



Monitoring of transboundary waters in Europe: Lessons from the UNECE Pilots

John Chilton, British Geological Survey
and

Jos Timmerman, RIZA, Netherlands

NWQMC, San José, California, May 2006



RIZA



United Nations Economic Commission for Europe





The work of the UNECE

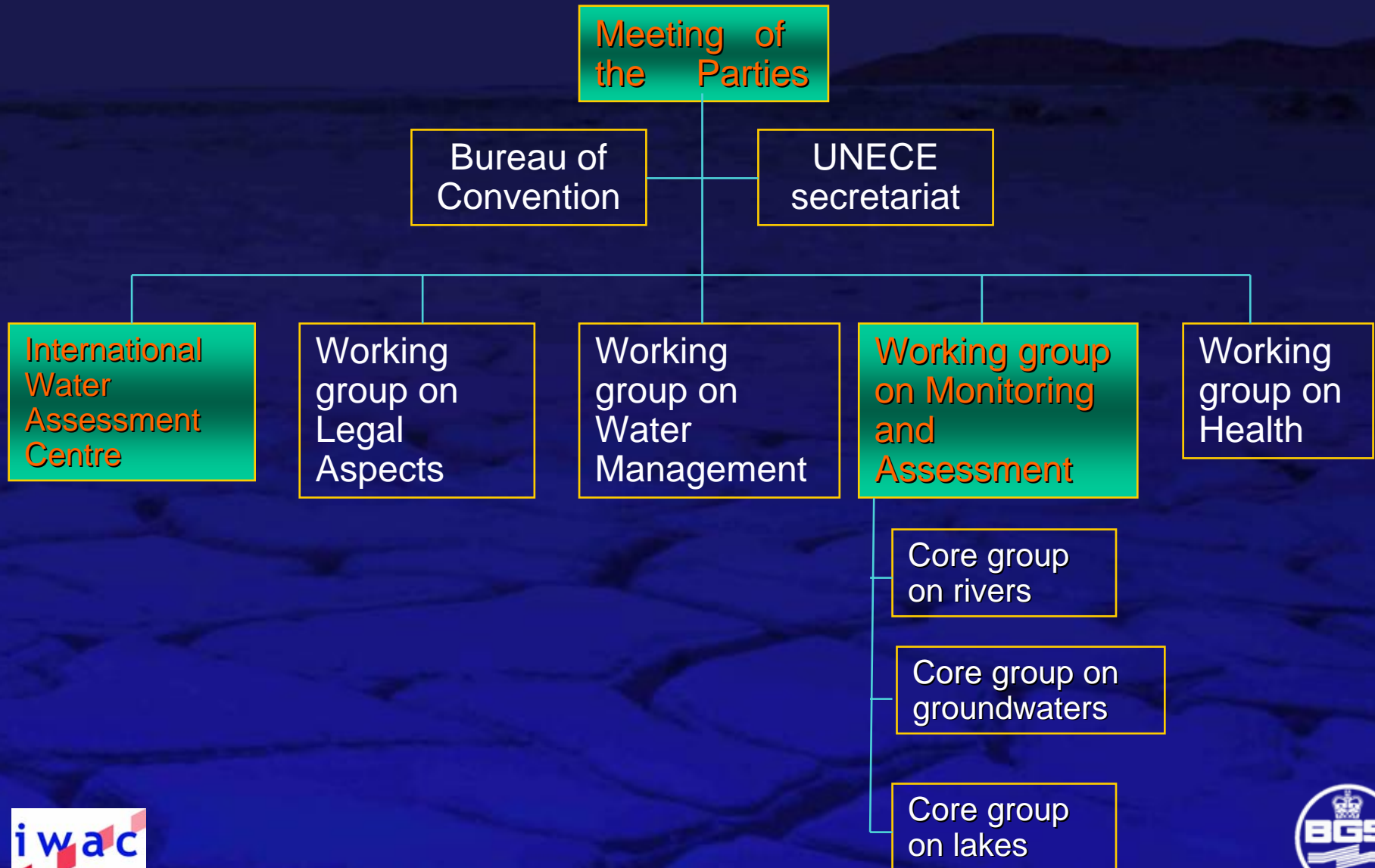
- Convention on the protection and use of transboundary watercourses and international lakes –

Established in 1992 and came into force in 1996

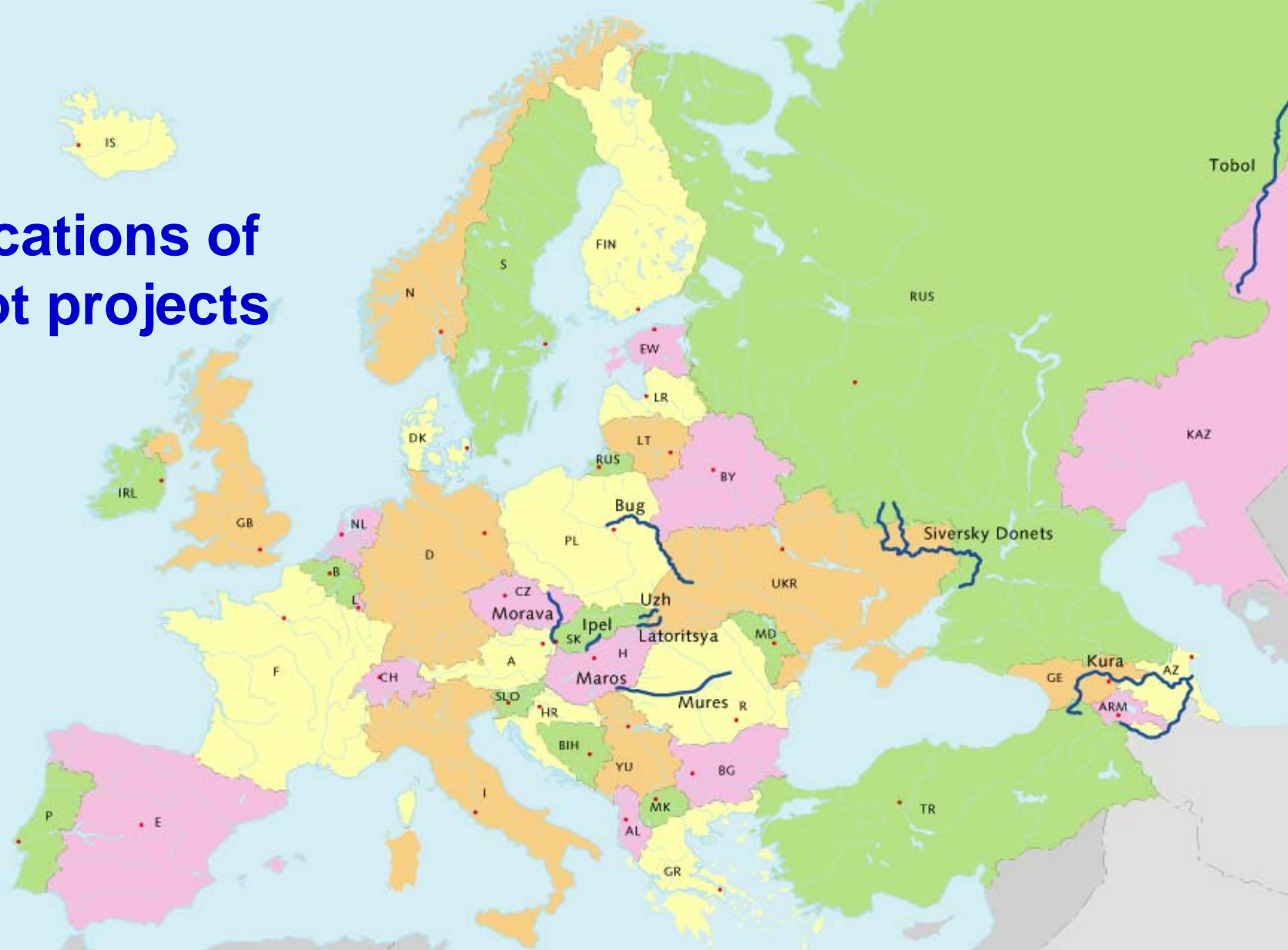
Supporting activities related to the Convention were already established from 1994

- Drafting of guidelines for monitoring and assessment for rivers, lakes and groundwater
- Testing of the guidelines in pilot projects

Organisational structure



Locations of pilot projects





Objectives of the pilot projects

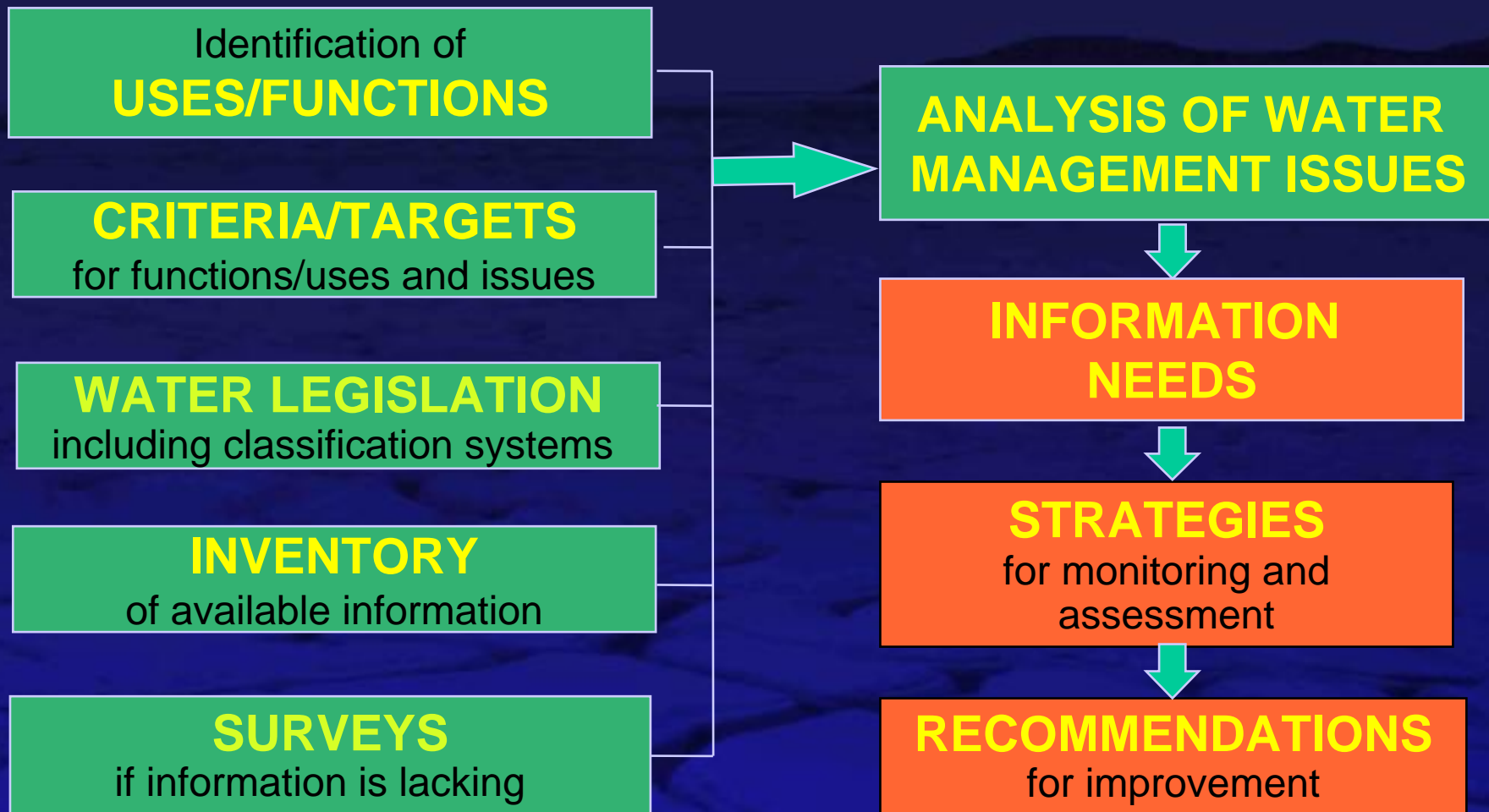
- To *demonstrate* application of the UN ECE guidelines on monitoring and assessment of transboundary waters
- To *support* countries in their application
- To *learn* from the experience gained in the pilots and identify gaps or weaknesses for their review

Phases and activities of pilot projects



Phase	Activity	Report
1. Inception	<ul style="list-style-type: none"> • MoU, look for funding, ToR • Project teams and workplan 	<i>No 1</i> Inception Report
2. Analysis of monitoring and assessment needs	<ul style="list-style-type: none"> • Inventory, review legislation • Review existing quality data • Preliminary surveys of water quality • Inventories of polluting activities • Water quality and management issues • Specify information needs 	<i>No 2</i> Identification and Review of Water Management Issues
		<i>No 3</i> Recommendations for Improved Monitoring and Assessment
2. Develop recommendations	<ul style="list-style-type: none"> • Evaluate existing monitoring • Strategies for monitoring and assessment • Recommend and cost improvements 	
3. Implementation	<ul style="list-style-type: none"> • Redesign monitoring programmes • Implement recommended sampling, analysis, data handling and exchange • Procure additional equipment • Develop QA/QC and train staff • Report on water quality to stakeholders 	Beyond scope of pilot projects

Steps in the river pilot projects



Lessons learnt from project preparation



- A Memorandum of Understanding between partners is essential

This can be facilitated by:

- Establishing links between projects and commissions
- Involving all stakeholders from the beginning

Further:

- Need achievable objectives and realistic ToR, but flexible to take account of basin characteristics

Lessons learnt from project organisation



- Necessary but time consuming to build project teams
- Need to involve people with responsibility and authority
- Need meetings and workshops within and between project teams to build trust, cooperation and common understanding
- Regular meetings of pilot project teams and advisers helped maintain progress
- Clear, agreed project structure, with defined phases and tasks
- English essential working language within and between project teams, but need some key outputs in national languages
- Joint field visits, surveys and common sampling are essential

Common sampling in the Bug basin



Lessons for transboundary monitoring and assessment: perceptions



- Existing perceptions of the requirements of monitoring were rather narrow, and the broader process of water quality assessment was not well understood
- The information needs approach, consideration of functions and issues and the concept of the monitoring cycle were all new

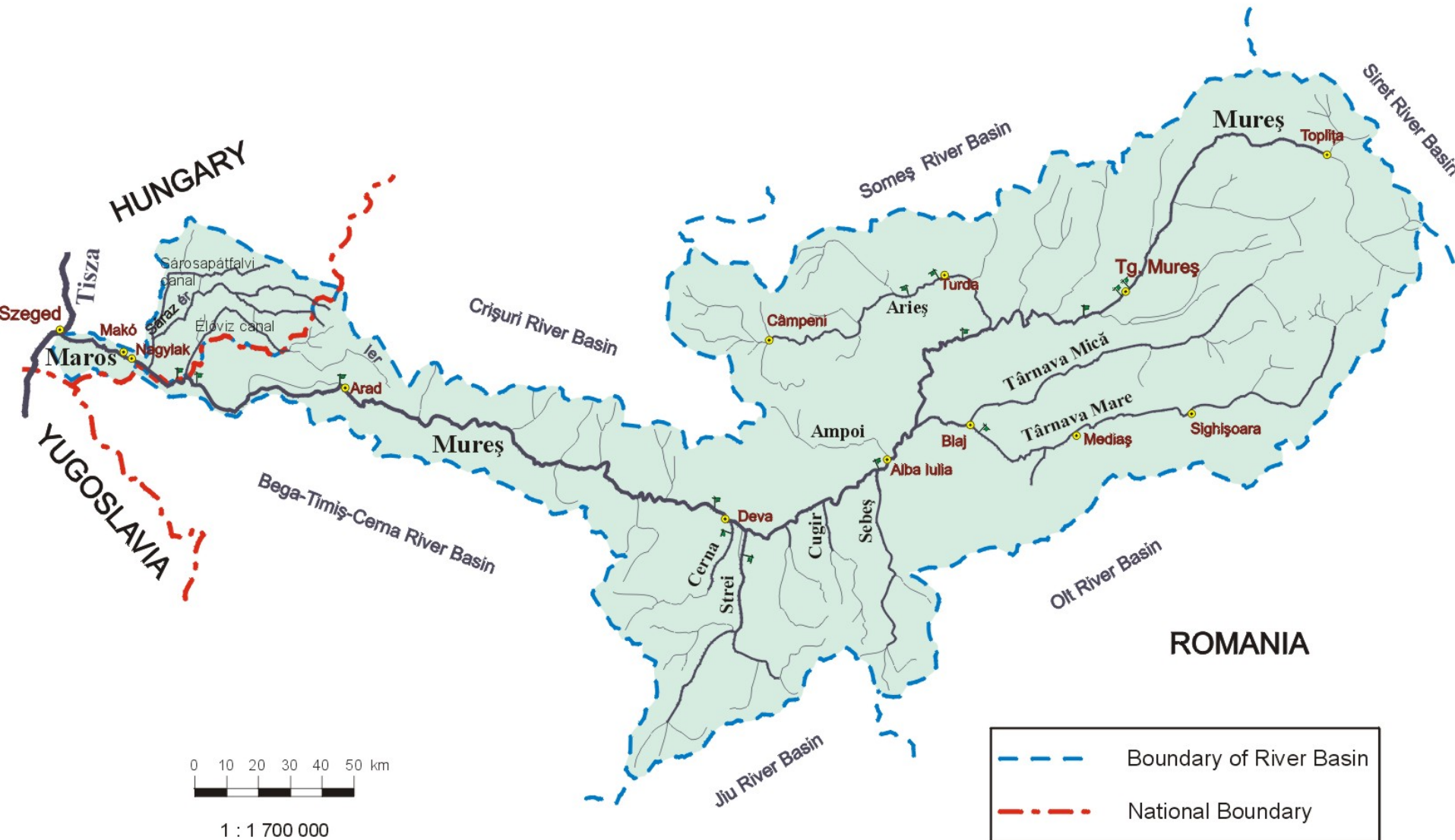
Lessons for transboundary monitoring and assessment: the river basin



Analysis of functions, issues and uses required project teams to:

- take a river basin approach where previous focus had been on water quality at the border
- think about the spatial distribution of functions and issues in relation to water management
- take account of possible groundwater – surface water interactions for both quantity and quality

Think about what is happening, *and where*, in the basin





Water uses and issues in the Mures/Maros river basin

Issue/problems \ Functions/uses						
	Drinking water	Ecosystem functioning	Fishing	Recreation	Irrigation	Industrial use
Organic pollution	x	x	x	x		
Bacterial pollution	x			x		
Eutrophication		x	x	x		
Pollution by hazardous substances	x	x	x	x	x	
Accidental pollution	x	x	x	x	x	x

high stress medium stress moderate stress



Lessons learnt – social aspects

- A good social climate helps to ensure success
- Teams became more open to changing their ways of thinking, to raise questions and to discuss
- Working in a team builds trust
- Get to know colleagues and the way they think
- Informal and friendly atmosphere creates opportunities for initiatives
- Learn together by doing – joint field visits



Joint sampling at boundary crossing



Lessons for revision of the UN ECE guidelines



- River basin management needs to be better explained
 - The focus on information needs still requires further explanation and illustration
 - Deriving indicators from information needs within the DPSIR framework needs more discussion
 - Need more attention to water quantity aspects
 - Should be more emphasis on “Tailor-made” and “step-by-step” approaches to implementation
 - Policy material was too much focused on legislation
- the key is more examples!!*

Overall results of UN ECE rivers pilots



- Good joint understanding of what the main issues are and where located within the basin
- Some, but incomplete, knowledge of the actual water quality problems from existing data
- Clear evaluation of the suitability of existing monitoring and its weaknesses
- Sampling sites and frequencies mostly adequate, but additional parameters needed
- Additional investment needed as a consequence
- Hydrological monitoring needs strengthening

***The most important lesson –
let the river basin tell the story***

Thank you