



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE MEDIO AMBIENTE,  
Y MEDIO RURAL Y MARINO

CONFEDERACIÓN  
HIDROGRÁFICA  
DEL MIÑO-SIL

# MIÑO AND LIMIA BASINS

José Álvarez Díaz

Miño-Sil River Basin District's Planning Office, Spain

WORKSHOP ON TRANSBOUNDARY WATER RESOURCES  
MANAGEMENT IN WESTERN AND CENTRAL EUROPE



**Miño—Sil**  
PLANIFICACIÓN HIDROLÓGICA  
2010 - 2015

**BUDAPEST, HUNGARY, 8-10 FEBRUARY 2011**

## WORKSHOP ON TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN WESTERN AND CENTRAL EUROPE

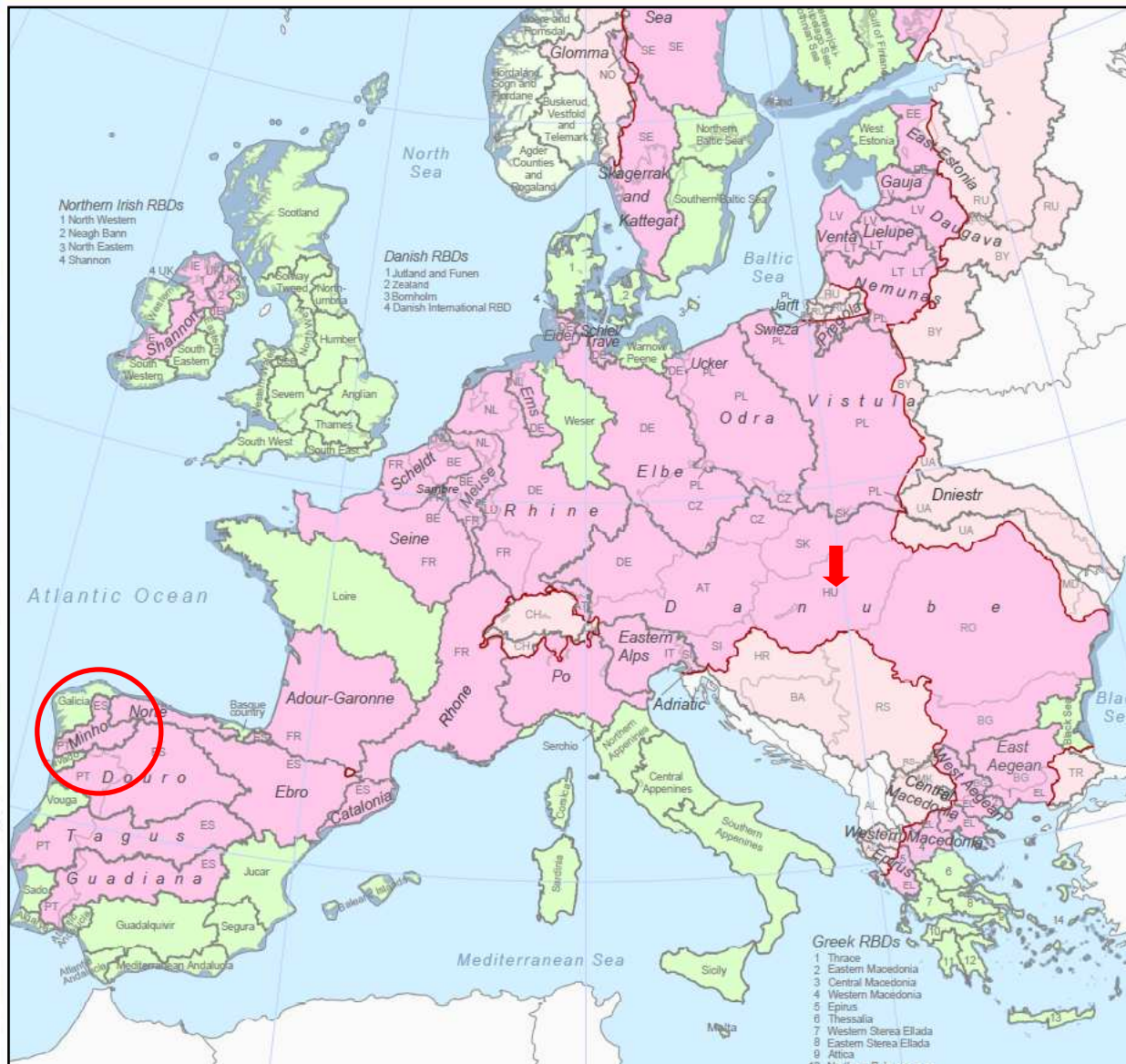
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### INDEX

1. OVERVIEW OF THE TRANSBOUNDARY RIVERS MIÑO AND LIMIA
2. MIÑO RIVER BASIN
3. LIMIA RIVER BASIN
4. CROSS-BORDER COOPERATION AND COORDINATION

# WORKSHOP ON TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN WESTERN AND CENTRAL EUROPE

OVERVIEW: LOCATION

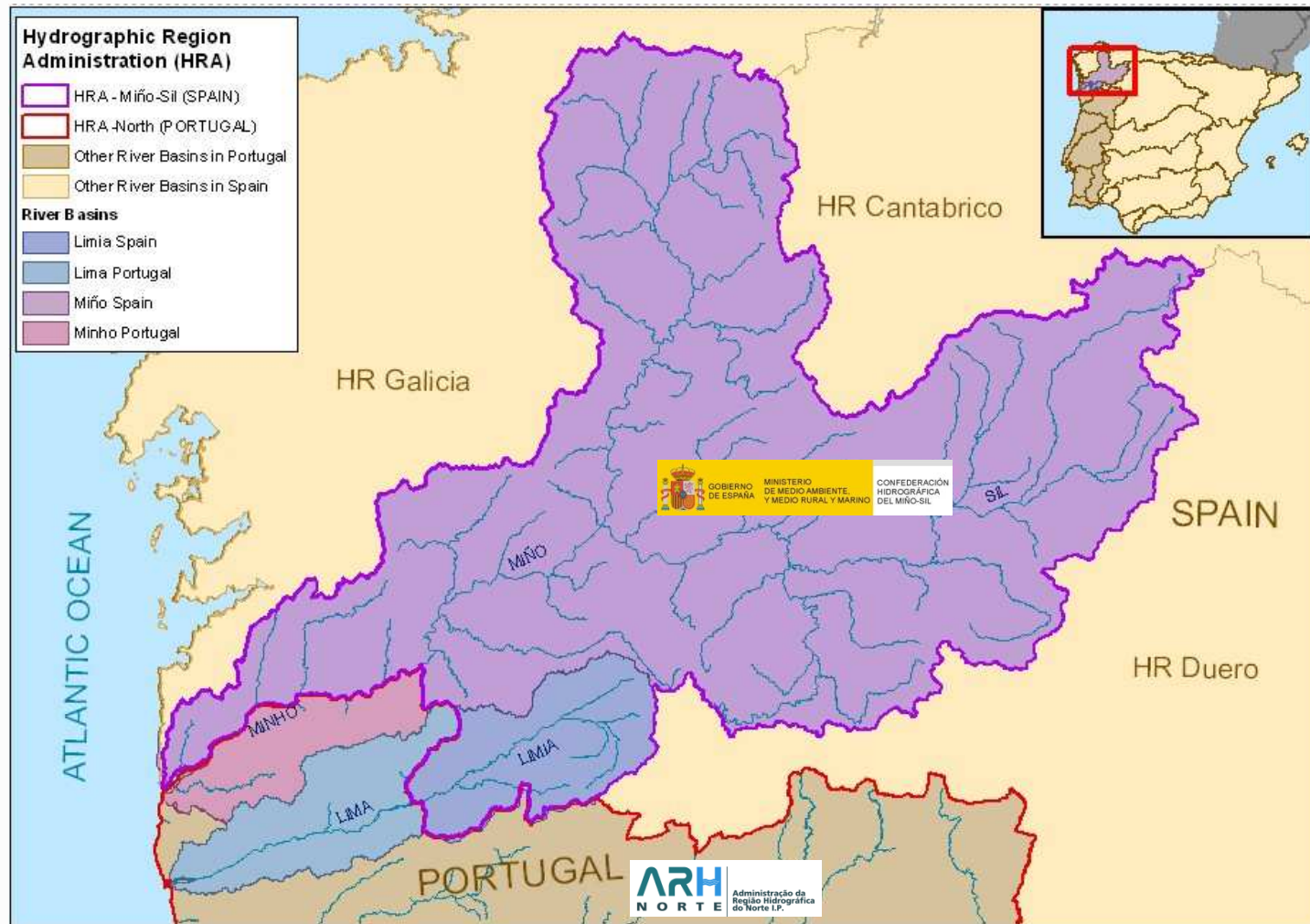


- National River Basin Districts<sup>(1)</sup> (within EU27)
- National River Basin Districts<sup>(1)</sup> (outside EU27)
- International River Basin Districts<sup>(2)</sup> (within EU27)
- International River Basin Districts<sup>(3)</sup> (outside EU27)
- Coastal Waters<sup>(4)</sup>
- RBD boundary
- Country border
- EU27 boundary





## RIVER BASIN DISTRICT OF MIÑO-SIL IN SPAIN AND NORTH HRA IN PORTUGAL



## MIÑO/MINHO RIVER BASIN



### MIÑO RIVER:

- The basin of the river Miño is shared by Spain (upstream country) and Portugal (downstream country).
- The river has its source in Spain and flows into the Atlantic Ocean.
- On its last 76 km, the Miño River represents the Spanish-Portuguese border (40 km transitional and coastal waters).
- The major transboundary tributary is Trancoso river



| Basin of the Miño River |          |                        |     |
|-------------------------|----------|------------------------|-----|
| Area                    | Country  | Country's share        |     |
| 17,080 km <sup>2</sup>  | Spain    | 16,230 km <sup>2</sup> | 95% |
|                         | Portugal | 850 km <sup>2</sup>    | 5%  |



## MAIN FEATURES OF THE REGION:

### Spanish Part of the River Basin

Number of inhabitants: 827,803 (INE 2009)

Population Density: 51 persons/km<sup>2</sup>

Water resources: 12,216 hm<sup>3</sup>/year (period 1940/41-2005/06)



| ANNUAL WATER WITHDRAWAL BY SECTOR |             |        |          |          |       |
|-----------------------------------|-------------|--------|----------|----------|-------|
| Total withdrawal                  | Agriculture | Urban  | Industry | Energy * | Other |
| 436,400,000 m <sup>3</sup> /year  | 70.2 %      | 26.1 % | 3.5 %    | 0 %      | 1 %   |

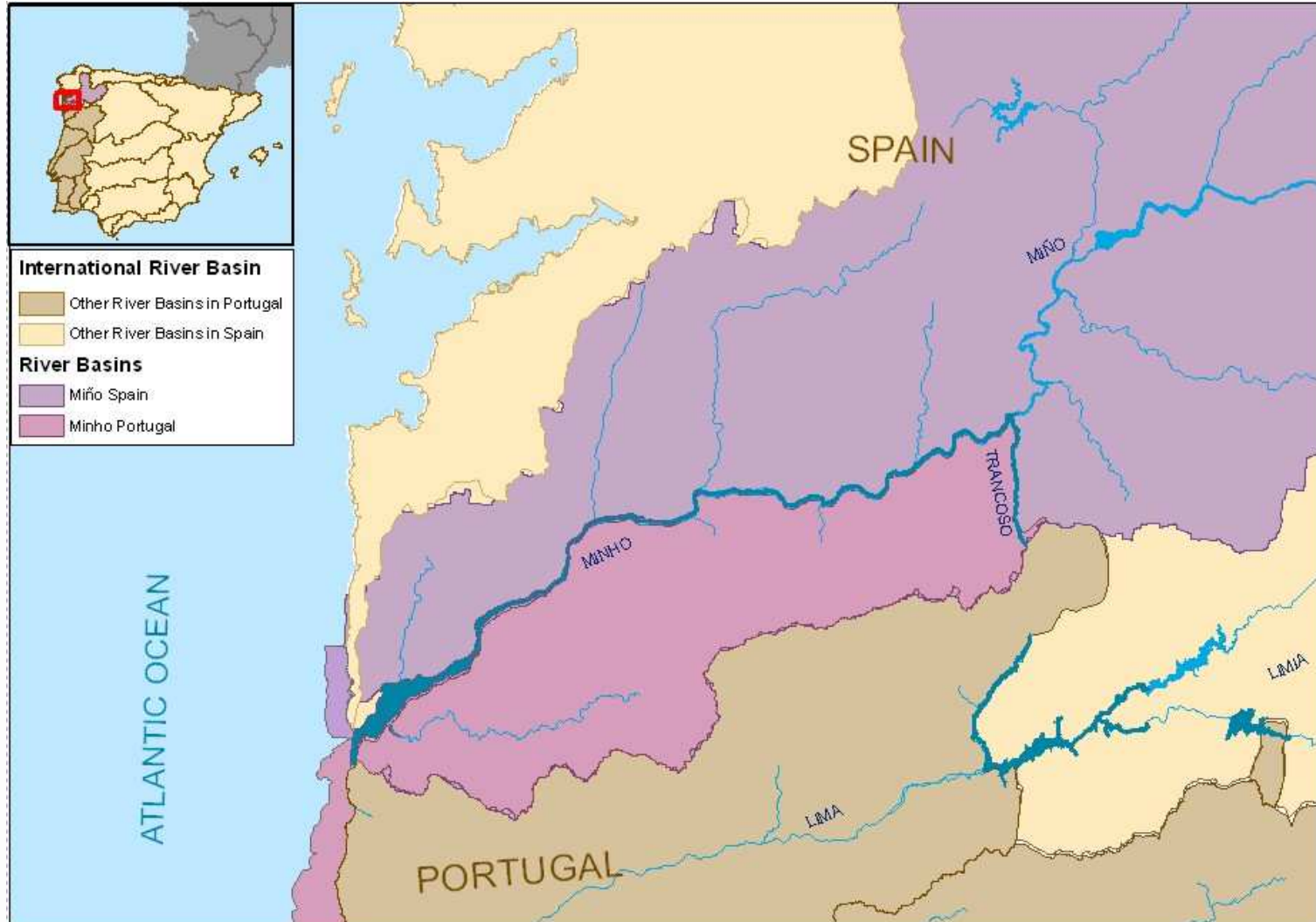
\* Only consumptive water use related to energy generation.

## MAIN PROBLEMS OF THE REGION:

- Widely dispersed population distribution, with about 12,000 population centers, with the corresponding difficulties facing the water management.
- In the Spanish part of the Miño River basin more than 30 reservoirs.
- Wastewater discharges from the industrial area of Porriño have a significant impact over the river Louro, tributary to the Miño river.



### INTERNATIONAL PART OF THE RIVER MIÑO





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## TRANSBOUNDARY WATER BODIES

### MIÑO RIVER BASIN



## WORKSHOP ON TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN WESTERN AND CENTRAL EUROPE

### TRANSITIONAL AND COASTAL WATERS



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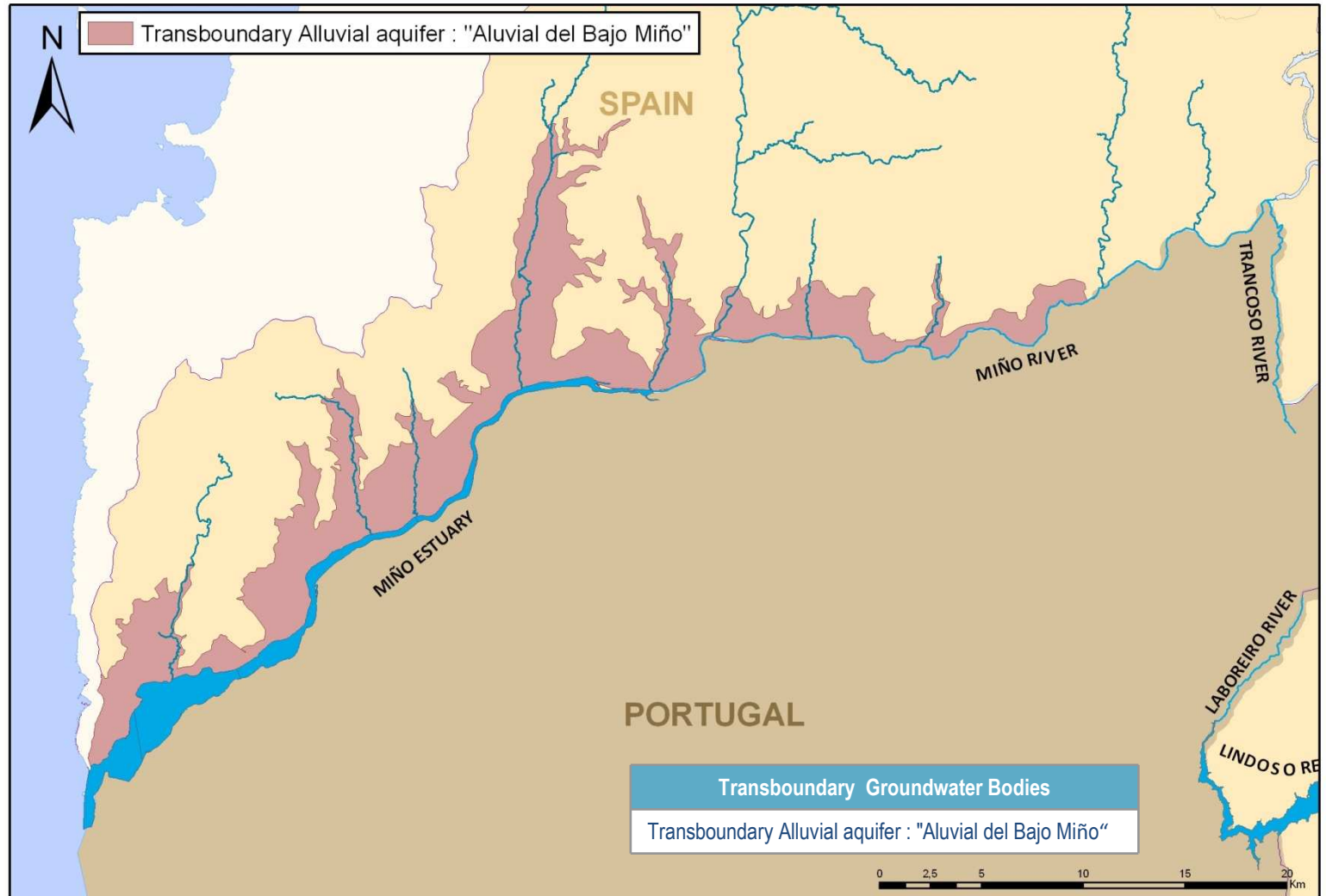
MIÑO RIVER BASIN

### MIÑO ESTUARY





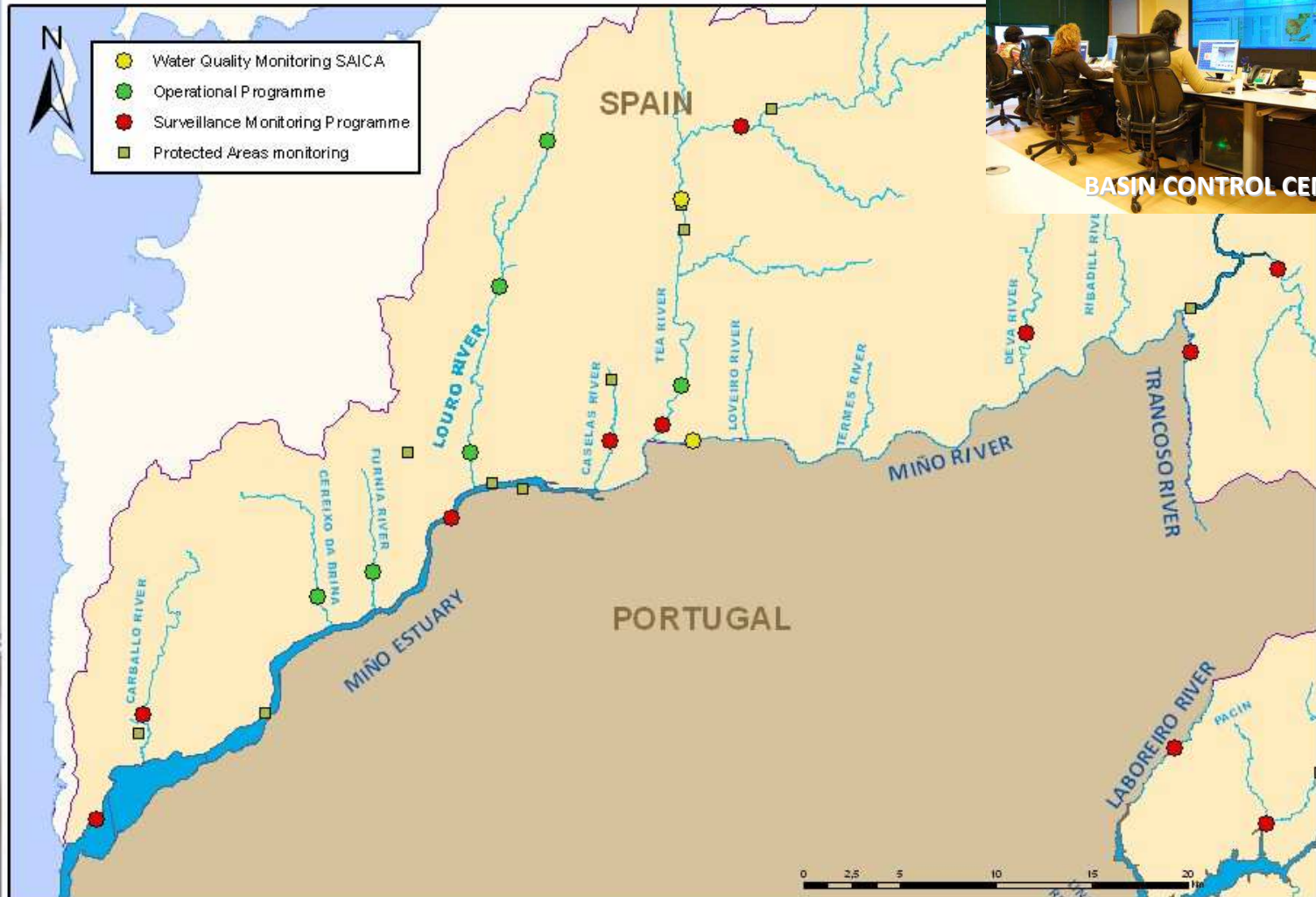
## TRANSBOUNDARY GROUNDWATER BODIES



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## TRANSBOUNDARY WATERS MONITORING Spain

MIÑO RIVER BASIN

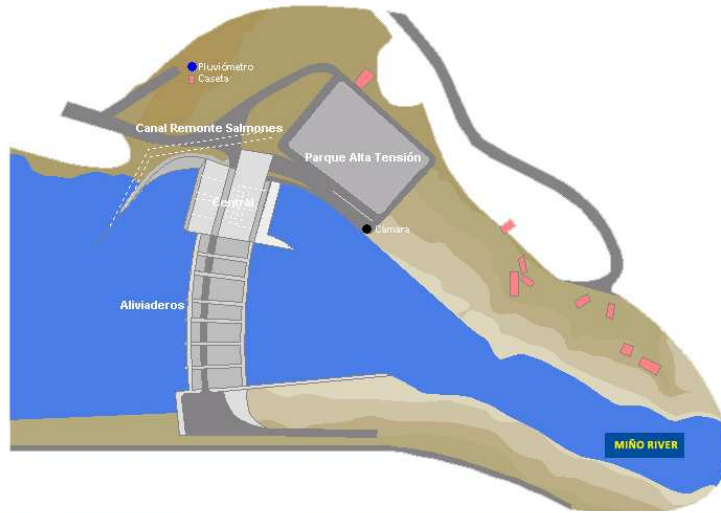


BASIN CONTROL CENTRE

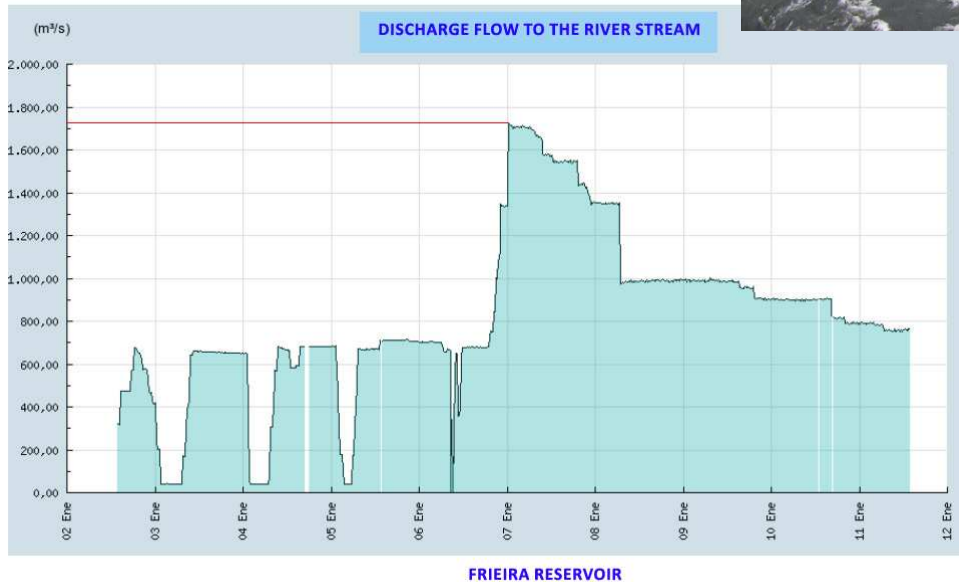


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## MIÑO RIVER BASIN



MINISTERIO DE MEDIO AMBIENTE, Y MEDIO RURAL Y MARINO  
CONFEDERACIÓN HIDROGRÁFICA DEL MIÑO-SIL

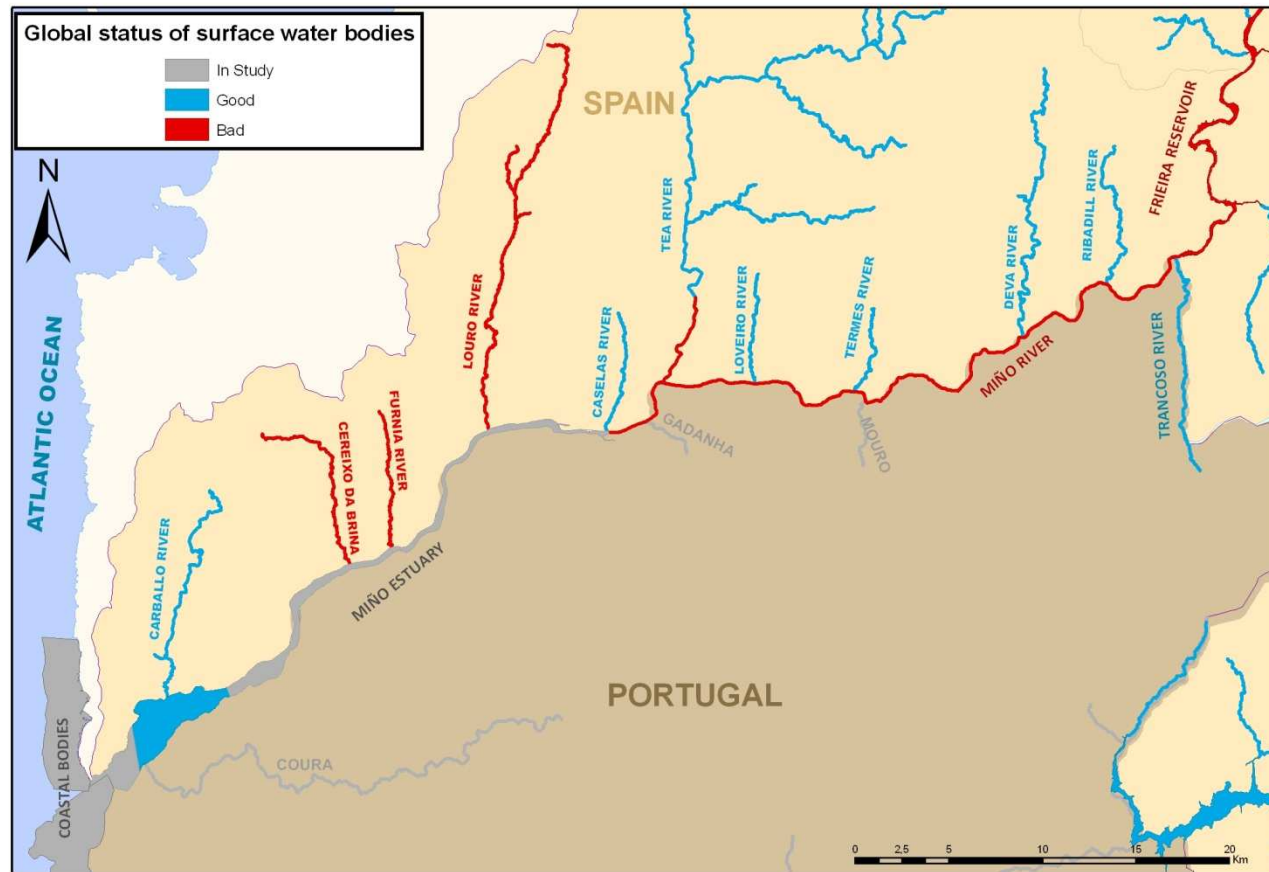


River: Miño  
River basin (km<sup>2</sup>): 15.106  
Use: Hydroelectric power  
Gravity Dam  
Height Dam (m): 33  
Capacity (hm<sup>3</sup>): 44  
Normal maximum level. (m): 67





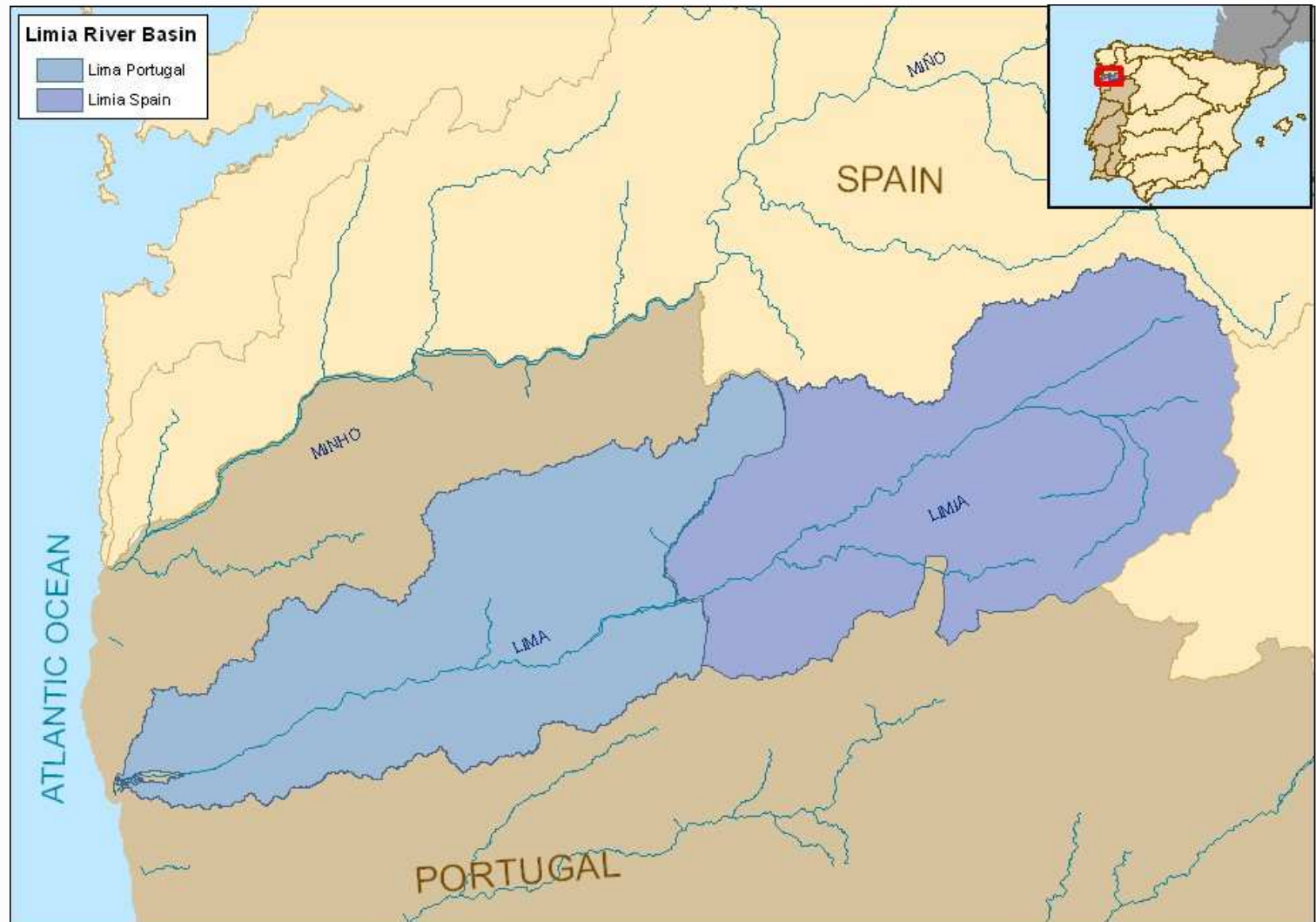
### STATUS OF THE TRANSBOUNDARY WATER BODIES



#### Groundwater Status:

The transboundary aquifer “Aluvial del Bajo Miño” is in poor chemical status. This groundwater body has been considered to be in poor condition after detecting high concentrations of organic pollutants in the Louro River Basin.

## LIMIA/LIMA RIVER BASIN





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### LIMIA RIVER BASIN

### LIMIA RIVER:

- The basin of the river Limia is shared by Spain (upstream country) and Portugal (downstream country).
- The river has its source in Spain at Lake Beon (975 m) and flows into Atlantic Ocean at the city of Viana do Castelo (Portugal).
- The last 67 km of the river pass through Portuguese territory.
- Major transboundary tributaries include: the rivers Laboreiro and Salas



LABOREIRO RIVER

| Basin of the Limia River |          |                       |     |
|--------------------------|----------|-----------------------|-----|
| Area                     | Country  | Country's share       |     |
| 2,480 km <sup>2</sup>    | Spain    | 1,300 km <sup>2</sup> | 52% |
|                          | Portugal | 1,180 km <sup>2</sup> | 48% |

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### LIMIA RIVER BASIN

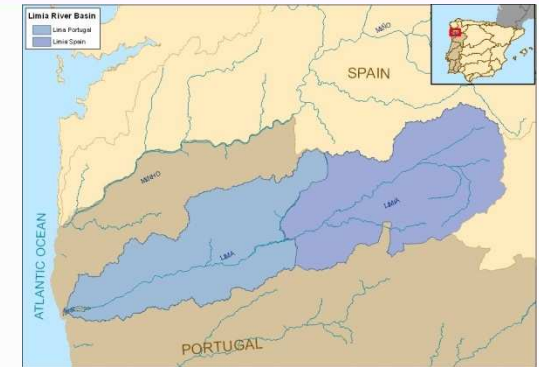
### MAIN FEATURES OF THE REGION:

#### Spanish Part of the River Basin

Number of inhabitants: 30,507 (INE 2009)

Population density: 22.96 persons/km<sup>2</sup>

Water resources: 906 hm<sup>3</sup>/year (period 1940/41-2005/06)



| ANNUAL WATER WITHDRAWAL BY SECTOR |             |       |          |        |       |
|-----------------------------------|-------------|-------|----------|--------|-------|
| Total withdrawal                  | Agriculture | Urban | Industry | Energy | Other |
| 37,550,000 m <sup>3</sup> /year   | 80.2 %      | 19.2% | 0.6 %    | 0 %    | 0 %   |

\* Only consumptive water use related to energy generation.

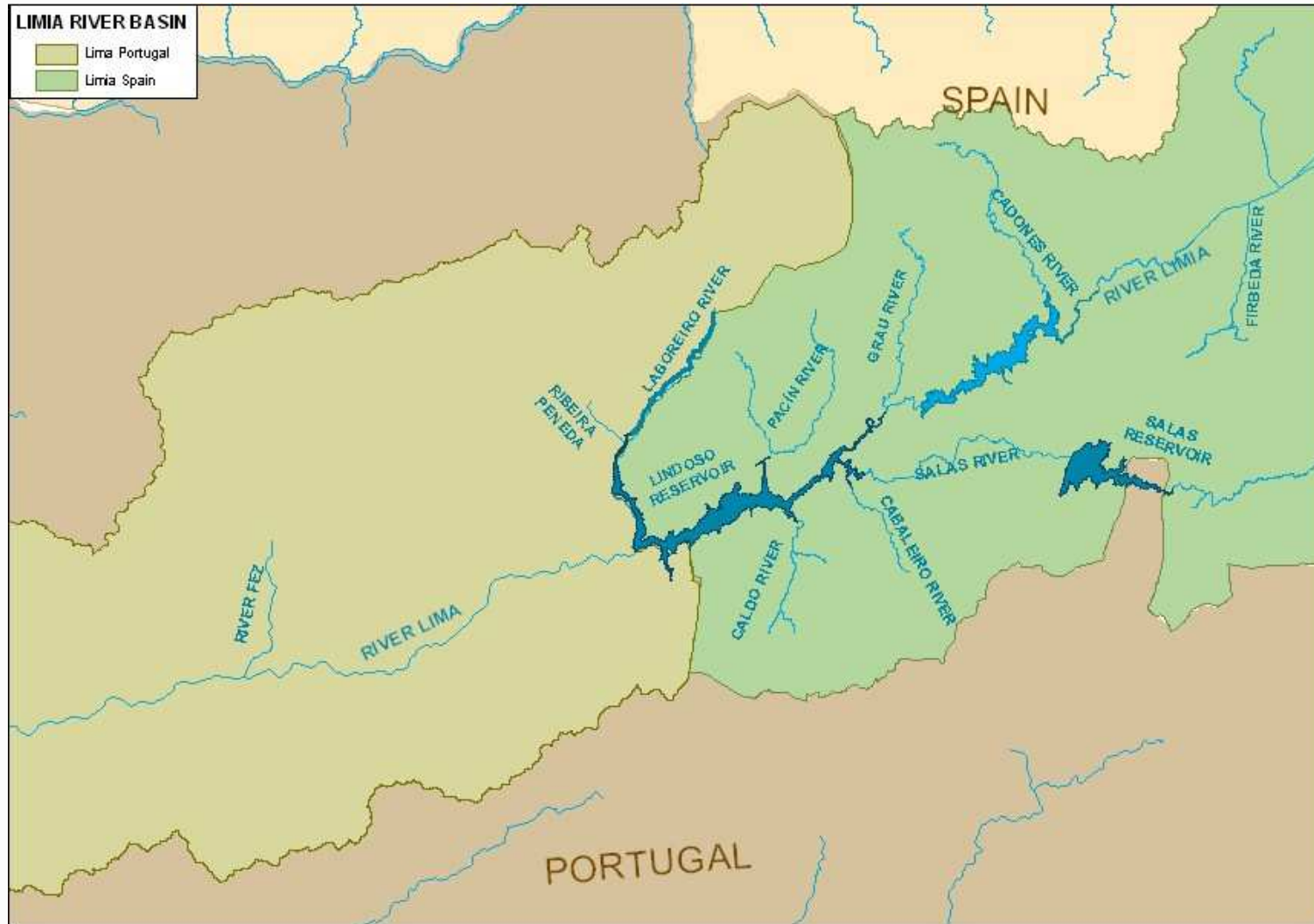
### MAIN PROBLEMS OF THE REGION:

- Widely dispersed population distribution, with the corresponding difficulties facing the water management.
- Intensive Irrigation use.

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### LIMIA RIVER BASIN

## INTERNATIONAL PART OF THE RIVER LIMIA





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### LIMIA RIVER BASIN

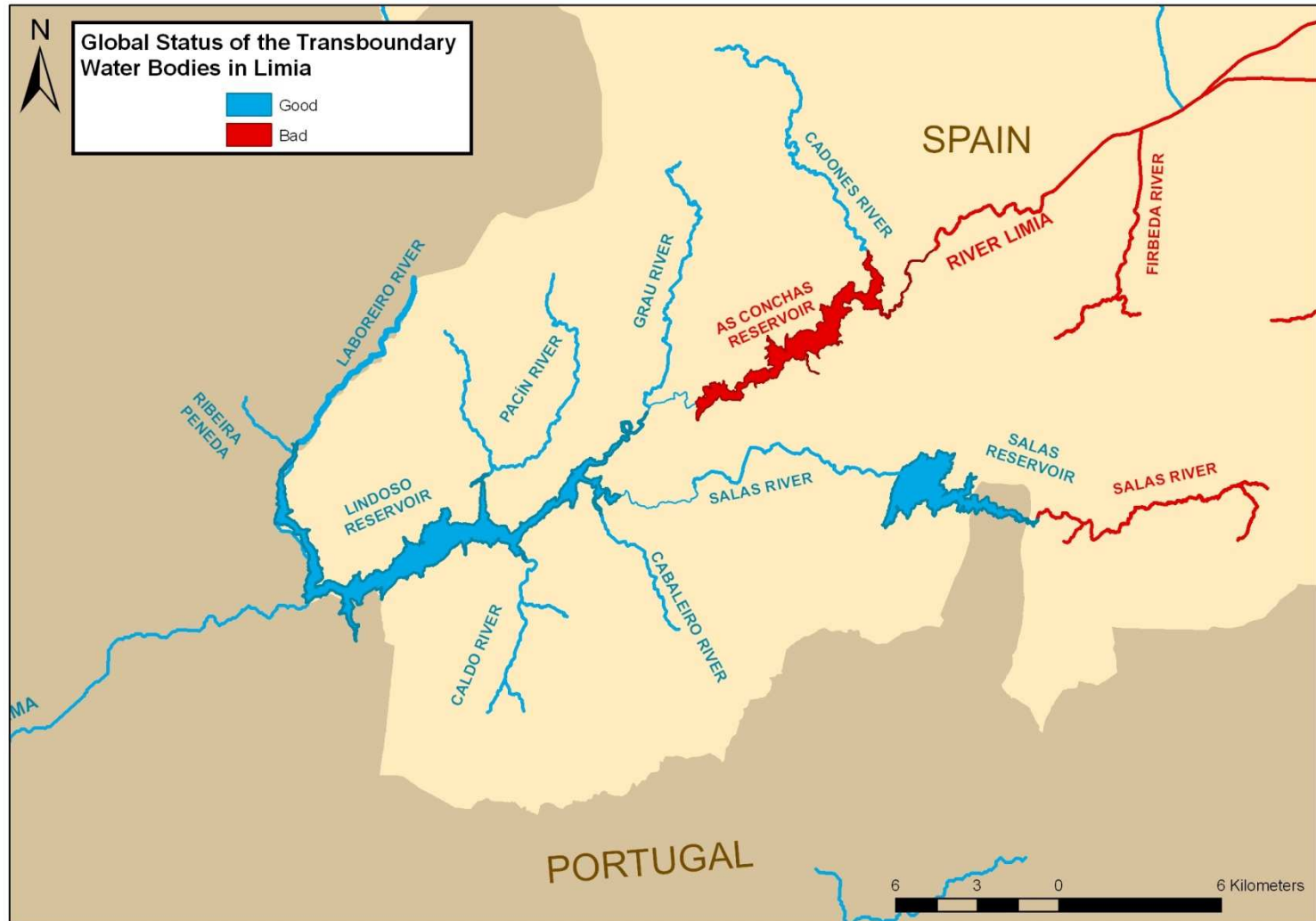
## TRANSBOUNDARY WATER BODIES



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### STATUS OF THE TRANSBOUNDARY WATER BODIES

LIMIA RIVER BASIN



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CROSS-BORDER  
COOPERATION AND  
COORDINATION

### TRANSBOUNDARY COOPERATION FRAMEWORK

The Water Convention (1992).



[...]Managing shared waters in a reasonable and equitable manner using the ecosystem approach and guided by the precautionary principle and the polluter-pays principle[...]

The Albufeira Convention (1998) regulates the transboundary waters in the shared basins between Spain and Portugal.



The convention cover bilateral information exchange, information to the public, assessment and dialogue on transboundary impacts, pollution control and prevention, water uses, droughts and resource scarcity, assignment of rights, dispute resolution, etc.

The Framework Directive (2000).



[...] Setting up a water-management system based on natural river basin districts, crossing regional and national boundaries [...]



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CROSS-BORDER  
COOPERATION AND  
COORDINATION

## COORDINATION OF RIVER BASIN MANAGEMENT PLANS (WORK IN PROGRESS):

- Improving monitoring networks in transboundary waters.
- Common proposal of two river nature reserves: Trancoso and Laboreiro rivers, tributaries of Miño and Limia Rivers respectively.
- The common development of a decision support system (DSS) for hydraulic resources planning.
- Transboundary workshops.

### AIM: Integrated river basin management plan



"GESTIÓN RESPONSABLE DEL AGUA, PARA UN FUTURO SOSTENIBLE"

Jornada de información y participación pública

INFORMACIÓN  
TRANSPARENTE  
PARTICIPACIÓN



Ourense, 13 de diciembre de 2010

Plan Hidrológico de la parte española de la Demarcación Hidrográfica de las cuencas Miño, Sil y Limia (2010-2015).





## WORKSHOP ON TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN WESTERN AND CENTRAL EUROPE

CROSS-BORDER  
COOPERATION AND  
COORDINATION

### PARTNERSHIP IN TWO PROJECTS OF “OPERATIONAL PROGRAMME FOR CROSS-BORDER COOPERATION: SPAIN – PORTUGAL, 2007-2013”

•**CARISMA:** The main objective of the project is to develop actions to maintain and improve the excellent state of conservation of the transboundary rivers Trancoso and Laboreiro. Activities include: Water quality and quantity monitoring, improve water purification, recovery and conditioning of riversides and environmental education





## WORKSHOP ON TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN WESTERN AND CENTRAL EUROPE

### PARTNERSHIP IN TWO PROJECTS OF “OPERATIONAL PROGRAMME FOR CROSS-BORDER COOPERATION: SPAIN – PORTUGAL, 2007-2013”

#### TEAM MIÑO:

Transfer of tools for implementing the Water Framework Directive in **transitional and coastal waters** of the NW of the Iberian Peninsula, in order to harmonize the management plans of Spain and Portugal to the international waters of the River Miño.





## WORKSHOP ON TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN WESTERN AND CENTRAL EUROPE

THANK YOU FOR YOUR ATTENTION

