

## DUERO PILOT RIVER BASIN – SPAIN

*WG D: on Reporting (GIS tools and WISE development)*

### The Duero River Basin

The Duero river basin is the largest in the Iberian Peninsula, with a total surface of 97.290 km<sup>2</sup> out of which 78.954 km<sup>2</sup> are found within Spanish territory (this represents 15,6% of the total surface), the rest of it belonging to Portugal.

The main part of the basin is found within the autonomous region of Castilla y León and, to a lesser extend, it also encloses territories belonging to Galicia, Cantabria, La Rioja, Castilla la Mancha, Extremadura y Madrid. The total surface distribution of the basin according to autonomous regions is as follows:

Autonomous Region (CA)	Surface in the basin (km <sup>2</sup> )	% of the total basin surface
Castilla y León	77.628	98,32
Galicia	1126	1,43
Cantabria	88	0,11
La Rioja	19	0,02
Castilla-La Mancha	45	0,06
Extremadura	35	0,04
Madrid	13	0,02
Total	78.954	



### Administrative map of the Duero Basin

From a geological point of view, the hydrographic basin of the Duero consists of a well-defined geological unit, the Duero depression and its borders. It practically comprises the Northern sub plateau and the limits with its neighboring structural units, *i.e.*

Cordillera Cantábrica, Ibérica, Central and Montes Galaicos-Leoneses.

The climate is Mediterranean, remarkably continental owing to orographic isolation. It becomes slightly milder towards the border with Portugal due to the influence of the Atlantic Ocean. The average annual rainfall varies considerably, from values in the range of 400 mm/year in the central depression to 1800 mm/year in the surrounding mountain areas and 1.000 mm/year in the Cordillera Central and Ibérica. Rainfall is irregular, falling mainly from autumn to spring, but with hardly any during the months of July and August.

It has a population of 2.2 million, mainly located in the most important cities. There are numerous villages with less than 1,000 inhabitants and hardly any town reaches 50,000 inhabitants. 50% of the population is located in the capitals of the provinces.

According to Article 5 of the WFD, a total of 359 surface water bodies and 31 ground water bodies are identified in the hydrographic basin of the Duero. Within the surface water bodies, 297 are found to be rivers, 6 are lakes, 6 are artificial water bodies and 50 are highly modified water bodies.

Regarding surface water bodies, 12 of them risk not achieving the environmental goals established by the Directive 2000/60/CE, 292 are awaiting survey and 49 are not at risk.

Regarding ground water bodies, 3 of them risk not achieving the environmental objectives established by the Directive mentioned above. The following table summarizes the conclusions of the survey of human activity impact on the water bodies:

	Certain risk	Risk at survey	No risk	Total
Surface water bodies	3,4 % (12)	82,7% (292)	13,8% (49)	(353)
Ground water bodies	9,7% (3)	90,3 % (28)	0 % (0)	(31)

## Water resources and uses

The natural average discharge of the Spanish basin is 13.558 hm<sup>3</sup>/year, including surface and ground water resources.

The most important water use is irrigation, with over 3.603 hm<sup>3</sup>/year. Irrigated areas make up about 6% of the basin surface, and amount to 93% of the total water usage. Urban supply uses 214 hm<sup>3</sup>/year and industrial 43 hm<sup>3</sup>/year. Nearly 10% of those consumptive demands are supplied with groundwater. Furthermore, the Duero Basin Hydrological Plan assigns approximately 745 hm<sup>3</sup>/year downstream to the main reservoirs for environmental objectives.



Adaja River close to Avila

## Other Institutional Aspects

Duero River Basin Authority (Confederación Hidrográfica del Duero) was created in 1927 to administrate the use of the water in irrigation and hydroelectric power. After, this organisation increased its authority with water planning, water quality, flood prevention, environmental issues, issuing of water rights licenses and others. This Authority is directly managed by the Spanish Ministry of Environment.

The river basin competences and its planning are included in the Duero River Basin Management Plans. This document is of a legally binding character and it was approved by Royal Decree 1664/1998, July 24th.

Spain and Portugal have an agreement, (Convenio de Albufeira) that was created to arrange all river basins that Spain share with Portugal in a harmony form. It was approved in 1998, November 30<sup>th</sup>.

## The PRB activity.

The Duero River Basin and the Spanish Ministry of Environment are including in the CIS phase II, in the Working Group D on Reporting. The overall objective of this Working Group is to identify information and data to be transmitted and to prepare guidance documents on the transmission and processing of information and data gathered in the frame of Directive 2000/60/EC.

The Duero River is involved in the Pilot river Basin Network to test the development of the guidance document of the Reporting WG.

The key activities to carry out are:

- To develop relevant and useful tools to facilitate and improve the electronic reporting of Spanish information to WISE system.
- To check GIS and WISE tools made for EC, JRC and others, with the target of helping the reporting process.

## More information

You can find more information about the Duero river basin and Duero River Basin Authority in the following web sites:

- <http://www.chduero.es>
- <http://www.mma.es>

## Contacts

Víctor M. **ARQUED ESQUÍA** ([vae@chduero.es](mailto:vae@chduero.es))  
Javier **FERNÁNDEZ PEREIRA** ([jfp@chduero.es](mailto:jfp@chduero.es))  
Raquel **MIGUEL SAUCO** ([raquelmi@unizar.es](mailto:raquelmi@unizar.es))  
Water Plan Office  
Duero River Basin Authority

Confederación Hidrográfica del Duero  
Calle Muro, 5  
E-47004 VALLADOLID  
SPAIN  
Tel : +34 983 215 400  
Fax : +34 983 215 466  
E-mail : [oph@chduero.es](mailto:oph@chduero.es)  
URL: <http://www.chduero.es/>

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