös	2-7-2 Maros-hordalékúp
1-1-2 Rába és a Fertő-tó	1-3 Kapos	1-6 Közép-Duna	2-1-4 Bodrogköz	2-4-1 Zagyva	2-6-3 Berettyó	3-1 Mura
1-1-3 Marcal	1-4-1 Észak-Mezőföld és Keleti-Bakony	1-7-1 Duna-völgyi főcsatorna	2-1-5 Tokaj-hegyalja	2-4-2 Tarna	2-6-4 Kettős-Körös	3-2 Rinya-mente
1-1-4 Rába	1-4-2 Velencei-tó	1-7-2 Felső-Bácska	2-2-1 Hernád, Takta	2-5-1 Nagykőrösi-homokhát	2-6-5 Nagykunság	3-3 Fekete-víz
1-2-1 Bakony-ér és Concói	1-4-3 Sió	2-1-1 Felső-Tisza	2-2-2 Sajó a Bódvával	2-6-2 Alsó-Tisza jobb part	2-6-6 Sebes-Körös	4-1 Balaton közvetlen
1-2-2 Áttalér	1-4-4 Alsó-Duna jobb part	2-1-2 Szamos-Kraszna	2-3-1 Bükk és Borsodi-ílezőség	2-6-1 Hortobágy-Berettyó	2-7-1 Kurca	4-2 Zala



## Hungarian Rába basin

### General significant water management problems

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#### Rivers

##### 1. Regulation of the rivers

- Reservoir with barrage, bed dams, bed thresholds
- Structured channel form, longitudinal regulation, inadequate maintenance
- Lack of proper zonation

##### 2. Load of nutrients and organic substances

- Municipal and illegal waste water inlet
- Municipal landfills and livestock farms
- Discharge from fish ponds and reservoirs
- Diffuse pollution from agricultural and urban areas

##### 3. Salinity and heat stress (thermal water inlet)

##### 4. Hazardous materials (transferring effect from upper watershed)

#### Groundwater

##### **1. Problems in connection with nitrate and ammonium pollution**

Diffuse pollution from agricultural and urban areas

Affected water type by pollution: shallow groundwater

##### **2. Other pollution**

Diffuse agricultural pesticide pollution

Affected water type by pollution: shallow groundwater





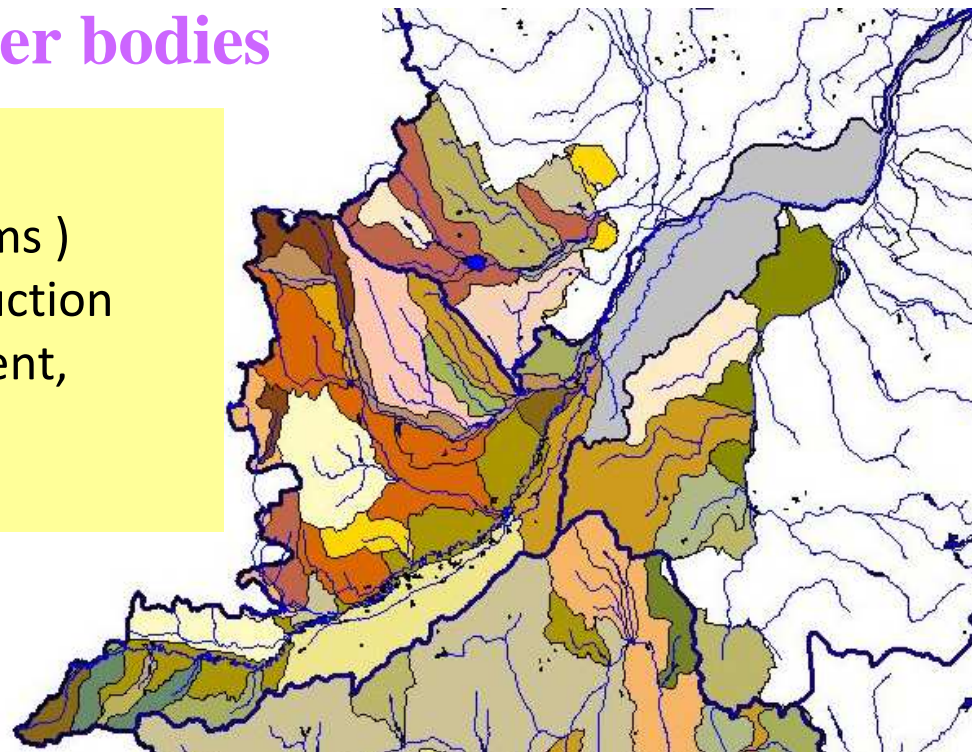
## Hungarian Rába basin

### Classification and status of watercourses

#### Heavily modified, artificial water bodies

**11** pcs heavily modified surface waterbody  
(on Rába, Lapincs, on Pinka, small streams )  
reason: - flood protection, power production  
- share of discharge, embankment,  
damming up

Artificial waterbody not designated



#### The status of water bodies

Rivers - total **30** pcs waterbody

**2** pcs are good **19** pcs are not good out of these, **9** pcs can't be determined because of lack of data

Lakes - there is no stagnant water body in the sub-unit (over 50 ha)

Groundwater - total **5** pcs waterbodies

No quantitative problem, 1 pcs waterbody isn't in good status based on chemical qualification





## **Hungarian Rába basin**

### **Main groups of measures**

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1. Reduction of loads of nutrients and organic matters
2. Solving other pollution related problems
3. Improvement of hydromorphological status of rivers and lakes
4. Implementation of sustainable water use, improvement of quantitative status of waters
5. Ensure adequate quality of drinking water
6. Specific measures for protected areas
7. Comprehensive measures for aquatic environmental problems



# Hungarian Rába basin

## Schedule of measures in order to reach good target status

	Total waterbody (waterbody pcs)	Waterbodies affected by the measures		
		Until 2015 (waterbody pcs)	Until 2021 (waterbody pcs)	Until 2027 (waterbody pcs)
<u>Rivers and lakes:</u>	<b>Rába: 30</b>	<b>23</b>	<b>29</b>	<b>4</b>
<u>Groundwaters</u>	<b>Rába: 5</b>	<b>1</b>	<b>1</b>	<b>1</b>

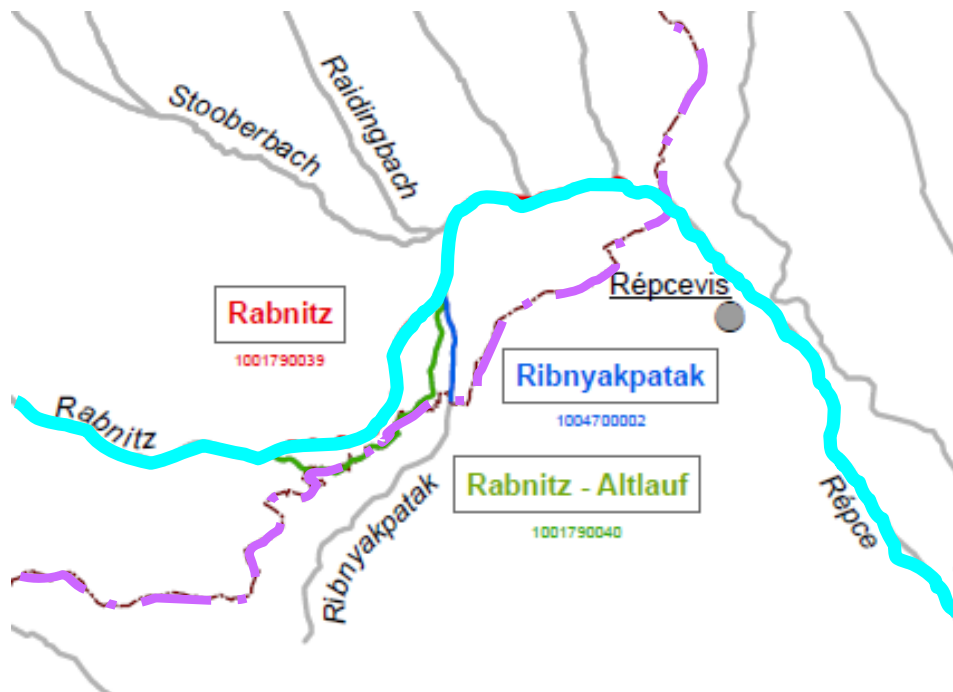
	Total waterbody (waterbody pcs)	Maximum expected impact of the measures applied for water bodies		
		Until 2015 (waterbody pcs)	Until 2021 (waterbody pcs)	Until 2027 or later (waterbody pcs)
<u>Rivers and lakes:</u>	<b>Rába: 30</b>		<b>1</b>	<b>29</b>
<u>Groundwaters</u>	<b>Rába: 5</b>			<b>1</b>





# A-HU border region

## Rabnitz/Répcé cross-border river



### Measures

- A: - improving morphology
- HU: - forming and maintenance of water protection buffer stripe along the river,
- reduce regulation of conditions on the river and its basin,
- protecting and rehabilitation of damaged ecosystems which depend on water,
- additional water supply for flood plain and oxbows

STATUS			
Waterbody name Country A = Austria H = Hungary A-H = forming the boundary	Ecological status/ ecological potential	Chemical status (EU regulated pollutants)	Total status
Répcé A	moderate	good	moderate
Répcé-upper H	poor	good	poor

# A-HU border region

## Güns/Gyöngyös cross-border watercourse



### Measures

- A: - not necessary
- HU: - forming and maintenance of water protection buffer stripe along the river,
  - reduce regulation of conditions on the river and its basin,
  - surveying of state of ecosystems, defining the reason of damages, making protection and maintenance plans for that system which depends on water

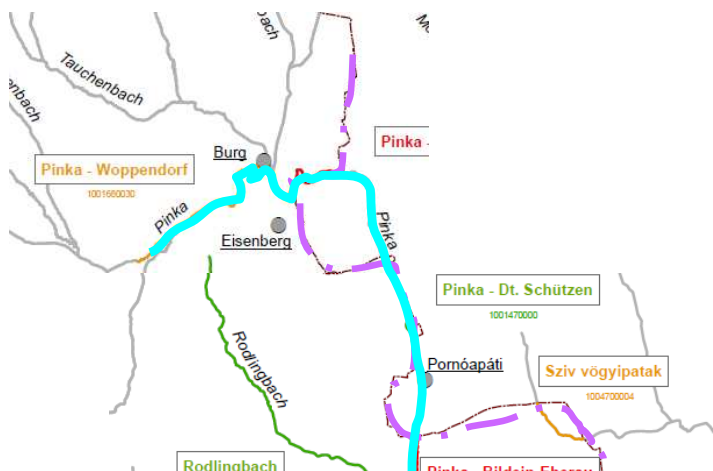
STATUS			
Waterbody name Country A = Austria H = Hungary A-H = forming the boundary	Ecological status/ ecological potentia I	Chemical status (EU regulated pollutants)	Total status
Güns_UL A-H	good	good	good
Gyöngyöspatak H	moderate	good	moderate





# A-HU border region

## Pinka, Strém cross-border rivers



### Measures

- A:** - reducing the input of nutrient and organic substances
- HU:** - forming and maintenance of water protection buffer stripe along the river,  
 - reduce regulation of conditions on the river and its basin,  
 - modifying the operation of barrages,  
 - constructing bypass-channel for the fish,  
 - using a good fishing practice.

STATUS Waterbody name Country A = Austria H = Hungary A-H = forming the boundary	Ecological status/ ecological potential	Chemical status (EU regulated pollutants)	Total status
Pinka_Burger canyon A-H	good	good	good
Pinka H	poor	no or less data	poor
Pinka_Dt. Schützen A-H	poor	good	poor
Pinka_Bildein, Eberau A	poor	good	poor
Pinka_Gaas, Moschendorf A	poor	good	poor
Pinka_Luising A-H	good	good	good
Pinka_Entlastung A	good		-
Strém border section A-H	moderate	good	moderate
Strém H	poor	no or less data	poor

## A-HU border region

### Raab/Rába, Lafnitz/Lapincs cross-border rivers



#### Measures

- A:**
- using a common program to reduce the load of nitrate
  - improving the damming zones of river
- HU:**
- forming and maintenance of water protection buffer stripe along the river,
  - reduce regulation of conditions on the river and its basin,
  - modifying the operation of barrages,
  - constructing bypass-channel for the fish,
  - using a good fishing practice.
  - supplying additional water for the oxbow and ecosystems which depend on water

STATUS Waterbody name Country A = Austria H = Hungary A-H = forming the boundary	Ecological status/ ecological potential	Chemical status (EU regulated pollutants)	Total
Lapincs_UL A	good	good	good
Lapincs H	moderate	good	moderate
Raab_Neumarkt A	moderate	good	moderate
Raab_border section A-H	moderate	good	moderate
Rába (from border) H	moderate	not good	moderate

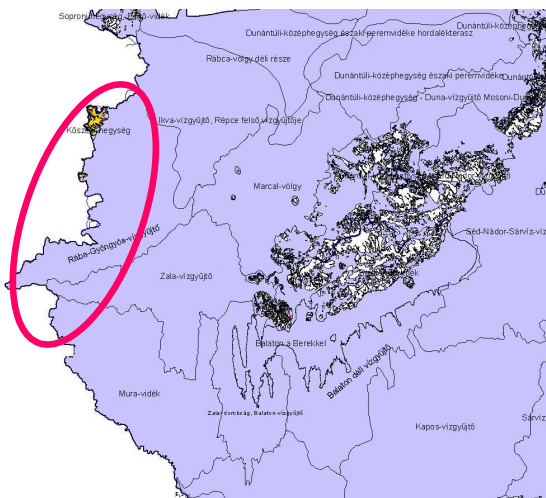




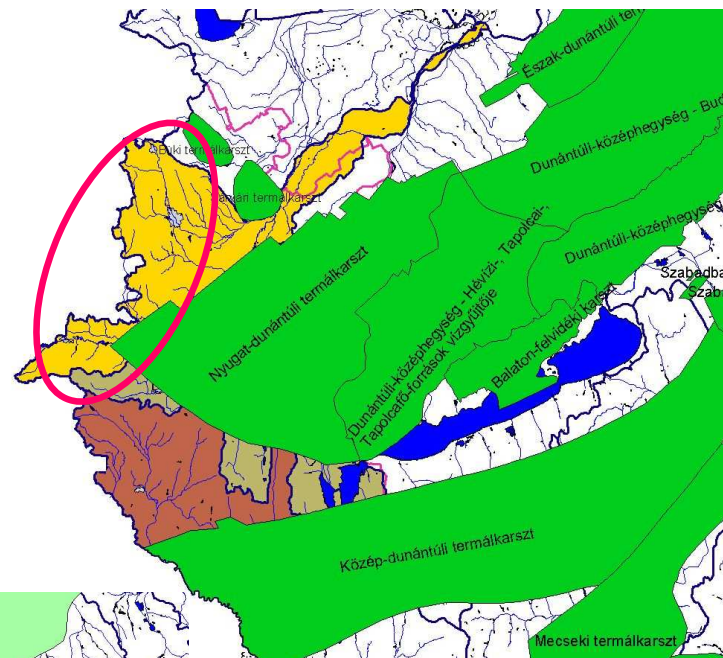
# A-HU border region

## Significant types of groundwaters

Porous shallow and deep waterbodies



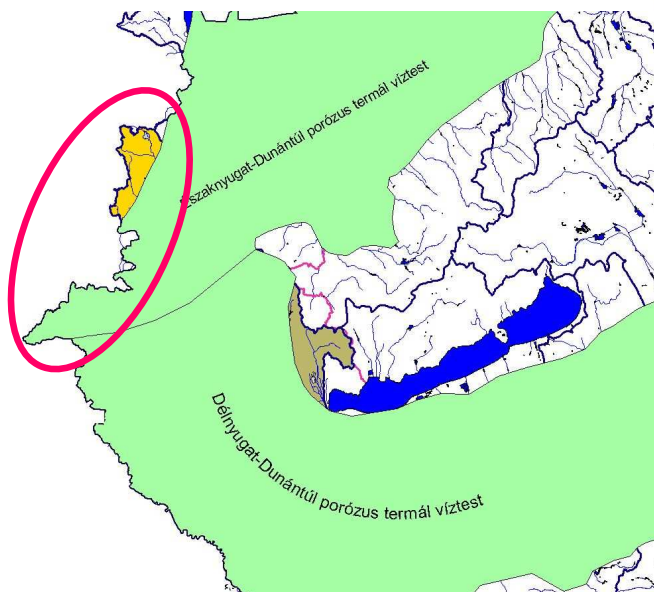
Carstic waterbody (cold-warm)



**No qualitative problem**

**Only one qualitative problem**

- **In the shallow porous waterbody**



Porous thermal waterbody

# Transboundary, significant common issues

## Problems, measures

### 3 main water qu

- River Raab wa
- High salt load
- High salt load

### Handling of the

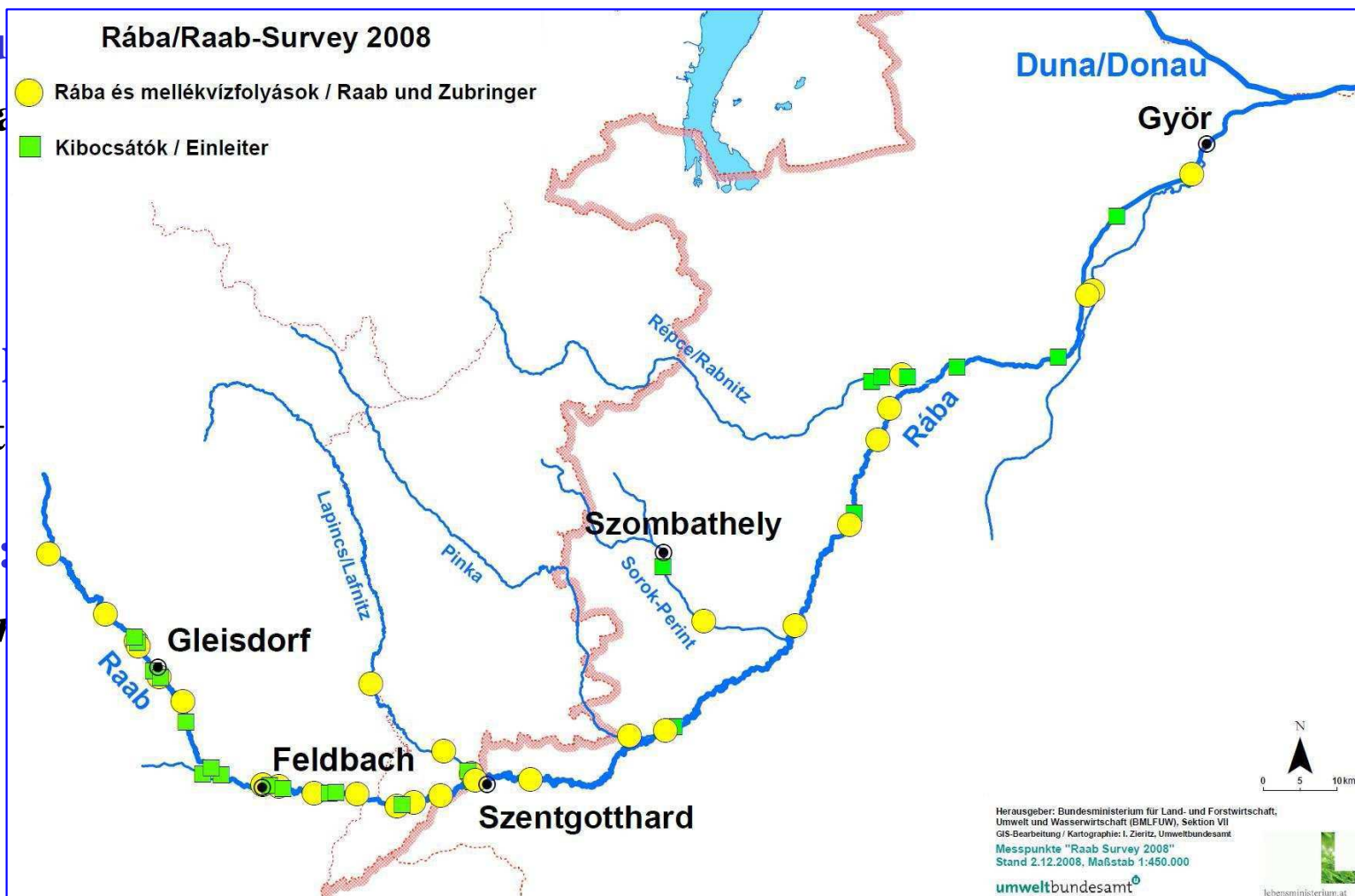
- Working-out (2007)

### Implementation

*Raab ad hoc Work Committee*

### Goals:

- Introduction
- Increased control of emissions and imissions – done!
- Introduction of improved cleaning in 3 leather factories – done in 2!
- Stop of thermal water inlet on Lapincs – done!
- Common plan for ecological rehabilitation of river Raab – ongoing!



**Thank you for your attention!**