European Parliament

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT C
CITIZENS' RIGHTS AND CONSTITUTIONAL AFFAIRS

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Petitions

River Basins and Water Management in Spain. Tagus and Ebro River Basin Districts: an account of their current situation and main problems

Study for the PETI Committee

EN

2016

DIRECTORATE GENERAL FOR INTERNAL POLICIES

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PETITIONS

River Basins and Water Management in Spain

Tagus and Ebro River Basin Districts: an account of their current situation and main problems

STUDY

Abstract

This Study was commissioned and overseen by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs at the request of the PETI committee. It aims to analyse issues related to the petitions from Spanish citizens on the Spanish side of the Tagus and Ebro River Basin Districts. Two main solutions have been brought forward in order to solve the water shortage in Spain: water transfer or desalination. The most widely used approach so far has been the transfer, which has been proposed for both the Tagus and Ebro rivers. As indicated in the Study, in Spain the water-related issues have frequently no political or social dimension but the territorial significance. This Study tries to illuminate problems and issues related to the river basins management in Spain while considering the applicable EU legislation.

PE 536.491 EN

ABOUT THE PUBLICATION

This research paper was requested by the European Parliament's Committee on Petitions and commissioned, overseen and published by the Policy Department for Citizen's Rights and Constitutional Affairs.

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LINGUISTIC VERSIONS

Original: EN

Manuscript completed in July 2016.

This document is available on the Internet at:
http://www.europarl.europa.eu/supporting-analyses

DISCLAIMER

LIST OF ABBREVIATIONS

BD	Birds Directive
BLSPA	Birds Life Special Protection Areas
CC	Constitutional Court
EU	European Union
FRMP	Flood Risk Management Plans
HPD	Hydraulic Public Domain
HPR	Hydrological Plan Report
NGO	Non-Governmental Organization
NHPA	National Hydrological Plan Act
NWQP	National Water Quality Plan
RBD	River Basin District
RBMP	River Basin Management Plans
RD	Royal Decree
RPA	Register of Protected Areas
SAC	Special Areas of Conservation (Natura 2000)
SC	Supreme Court
SCI	Sites of Community Importance
UWWTD	Urban Waste Water Treatment Directive
WFD	Water Framework Directive
WHS	World Heritage Site

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1. INTRODUCTION

This Study aims at addressing the request by the European Parliament's Committee on Petitions regarding the petitions from Spanish citizens on issues arisen on the Spanish side of the Tagus and Ebro River Basin Districts.

When addressing the issue of river management in Spain, it is important to bear in mind the permanent water scarcity in Eastern Spain, particularly in the provinces of Alicante, Murcia, and Almeria. Two main solutions have been brought forward in order to solve these water shortage situations: water transfer or desalination. The most widely used approach in Spain so far has been the transfer, which has been proposed for both the Tagus and Ebro rivers, yet it has only been implemented in the Tagus River.

Eastern Spain, particularly the provinces of Alicante, Murcia, and Almeria (where also the Segura River Basin is located), is estimated to be in deficit by at least 400 hm^3 of water/year. In this area irrigated crops have been developed, which are ranked second nationally in production levels, following the car industry. Their technological development regarding irrigation performance is often equated to that of Israel.

Additionally, due to its warm weather, this area is one of the main tourist destinations in Spain. The region has a permanent population of around 2.5 million people, including a large amount of European citizens from other countries who have moved to this area. However, this figure increases by approximately 1 million people during the summer. There is no doubt that such floating population has an impact on the supply of water which must be ensured. This is troublesome for a river basin such as that of the Segura River, which is severely in deficit. The said shortfall is further worsened by the constant droughts that strike the region periodically. The influence of climate change on the gradual rise in temperatures and on the absence of rainfall is increasingly worsening the situation.

The various groups affected by water shortages in the Segura River Basin make the following consideration: the only structural (long-term) response to their water scarcity problems, as opposed to short-term solutions, are water transfers from surplus basins such as the Tagus or Ebro River Basins, which are both international river basin districts according to the Water Framework Directive. Currently only the Tagus Segura transfer is operative whilst the Ebro transfer was repealed in 2005.

According to many irrigation associations, authorities, and other economic operators from Eastern Spain, their long-standing water deficit problems can be solved by water transfers. The Government's recent passing of the second stage of River Basin Management Plans on 8 January 2016 has allowed the concerned sectors to demand the approval of a new National Hydrological Plan, which would ensure the Tagus transfer whilst providing for a Duero transfer through the Tagus as well as for the long awaited Ebro transfer.

Following the General Elections of 20 December 2016 the development of a new National Hydrological Plan is uncertain at the moment of this study is drafted. The Tagus transfer remains in place.

The sectors opposed to the transfer bring forward options that are rejected by the Segura River Basin's authorities and economic operators, who rate them as short-term responses as opposed to the structural nature of water transfers which are deemed as instruments providing stable solutions. Other possible proposals are the following: desalination of sea

water, the use of groundwater, and saving water by trying to decrease consumption through deterrent measures (raising water costs, for instance) aimed at avoiding losses -which can be significant- due to canalization or other reasons. However, the concerned Segura River Basin sectors consider that developing these approaches further would not solve their water shortage.

Regarding the possibility of solving the issue with the actual groundwater of the Segura River Basin, there are reports and publications drafted by engineers from the Segura River Basin Authority (*Confederación Hidrográfica del Segura*) that back up this approach. It is asserted that in the Segura River Basin, particularly in the area of Albacete, there are significant unused groundwater pockets that could make up the 400 hm^3 deficit. This approach has not been developed yet, although it is becoming very present in the media.

Finally, let's address the saving of water. In a country like Spain, where water is certainly a scarce resource, many campaigns are launched with the aim of promoting water-saving behaviours and raising awareness of this issue. As has been stated above, modernised techniques are being applied to irrigated crops with the purpose of optimizing this natural resource. However, the use of water for recreational purposes has been called into question and seems not to be sustainable in conditions of water scarcity.

As regards the Tagus and Ebro River Basins, the claims are twofold: firstly, some of them relate to the area development and the irrigated crops; secondly, there are some other environmental demands. They both have reinvigorated following the entry into force of the Water Framework Directive (WFD)[1].

Both the Tagus and the Ebro River Basins have a population density below that of the Segura River Basin, and the inhabitants of the first also have a lower average income level than those of the latter. Both in the Tagus and Ebro River Basins it is considered that having regard to the goals set forth by the European Union in the Water Framework Directive in force, water transfers should be allowed only in specific situations and under specific conditions. Along these lines, environmental organizations from both areas are against a large scale dam-building policy, because it is considered to be anachronistic and damaging for current environmental stances.

Hence, they advocate the need to protect their own irrigated crops, as well as to ensure an adequate environmental status of their rivers, which requires complying with environmental flows, particularly in areas such as the Tagus River´s Axis (*el Eje del Tajo*) or the delta of the Ebro. Furthermore, they demand an enhanced urban and industrial waste treatment, since this waste prevents from fulfilling the EU environmental requirements and has an impact on the harvestable volume of the river flows.

This is the big picture of the complex situation brought along by water scarcity in a Mediterranean country like Spain. Climate change predictions do not leave room for thinking that the weather will help in solving this issue in the long-term. This is why it is necessary to strive for and adopt solutions which are equitable for all sectors.

As shown by this report, in Spain these water-related issues have very frequently no political or social dimension, yet territorial significance. Political parties from different regions do not have a shared criterion on this issue based on their ideology. Conversely, they align with one

[1] *Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327, 22.12.2000, p. 1–73 as amended*

or the other on the basis of territorial considerations. Representatives from different parties in the same region, in the same river basin have the same views, even if these oppose the stances of their fellow party members in a different basin. Territorial aspects in this domain give rise to much stronger ties than belonging to a given party or Government.

2. MATTERS RELATED TO THE TAGUS RIVER BASIN DISTRICT

2.1. The petition submitted to the European Parliament in 2012 in defence of the Tagus and Alberche rivers

Petition 0834/2012, submitted by Miguel Ángel Sánchez Pérez on behalf of the Platform in Defence of the Tagus and Alberche rivers (*Plataforma en defensa de los ríos Tajo y Alberche*), addresses the environmental damage suffered in the Tagus River Basin District.

There are complaints about the poor conservation status and the environmentally damaging management of the abovementioned District, particularly in the area within the Bolarque Dam and the municipality of Talavera de la Reina. This area is designated as the Tagus River Axis, and it is the most troublesome territory within this River Basin District.

Additionally, on the date of the Petition the Tagus River Basin Management Plan had not been approved yet, thus failing to comply with the deadline provided by the Water Framework Directive[2]; this piece of EU legislation provided that 22 October 2009 was the end-date for the enactment of river basin management plans. In the end, the Tagus River Basin Management Plan was enacted by the Spanish Government through Royal Decree of 11 April 2014.

On 8 January 2016, the Council of Ministers amended the 2014 Plan, i.e. the new River Basin Management Plan for the Tagus River (2016-2021). Pursuant to the Water Framework Directive of 2000, the second wave of river basin management plans was to be approved before the end of 2015.

The request by the Tagus River Platform members who submitted Petition 0834/2012 also drew the European Parliament's attention to the negative environmental impact suffered by the River Basin District in the last twenty years, as well as to the violation of the Water Framework Directive, the Birds Directive, and the Urban Waste Water Treatment Directive.

As has been stated above, regarding this Petition there is a remarkable factor that has a significant impact on the issues related to this River Basin District: the Tagus-Segura transfer, which is governed by law and provides for the water transfer from the Upper Tagus River Basin (*Alto Tajo*) to areas located in the provinces of Alicante, Murcia and Almeria, to the end of ensuring the supply of drinking water and irrigation thereto. The operators within the Tagus River Basin oppose to the transfer, since they consider it can cause severe damage to their basin, particularly to the so-called Tagus River Axis (a hard-hit area), located within the Bolarque Dam and the municipality of Talavera de la Reina.

Alongside the incidence of the transfer on the water shortage, there are some other factors to be taken into account, for instance: the supply to a large urban population (including the municipality of Madrid), matters relating to urban and industrial waste, and the large decrease in rainfall, which has gone down by over 40% in the last decade.

The Tagus-Segura transfer allows for an excellent production of fruits and vegetables in South-eastern Spain. This production is of high quality and plays a very prominent role in the region's economy, since a large share of this fruit and vegetable production is exported.

[2] *OJ L 327, 22.12.2000, p. 1–73 as amended*

It also ensures the supply to 2.5 million people plus a floating population of 1 million in the summer. However, given the low flow of the Tagus River, the transfer currently has a very negative impact on the environmental management thereof and on the riverside irrigation. Moreover, there is a significant impact on the landscape, since the Tagus River flows through the city of Aranjuez (World Heritage Site since 2001), being a key part of its environment. It also surrounds the medieval city of Toledo (World Heritage Site since 1986), located on a mountaintop setting, isolated and surrounded to the east, south and west by a deeply-set riverbed.

2.2. Tagus River Basin features[3]

2.2.1. General features

The Tagus River Basin is an international basin district shared by Spain and Portugal. The territorial scope of the River Basin Management Plan falls within the Spanish side of the Tagus River Basin District, set forth in RD 125/2007, of 2 February, comprising the Tagus River Basin. Its territory includes five Autonomous Regions: Castilla Leon, Castilla-La Mancha, Madrid, Aragon and Extremadura.

The biotic framework, due to its different geology, geomorphology and climatology, features a large amount of well-differentiated ecosystems. These ecosystems are set in various locations, extending from mountaintops in the Central Mountains (*Sistema Central*) to the river valleys of the Upper Tagus or the flood plains in Toledo and Caceres.

45% of the resources are produced and 85% of the consumption is made in the upper basin (as far as Talavera de la Reina). The Tietar and Alagon River Basins (south side of Gredos) provide 50% of the resources transferred to Portugal.

82.5% of the population lives within the Autonomous Region of Madrid (which has a surface area of 8,000 km^2). This densely populated industrial region amounts to a key factor in order to comply with the environmental objectives laid down by the Water Framework Directive regarding water bodies. In the Autonomous Region of Madrid, the urban-industrial demands account for 74% of the total uses. In the rest of the basin agriculture is the most significant demand.

In the River Basin Management Plan, 323 bodies of surface water can be identified, duly listed and characterized in its Appendix II. These surface water bodies fall into any of the following categories:

a) Rivers: 307 water bodies, out of which 191 are natural rivers, 115 are heavily modified water bodies and 1 artificial water body.
b) Lakes: 16 water bodies, out of which 7 are natural lakes and 9 are artificial water bodies.
51% of the surface water bodies are in a good status. However, 42% thereof do not reach such good status, as a result of the ecological status/potential indicators. As regards groundwater bodies, 79% are in a good status. 21% are not, due to their chemical status. All of the groundwater bodies enjoy a good quantitative status.
The nitrogen (ammonium, nitrites, nitrates or organic) and phosphorus content of waste-water in Madrid, although in compliance with waste treatment regulations, prevents from achieving the objectives set forth in the Water Framework Directive in downstream rivers.

[3] Source: website of the Tagus River Basin Authority (*Confederación Hidrológica del Tajo*). www.chtajo.es

2.2.2. An overview of two emblematic cities: Talavera de la Reina and Aranjuez

The municipality of Talavera de la Reina is located on the banks of the Tagus River, down the mouth of the Alberche River, northwest of Toledo. It has a basin of 35,000 km^2. The river flow regime is heavily altered hydrologically by the regulation infrastructures, the importance of the urban consumption returns from the Madrid metropolitan area, and drawdowns for agricultural uses in the Alberche, Jarama and Tagus rivers, with consumption peaks in the summer.

A critical point for the Tagus River Basin, showing severe alterations in terms of quantity and quality due to the upstream uses, is Talavera de la Reina. The average flow in July has been below 2 m^3/second in some years, featuring quality problems and a degradation of the river banks, which gives rise to citizens' and social platforms' protests. In 2009, the Tagus River dried up as it ran through Talavera de la Reina.

Aranjuez is another reference location in the basin. Its cultural landscape was declared World Heritage Site by UNESCO in 2001. The city is dependent on the Tagus River. The Tagus River section that it affects is heavily altered and modified because of the transfer and the low flow of the river. In addition to the increase in the river flow, Aranjuez makes the following claims: a final repeal of the Tagus-Segura transfer, classifying the Jarama and Tagus rivers in Aranjuez as nature reserves, and corrective measures to reverse the degradation of the river banks and the flood plain.

2.3. Main problems faced by the Tagus River Basin

Below is an outline of the Schema of Important Issues (*Esquema de Temas importantes*) and of the public consultation:

2.3.1. The Tagus transfer: current situation4

The most controversial aspect regarding the Tagus River hydrological planning is the water transfer. As has been stated above, the transfer's impact on water availability is a key factor to ensure an adequate environmental management of the river. All debates on the Tagus RBMP revolve around the said transfer.

This transfer entails diverting Tagus River water from the Entrepeñas and Buendia Dams (in the provinces of Guadalajara and Cuenca respectively) to the Segura River through the El Talave Dam. The Tagus-Segura aqueduct connects the Bolarque Dam, in the Tagus River, with the El Talave Dam, in the Segura River from 1979.

Concerning the Tagus-Segura transfer, there are two figures that must basically be borne in mind: the maximum amount of water that can be transferred to the Segura River Basin District, that is 600m3 according to current legislation; and the amount of reserve water that must be covered by the aforementioned dams in order to carry out the transfer. The latter amount is stated to be 400m3 and it should be reached by 2018. That amount will be reached by adding 32hm3 every year to the 240 hm3 of reserve water determined in the previous RBMP.

[4] Further detail on this matter is provided in the Annex 3

Every regulation of the transfer states that it will only take place if the full water needs of the Tagus basin are covered. But the question is: what are those needs? And the answer is that they are the ones determined by the current legislation that states the volume of water that can be transferred and the amount of reserve water that must be guaranteed.

The controversy over the Tagus-Segura transfer has re-emerged due to the drought that is hitting Spain, which is the greatest in the last 60 years.

As of 1 December, the volume of effective joint reserves in Entrepeñas and Buendia amounted to 317.823 hm^3, thus being an *exceptional water situation* pursuant to paragraph 1 of the fifth additional provision of the "Exploitation Rules for the Tagus-Segura transfer."

Under an exceptional water situation (level 3), it lies with the competent body (the Ministry of Agriculture, Food and the Environment) to authorize, at its discretion and giving reasons, a monthly value of up to 20 hm^3. Hence, the Ministry of Agriculture has decided recently to authorize a transfer from the Entrepeñas and Buendia dams through the Tagus-Segura aqueduct amounting to 6 hm^3 for December 2015.

From 2016 onwards, the Entrepeñas and Buendia minimum reserve for a transfer to be authorized is 336 hm^3, as opposed to the 304 hm^3 maximum amount applicable last year. In early January 2016 there were 314.27 hm^3, so there are almost 22 hm^3 left to reach the level that would allow for a new transfer from the Tagus River to Eastern Spain. If the weather conditions of dryness remain as in the past years new water transfers do not seem feasible.

2.3.2. The European Court of Justice and the transfers[5]

The European Court of Justice Ruling of September 11th, 2012, **Case** C-43/10 deals with the transfer of water from the Acheloos river to the Pineo river in the Greek region of Tesalia. The water was meant to be used for irrigation, urban consumption and production of hydroelectric energy. The ruling states that the WFD does not prohibit the transfers between river basins in the EU.

The transfer, even if it has ill effects on the water bodies, can be allowed if reasons of higher public interest (p. 69); for instance, urban supply and even irrigation farming notwithstanding it might have an effect on SCI for the protection of birdlife.

So, the EU allows inter-basins transfers whenever reasons of public interest are paramount but that public interest must be justified in every Hydrologic Plan, included RBMP. Therefore, it should be stressed, it is for the States to decide whether water transfers should be included in their Hydrological Plans and justify this by general interest criteria.

2.3.3. The concentration of population and economic activity

The concentration of population and economic activity in the Autonomous Region of Madrid and its border areas in Toledo and Guadalajara, produces a large volume of waste water. Although the waste-water treatment regulations (Directive 91/271/EEC) are complied with, this concentration leads to water quality issues in rivers and dams that extend to the lower section of the basin.

[5]http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d0f130d585b046d790ce435cbcc5901e7027f8ed.e34KaxiLc3eQc40LaxqMbN4Och4Se0?text=&docid=126642&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=463074

The strong demographic growth in Madrid and Castilla-La Mancha has to be supplied by resources regulated in the Tagus River headwaters (Entrepeñas and Buendia dams), since there is no other possibility.

2.3.4. Scarcity and water quality problems, especially in the Tagus Axis

In the Tagus River headwaters (Entrepeñas and Buendia dams) the contributions during the 1980-2006 period have been cut in half with respect to what was provided by the Draft document for the Tagus-Segura transfer of 1967. Recently, the transferred volumes of water have been halved, and the said dams have had extremely low water levels during long periods of time. This has hindered any chance of water-related development, thus raising major concerns amongst the river basin operators.

Out of the total resources and consumption in the basin, 45% of the resources are produced and 85% of the consumption is made in the Upper Tagus River Basin. Talavera de la Reina, with a basin of 35,000 km^2, amounts to a critical point, with an average flow in July below 2 m^3/second in some years, featuring quality problems and a degradation of the river banks. Aranjuez and Toledo are some other important locations with river flow deficit.

2.3.5. Questions concerning the protection of the environment

The scarcity and the poor quality of water (made worse by urban and industrial waste water) brings damages to Specially Protected Areas in relation with birdlife, habitats, Natura 2000, etc. It is advisable to enlarge, as much as it is possible, the scope of specific protection measures for areas of renowned environmental value.

2.3.6. Compliance with the Albufeira Convention

In compliance with the Albufeira Convention, there is an obligation to transfer water to Portugal (at least 2,700 Hm3 of water/year, except for exceptional cases). There are also applicable obligations regarding quarterly and weekly transfer volumes.

2.4. Tagus River Basin Management Plan

2.4.1. Incidents in the approval process of the River Basin Management Plan for the Tagus River (First Stage): publication and removal of the Draft Plan for the Tagus River in 2011

The Petition submitted by the members of the Tagus Platform referred to the controversy that sparked in 2011 following the publication of a Draft Plan for the Tagus River Basin on the Tagus River Basin Authority's website. The controversy sparked since the Draft Plan was removed from the website 48 hours following its online publication.
This publication and the subsequent removal triggered a heated debate to which we refer to in Annex 4.

Finally, important matters such as the strategic reserve of 400 hm^3 per year in the Tagus headwaters provided in the Draft Plan that was removed were included in the following draft plans and in the Final document of the River Basin Management Plan in 2014. However, other proposals such as the maximum water level to be transferred estimated in 324 hm^3 per year

in the Draft Plan were not included by The Spanish Government in the Royal Decree 270/2014 of 11 April that passed the first cycle RBMP.

Examining this issue allows to understand how sensitive are the matters related to water management in Spain.

2.4.2. The Tagus River Basin Management Plan (2016-2021)

On 8 January 2016, the Council of Ministers enacted the second stage of river basin management plans, published in the Spanish Official Gazette on 19 January 2016. The previous Tagus River Basin Management Plan was approved by Royal Decree 270/2014 of 11 April.

The Plan enacted in 2016 did not seem to entail any major amendments to the 2014 Plan probably due to the short period of validity of the first. This new Plan has triggered criticism on the part of NGO´s, inhabitants of the basin and authorities of the Region.
The main lines of the programme to be implemented are the following:

1. The most significant actions and the greatest investments will be devoted to enhance the quality of the water used, particularly in the Autonomous Region of Madrid. The purpose of this is to achieve the environmental objectives laid down by the Water Framework Directive for the downstream water bodies as well as to improve the trophic status of the dams. Most of these measures are provided in the National Water Quality Plan (*Plan Nacional de Calidad de las Aguas*).

2. The new demands of supply for the Autonomous Regions of Madrid and Castilla-La Mancha will be addressed by the Entrepeñas and Buendia dams. Similarly, a minimum volume of water must be maintained to foster the riverside towns' socioeconomic development.

3. No significant increase of the water demands is envisaged. Although the supply and industrial demands increase, the irrigation demands either maintain their level or decrease. If saving, modernization, and sustainability programmes are promoted there could be further decreases.

4. It has been proposed to increase the minimum flows in the Tagus River Axis (Aranjuez, Toledo and Talavera de la Reina), thus complying with the applicable regulatory framework whilst helping to achieve the environmental objectives set forth by the Water Framework Directive.

Below is the regulation provided by the 2016 new Plan on the claims brought forward in the Petition examined herein[6].

1. Ecological flows and minimum flows

Article 9 of the Plan provides for the regulation of ecological flows, under normal conditions, for the strategic water bodies.
All water bodies have been characterized on the basis of hydrological methods. In addition, a modelling of the habitat has been carried out for 10% of those water bodies. 20 strategic

[6] See, Annex V of the Regulatory Contents of the RMBP for the Tagus river's Spanish part, Spanish Official Gazette 19 , January , 2016

spots throughout the basin have been picked, where compliance with the river flows regulation is required. They are downstream waters of dams subject to regulation, provided with river gauging and monitoring equipment.

The purpose of setting these strategic spots is to maintain the ecological flows in 80% of the basin's water bodies. The ecological flow in the river headwaters (where no significant drawdowns are found), established as a hydromorphological indicator, will be taken into consideration for the new concessions.

Article 9(3) provides that minimum flows running through Aranjuez, Toledo, and Talavera de la Reina will not be lower than those set forth in Chart 3 of Appendix V. The compliance with those minimum flows is to be ensured by means of the basin's integrated system. These water flows are not enough for the Tagus River Basin operators.

Appendix 5 Chart 3. Minimum flows expressed in m^3/s.

Code for surface water bodies	Minimum flow
ES030MSPF0101021 Tagus River in Aranjuez	6.00
ES030MSPF0607021 Tagus River in Toledo, so far as to the confluence with the Guadarrama River	10.00
ES030MSPF0602021 Tagus River from Alberche River so far as to the tail of the Azutan Dam (Talavera de la Reina)	10.00

Article 9(5) provides that prior to 1 January 2019, a proposal to extend the ecological flows regime will be drafted. The priority will be for water bodies which fail to comply the good status objectives provided in this Plan, or the ecological status of which worsens. Those water bodies where an adequate ecological flow regime proves to be an efficient tool to achieve the conservation objectives of the habitats and species dependent on water in the protected areas of the Natura 2000 network (*Red Natura 2000*) will also have the priority. In those spots in which the new ecological flow regime does not restrain the assignments and reserves of this River Basin Management Plan, the proposal will be included in the following Plan, to be enacted in 2021, following public information and consultation**.**

Article 10(3) provides that no minimum ecological flows above the natural regime equivalent will be required.

2. River nature reserves

During the validity period of the River Basin Management Plan, seven sections of the river will be declared river nature reserves pursuant to the procedure provided in Article 25 of the National Hydrological Plan Act (*Ley del Plan Hidrológico Nacional*).

Once those sections, where appropriate, have been declared river nature reserve, they will be included in the District Register of Protected Areas (*Registro de Zonas Protegidas de la Demarcación*).

River nature reserves will be protected by the natural area in which they are located or otherwise by the protective instruments determined by the competent authority, particularly the protection provided in the management plans of those nature areas. Any human activity

that could entail significant pressures for water bodies declared river nature reserves should be carefully examined in search of negative pressures and impacts. Notwithstanding the foregoing, the competent authority shall be entitled to award the relevant authorization in case such negative pressures and impacts are not significant or do not entail a long-term risk. Neither supply to small scale populations nor other uses and activities falling within the good status classification of the water body should be considered to be significant pressures[7].

3. Protected areas[8]

Habitats and species protected areas are those areas declared as such in which maintaining or improving water status amounts to an important factor for the protection thereof, including the Sites of Community Importance (Directive 92/43 EC), the Special Protection Areas for Birds (Directive 79/409 EC, codified version Directive 2009/147/EC) and the Special Areas of Conservation included in the Natura 2000 network (Directive 92/43). The regulatory framework for the protection of these areas at a domestic level is provided by Act 42/2007 on Heritage and Biodiversity.

Annex IV of the Water Framework Directive provides that these areas are to be considered when maintenance or enhancement of these waters' status amounts to a significant factor for the protection thereof. According to this criterion, only those protection areas with a habitat related to water ecosystems or including waterways considered as bodies of water have been taken into account. Spanish rules and regulations provide that it lies with the Autonomous Regions to declare the protected nature areas within their territorial scope, and they shall also come up with a list of Sites of Community Importance that could be declared special areas of conservation.

Annex IV of the Hydrological Plan Report (*Memoria del Plan Hidrológico*) provides an overview of the Register of Protected Areas, including therein river sections or lakes of the areas declared habitats or species protection areas in which the maintenance or improvement of the water status amounts to a significant factor for the protection thereof, including the Sites of Community Importance, the special protection areas for birds, and the special areas of conservation included in the Natura 2000 network, as well as wetlands of international importance according to the Ramsar Convention and those wetlands included in the National Inventory of Wetlands (*Inventario Nacional de Zonas Húmedas*).

4. Discharges of waste water from urban areas

Regarding waste water discharges, it is provided that in addition to the criteria laid down in the Hydraulic Public Domain Regulation, in particular in Articles 246, 253 and 259 ter, when designing drainage and water treatment infrastructures for urban concentrations, the actual population must be taken into account. It is not allowed to account for the water table incorporated to the drainage and water treatment systems as a result of the poor condition thereof.[9]

[7] See articles16-18 of the Regulatory Contents of the RMBP for the Tagus river's Spanish part, Spanish Official Gazette 19 , January , 2016
[8] See, article 18 of the Regulatory Contents of the RMBP for the Tagus river's Spanish part, Spanish Official Gazette 19 , January , 2016
[9] See article34 of the Regulatory Contents of the RMBP for the Tagus river's Spanish part, Spanish Official Gazette 19 , January , 2016

2.4.3. Assessments and appeals

Both the Autonomous Region of Castilla-La Mancha and the NGO Platform in Defence of the Tagus and Alberche rivers (*Plataforma en defensa de los ríos Tajo y Alberche*), have announced that they will appeal the new River Basin Management Plan of 2016 before the Supreme Court; the appeals brought before the courts against the previous plan have not been ruled on yet.

The main problems posed by the new plan are in the opinion of the Autonomous Region and the NGO: the continuation of the transfer for the benefit of other regions; at the same time, the Plan still has not provided for ecological flows in Aranjuez, Toledo and Talavera, where it has only provided for minimum flows. To add to that, the situation in the Tagus River Basin is getting more and more complicated, probably because of climate change, which has led to dramatic decreases in rainfall.

The abovementioned actors also complain that the deadline for the effective recovery of bodies of water has been extended, from 2021 to 2027.
The very recent Ruling of the Spanish Supreme Court of 21st, June, 2016, has taken a step forward related to this problem.

The main question brought up in this trial is if the Autonomous Community of Castilla La Mancha has the right to be a part in legal proceedings related to the granting of an administrative concession of water for irrigation purposes coming from the Tagus-Segura Transfer.

The Supreme Court has stated that it indeed Castilla La Mancha has such a right by stipulating that the Autonomous Community, along which water flows before being transferred, has a legitimate interest in the usage put to that water once it is transferred. The reason is that the commitment about that water, and its allocation to a rational usage, has an incidence on the unity of the basin and jeopardize and has an influence in the transfers that could be made in the future.

3. MATTERS RELATED TO THE EBRO RIVER BASIN DISTRICT

3.1. The petition submitted to the European Parliament in 2012 in defence of the Ebro River

Petition 0938/2012 addresses the Draft Ebro River Basin Management Plan that was subsequently enacted in 2014. This Petition was submitted when the said Plan was under public information and consultation.

The above-mentioned Draft is deemed by the petitioners to be contrary to the Water Framework Directive, the Habitats Directive, and the Environmental Liability Directive. The Ebro River Basin Management Plan was enacted on 28 February 2014. It has been amended by the second stage Plan (2016-2021). , which was passed on 8 January 2016., and published on 19, January 2016.

3.2. Ebro River Basin features[10]

The Ebro River Basin is located to the north-east of the Iberian Peninsula, and it has a surface area of 85,362 km^2, out of which 445 km^2 are in Andorra, 502 km^2 in France, and the remaining surface in Spain. It is the largest river basin in Spain. It accounts for 17.3% of the Spanish national territory in the Iberian Peninsula. Its natural boundaries are as follows: to the north the Cantabrian Mountains (*Montes Cantábricos*) and the Pyrenees; to the south-east the Iberian Mountain Range (*Sistema Ibérico*); and to the east the Catalan Coastal Range (*Cadena Costero-Catalana*).

The length of the Ebro River is 910 km. It flows through the Cantabrian Mountains and discharges in a delta on the Mediterranean Sea. The scope of action is very complex, since it affects numerous Autonomous Regions and even foreign countries authorities such as those of France or Andorra.
The main river network is 12,000 km long, and there are 347 main rivers.
There are various lakes in the basin, mainly in the mountainous areas; the so-called Pyrenean “ibones” or “estanys,” which are not very large yet they are tremendously beautiful. We can also find examples of this in other areas: the Sariñena Lagoon (Huesca), Montcornés Lagoon (Lleida), or the saltwater Lagoon of Chiprana (Zaragoza). The Gallocanta Lagoon (with a basin of 541 km^2) is also worth mentioning. It is located in an endorheic basin (a closed drainage basin), yet within the scope of the Ebro River Basin Authority.

There are 700 bodies of water under the category “rivers,” including both modified and unmodified water bodies, with an average length of 18.6 km. Within the category “lakes” there are 110 water bodies, 44 of which have been defined as heavily modified bodies of water and 5 have been defined as artificial water bodies. Finally, 8 bodies of water have been considered to be transitional waters, with a surface area over 0.5 km^2, and there are also 3 coastal water bodies, with a minimum length of 5 kilometres.

There are 105 bodies of groundwater. Two thresholds can be identified; a superficial one, including 103 emerging bodies of water, and a lower one, hosting two bodies of groundwater made up of confined aquifers.

[10] Source: Ebro River Basin Authority (*Confederación Hidrográfica del Ebro*). www.chebro.es

This wide and diverse territory has a population of 3,226,921 people (2013), which means it has a population density of 38 people per km^2. Thus, it is a sparsely populated territory compared to the rest of the country, since Spain's population density amounts to 93 people per km^2.

Almost half of the population lives in cities like Saragossa, Vitoria, Logroño, Pamplona, Huesca and Lleida. The population concentrates in the middle of the valley, but there are depopulated areas in the Iberian Mountains and the Pyrenees.

From the previous figures we can infer that 21.3% of the population lives in municipalities of 3,000 people or less. Conversely, only 9 cities (Saragossa, Vitoria, Pamplona, Logroño, Lleida, Huesca, Miranda de Ebro, Tudela and Tortosa) host almost 50% of the population, and only the city of Saragossa (the capital city of the homonymous province) is more populated than the said 1,483 municipalities with 3,000 people or less.

Within the basin, it can be noted that there are certain deserted areas: in the strip parallel to the Pyrenees, in a large portion of the concentrations on the right bank of the river, and in the large arid areas located in the middle of the valley. At the same time, the population tends to concentrate in the medium and low sections of the river valleys.

More than 40% of the basin territory is below the depopulation threshold, i.e. below 5 people/km^2 of permanent population.

Following a careful examination of the branches of activity in the area, we can conclude that the Ebro River Valley is predominantly industrial. Conversely, the level of tertiary sector activities (provided that the region is not a main tourist destination) are 10 points below the Spanish average. The level of agricultural activities is also over the Spanish average.

It comprises territories of 9 Autonomous Regions, (Cantabria, Aragon, Catalonia, Castilla-La Mancha, Castilla Leon, Basque Country, La Rioja, Navarre, and Valencia) 18 Provinces, 1,724 Municipalities, and 4,885 towns.

3.3. Main problems faced by the Ebro River Basin

The most important problems facing the Ebro river basin are the quality of water, the questions around the delta, the Pyrenees' dams and the protection of birdlife, plant life and the cultural heritage; the latter's chief element is the part of the Camino de Santiago which runs across the region.[11]

3.3.1. The quality of water

The Ebro river basin has always experienced the problem of lack of natural quality of its water. This is due to the very high proportion of salts in its composition on the middle and lowers parts of the river, increased by certain uses given to the water alongside it. The agricultural and urban waste water discharges into the river only make things worse. The

[11] SORRIBES**:** Repercusiones del PHN en las zonas cedentes, El Delta del Ebro El PHN español y el rechazo social al trasvase del agua del Ebro 2002

Ebro water generally does not comply with the conditions of pre-potability and is only useful for irrigation, but not without limits in order to avoid the salinization of soils.
One hundred years ago, the Ebro's river flow was double the size of the current one and the water was of better quality and less salinity. However, as the level of consumption, the polluting uses and the works along the basin increased, the quality of water got worse overtime. The proportion of salts has increased in a significant amount due to the loss of volume of the river flow.

The lack of water, the poor quality of it and the ill effects of human activity on the environment cause damages on rivers, lakes, deltas, humid areas, river forests and mountain areas. The excessive extraction of water does not of course contribute to solve these problems, and creates new ones. The big construction works are damaging Birdlife Special Protection Areas, Sites of Community Importance, Natura 2000 Network and RAMSAR. The effects of these factors might determine that the provisions of the directives on Habitats (92/43/CEE) and Birds (79/409/CEE) and the Water Framework Directive (2000/60 CE) are not complied with.

Generally speaking, the amount of the river Ebro's flow has been overestimated. In later decades, the reduction of the flow, because of the increase in the use of water along the basin and the proliferation of big dams has been quite substantial; namely, the decrease has amounted to 50% between the 70s and the year 2000. On top of that, the increasingly influential effects of climate change must be taken into account.

3.3.2. The Delta of the river Ebro

The protection of the delta of the river Ebro is the way to preserve a natural environment that, in spite of the huge changes brought about by human activity, still has exceptional values in the context of Spain, and Europe, natural heritage. Is the second most important aquatic habitat in the Western Mediterranean area, only behind the French Camargue, and the second too in the Iberian Peninsula, just after Doñana.

The delta of the river Ebro is a work of the river itself. Scientific, historical and cartographic studies have shown that during Roman domination of the area and for a long time later, simply there was no delta, the river ended in a kind of estuary. The big growth of the delta came along after the Middle Age because of the drastic reduction of the forest areas -due to the fires, the deforestation of big amounts of land for agricultural purposes and the massive cutting down of trees for house and ship building. As a consequence, the most superficial layers of soil lost their protection and a part of it was swept along by the rain, carried on by the river flow and settled at the estuary as the flow loses strength because of the opposing force of the sea.

The Ebro's delta currently faces three very important problems: the recoil or retreat of the delta's front; the subsidence or sinking of the delta because of the surface's compression and the salinization of water because a stream of sea water has entered the delta.

1. The recoiling of the delta's front has been the most immediate consequence of the building of dams. Developed to generate electricity, retain water for irrigation uses and avoid the disastrous swellings of the river, the dams have nonetheless created a new problem: the sediments have settled at the bottom of them and now, according to specialists, the river only drags with it a 1% of the sediments that it carried one hundred years ago. Since the dams were built, the retreat of the delta's front has been continuous and, exceptionally, the front has gone back one hundred meters in

some years. Some parts of the sediments have settled in other areas, especially in the Northern part of the basin, but the global losses are quite evident and probably will increase in the future. It can be said that at the moment the fragility of the coast line is quite significant, as attested by the big damages caused by the storms, typical of the area.

2. The subsidence or sinking of the delta plain is caused by the natural compression of sediments, the reason for this is their own weight and the human activities, mainly agricultural, carried out on its surface. The calculations show that the surface level goes down by 3 millimeters per annum in relation to the sea. The fact that sediments are not reaching the delta due to the aforementioned problems means that the sinking is not counteracted. As, at the same time, sea level is constantly rising, a growing proportion of the delta surface could fall below sea level.

3. The penetration of a stream of sea water into the delta is a direct consequence of the reduction of the river flow and of the strength they have when they reach the sea. The reduction of the quantity of water reaching the estuary is a product of the increasing uses of water (agricultural, urban, industrial, energy) during later decades. The strip of sea water has already reached Amposta –located 25 kilometers from the estuary- and when eventually the river flow is low, it reaches even further.

3.3.3. The dams in the Pyrenees

The Ebro RBMP plans the construction of 56 dams along the Ebro River Basin for a diversity of purposes: agricultural irrigation, urban supply, hydro-electric power plants… On the 20th century some 4.000 people were evicted from their homes and around 30 villages were cleared of their populations and flooded. Actually, 9.000 productive hectares located on the most important valleys of the Pyrenees have been flooded. The new dams may increase even more the impact of this problem on the population, additional mountain villages will be left by their inhabitants and the territorial unbalance between the country and the city will grow.

The alteration of the natural regime of the great Pyrenees' rivers will affect, even more, the way things work on the whole Ebro Basin. The destruction of many kilometers of river forests means that the land is unable to act as a natural dyke for river swellings; that there is less biodiversity and less capacity to purify the flowing water and that the rivers lose their social side as locations for bathing, enjoying the countryside and other forms of entertainment.

In addition, the alteration of the natural way of things as a consequence of the ejection of water from the dams has an influence on the water ecosystem: fishes get trapped in pools and die, and the level of polluting elements grows.

The artificial swellings of the river at the beginning of summer brings about negative effects on the sprouting of the riverbanks flora and consequently, on the nest-building of aquatic birds. The ejection of huge amounts of sediments when the dams are cleaned up has also significant consequences for the fish population, the quality of water, etc. The building of great dams makes that large areas of land around them are abandoned or their uses altered, which bring changes in the environmental balance.

On top of that, the dammed up waters also hurt the Spanish heritage and cultural patrimony as they flood a significant part of the Camino de Santiago (Route to Santiago de Compostela) as it runs along Aragón. The Route was declared some years ago by the UNESCO as a World Heritage Site.

3.3.4. The Ebro transfer: its planning in the 2001National Hydrological Plan and its repeal in 2005. The A.G.U.A. project.

The most important project contained in the 2001 National Hydrological Plan, passed by the government, was the river Ebro transfer to the Levante area. Article 13 of the plan envisaged a maximum transfer volume of 190 Hm3 to the territories included in the RBMP for the Internal Basins of Catalonia; 315 Hm3 to the territories included in the RBMP of the river Júcar; 450 Hm3 to the area included in the RBMP of the river Segura; and 95 Hm3 to the territories included in the RBMP for the South.

The government in 2004 modified the parts of the 2001 National Hydrological Plan that concerned the river Ebro. The plan was altered in 2005 and the Ebro transfer was replaced by the A.G.U.A. (W.A.T.E.R.) project. The project tried to ensure the availability on 928 Hm3 per annum for the 5 provinces that, according to the previous National Hydrological Plan the Ebro transfer should theoretically provide with 1.050 Hm3 per annum. The project additionally stated that 135 Hm3 per annum should be transferred to the provinces of Málaga and Gerona and that investment would be carried out in Tarragona and Albacete. All this compounds a total 1.163 Hm3 per annum; 448 of them should come from improvements in the management, infrastructures' renewal, savings and reuse of water (possibilities that were hardly contemplated in the previous National Hydrological Plan); and the remaining 715 Hm3 should have been obtained from desalination of sea water.

The Government decided to promote this measure because they thought that it was better for the environment than the transfers. Although, desalting water causes also important problems of pollution and consumes a lot of energy. And it is more expensive than the transfers.

The first desalination plant created in Europe was set up in Lanzarote, one of the Canary Islands (Spain) in 1964. Almost thirty years later, in 1993, the first reverse osmosis installation was put up in Cabo de Gata (Almería) Spain exports technology about desalination to different countries. Spain has a total of 900 desalinations plants, which makes it the fifth country the world on the matter. Some of them are Las Carboneras in Almería, San Pedro del Pinatar in Murcia, El Atabal in Málaga, the ons in Barcelona, Torrevieja, Águilas, etcetera. As a whole they have the capacity to desalinate 1,45 millions of cubic meters per day. But this is not enough to solve the problem of water scarcity in those Spanish territories.

As it is said, in addition to desalination the Program AGUA introduced different types of measures to guarantee the water supply in the areas where the transfer of the River Ebro was planned in application of the National Hydrological Plan of 2001.These measures were included in the new National Hydraulic Plan of 2004: saving water, renovation of infrastructures, reuse of water, etc.

The investment planned to pay for the transfer of the River Ebro was about 4,3 billion €, without any grant from the European Union. The estimated investment of the new measures (Programa AGUA) was about 3,9 billion €.1,2 billion of them will be paid from the European Union by the European Regional Development Fund (ERDF)

When the socialist party was still in power the references to this program had almost disappeared from institutional webs. It was hardly applied from 2004 to 2011. It is still in the web page of the Ministry of Environment but there are not planned projects in application of it.

Although in the programs for the elections remains the possibility of new transfers there are not concrete projects for the moment. Economic crisis and the absence of consensus to adopt this important decision can be possible causes of this nowadays situation

3.4.-Ebro River Basin Management Plan

3.4.1. The Ebro River Basin Management Plan (2016-2021)

The recently enacted River Basin Management Plan for the Ebro River of 2016 will be in force for a period of six years, i.e. until 2021. In fact, its aims continue from the previous Hydrological Plan (2009-2015).
The Head of the River Basin Authority points out the following advances made by the new Plan: the study of the recovery of investment costs, significant progress in the characterization and identification of the bodies of water, and an update of the Inventory of Protected Areas.

However, there are not many modifications regarding water reserves. The Plan provides for 4,260 hm^3 for current consolidated uses, 1,440 for new developments, and 850 for strategic reserves.

According to the Head of the River Basin Authority the ecological flow, which has a significant impact on the Delta, has been set on the basis of technical standards, based on studies carried out throughout the whole basin to determine minimum flows to the end of reproducing the natural regime of the river.
The Royal Decree on Floods has been enacted on January 15, 2016. It is essential for the river that carries the most water in Spain, but it has been not published yet.

Concerning lindane pollution, the Head of the River Basin Authority has pointed out that studies are still being conducted to find out the best technical solution. He has added that a major investment in this kind of tasks is going to be made.

The most controversial issue within the Ebro River Basin is the environmental protection of the Ebro Delta, which suffers the consequences of the disruptions that take place throughout the course of the river.

1. Ecological flow regime and other environmental demands

Articles 9 to 14 of the RBMP govern the ecological flow regime, both under normal ecological conditions and under extraordinary conditions such as long droughts. It also governs the control and monitoring of the ecological flow regime, the maintenance of the ecological flow regime, preventive flows, and implementation and compliance with the ecological flow regime.

Article 9 provides that, in the absence of general applicable rules while the Plan is in force, the regulatory framework contained in the Plan shall define the ecological flow regimes on the Spanish side of the Ebro River Basin District. The ecological flow regime, including maximum flows, flood flows and change rates, shall be updated in the next revision of the Plan.

The ecological flow regimes to be implemented, including those of the Lower Ebro River, shall be governed by the principle of basin unity (*principio de unidad de cuenca*) and they must be ratified by the Water Council of the Ebro River Basin District.
Minimum ecological flow regimes which are above the natural regime existing at any given time shall not be required. In this regard, the downstream ecological flow regime of the dams could be adapted to the contribution to the dam at any time under the natural regime.

2. Protection areas and the Ebro Delta

Articles 35 to 37 of the RBMP govern protected areas.
The Plan includes a proposal of river nature reserves. These must be declared as such and upon approval of this declaration, they will be included in the District Register of Protected Areas (*Registro de Zonas Protegidas de la Demarcación*).

Article 38 under the heading “Protection of the Ebro River and the coast,” contains certain provisions on the Delta. To the end of ensuring the preservation of the special ecological conditions, control stations, protected areas, environmental protection, flood prevention, and the investment programme of the Ebro Delta and the coast, the Ebro River Basin Management Plan incorporates the Comprehensive Protection Plan of the Ebro Delta (*Plan Integral de Protección del Delta del Ebro*). This Protection Plan is provided by the tenth additional provision of Act 10/2001, of 5 July, approving the National Hydrological Plan. The Protection Plan also incorporates the Act’s implementing provisions, resulting from the agreements amongst competent authorities. The aspects related to the river flow management, or other measures contained in the said Comprehensive Protection Plan that may affect the rest of the basin, must be ratified by the Water Council of the Ebro River Basin District.

3. Environmental objectives

Articles 39 to 41[12] of the RBMP address the environmental objectives.
In protected areas, the environmental objectives are determined by the compliance with protection rules applicable in each area, as well as by specific environmental objectives determined in each area, pursuant to the regulatory framework applicable to each area of protection (article 39.2).

Less stringent environmental goals apply to twelve bodies of surface water and two bodies of groundwater (article 39.3) A reference is made to conditions due to natural causes or *force*

[12] Regulatory Contents of the RMBP for the Ebro river's Spanish part, Spanish Official Gazette 19 , January , 2016

majeure events that could have not been reasonably foreseeable. Under these conditions, the temporary deterioration of the status of one or more bodies of water could be admitted (long droughts, forest fires, etc.).

4. Programs of measures

Article 68[13] of the RBMP refers to the following programmes of measures and provides a classification thereof: measures to reduce point source pollution (type 1);measures to reduce diffuse pollution (type 2);measures to reduce water abstraction pressures (type 3);measures to reduce morphological pressures (type 4);measures to reduce hydrological pressures (type 5); measures for conservation and enhancement of the structure and functioning of water ecosystems (type 6); measures that do not apply to a specific source of pressure yet to an identified impact (type 7); general measures to be applied to sectors acting as determining factors (type 8); specific protective measures of drinking water not specifically linked to pressures or impacts (type 9); specific measures for priority substances not specifically linked to pressures or impacts (type 10); measures related to governance enhancement (type 11); measures related to the increase of available resources (type 12); measures for flood prevention (type 13); protective measures against floods (type 14); measures related to preparedness against floods (type 15);recovery and review measures following floods (types 16 to 18); measures to fulfil other water-related uses (type 19).
Measures within types 1 to 10 are equivalent to the implementing measures contained in the Water Framework Directive. They address the problems related to achieving the environmental objectives. Similarly, measures within types 13 to 18 correspond to the implementation of the Directive on the assessment and management of flood risks, addressing problems related to overflows and floods (extreme conditions). Additionally, governance issues are addressed by type 11 measures. The aim of fulfilling the demands assumed by this Plan is tackled with the investments listed under type 12. Conversely, type 19 comprises other parallel investments affecting the evolution of water uses, and which dictate the need for other types of measures aside from those previously stated.
Including these measures within the Plan does not prevent other actions related to the water environment from being included in this list in order to achieve the goals contained in this River Basin Management Plan.

3.4.2. Assessments and appeals

The Ruling of the Spanish Supreme Court of September 20th, 2015, stated that the Ebro RBMP of 2014 (1st cycle) was compliant with the law. It pointed out that it was not possible to allege, as a ground of invalidity, that the plan infringed the environmental directives if the allegation does not contain the quotation of specific articles of the directives that were infringed by the Ebro´s Plan. Consequently, as the claimants didn't quote any specific articles of the environmental directives that were infringed, the Ruling states that it has not been proved that the Ebro´s Plan is not compliant with these directives

Both the Autonomous Region of Catalonia and the NGO Platform in Defence of the Ebro river (Plataforma en defensa del río Ebro), have announced that they will appeal the new River Basin Management Plan of 2016 before the Supreme Court.

The main problems posed by the new plan in the opinion of the Autonomous Region and the NGO, are: the inadequate regulation and protection of the delta, the building of a very high number of dams (as they have an influence in the environmental balance of the river and its

[13] Regulatory Contents of the RMBP for the Ebro river's Spanish part, Spanish Official Gazette 19 , January , 2016

Protected Natural Areas) and on the quality of water, impaired by its scarcity, the waste water and the basin's salinity level.

4. THE IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE IN SPAIN[14]

4.1. The application of the Water Framework Directive

The enactment of the Water Framework Directive[15] (WFD) posed a significant challenge for all EU Member States, since it provided, for the first time, a mandatory regulatory framework that laid down environmental objectives applicable to all continental, transitional, and coastal water bodies. This Directive has shifted the long-standing approach, focused on meeting the demands, to a new approach, aimed at achieving a good status for all bodies of water. Directive 2006/118/EC on the protection of groundwater against pollution and deterioration, along with Directive 2007/60/EC on the assessment and management of flood risks are also noteworthy.

In order to examine the transposition of these EU Directives into Spanish law, the allocation of powers between the State and the Autonomous Regions, as provided by Articles 149(1)(22) and 148(1)(10) of the Spanish Constitution, must be taken into account.

Article 148
1. The Autonomous Regions may assume competences over the following matters:
10.- Planning, construction and operation of hydraulic projects, canals and irrigation of benefit to the Autonomous Region; mineral and thermal waters.
Article 149
1. The State holds exclusive competence over the following matters:
22.-Legislation, regulation and concession of hydraulic resources and development when the waters flow through more than one Autonomous Region, and authorization for hydro-electrical installations when their development affects another Region or when energy transport goes beyond its territorial scope;

The Spanish Constitution (1978) provides that competence over river basins, or water catchment areas, shared by more than one Region (inter communal basins) lies exclusively with the State, whereas the competence over river basins that fall within a single Autonomous Region's territory (intra-communal basins) lies exclusively with the relevant Autonomous Region. This allocation of powers has led to a lot of conflicts in the last few years that have been solved by the Spanish Constitutional Court.[16]

Concerning the rules on water, acts and regulations enacted by the Government through Royal Decree are deemed (in full or in part) as basic rules[17] that apply across the country. However, Ministerial Orders, which contain procedural rules, are not binding on the Autonomous Regions.

At Regional level, several water acts have been enacted in the past decade to adapt legislation to comply with the WFD, including Catalonia (2003), Basque Country (2006), Andalusia (2010), Galicia (2010 and 2015) and Aragon (2014).

[14] This information is taken from www.magrama.gob.es . Institutional web of the Ministry of Agriculture, Food and Environment
[15] *OJ L 327, 22.12.2000, p. 1–73 as amended*
[16] Among others, Rulings of the Spanish Constitutional Court : 227/1988, 247/2007, 249/2007,31/2010, 48/2010,49/2010, 10, 30, 32, y 149 de 2011 y 102 y 149/2012.
[17] In Spanish, *normas básicas*. They lay the foundations for certain subjects, and they oppose to implementing or enforcement provisions, designated in Spanish as *normas de desarrollo*.

Both Autonomous Regions and local authorities (Municipalities) are involved in the management of inter-regional river basins, and they share powers in environmental domains.

In Spain, the technical difficulties stemming from the new environmentalist approach taken by the Water Framework Directive add to the domestic difficulties related to territorial organization and political and administrative issues.

4.2. The development of the Water Framework Directive by Spain

4.2.1. The transposition of the WFD through Acts

Spain has a long track record of hydrological planning, as well as a long-standing tradition regarding river basin management. Originally, this was a water quantity focused hydrological planning, designed for economic development. The plans were aimed at ensuring adequate water supply for existing and future demands. This process delivered River Basin Management Plans (RBMPs) for all River Basin Districts (RBDs), different from the current delimitation, in the late 1990s, plus a National Hydrological Plan enacted in 2001. This Plan was partially repealed (Ebro-Segura inter-basin transfer) in 2004.

Following the adoption of the Water Framework Directive (WFD) in 2000, the consolidated text of the Water Act was approved by Royal Legislative Decree 1/2001, of 20 July, which gathered the national rules and regulations enacted thus far. The transposition of the WFD into Spanish law was made through Article 129 of Act 62/2003 regarding fiscal, administrative and social measures (Spanish Official Gazette No. 313 of 31 December) which amended a large amount of provisions of the consolidated text of the Water Act.

This regulation introduces the notion of River Basin District (RBD), which is essential for the application of the Directive. Additionally, different bodies and procedures are defined in order to foster public participation as well as to ensure cooperation in the enforcement of water protection rules. The Council of the River Basin District and the Committee of Competent Authorities are examples of these bodies.

Significant amendments are made to the planning procedure, related to the hydrological plans objective, drafting and approval process. The new regulation includes core elements of the Framework Directive, such as environmental objectives, the status of bodies of water, programmes of measures, register of protected areas, and the cost recovery principle.
Below are the regulatory amendments that have been made following the transposition of the Water Framework Directive[18].

-**Act 11/2005, of 22 June, amending Act 10/2001, of 5 July, approving the National Hydrological Plan**, provided a definition of ecological flows and of river nature reserves along with a section on hydraulic works of general interest. Additionally, this Act repealed the Ebro-Segura inter-basin transfer, fulfilling the campaign promise made by the Socialist Party President Rodríguez Zapatero.

- The **National Water Quality Plan: drainage and water treatment 2007-2015** falls within the global strategy aimed at planning and managing the hydraulic and coastal waters public domain, providing an adequate protection and restoration to the related environments. The main purpose of this Plan is to ultimately meet the requirements of Directive 91/271/EEC, transposed into Spanish law by Royal Decree-law 11/1995 and Royal Decree 509/1996, which

[18] *OJ L 327, 22.12.2000, p. 1–73 as amended*

are binding on all competent authorities in terms of drainage and water treatment. The 31 December 2005 deadline laid down by the Directive has been missed. However, this piece of EU legislation remains in full force and coexists with the WFD. In fact, the European Commission considers the said piece of EU legislation essential to achieve the 2015 environmental objectives.

- **Act 9/2006, of 28 April, on the assessment of the effects of certain plans and programmes on the environment**.

- Act 27/2006, of 18 July, governing the rights of access to information, public participation rights, and the rights to access to justice in environmental matters.

4.2.2.-The transposition of the WFD through Regulations and Instructions

Several other pending aspects have been subsequently implemented through regulations and instructions. The main rules are the following:

-**Hydrological Planning Regulation, enacted by the Spanish Government through Royal Decree 907/2007, of 6 July and amended by Royal Decree 1161/2010, of 17 September** on the content of hydrological plans and on procedures for the drafting and approval thereof. This Regulation completes the transposition of the Water Framework Directive in matters such as the characterization of the River Basin District, the applicable criteria to determine the status of water bodies (including ecological flows), the definition of environmental objectives and programmes of measures. Additionally, the criteria to apply in order to take into account the effects of climate change are introduced, as well as the regulation of more comprehensive plans, such as special action plans under alert, droughts, and floods. It governs the implementation of the economic analysis on the use of water, it provides for the procedures for the drafting and approval of plans, and it regulates the public participation instruments.

- **Regulation providing for the territorial scope of river basin districts, approved by Royal Decree 125/2007, of 2 February, and modified by Royal Decree 29/2011 of 14 January.** Spain has a long track record of managing rivers on the basis of the relevant river basins. Moreover, this has been done since the early 20th century; the Ebro River Basin Authority was established in 1926. Intercommunal basins are those catchments shared by more than one Autonomous Region. On the one hand, the regulation and management of these basins, by means of different river basin authorities, is the exclusive competence of the State. On the other hand, intra-communal basins, i.e. catchments within a single Region, are managed by the Autonomous Region itself.

It is worth recalling at this point the Court of Justice Ruling of 24 October 2013, **C 151/12** This judgment penalises Spain because it failed to transpose certain provisions of the Framework Directive regarding intra-communal river basins, which are the competence of the Autonomous Regions.[19]

The delimitation criterion applied in the Regulation was as follows: it basically maintained the current river basin district structure, adding transitional and coastal waters. The Spanish Water Act defines the River Basin District as the area of land and sea, made up of one or

[19]http://curia.europa.eu/juris/document/document.jsf?text=&docid=143545&pageIndex=0&doclang=ES&mode=lst&dir=&occ=first&part=1&cid=943158

more neighbouring river basins together with their associated ground-waters and coastal waters.

Alongside the national RBDs, the Regulation addresses the international river basin districts. Strictly speaking, it regulates the Spanish areas falling within international river basin districts, amongst which we can find the Spanish area of the Tagus River Basin District along with the Spanish area of the Ebro River Basin District, on which we focus herein. As regards these international river basin districts, it must be pointed out that the Framework Directive does not require a single River Basin Management Plan (RBMP) to be approved, which would amount to the highest degree of trans-boundary cooperation.[20]

Except in the recent Ceuta and Melilla River Basin Districts, the remaining international river basin districts fall within category 2 (second level of trans-boundary cooperation), which means there is a cooperation agreement and a cooperation body in place, but no international River Basin Management Plan (RBMP) in place.

As for the Tagus River Basin District, the Cooperation Convention on the Protection and Sustainable Use of Waters in the Portuguese-Spanish River Basins concluded in Albufeira on 30 November 1998 (Albufeira Convention) applies. Regarding the Ebro River Basin District, the Toulouse Agreement governs this domain amongst France, Spain and Andorra, pursuant to Article 3 of the Water Framework Directive, since 2006. This Agreement is binding on the Ebro River Basin District.

-**Regulation governing the composition, functioning and duties of the Committees of Competent Authorities of those River Basin Districts with intercommunal basins, approved by Royal Decree 126/2007, of 2 February, and subsequently amended by Royal Decree 1626/2011, of 14 November.**

Regarding those RBDs with intercommunal basins, the Spanish Water Act provides for a Committee of Competent Authorities aimed at promoting co-operation between national, regional and local authorities in the application of water protection rules and regulations.
The Head of the Committee of Competent Authorities is the Head of the River Basin Authority. Those Autonomous Regions the territory of which is in full or in part within the RBD have a representative in this Committee. There cannot be more national than regional representatives. The number of local representatives can range between one and three, depending on the River Basin District.

The Committee of Competent Authorities has many duties, and they are all very significant. We can underline the following: promoting the adaptation by the competent public authorities of the measures needed to comply with the protection rules provided in the applicable water legislation; reporting to the EU, through the National State Authorities (*Administración General del Estado)*, on the river basin districts; fostering and ensuring cooperation in the drafting of plans, as well as in the conclusion of agreements and covenants amongst public authorities; monitoring the update of the Register of Protected Areas.

Regarding the planning process, the Committee of Competent Authorities must supply information to the Water Council for the drafting of plans, and it must promote cooperation

[20] The Commission provides for the following categories:
Category 1: Cooperation agreement, co-operation body and international RBMP in place.
Category 2: Cooperation agreement and co-operation body in place, but no international RBMP in place.
Category 3: Cooperation agreement in place but no co-operation body or international RBMP in place.
Category 4: No cooperation formalised.

between competent authorities for the drafting of the Schema of Important Issues (*Esquema de Temas importantes*) regarding hydrological planning and of the programmes of measures.

The delay of Spain concerning the implementation of the Water Framework Directive was also evidenced when the Competent Authorities were appointed. The European Court of Justice Ruling of 7 May 2009, **Case C-516/07**[21] declared that the Kingdom of Spain had missed the deadline to appoint the Competent Authorities in order to apply the provisions of the abovementioned Directive. This non-compliance is attributable to the following Autonomous Regions: Galicia, Basque Country, Andalusia, Balearic Islands, and the Canary Islands.

- **Regulation providing the legal regime applicable to the reuse of treated water, approved by Royal Decree 1620/2007, of 7 December.**
From its entry into force, this Regulation has boosted water reuse in Spain. This regulatory instrument allows to include water reuse within hydrological planning, thus ensuring an adequate protection of the human health and of the environment. Water reuse is part of the commitment of Member States to achieve a good status of water as provided by the Water Framework Directive. It most certainly poses a challenge for water management, since it requires to protect and preserve water ecosystems by fostering a sustainable use of water.

Therefore, the Spanish Ministry of the Environment, Marine and Rural Affairs has started to draft the National Water Reuse Plan. This Plan will create new water sources by enabling upper quality water for more stringent uses, subsequently enhancing the status of waters. This Plan is currently under public consultation.

The National Water Reuse Plan emerges as a new water management tool, which ultimately ensures supply for consolidated uses and enhances water use by replacing pre-drinking water with reclaimed water. Additionally, it will increase the net availability of water resources in coastal areas.

- Ministerial Order for Hydrological Planning (IHP), Order ARM/2656/2008, of 10 September, on Hydrological Planning Instruction, as amended by Order ARM/1195/2011 of 11 May, is a complementary intra-ministerial regulation tool that defines precisely the procedures for the planning process and other substantial obligations such as the conditions for granting exceptions and the monitoring and classification of the ecological and chemical status of surface waters. This Instruction provides the technical criteria to homogenize and systematize the drafting processes of River Basin Management Plans (RBMPs) pursuant to the Framework Directive. However, the IHP applies only to rivers that flow through different Autonomous Regions, in inter communal basins. Nevertheless, the IPH has been used as a “guidance document” in the development of intra-communal RBMPs.

The Instruction takes into account the recommendations issued in the Guidance documents drafted in the context of the Common Implementation Strategy for the Water Framework Directive. Along these lines, it sets forth criteria to characterize water bodies, to draft the inventory of pressures, to define environmental objectives, to assess the status of water bodies, and to enforce programmes of measures drafted by the various competent authorities.

[21] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1466056841675&uri=CELEX:62007CJ0516

The hydrological planning process is made up of the following stages with their relevant documents to be submitted to public consultation:

- Initial documents: General assessment of the river basin district, programme, schedule, consultation instruments, and public participation project
- Schema of Important Issues
- Strategic Environmental Assessment
- Programme of measures
- Initial Draft Hydrological Plan + Environmental Sustainability Report
- Approval of the Environmental Report
- Draft Hydrological Plan.

- **Regulation governing the protection of groundwater against pollution, approved by Royal Decree 1514/2009, of 2 October.**

The European Parliament and the Council enacted Directive 2006/118/CE, of 12 December 2006, on the protection of groundwater against pollution and deterioration.

The main goals pursued by this Royal Decree are the following: preventing or limiting pollution of groundwater, and laying down the criteria and the procedures necessary to assess the chemical status of groundwater. Directive 2006/118/CE is transposed into Spanish law by this Royal Decree, as well as sections 2.3, 2.4 and 2.5 of Annex V of the Water Framework Directive, 2000/60/CE, on the chemical status of groundwater. In addition to the provisions on the chemical status of groundwater, this Royal Decree lays down the measures to determine and reverse the significant and sustained upward trend in the concentration of pollutants; it also aims at preventing or limiting the input of pollutants into groundwater.

- **Regulation on the assessment and management of flood risks approved by Royal Decree 903/2010, of 9 July.**

The purpose of this Regulation is to transpose into Spanish law Directive 2007/60/EC, of the European Parliament and of the Council, of 23 October 2007, on the assessment and management of flood risks. As for the international river basin districts (shared with Portugal, France, Andorra, and Morocco) the necessary coordination in the drafting and enforcement of flood risk management plans will be provided.

Flood risk management plans for the various inter communal RBD have been approved on 16 January 2016

- **Regulation on the environmental quality standards in the field of water policy, approved by Royal Decree 60/2011, of 21 January.**

Articles 4 and 16 of Directive 2000/60/EC provide for the obligation to implement the necessary measures aimed at progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges, and losses of priority hazardous substances.

In compliance with Article 16 of the said Directive and taking a leap forward regarding water protection, Directive 2008/105/EC of the European Parliament and of the Council, of 16 December 2008, on environmental quality standards (EQS) in the field of water policy. The purpose thereof is to lay down environmental quality standards for priority substances and other pollutants, with the aim of reaching a good chemical status of surface water.

Complementing the existing regulation on the monitoring of the chemical status of water, Commission Directive 2009/90/EC, of 31 July 2009, laying down, pursuant to Directive

2000/60/EC, technical specifications for chemical analysis and monitoring of water status, was enacted.

The aim of the abovementioned Royal Decree is to transpose all aspects contained in Directive 2008/105/EC of the European Parliament and of the Council, of 16 December 2008.

Similarly, it includes the technical specifications for chemical analysis laid down in Commission Directive 2009/90/EC of 31 July 2009. In other words, it incorporates minimum performance criteria for methods of analysis to be applied when monitoring water status, sediment and biota, as well as rules for demonstrating the quality of analytical results.

- Regulation providing the water status monitoring and assessment criteria and the environmental quality standards, approved by Royal Decree 817/2015, of 11 September.

This recently enacted Regulation plays a very prominent role in the implementation process of the Water Framework Directive. The purpose of this Royal Decree is as follows: laying down basic and homogeneous criteria for the design and implementation of the surface water status monitoring programmes, as well as for the additional control of protected areas; defining the criteria, reference conditions and change of category to classify the ecological status of water bodies; providing the environmental quality standards for priority and preferential substances to classify water status, as well as defining the procedure to assess these rules for point-source pollutants; and finally, providing for the information exchange obligations whilst defining the information system on the status of waters in order to comply with the applicable legislation on the rights of access to information and public information.

4.2.3. -River Basin Management Plans

4.2.3.1. - Hydrological planning (first cycle): 2009-2015

Spain failed to meet the deadline provided by the Water Framework Directive for the enactment of RBMPs, which ended on 22 October 2009[22]. The first Plan, applicable in Catalonia, was officially approved on 2 September 2011, with a two-year delay with respect to the deadlines provided by the Water Framework Directive. The Tagus River Basin Management Plan was enacted by the Spanish Government by Royal Decree on 11 April 2014, and the Ebro RBMP was passed on 28 February 2014.

The European Court of Judgment Ruling of 4 October 2012 in Case C-403/11[23] declares that the Kingdom of Spain has failed to fulfil its obligations under the WFD, since Spain has not adopted or published national river basin management plans (with the exception of the management plan for the river basin district of Catalonia) by 22 September 2009, the time-limit laid down in the Framework Directive. The Ruling also declares that Spain has failed to comply with its obligations under the Water Framework Directive because it did not submit a copy of these plans by 22 March 2010, as provided by the WFD.

In this Ruling it is also declared that Spain has failed to comply with its obligations for not having begun, by 22 December 2008, (with the exception of the river basin management

[22] Article 13(1) to (3) and (6) and Article 15(1) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, as amended by Directive 2008/32/EC of the European Parliament and of the Council of 11 March 2008 *OJ L 327, 22.12.2000, p. 1–73*

[23] http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:62011CJ0403

plans for the river basin district of Catalonia, the Balearic Islands, Tenerife, Guadiana, Guadalquivir, Andalusian Mediterranean basin, Tinto-Odiel-Piedras, Guadalete-Barbate, Galicia-Costa, Miño-Sil, Duero, Western Cantabrian and Eastern Cantabrian, the public information and consultation process in relation to the draft river basin management plans, pursuant to the said Directive.

4.2.3.2. - EC assessment of the inter communal river basin management plans (first cycle) in Spain[24]

A summary of the main strengths and weaknesses of the Spanish RBMPs, according to the EU Commission Staff Working Document, is presented below:

Main strengths

1.-There has been an extensive technical work carried out by the river basin authorities in the preparation of the RBMPs.

2.-The RBMPs are complete and structured documents, which generally include numerous annexes with a significant amount of detailed information and background documents.

3.-Quantitative aspects are considered, with water balances done for each RBD and ecological flows calculated for many river stretches.

4.-Significant efforts have been made to ensure a broad public participation in the process of development of the RBMP.

5.-All RBMPs have gone through a strategic environmental assessment.

Main weaknesses

1. The late approval of RBMPs (Canary Islands not approved yet – December 2014). Spain should ensure the timely adoption of the next RBMPs.

2. Further work is needed to ensure WFD is fully transposed in all intra-community RBDs.

3. The gaps on characterisation, the deficiencies in monitoring programmes and in the status assessment methods have resulted in an important number of water bodies with unreliable or unknown status. This undermines the whole planning process and compromises the definition of the necessary measures and the achievement of environmental objectives. Furthermore, environmental objectives are missing for a relatively high number of water bodies, or are delayed until 3rd planning cycle (2027) without proper justification.

4. Quantitative management of water is linked to quality objectives through the establishment of ecological flows in many river stretches, but these are generally not clearly linked to the achievement of good status.

5. High number of new infrastructure projects are planned, but the conditions for application of exemptions (WFD Article 4(7)) have not been included in the RBMPs and the potential

[24] See the General Recommendations document in Annex -2 The COMMISSION STAFF WORKING DOCUMENT Report on the implementation of the Water Framework Directive River Basin Management Plans Member State: SPAIN (2015):http://ec.europa.eu/environment/water/water-framework/pdf/4th_report/MS%20annex%20-%20Spain.pdf

impacts on the status are generally not reflected in the environmental objectives of water bodies.

6. Cost recovery instruments have not been adapted to the WFD requirements. As a consequence, there is a lack of adequate incentives for efficient use of the resource and the adequate contribution to the recovery from different users is not guaranteed. Environmental and resource costs are high but not included in the recovery. River basin authorities do not have sufficient resources to exert an effective control of water uses in the RBDs.

7. Despite its importance for management and planning purposes, the register of water abstractions is not yet completed in Spain. Metering of water uses should be generalised.

8.-The consideration of water dependent protected areas should be improved. Specific objectives, monitoring and measures need to be included in the RBMPs in order to ensure the favourable conservation status of water-dependent protected habitats and species.

4.2.3.3. - Hydrological planning (second cycle): 2016-2021. Enactment by the Government on 8 January 2016

The enactment of the second cycle of hydrological planning in Spain has been made public following the Council of Ministers meeting of 8 January 2016. This second cycle of hydrological planning was published on 19 January2016.

The press release following the Council of Ministers states, on the motion of the Ministry of Agriculture, Food and the Environment, that it has completed on that date the second cycle of hydrological planning for all river basins which are the competence of the State. This has been done by enacting, by Royal Decree, 12 river basin management plans which are the competence of the State affecting the following river basin districts: Western Cantabrian and Eastern Cantabrian, Miño-Sil, Duero, Tagus, Guadiana, Guadalquivir, Segura, Jucar, Ebro, Ceuta and Melilla.

The full note is as follows:[25]
The plans for the time period 2016-2021 have undergone a broad-ranging public consultation process, and have been ratified by an 80% majority of the National Water Council. The National Water Council is a national advisory body in the field of water policy. Autonomous Regions, local authorities, professional, economic, and social organizations as well as environmental groups and water users are represented therein.

The enactment of second cycle plans is going to enable Spain to foster a water policy aimed at reaching a balance between achieving the environmental objectives and meeting the existing demands.

These plans are necessary to acknowledge the water needs and resources in order to subsequently lay down the necessary measures to adequately manage water issues.

These newly enacted plans include some new features, for instance: the update of the protected areas inventory; the reinforcement of the water bodies monitoring programmes; the inclusion of a wider study on cost-recovery for water-related services; and the re-arrangement of the measure programmes of the hydrological plans, which provide for a total

[25] Non official translation

investment amounting to Euro 17.5 million until 2021 aimed at performing the actions envisaged in each Plan's programmes of measures.

This Euro 17.5 million amount will be allocated on the following basis: the 12 plans which are the competence of the State contain a total of over 10,000 measures to be performed; thus, they will receive Euro 15 million, plus Euro 2.5 million corresponding to the measures contained in the 4 intra-communal plans.

Approximately 65% of this investment will be allocated to measures aimed at fulfilling the environmental and flood prevention objectives laid down in the EU regulation, whereas the remaining 35% shall be allocated to meet the demands and fulfil other sectorial water-related uses.
These new hydrological plans have a decisive impact on the furtherance of environmental protection. Hence, Spanish rivers will be in a better conservation status, thus helping to protect the ecosystems and to improve citizens' quality of life.

Among other measures, ecological flows are increased. Other river needs are also prioritised, as water quality is enhanced through drainage and water treatment measures. Finally, the creation of river nature reserves is fostered. In fact, 135 river nature reserves have been created, and these reserves grant a special protection to a 1,755 km section of the river.

Upon the enactment of State second cycle plans, the current Government has put in place two hydrological planning cycles: the first one for the time period 2009-2015, and the second one for the time period 2016-2021.
According to the Government, Spain finally makes up for the delay and catches up with the remaining European countries in terms of hydrological planning.

This has not only allowed Spain to comply with its obligations under the Water Framework Directive, but it has also avoided the blocking of EU funds for this country. The enactment of these second cycle plans was a pre-requisite to access to such funds. The approval of the said plans also enables Spain to begin the third cycle of hydrological planning alongside its fellow EU countries.

Conversely, the Council of Ministers has passed to this date four additional hydrological plans for intra-communal basins (of the competence of the Autonomous Regions), corresponding to the following basins: Galicia Costa, Tinto-Odiel-Piedras, Guadalete-Barbate and Andalusian Mediterranean basin.

In addition to these intra-communal plans, the Balearic Islands Plan was enacted in July, so the approval of the Catalonia and Canary Islands plan (which are the competence of the Autonomous Regions), shall complete the second cycle of hydrological planning for the basins of the competence of Autonomous Regions.

The new RBMPs incorporate, according to their respective Water Councils of River Basin Districts, all the contents that are stated as mandatory in the Water Public Domain Act along with the matters resulting from the review of 1st RBMPs.

Consequently, the Ebro's Water Council of River Basin District underlines:

- The improvements in the characterization, identification and definition of all water bodies.
- The updating of the pressures' inventory and of the pressures and impact analysis.

- The 11 points increase of the minimum floods that so have established at 52 points in the Ebro's basin, with well-defined and mandatory ecological flows.
- The updating of the inventory of protected areas to make it more coherent with the information contained in Natura 2000 network.
- The reinforcement of the water bodies monitoring programs, which has allowed for the completion of the assessment of all the water bodies that had not been assessed in 1st RBMP.
- The addition of a study on the recovery of the costs of water services. This study is larger in scope and of easier comprehension than the one made in 1st RBMP and also incorporates an evaluation of environmental costs.
- The reorganization of the measures programs according to the European Commission classification. The programs are now focused on the correction of the pressures on the water bodies and make a distinction between the measures designed to achieve the proposed environmental targets and the ones directed to cater for the demands.

And the Tajo's Water Council of River Basin District points out:

- The reorganization of the measures programs according the European Commission classification. The programs are now focused on the correction of the pressures on the water bodies and make a distinction between the measures designed to achieve the proposed environmental targets and the ones directed to cater for the demands-
- The improvements in the characterization, identification and definition of all the water bodies both surface and subterranean.
- The updating of the inventories of water resources, pressures uses and demands.
- The reinforcement of the water bodies monitoring programs, which has allowed for the completion of the assessment of all the water bodies that had not been assessed in 1st RBMP.

4.2.4. - Flood Risks Management Plans

The Royal Decree on Floods has been enacted on January 15, 2016. It was published on 22 January. The Water National Council passed, with 96% of favorable votes, the Flood Risks Management Plans for floods for the sixteen river basin districts. The membership of the Council consists of all the Autonomous Communities; local entities; professional, economic and social organizations; environmentalist organizations, and the water users (irrigation, human consumption, industrial).

The Minister has pointed out that with these plans, together with the 2nd RBMP passed on January 8, 2016, the Government has launched the essential framework for water management until 2021, thus complying with Spain's obligation towards the EU, and stating what are the necessary actions both to cater for the users' demands and to alleviate the damages caused by floods.

5.-FINDINGS AND RECOMMENDATIONS

5.1. GENERAL RECOMMENDATIONS

1. It is important to develop a new culture of water treatment and management in Spain. As this is a country where some areas suffer from serious droughts, it is more difficult to impose limits (on water consumption) in order to achieve environmental goals than in a humid country with an abundance of water resources.

2. The aforementioned circumstance implies that it is necessary to adapt every element of the system to the new environmental approach. At the same time, it has to be borne in mind, that the contents of the reforms and the timings to implement them may need bigger flexibility than in other countries.

3. It is important to bear in mind that there is a need to modify the organization and management of River Basin Authorities. Since 1926, Spain has managed its water resources through river basins managed by the River Basin Authorities. These were created to set up and manage infrastructures. The WFD states the environmental goals must be achieved so the organization and working of the River Basin Authorities must be adapted to that end.

4. It is necessary to reach a big national agreement on water management that sets up common goals and prevent the constant conflicts between different territories. That agreement must bear in mid the fact that the criteria for distribution of water should be based on environmental goals which must be given a priority over profitability and demand satisfaction. This approach is significantly different to the traditional ones.

5. The development of desalination plants, a basic tool in other regions of the world; the exploitation of subterranean waters; the policies to improve waste water management and a higher efficiency in the use of water are valid alternative measures that perhaps in the future might serve as adequate replacements to big transfers.

6. To implement the Costs Recovery Principle and to keep up with the policies of sustainable development that puts a halt on the constant growth of some territories in detriment of others, are key elements in need of consensus. It should not be acceptable to apply the traditional criteria that water should be used wherever the use is most profitable.

5.2. TAGUS RIVER BASIN DISTRICT

5.2.1. Findings

1. The main problem concerning the Tagus river basin is the Tagus-Segura transfer, that has an impact on the existing resources of the Tagus' headwaters and middle reaches. Further than that, as mentioned above, the Albufeira Agreement (Convenio de Albufeira) states that a certain volume of water must reach the Portuguese frontier. The amounts of the guaranteed reserve of water necessary to actually proceed with the transfer and the maximum volume of water that can be transferred have been progressively reduced over the years. But those measures are not sufficient, as the rapid pace of climate change, the ongoing decline of the river because of urban and industrial waste water discharges, the growing demand of water on the part of towns and villages and of irrigation farming, are also contributing to the problem.

2. A basic element to bear in mind when approaching these questions is that, alongside the mandates derived from the environmental policies of the EU, during the period 1980-2006 the supply of water from the Tagus' headwaters has diminished by 47% due to lapses on extreme drought. This makes impossible to cater for the same level of previous demands. This would have had an effect on the transfer circumstances even if the WFD had not been passed.

3. The Tagus-Segura aqueduct has not been able to transport more than a third of its operative capacity (the infrastructure is conceived to transport a maximum of 1.000 hm3). The Tagus headwaters, where the dams that feed the transfer (Entrepeñas and Buendía) are located, has never disposed of the water resources that were mistakenly allocated to it. A maximum transferable volume of 600 hm3 per annum was established; however, due to the alluded scarcity, for most years the transferred volume of water hardly reaches 300 hm3. There have been exceptions: in year 1998-99, 561 hm3 were transferred; in 1999-2000, the amount was 604 hm3; and in 2000-01, it was 586 hm3.

4. The European Court of Justice Ruling of 11.9.2013 has declared that transfers are not by themselves contrary to the WFD, neither their management implies that the water quality goals are not met**.** This Ruling dealt with the transfer of a river in Greece and declared that, as an exception, transfers are acceptable if they serve a higher public interest.[26]

5. Spanish legislation has traditionally subordinated the implementation of the transfer to the fact that the water supply necessities of the giving basin (that is, the Tagus basin) are fully met. The inhabitants of the Tagus' basin are of the opinion that this requisite has never been fulfilled. The question is how it should be determined that the necessities of the giving basin are fully catered for before proceeding with a transfer? The answer lies in the mandates of Acts, Regulations and Plans, as they state, on one side, the amount of reserve water at the river's headwaters and, on the other, the volume of transferable water. The users of the giving basin do generally not agree with amounts prescribed, as they feel they do not guarantee the fulfillment of their needs.

6. This difficult situation has a particular impact in the area called the Tagus Axis (Eje del Tajo) and its three main urban centers: Talavera de la Reina, Aranjuez and Toledo. The river has even dried up several times as it runs along this area, a fact that, it can be easily inferred, has a very negative impact on the life of those cities and their surroundings. Damages are also infringed on areas of special environmental interest related to birdlife, natural habitats and Sites of Community Interest.

7. Furthermore, the villages of the Tagus headwaters area, located around the Entrepeñas and Buendía dams not only have not been able to exploit the tourist potential of the area that authorities had promised, but also suffer water supply problems.

8. However, it is necessary to point out that the transfer has contributed to the improvement of the situation of one of the most important Spain's wetlands, Las Tablas de Daimiel, located in the Ciudad Real province, in the Autonomous Region of Castilla La Mancha. This wetland had almost totally dried because of a long drought period and of

[26] http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d0f130d585b046d790ce435cbcc5901e7027f8ed.e34KaxiLc3eQc40LaxqMbN4Och4Se0?text=&docid=126642&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=463074

the overexploitation of aquifer nr. 23. The transfer also contributes to the water supply of the Llanura Manchega area.

9. The Castilla La Mancha Autonomous Community, whose wealth is lower than the Levante region's, considers that the river Tagus' water is a basic element for its future development,

5.2.2. Recommendations

1. The situation of the river has changed over the years and current legal framework, in certain situations, makes environmental preservation a more important goal than fulfilling water demand. Although historically the transfer has been considered a structural solution (not a temporary one) for the water supply problems of Levante area, current circumstance would make other solutions more advisable. .

2. On the short term, the temporary regulation that demands a 400 hm3 reserve for 2018 should be applied. On the midterm, however, the environmental goals of the EU, the very damaging droughts experienced in the area and the new scenario created by climate change are important elements to take into account. . All these circumstances, alongside with the rise of the required amount of reserve water to carry out the transfer, has not allowed for the transfer to be implemented in January 2016. This is a proof that the adopted measures are useful**.**

3. It is also advisable to growingly implement measures directed to environmental preservations such as the creation of river reserves, ecological flows, areas for the protection of birdlife, natural sites, etc. The protection of the Tagus as an important element of two World Heritage Sites, Toledo and Aranjuez, is also a worthy pursuit. The competent authorities on the different territorial levels should act in a coordinated way to effectively impose these measures.

4. A further advisable and interesting measure would be a better regulation of industrial and urban waste water discharges, which will bring an improvement in the quality of water, especially in Madrid and in the Guadalajara and Toledo's industrial corridors. It helps to strengthen the good quality of water, allows for a bigger ratio of reutilization and optimizes the availability of the adequate flows.

5. Irrigation systems and infrastructures should also be improved in order to avoid inefficiencies in the use of water. It is necessary to evaluate the promotion of irrigation farming in the Tagus basin in terms of economic, social and environmental profitability. It is also advisable to invest in the development of infrastructures that allow for the optimization of the water resources without wastes in the distribution process.

6. The promises to develop new infrastructures in the Tagus' headwaters area should be urgently fulfilled in order to solve the important problem of lack of supply endured by the villages of the area.

5.3. EBRO RIVER BASIN DISTRICT

5.3.1. Findings

1. The Ebro river basin has always experienced the problem of lack of natural quality of its water. This is due to the very high proportion of salts in its composition on the middle and lowers parts of the river, increased by certain uses given to the water alongside it.

2. One hundred years ago, the Ebro's river flow was double the size of the current one and the water was of better quality and less salinity. However, as the level of consumption, the polluting uses and the works along the basin increased, the quality of water got worse overtime. The proportion of salts has increased in a significant amount due to the loss of volume of the river flow.

3. The lack of water, the poor quality of it and the ill effects of human activity on the environment cause damages on rivers, lakes, deltas, humid areas, river forests and mountain areas. The excessive extraction of water does not, of course, contribute to solve these problems and, instead, creates new ones. The big construction works might damage Birdlife Special Protection Areas, Sites of Community Importance and Natura 2000 Network.

4. The river Ebro basin's main problem is the situation of its delta. The problems of this particular area are in part a reflection of the problems of the river itself, but also a consequence of specific pressures, such as the growing population and their needs

5. The delta is also under pressure by the waste water derived from farming activities, notoriously the work on rice fields, and by the problems derived from a high population density, the biggest all along the basin. It should be noted also that, on top of this, the area receives one million tourists per annum.

6. The delta is under strong pressures in the form of urban developments, intensive farming, influence of infrastructures, etc. The combination of these factors is accelerating the pace of coastline regression, loss in the quality of water and lack of biodiversity.

7. Additionally, the climate change could bring about a rise of the sea level that is estimated at 5 millimeters per annum. It has been calculated that approximately 730.000 tons of sediments per annum should be necessary to stop the delta's regression, but the current quantity amounts to just 150.000/200.000 tons per annum because of the dams. However, the sediments' deficit of later years has not caused as big a reduction of the delta surface as could be expected, but changes in the coastline. Finally, it looks like the reduction of the amount of sediments is making the situation of the delta depend not so much of the river as of the coast dynamics.

8. The National Hydrological Plan passed in 2001 allowed for the transfer of 1050 hm3 from the river Ebro basin to Cataluña, Levante and the Iberian Peninsula's Southwest region. The Ebro river is highly regulated. There are two dams (Mequinenza and Ribarroja) located near its delta and they act as a blockage for the sediments to reach the sea. This should have put the delta, an area of substantial environmental value, in a highly vulnerable situation.

9. The transfer, as it was originally conceived, was not just a question of taking water from the Ebro and carry it over to the destinations areas, but implied the building of 44 dams along the basin in order to regulate it and make sure that, every year, a certain amount of water would be transferred to the Levante´s regions. So it was not a case of transferring surplus amounts of water, but of putting into effect a strong regulation so that certain amounts of water would be disposable and guaranteed for transfers.

10. To make sure that every year the agreed volumes of water are destined to the transfer, the basin must be regulated and there must be a guarantee that the water is available at the starting point of the transfer. Consequently, the whole basin is affected. Further than that, the water must reach the sea because by doing that it fulfills other important natural duties.

11. The plans for building 56 new dams stated in the latest RBMP would probably be considered an important aggression to the delta and to the environmental balance of the river Ebro's full course.

12. The big dams already in operation produce significant ill effects on the river, as the natural transportation of sediments down the river has been drastically disrupted. It must be borne in mind that deltas develop as a byproduct of periods of stability at the sea, combined with an excessive amount of sediments that are not dragged into the sea. The lack of sediments reaching the delta area, as they are retained by the dams, means the coastline is notoriously receding. Anyway, in a dry country like Spain, dams are necessary to guarantee water supply.

13. Generally speaking, the amount of the river Ebro's flow has been overestimated. In later decades, the reduction of the flow, because of the increase in the use of water along the basin and the proliferation of big dams has been quite substantial; namely, the decrease has amounted to 50% between the 70s and the year 2000. On top of that, the increasingly influential effects of climate change must be taken into account.

5.3.2. Recommendations

1. It is necessary to set up a territorial model that allows for a sustainable exploitation of natural resources in the delta. The model should at the same time preserve the environmental riches of the area and cater for the social and economic development of the zone. The improvement of farming practices and the promotion of rural and educational tourism could be ways of achieving those goals.

2. The fulfillment of the environmental goals set up by the Water Framework Directive[27] obliges to guarantee environmental flows that, as is the case with the river, should also be determined for the delta.

3. The river wellbeing calls for a guarantee on the protection of habitats, birdlife and natural sites. The principle of basin unity and of integral treatment from Reinosa to the delta and from the Pyrenees to the Iberian Mountains is a stronghold for the maintenance of the whole river environment of the Ebro basin.

[27] *OJ L 327, 22.12.2000, p. 1–73 as amended*

5.4. SEGURA RIVER BASIN DISTRICT

5.4.1. Findings

1. The productivity of water in the Mediterranean regions of Spain is much higher than the one obtained in the inland regions of the Iberian Peninsula. The climate, the quality of the soil and the touristic success are guaranteed. In southwest of Spain, the transfer of water has allowed a constant expansion of irrigation farming and a touristic exploitation.

2. Meanwhile, the authorities have been unable of restraining the unsustainable use of subterranean waters, especially on the river Segura basin, and this has caused the overexploitation of aquifers.

3. The water destined for urban consumption must be guaranteed, as it is a necessity and a basic right of the population. However, the approach is unavoidably different in the case of irrigation farming. The agrarian industry hardly represents 6% of Spanish total population.

4. It is necessary to push for a new territorial policy less dependent on water, not to generate false expectations and to devise new uses of the land that are not so dependent on water, as the area has reached the limit in the use of this resource.

5.4.2. Recommendations

1. The transfers allow for the social and economic growth of areas with water supply deficits, but at the same time progressively generate new additional necessities as the very growth attracts new population and encourages the overexploitation of existing resources. That puts extreme pressures on the environment

2. One solution for this region could be the exploitation of subterranean waters at the Segura river basin. Actually, the work of experts points out to the existence of huge subterranean water purse on the Albacete area.

3. Water policies on the Levante area should be directed towards sustainability. It is important to build and make operational desalinization plants in order to provide for the basic needs of human consumption and of irrigation farming, but with sustainability as a clear limit.

4. The same could be said about touristic zones. They should not allow for excesses in the consumption of water nor base their development on disproportional or unsustainable recreation activities, especially in areas where water is a scarce resource

5. It is also necessary to establish water-saving policies and strategies and prioritize some uses from others, bearing in mind that the protection of the environment and the costs recovery are extremely important.

6.-CONCLUSIONS

1.-The Scientists' position

Scientific studies seem to be unanimous concerning the need of environmental improvement for the aforementioned areas. Biologists, chemists, environmentalists consider that the petitions of the Spanish citizens have a solid scientific foundation and the situation of the areas we are dealing with, require to be improved from the environmental point of view.
Actually, the environmental positions always demand for improvements, although it is difficult to obtain a complete scientific consensus, as in this field there are different ways of measuring and different theories about the results. In any case, it is not easy to obtain a set of figures or levels that everybody agree upon.
The environmental approach, reinforced by the passing of the Water Framework Directive, implies the progressive achievement of the environmental aims. A new paradigm is needed in opposition to the one that was prevalent during the 20th century, focused on satisfaction of the demand and socioeconomic achievements.

2. The Courts´ position

The Water Framework Directive and the rest of environmental directives state that the environmental aims are prevalent over the socioeconomic ones. However, the Spanish Supreme Court has not abolished the Ebro´s RMBP in case a generic infringement is pleaded. It is necessary to plead and prove that specific articles of the Directive have been infringed.
It should be noted, however, that when looking at the plans it is necessary to differentiate between the normative part, that must be compliant with the Water Framework Directive, and other data whose inclusion in the plan is not mandatory or a particular figure is not available. There is room for appraisal on the part of politics in the definition of the requirements as to prevent the cancellation of plans. Obviously that room of appraisal is not complete and the enforcement should be reasonable.

3. Looking forward to a political solution

The difficulties of solving the aforementioned problems by using only scientific or legal arguments lead to the need of a political consensus. Lately both positions are progressively getting closer. In Spain it is necessary to go from the 'water war' to a generally agreed State policy on water.
It is interesting to remember what the Spanish Supreme Court has said recently in his important Ruling of 21st June 2016:

It is worth noting, finally, that the field we are dealing with, water, is a highly sensitive one in some areas of the Spanish geography and has traditionally aroused controversies among different Autonomous Communities; so, collaboration and much needed consensus should be promoted.

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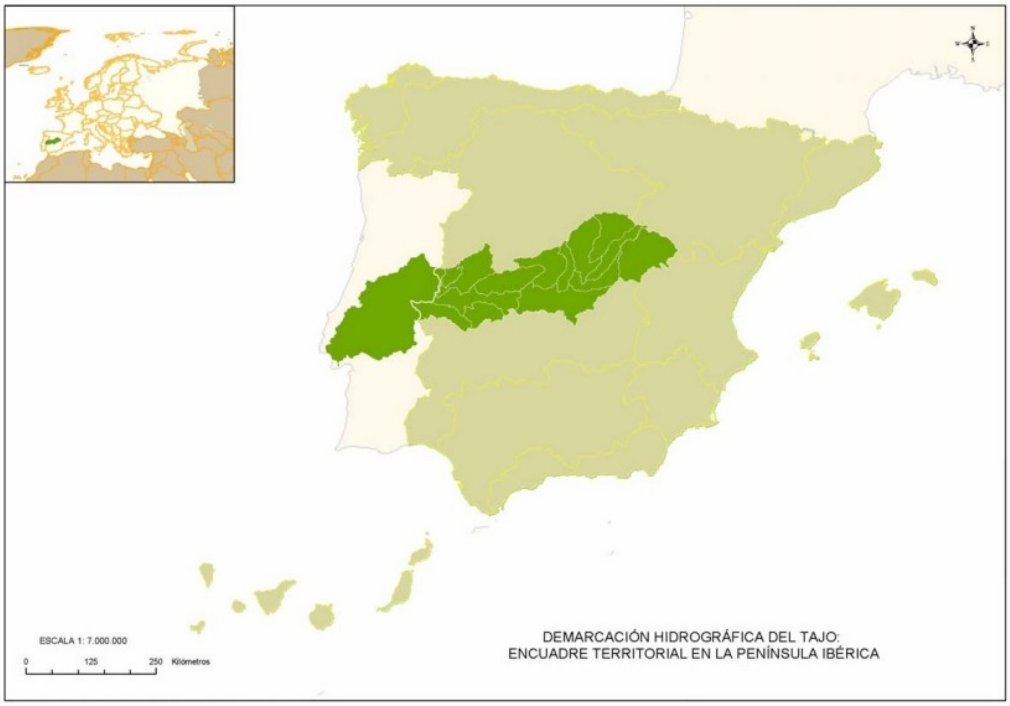
ANNEXES

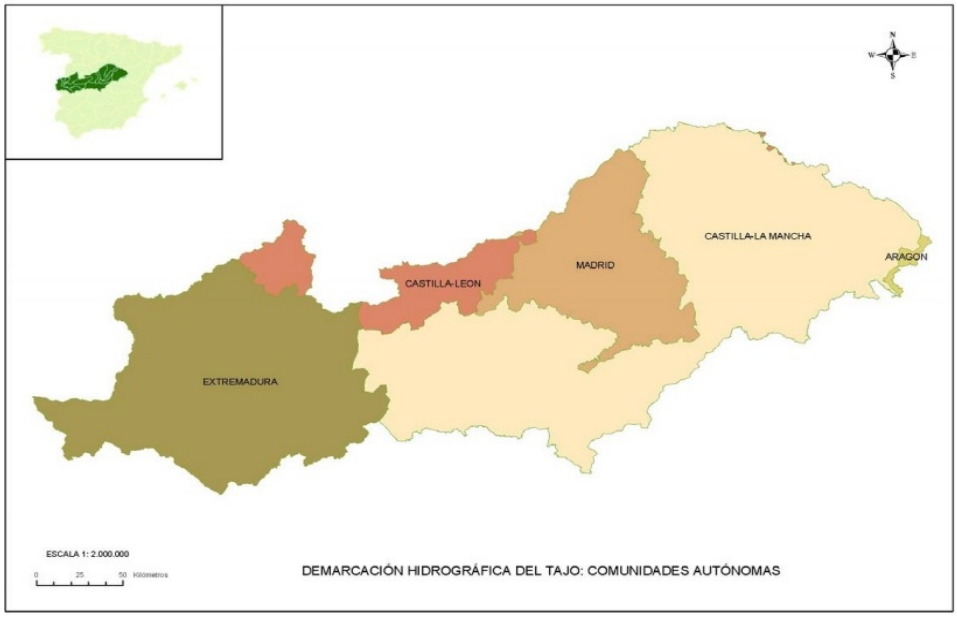
ANNEX 1: MAPS[28]

MAP 1: TAGUS RIVER BASIN DISTRICT IN THE IBERIAN PENINSULA

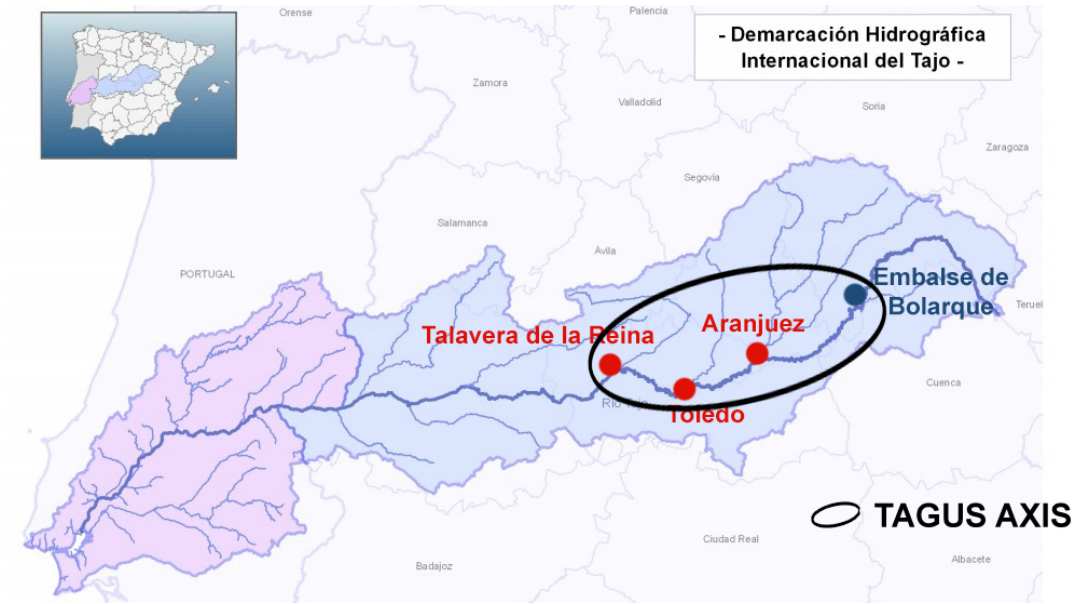


[28] Sources, institutional web pages of Ebro and Tagus the River Basin Districts .
-www.chebro.es: Institutional web of the Ebro River Basin District
-w.w.w.chtajo.es: Institutional web of the Tagus River Basin District

MAP 2: **TAGUS RIVER BASIN DISTRICT. AUTONOMOUS COMMUNITIES**



MAP 3: **THE AXIS OF THE RIVER TAGUS**

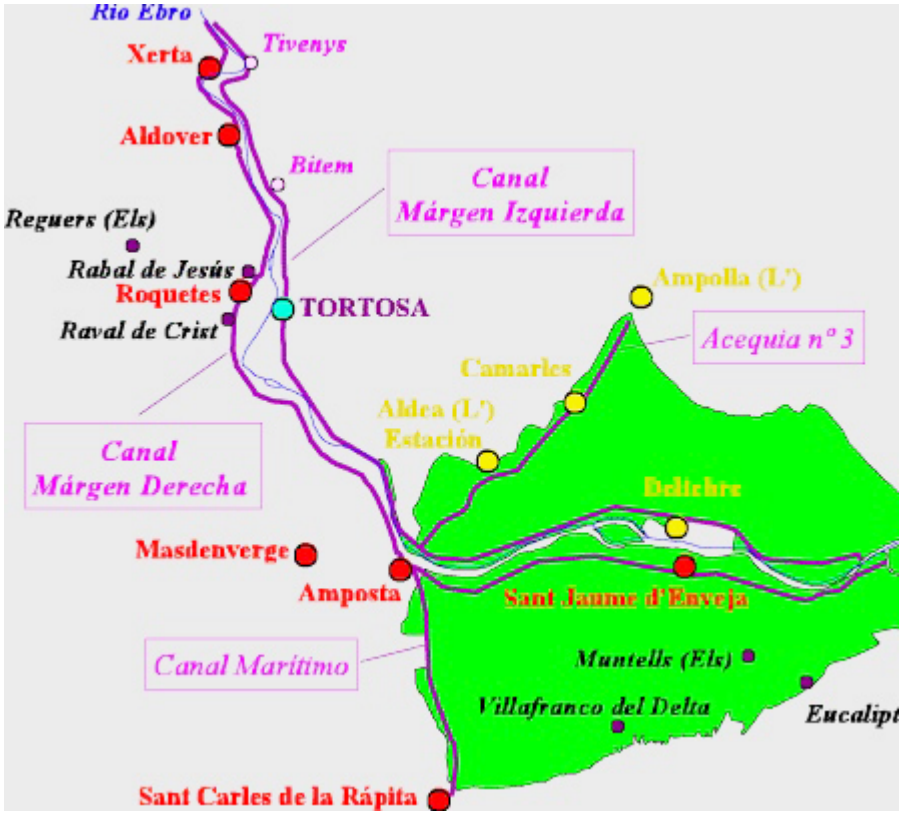


MAP 4 : **TAGUS-SEGURA TRANSFER**

MAP 5 : **EBRO RIVER BASIN DISTRICT IN THE IBERIAN PENINSULA**

MAP 6: **EBRO RIVER BASIN DISTRICT. CITIES**

MAP 7: **THE DELTA OF THE RIVER EBRO**



ANNEX 2: RECOMMENDATIONS OF THE EUROPEAN COMMISSION ON 1ST SPANISH RIVER BASIN MANAGEMENT PLANS[29]

Spain should:

- Adopt as soon as possible the outstanding RBMPs for Canary Islands
- Ensure the consultation and adoption of the 2nd RBMPs according to the WFD timetable, avoiding delays.
- Fill as soon as possible the gaps in transposition in the intra-community RBDs • Improve reporting to WISE, ensuring that the information uploaded is the same as reflected in the RBMPs. Report for the 2nd RBMPs to WISE the complete information as regards significant pressures, including the results of the quantitative analysis, translated into the simple qualitative report required in WISE.
- Consider the review of the legislation to incorporate explicitly the identification of water bodies at risk as a result of the pressure and impact analysis.
- Ensure the completion as soon as possible of the framework for status assessment considering the following: o Reference conditions and boundaries for quality elements have to be binding. Revise typology if needed to ensure that it is fit to serve as a basis for classification.
    - o Translate the results of the intercalibration exercise to the assessment systems in a transparent way
    - o The complete assessment framework, and in particular the intercalibration results of 2013 and the new standards introduced by Directive 2013/39/EU for existing priority substances, should be considered in the status assessments for the second RBMP. o Fill the gaps in assessment systems for biological quality and supporting elements, in particular for fish
    - o Include the complete assessment systems for coastal and transitional waters. o Report transparently the confidence and limitations of the assessments as appropriate.
- Fill urgently the gaps in monitoring of surface waters and ensure consistent monitoring with appropriate coverage (and thereby classify the status of all water bodies). Ensure that monitoring is adequately resourced and maintained to inform adequately the RBMPs and the decisions on the PoMs.
- Extend chemical monitoring beyond water bodies affected by industrial discharges. Consider as well atmospheric deposition and urban waste water discharges as relevant sources of chemical pollution.
- In the context of designation of HMWBs, develop clear criteria/thresholds to define the significant adverse effect of the restoration measures on the water uses, and a proper (real) assessment of other alternatives that could be better environmental option.
- Ensure that GEP is correctly defined for all HMWBs and AWBs (in terms of biological condition and mitigation measures).

[29] The complete English version in COMMISSION STAFF WORKING DOCUMENT Report on the implementation of the Water Framework Directive River Basin Management Plans Member State: SPAIN (2015):http://ec.europa.eu/environment/water/water-framework/pdf/4th_report/MS%20annex%20-%20Spain.pdf

- Ensure that environmental objectives are established for all water bodies in the second cycle, including for HMWBs and AWBs. If no objectives are defined, appropriate measures cannot be established either.
- Ensure that the assessment of groundwater quantitative status considers all aspects of the definition, including local falls in the water table that may lead to a risk in water-dependent ecosystems, and including protected areas.
- Develop a plan to extend and generalise the use of flow meters for all water abstractions and uses, and to require users to report regularly to the river basin authorities the volumes actually abstracted. Use this information to improve quantitative management and planning.
- Ensure that:
    - all abstractions are registered and permits adapted to the available resources.
    - all abstractions are metered and subject to control of the river basin authorities
    - the necessary amendments to the legislation are enacted to require all abstractions to be registered and regulated, no matter under which regime they got their permit (pre- or post-1985 Law).
- Ensure that the ecological flows established guarantee good ecological status. If this is not the case, report transparently the deviations and the justifications on the basis of technical feasibility or disproportionate costs. In the relevant water bodies, consider the objectives of water-dependent protected habitats and species in setting eflows.
- Harmonise the consideration of temporary streams in the Mediterranean area on the basis of sound ecologically-based scientific criteria and methodologies. Ensure the distinction between situations of dry rivers due to natural causes (temporary streams) from human induced (due to over-abstraction).
- Provide better justification of exemptions. There is no analysis of the measures needed to achieve good status. Therefore, it is not possible to justify whether measures are disproportionately costly or technically unfeasible. Measures need to be taken as far as possible in water bodies where exemptions are applied, and report them in the RBMPs.
- Ensure in the 2nd RBMPs that the status of all water bodies is assessed in accordance with the WFD before considering any further infrastructure that would be liable to cause deterioration of the status of water bodies or prevent the achievement of good status. These infrastructures can only be authorised if the conditions of article 4(7) are fulfilled. The justification needs to be included in the RBMP. The "declaration of general interest" in the Spanish legislation cannot be automatically equated with the concept of "overriding public interest" in article 4(7)(c). This has to be justified case by case in the 2nd RBMPs.
- Avoid presenting the maintenance of ecological flow in new dams as an ecological benefit of the dam, but consider it as a mitigation measure. Justify the flood protection share on a case by case basis, including the justification that there is no better environmental option.
- Separate very clearly in 2nd RBMPs the measures designed to achieve the environmental objectives from others. The latter need to be treated as Article 4(7) exemptions whenever appropriate (i.e. modifications to water bodies liable to cause deterioration or prevent the achievement of good status or potential).
- Review the way the modernisation of irrigation is considered in the PoMs. Only those projects which genuinely contribute to the WFD objectives should be labelled as such. Such contribution should be justified and quantified in the RBMPs on a case by

case basis. The abstraction permits should be reviewed and set to meet the environmental objectives and then modernisation is the efficiency measure put in place to achieve compliance with the new permit condition.

- Ensure that there is a proper integration of the pressure and impact analysis, the status assessment and the design of the programme of measures. Avoid defining the PoMs on the basis of business as usual and a non-transparent assessment of "what can be done", but rather on a genuine gap analysis that identifies which measures are needed to achieve good status and can also support the justification of exemptions.
- Ensure that RBMPs apportion impacts to pressures and sources/drivers, to increase the understanding of which activities and sectors are responsible –an in which proportion- for achieving objectives.
- Ensure that RBMPs provide much more information about the measures, such as their location (including the number of water bodies), classification (basic, other basic, supplementary) and character (voluntary or binding), the targeted sector and source, the pressure they address (beyond the current grouping by general topics) and the expected specific effects in terms of status improvement.
- Consider and prioritise the use of green infrastructure and/or natural water retention measures that provide a range of environmental (improvements in water quality, increase of infiltration and thus aquifer recharge, flood protection, habitat conservation etc.), social and economic benefits which can be in many cases more cost-effective than grey infrastructure, as well as other restoration measures, removal of dams and other hydro morphological barriers.
- Ensure that the process of selecting (or not) measures is more sound and transparent, providing in the RBMPs not only statements that a cost-effectiveness analysis has been carried out, but also informing on the measures that have been considered in the analysis, its results and how this assessment has influenced the selection of measures.
- Clarify in the RBMPs what technical measures are behind legislation and how much they contribute to closing the gap to good status as basic measures are mostly presented as legislative acts (e.g. articles of the Water Law and related regulations).
- Ensure that appropriate basic measures are established for control of diffuse pollution. The basic measures for diffuse pollution should go beyond the Nitrates Directive codes of practice, which are voluntary instruments limited to nitrates issues. They do not address other agricultural pressures (phosphates, pesticides, etc.). Mandatory measures that are controllable should be included in the 2nd RBMPs.
- Ensure that monitoring of drinking water protected areas include all relevant parameters of the Drinking Water Directive.
- Define the status of protected areas to ensure a harmonised approach across the country.
- Carry out a comprehensive study together with the responsible authorities for nature to derive the quantitative and qualitative needs for protected habitats and species, translated into specific objectives for each protected area which should be inserted in the RBMPs. Appropriate monitoring and measures should also be included in the RBMPs.
- Introduce volumetric abstraction fees for all users (including self-abstraction of groundwater) covering properly calculated environmental and resource costs. Ensure that the cost-recovery instruments are adapted as soon as possible to the WFD to ensure that they provide adequate incentives to use the water efficiently. In addition, the revenues of cost-recovery instruments should be sufficient for the river basin authorities to effectively execute their water management tasks (update and maintenance of register of abstractions, monitoring, etc.).

- Develop a basic harmonisation of the minimum elements to be included in water tariffs for drinking water supply and waste water treatment for the 2nd RBMPs to ensure long-term sustainability of investments in water protection across the country.
- Consider water use for energy production (hydropower and cooling) as water service, and relevant information (cost recovery, environmental and resource costs, "discount rates for dams") should be transparently presented in the updated RBMPs.
- Present transparently subsidies and cross-subsidies in the 2nd RBMPs (i.e. desalinated water, dam construction, etc.) and justify dam discount calculation on a case by case basis.
- Extend calculation of environmental costs to costs related to energy production (hydropower, cooling) and diffuse pollution from agriculture.
- Reinforce the cooperation with Portugal and France in shared River Basin Districts (covering characterisation, pressures and impacts, monitoring, assessment of status, public consultation, measures, etc.), ensuring that there is a common understanding for transboundary water bodies and catchments for these issues. The outcomes of such cooperation (in particular with Portugal) should be reflected in the RBMPs or ad-hoc background documents.

ANNEX 3.THE IMPACT OF THE TAGUS-SEGURA TRANSFER

A.-The establishment of the Tagus-Segura transfer

The most controversial aspect regarding the Tagus River hydrological planning is the water transfer. As has been stated above, the transfer's impact on water availability is a key factor to ensure an adequate environmental management of the river. All debates on the Tagus River Plan revolve around the said transfer.

The Tagus-Segura transfer is one of the most prominent hydraulic engineering works ever performed in Spain. The engineering project was designed during the Spanish Second Republic (1931-1936), but it was finally performed in the late 1960s. In 1966 the "General Project for the Joint Use of Water Resources in Central and South-eastern Spain: the Tagus-Segura Complex," (*Proyecto General de Aprovechamiento Conjunto de los Recursos Hidráulicos del Centro y Sureste de España, Complejo Tajo-Segura*) was drafted.

Water was transferred from the Tagus to the Segura River in 1979. The Entrepeñas Dam, built over the Tagus River and with a reservoir volume of 804 hm^3, was finished in 1956. The Buendia Dam, over the Guadiela River, with a reservoir volume of 1,639 hm^3, was finished a year after, in 1957.

This transfer entails diverting Tagus River water from the Entrepeñas and Buendia Dams (in the provinces of Guadalajara and Cuenca respectively) to the Segura River through the El Talave Dam. The Tagus-Segura aqueduct connects the Bolarque Dam, in the Tagus River, with the El Talave Dam, in the Segura River. The whole infrastructure is 292 km long and its river flow capacity amounts to 33 m^3/s.

This network of dams was created to provide the necessary regulation of the water from the Upper Tagus River. It allowed for mitigating the back then periodical and damaging overflows, whilst harnessing the hydroelectric power stemming from the falling water and ensuring a stable river flow for the middle section of the Tagus River, as well as stabilizing other uses, such as irrigation in the river's middle section. In addition, a picturesque tourist area was created in the neighbouring areas. It was called the "Castilian Sea" (*Mar de Castilla*), where leisure and water sports facilities were put in place. However, these activities were severely affected by the drought of the early 1990s.

In the down waters of Entrepeñas and Buendia we can find the Bolarque Dam. From this reservoir, water is driven towards La Bujeda Dam, which in practice is a large pool of 7 hm^3, built high in the Altomira Mountains, over Bolarque.

Two large steel pipes have been built in order to pump the Tagus River water up to it. These two pipes cover a 1,070 metre distance and a 245 metre height, getting up high in the mountain. Water is driven from there to the Alarcon Dam. It flows through La Mancha from this Dam, reaching the Talave tunnel. This tunnel has a 4-metre diameter and is almost 32 kilometres long, and by the time it was built it was considered to be the largest tunnel in Western Europe. When it exits the tunnel, water is already in the Segura River Basin and it is on its way to the Talave Dam.

The works were designed to ensure a 600 hm^3/year transfer, of which 155 would be for supply purposes and 445 for irrigation. The expectation was to reach 1000 hm^3, having transferred during the 30-year exploitation period an average annual volume of 350 hm^3.
The conservation and exploitation of the abovementioned infrastructure was commissioned to the Tagus River Basin Authority through the Tagus-Segura Aqueduct Area (*Área de Acueducto Tajo Segura*).

B.-The evolution of the transfer regulation

The Tagus River Basin District is tasked with the technical and economic management of the hydraulic infrastructure exploitation designated as Tagus-Segura Aqueduct, in the section where water is driven from the starting point in the Tagus River until the drainage into the Talave Dam. It is the competence of the Central Committee for the Exploitation of the Tagus-Segura Aqueduct (*Comisión Central de Explotación del Acueducto Tajo-Segura*) to monitor the exploitation regime of the Tagus-Segura transfer, the studies and proposals related thereto, and the control and coordination of river basin districts.

The controversy over the Tagus-Segura transfer has re-emerged due to the drought that is hitting Spain, which is the greatest in the last 60 years. The works have never operated over 33% of the capacity for which they were designed. The estimations on the basis of which the transfer was carried out have proved to be wrong, since the contributions of the Upper Tagus River were overestimated. Thus, not a single year the transfer has been completed.

Act 52/1980, of 16 October, Article 9(1) governing the economic regime of the Tagus-Segura aqueduct exploitation provided that the water to be transferred had to be, at all times, surplus waters in the Tagus River Basin, and it provided that the Tagus River Basin Management Plan (RBMP) was to determine the volume of such surplus waters.

Whilst the enactment of the Tagus RBMP (1998) was still pending, a Committee was to be created, with representatives from the Ministry of Public Works and Urban Development and from the Ministry of Agriculture, as well as from the (pre-) Autonomous Regions involved or, in the absence thereof, representatives from the provinces. In light of the current approaches of the Tagus River irrigated crop operators, and of the forecasts and schedules provided in the Ministry programmes, this Committee would determine the regulation works to be contributed, as it would determine the development works necessary for the various systems, the exact river flows for the irrigation, and subsequently it would monitor the performance of the works provided in the Plans.

In 1995, a 55 hm^3 transfer was performed, which left the Entrepeñas and Buendia Dams with 236 hm^3. This amount lowered to 130 hm^3, and it must be recalled that a dam is considered to be “dead” with 108 hm^3 or less. The Autonomous Region of Castilla-La Mancha appealed the transfer and the Supreme Court didn´t uphold this appeal

Article 23 of the Order of 13 August 1999 governing the regulatory provisions contained in the Tagus RBMP, approved by Royal Decree 1664/1998, of 24 July, specifically identifies the surplus waters within the Tagus River Basin.

In the first place, it specifically provides that in order to determine the volume of surplus waters, the basic criterion of providing the greatest technical safety to the supply of water to the Tagus River Basin operators has been applied, as in Act 52/1980. On the basis of this criterion, the supply to these operators is ensured with no restrictions, with a time and

volume guarantee that 100% of the volume will be supplied, and adopting the relevant safety criteria.

Pursuant to these principles, the exploitation rule contained in this Order consists in permanently meeting the Tagus River demands, without any restriction, and determining at any given time the volume of available surplus water subtracting 240 hm^3 to the existing reserves in Entrepeñas and Buendia at that time. Consequently, it did not allow for carrying out transfers, in any case, when the reserves contained in those dams were below 240hm^3, not even under the exceptional water conditions provided in the Order itself.

Such surplus waters can be transferred, following a prior verification that the annual total for the Segura and Guadiana River Basins amounting to 650 hm^3 is not exceeded in any case, and with a scheduling proposal at the expense of the user of transferred waters.

The exceptional water conditions are considered to exist when the minimum necessary volume for the emergency supply and irrigation of the Segura River Basin and the diversion to the Guadiana Basin cannot be guaranteed, provided that the Tagus River consumptions are fully ensured with no restrictions whatsoever. Technically speaking, this situation shall be considered to exist when, by the beginning of the month, the amount of water dammed adding the Entrepeñas and Buendia Dams (in hm^3) falls below the value indicated in the chart contained herein for that month. Under exceptional water conditions, the transfer decisions shall be made by the Council of Ministers.

The 3rd Transitional Provision of Act 10/2001, of 5 July, approving the National Hydrological Plan, provided that, regarding authorized water transfers from the Upper Tagus River and pursuant to Article 23 of the Tagus RBMP, surplus waters shall have the following meaning: all those water reserves dammed in Entrepeñas and Buendia together that are over 240 hm^3. If the amount of water falls below this figure, no transfers could be made in any event.

Act 10/2001 provided that this minimum volume could be reviewed in the future according to the effective variations undergone by the Tagus River Basin demands, so that the preferential treatment thereof was ensured, whilst guaranteeing that water transfers carried out from the river's upper waters never limited or hindered the natural development of such basin. Also, it lowered from 1000 hm^3 to 600 hm^3 the amount of water susceptible to be transferred.

C.-New approaches: the Tagus Memorandum and the Environmental Assessment Act of 2013

In the spring of 2013, with the *Partido Popular* in office both in Spain and in six of the seven Autonomous Regions involved (Madrid, Castilla-La Mancha, Extremadura, Aragon, Murcia and Valencia), all of the stakeholders except of Andalusia agreed to the so-called Tagus Memorandum. Pursuant to this covenant, the Autonomous Region of Castilla-La Mancha decided a the 400 hm^3 limitation for the definition of surplus water transferable in the Upper Tagus River.

Valencia and Murcia, on their side, decided to include the continuity of the transfer in a statutory rule. The transfer also allows the Murcia and Alicante irrigation communities to buy water from those of the Tagus River Basin.

Act 21/2013, of 9 December, on Environmental Assessment, incorporated the agreements of the Tagus Memorandum. The regulation provided by this Act still gives preference to the

transferring basin whilst respecting the delimitations made by the basin's management plan. The second transitional provision of this Act provides that the application of the third additional provision of Act 10/2001, of 5 July, approving the National Hydrological Plan, shall be gradually implemented pursuant to the following specifications:

1. The implementation of the new reference level of 400 hm^3 for the definition of transferrable surplus water in the Upper Tagus shall be governed by a transitional regime so that this new level is reached within five years pursuant to the following procedure.

2. By the entry into force of the new Tagus RBMP, drafted in accordance with the Water Framework Directive, the level will be raised to 32 hm^3, and it will be progressively raised by 32 hm^3 tranches on 1 January of each consecutive year, until it reaches the final 400 hm^3. Similarly, the curve for exceptional water conditions will be progressively raised in parallel to its relevant reference levels, until it reaches the final curve.

3. If by the beginning or at any time within the transitional period the amount of water dammed reached 900 hm^3, both the new reference level, set at 400 hm^3, and the curve for exceptional conditions would enter into force immediately.

4. The Central Committee for the Exploitation of the Tagus-Segura Aqueduct shall ensure that these criteria are applied and will solve any incidents that may arise during the transitional period.

The purpose of this Act is to improve this infrastructure's regulation, laying down a set of objective technical rules aimed at removing the previously existing unsafety and precariousness whilst providing objective and transparent standards for the operation of this transfer.

The application of this regulation has been troublesome.
First, the Regional Parliament of Aragon appealed Act 21/2013 before the Constitutional Court. This appeal was made on the grounds that certain provisions of the Act were contrary to Aragon's Statute of Autonomy, since they failed to provide for the mandatory issuance of a report by the Autonomous Region on the Tagus-Segura transfer. This report is mandatory because these are waters within a river basin located partially in the Autonomous Region of Aragon.

In its Ruling 13/2015, of February,5th, 2015[30], the Constitutional Court declared unconstitutional the Regional Parliament of Aragon appealed Act 21/2013 and thus repealed several provisions related to the Tagus-Segura transfer that were enshrined in the Environmental Assessment Act on the abovementioned grounds. However, it declared that this decision was to be suspended for a year to avoid "serious damages to the general interests." During this time period, the repealed provisions had to be replaced following the issuance of the mandatory report by Aragon.

[30]https://www.boe.es/diario_boe/txt.php?id=BOE-A-2015-2259

D.-Royal Decree 270/2014, of 11 April, approving the RBMP for the Spanish side of the Tagus River Basin District

Article 26 of the 2014 RBMP laid down as a criteria to perform the transfer to permanently meet the Tagus River needs, with no limitation whatsoever, and to determine at any given time the available surplus water subtracting 400 hm^3 to the reserves held by Entrepeñas and Buendia at that time.

As a result, it provided that no transfers could be performed, by any means, when the reserves in the said dams were below 400 hm^3. Such surplus water can be transferred, following a prior verification that the annual total for the Segura and Guadiana River Basins amounting to 650 hm^3 is not exceeded in any case, and with a scheduling proposal at the expense of the user of transferred waters.

For the purpose of the referral of the water transfer decisions by the Central Committee for the Exploitation of the Tagus-Segura Aqueduct to the competent Minister, exceptional water conditions are deemed to exist when, having fully met the Tagus River needs with no restriction whatsoever, it is impossible to guarantee the minimum volume for the supply of the Guadiana and Segura Basins, volume needed for emergency irrigation in the Segura River Basin, and that needed for the diversion to the Tablas de Daimiel. Technically speaking, this situation shall be considered to exist when, by the beginning of the month, the amount of water dammed adding the Entrepeñas and Buendia Dams (in hm^3) falls below the value indicated in the chart below for that month.

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
616	627	636	653	655	656	664	701	724	714	674	632

E.-Royal Decree 773/2014, of 12 September, approving a set of rules governing the transfer through the Tagus-Segura aqueduct

According to Royal Decree 773/2014, of 12 September, approving a set of rules governing the transfer through the Tagus-Segura aqueduct, currently in force, the following monthly values, pursuant to which the transfers shall be agreed, are established according to the joint reserves of the Entrepeñas and Buendia Dams, with a total maximum per hydrological year of 650 hm^3 (600 for the Segura River and 50 for the Guadiana River).
Level 1. It applies when the joint reserves of Entrepeñas and Buendia Dams are greater than or equal to 1,300 hm^3, or when the joint inputs to those dams in the last twelve months are greater than or equal to 1,200 hm^3. In this last case, the competent body shall authorize a 60 hm^3 monthly transfer, until the volume of water reaches the yearly maximum stated above.

Level 2. It applies when the joint reserves of the Entrepeñas and Buendia Dams are below 1,300 hm^3, without reaching the volumes provided for Level 3, and the joint input in the last twelve months is below 1,200 hm^3. In this last case, the competent body shall authorize a 38 hm^3 monthly transfer, until the volume of water reaches the yearly maximum stated above.

Level 3. It applies when, by the beginning of the month, the joint reserves of Entrepeñas and Buendia Dams are below the values stated in the chart below (expressed in hm^3):

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
613	609	605	602	597	591	586	645	673	688	661	631

Within this level, considered to be an exceptional water situation, the competent body (in this case, the Minister) shall authorize at its sole discretion and giving reasons a transfer of up to 20 hm^3/month.

Level 4. It applies when the joint reserves of Entrepeñas and Buendia Dams are below 400 hm^3. In this case, no transfer can be authorized.

These provisions shall not affect the assignments, reserves, minimum and ecological flows provided in the RBMP of the Spanish side of the Tagus River Basin District, approved by Royal Decree 270/2014, of 11 April.

For the purposes of fostering the development of the riverside municipalities, the system shall be exploited as follows: the authorized transfer volume that is pending enforcement shall remain in the headwater dams. It is preferable that it is maintained therein instead of other storages in transit or in its destination, insofar as this exploitation remains compatible with a reasonable and integrated management of the joint system.

Unless duly grounded emergency or extreme conditions preventing the water transfer occur, if the volumes provided in levels 1 and 2 had not been transferred within the authorized deadline, they may be transferred within the three-month period following the authorized time period, unless a change of level occurs.

The resources the transfer of which has already been authorized may be used by the operators throughout the hydrological year. If by the end of the hydrological year there is transferred water available in the receiving basin, a new distribution shall be made. This available water will be considered to be an available resource for transfer purposes in the following hydrological year.
Those volumes the transfer of which has been authorized, shall be allocated to supply and irrigation on the following basis: 25% to supply and 75% to irrigation. 7.5 hm^3/month shall be ensured for urban supply and the maximum annual value must not be exceeded.

Central Committee for the Exploitation of the Tagus-Segura Aqueduct shall authorize the transfers when the water conditions provided in Levels 1 and 2 are met. Similarly, the competent Minister, following a report from the said Committee, shall also authorize the transfers under the conditions laid down for Levels 3 and 4.

This regulatory framework promotes reserve accumulation in the dams, limits the transferrable amounts at the various levels, and provides an objective framework for the decision-making of the competent authorities.

F.-The provisions on the transfer contained in the Mountain Areas Act of 2015 and the appeal of the last transfers

The rules contained in the Environmental Assessment Act have been included in the recent amendment of the Mountain Areas Act through Act 21/2015, of 20 July. Therefore, they are currently in force. The second final provision of this piece of legislation contains the same rules that have been declared unconstitutional by the Constitutional Court in its Ruling

13/2015, related to the Regional Parliament of Aragon appealed Act 21/2013[31]; these rules prevent the transfer if the water reserves in Entrepeñas and Buendia are below 400 hm^3, which entails a progressive restriction year after year. The Act provides that this minimum volume could be reviewed in the future in accordance with the effective variations of the Tagus River Basin demands. The efficiency and sustainability principles shall always be complied with, so the said review preserves the Tagus River Basin preferential status and it shall ensure that transfers from the headwaters thereof never limit or otherwise hinder the natural development of such basin.

Throughout 2015, almost every month there have been Tagus-Segura transfers. The difficult situation undergone by the Tagus River Basin has led to a gradual decrease of the amounts diverted to the Segura Basin from July to November: 20 hm^3 in July, as in the previous months, except for April when there was no transfer, 15 hm^3 in August, 10 in September, 8 in October and 6 hm^3 both in November and December. These monthly transfers have been appealed by the Regional Government of Castilla-La Mancha before the Spanish courts, starting with the July transfer. The appellant in this case considers that when it authorized the transfers, the Ministry had wrongly construed the applicable rules and regulations.

According to the Castilla-La Mancha Regional Government, the Mountain Areas Act is not the most suitable legal instrument to regulate water transfers. In fact, these water transfer rules were included in that Act because the abovementioned Constitutional Court Ruling had declared the need to include those rules in an Act (in a statutory provision)[32], once the mandatory report by the Autonomous Region of Aragon (which was missing in the approval process of the Environmental Assessment Act of 2013) had been submitted. Since an amendment of the Mountain Areas Act was being discussed in the Spanish Parliament, the abovementioned rules, the content of which was not modified, were included in this Act.

Conversely, the Autonomous Region of Castilla-La Mancha considers that the interpretation of the National Government when it comes to making a decision on the transfer authorizations is not the only one possible. In the view of the Regional Government's legal advisors, there is room for considering that the 400 hm^3 threshold can be applied as a limit to the transfer, instead of applying transitional provisions, since all of this regulation can only be applied insofar as the Tagus River flow remains unaffected, both from the perspective of the uses and from an environmental management standpoint. We must wait until the Spanish National High Court delivers a ruling on this case.

Regarding the authorization of transfers, the standards provided in the Mountain Areas Act take into consideration the situation of the Entrepeñas and Buendia Dams on the first day of the month on which the transfer is going to be carried out. However, it has been claimed that some transfers have been made when, although on the first day of the relevant month the 2015 threshold (304 hm^3) was fulfilled, on the actual date of the transfer the threshold was not met. This does not seem to be correct from a sustainability standpoint.

If 900 hm^3 were reached in the headwater dams, this "progressiveness" of the threshold would be removed, and the 400 hm^3 limit would apply. However, according to the Ministry of Agriculture, this situation has not occurred since the entry into force of the Tagus RBMP.

[31] https://www.boe.es/diario_boe/txt.php?id=BOE-A-2015-2259

[32] Ruling of the Spanish Constitutional Court of February , 5th, 2015, 13/2015. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2015-2259

As of 23 December 2015, the Spanish Official Gazette has published an Order enacted by the Minister of Agriculture, Food and the Environment on 18 December. Pursuant to this Order, a 6 hm^3 transfer for December from the Entrepeñas and Buendia Dams through the Tagus-Segura aqueduct is authorized.

As of 1 December, the volume of effective joint reserves in Entrepeñas and Buendia amounted to 317.823 hm^3, thus being an exceptional water situation pursuant to paragraph 1 of the fifth additional provision of the "Exploitation Rules for the Tagus-Segura transfer." Under an exceptional water situation (level 3), it lies with the competent body (the Ministry of Agriculture, Food and the Environment) to authorize, at its discretion and giving reasons, a monthly value of up to 20 hm^3. Hence, the Minister has decided to authorize a transfer from the Entrepeñas and Buendia Dams through the Tagus-Segura aqueduct amounting to 6 hm^3 for December 2015.

From 2016 onwards, the Entrepeñas and Buendia minimum reserve for a transfer to be authorized is 336 hm^3, as opposed to the 304 hm^3 maximum amount applicable last year. In early January 2016 there were 314.27 hm^3, so there are almost 22 hm^3 left to reach the level that would allow for a new transfer from the Tagus River to Eastern Spain. If the weather conditions remain equal, new water transfers do not seem feasible.

G.-Other measures: the Royal Decrees on drought for the Jucar and Segura River Basins

Aside from the approval of a new transfer, the Government is still applying the exceptional measures provided for in the Royal Decrees on drought for the Jucar and Segura River Basins, in order to mitigate the effects of water scarcity in both river basin districts. This is a set of actions that allows for increasing the water available in the area. Some examples of these actions are: the use of emergency wells and laminated water in dams, or the adoption of water use and water loss control measures.

The Ministry is also conducting all the works provided for in the extraordinary line of credit, amounting to Euro 50 million, approved by the Government to fund the works necessary to mitigate the effects of the drought.

The state of drought was extended last September by the Council of Ministers until 30 September of the next year. The purpose of this is to allow the Government to continue to apply, in the next irrigation campaign, the exceptional measures aimed at mitigating the effects of the drought in the Jucar and Segura River Basin Districts.

H.-Criticism to the enforcement of the Tagus-Segura transfer policy.

The NGO Ecologistas en Acción (in English, Ecologists in Action) assures that not even the 400 hm^3 amount of water is real: "It is just mud, it is not even usable water. The quality is terrible and oxygen is not useful for the plants around." In conclusion, this NGO considers that the said reserve is not enough. They think that inter-basin transfers "do not solve the water problem." If investments were made in order to take advantage of the water resources available in each area, the ecological flows would not be prejudiced, as is happening in Guadalajara, in the Tagus headwaters.

Several options are on the table to tackle these issues: desalination or investments from the river basin authorities of part of the funds related to the transfer infrastructure. The Tagus

headwater towns, which are having water supply problems, claim that the works promised in 2007 to divert water to them from the Upper Tagus have not been performed. Such works were to be performed in 2014, but the cutbacks due to the economic downturn cut public works in half. The enforcement of this measure would ensure enough water supply to fifty Tagus headwater towns, affecting more than 40,000 people.

The Public Works and Transport Department Head of the Regional Government of Castilla-La Mancha has warned that, following the newly authorized transfer, the supply to the Tajuña and Aguas del Sorbe municipal associations could be at risk. There could even be "water restrictions" soon. Additionally, it opposes to the transfers performed by a caretaker Government which has failed to notify the Autonomous Region of Castilla-La Mancha of those transfers. The Autonomous Region has become aware of these transfers following the publication thereof in the Spanish Official Gazette. "The Tajuña municipal association accumulates 8.56 hm^3. When it reaches 8.35 it would be on 'pre-alert,' and when it goes down to 6.42 hm^3 it would be under an emergency condition," according to the Department Head, who has regretted the ongoing transfers provided that water resources are not ensured in the region.

The situation of the Entrepeñas and Buendia Dams is worrisome. The Entrepeñas Dam (Guadalajara) had 12.46% of its maximum capacity as of 29 December. This is the lowest value of the decade for this period of the year. The average water reserves during the last week of the year are normally at about 30% of the dam's capacity. Buendia (Cuenca), the other dam located in the Tagus headwaters, finishes 2015 at 13.12% of its capacity. This is the lowest value since 2008. The average of stored water in this dam in the last decade amounts to 21.36%.

In the area of Entrepeñas and Buendia a picturesque tourist area was created. It was called the "Castilian Sea" (*Mar de Castilla*), where leisure and water sports facilities as well as restaurants and other tourist attractions were deployed. It was meant to be a tourist destination for the neighbouring towns as well as for the population of Madrid, since it is only one and a half hours away from the city. Currently, restaurant owners and marine leisure business owners of the "Castilian Sea" claim that their businesses have dropped by 80% with respect to 2014. In 2011, when the dam was at 75% of its capacity, the tourism expectations were huge. Some days there was a floating population three times greater than the permanent population of the area. Currently the dam is at 15% of its capacity.

The most recent data regarding the status of the Segura River Basin and El Talave Dam, the receiving dam of the water from the Tagus-Segura transfer, show that as of the last week of 2015, El Talave was at 54.29% of its capacity, close to its average amount for the last 10 years. The Head of the Segura River Basin Authority considers this situation to be "normal," and points out that the future must be the main concern; the drought has left uncovered the local supply system.

According to the irrigation associations from Eastern Spain, the demand of a greater river flow for the Tagus River as it flows through Aranjuez, Toledo and Talavera (the so-called Tagus Axis) is not justified, since the ecological flow thereof has not been affected. They assure that the increased water demand in these areas is due to the bad status thereof, since waste is not adequately treated.

ANNEX 4: INCIDENTS IN THE APPROVAL PROCESS OF THE RIVER BASIN MANAGEMENT PLAN FOR THE TAGUS RIVER (FIRST STAGE): PUBLICATION AND REMOVAL OF THE DRAFT PLAN FOR THE TAGUS RIVER IN 2011.

The Petition submitted by the members of the Tagus Platform referred to the controversy that sparked in 2011 following the publication of a Draft Plan for the Tagus River Basin on the Tagus River Basin Authority's website. The controversy sparked because after 48 hours the Draft Plan was removed from the website. It serves to illustrate the matters affecting the Tagus River Basin District, as well as to show how touchy this water issue can be. Further details on this matter are provided herein.

The members of the Platform that submitted Petition 0834/2012 stress that removing the Draft Plan from the website after two days of its publication amounted to a major irregularity.

The reason for this removal, according to the Head of the River Basin Authority, is that it was a preliminary and unfinished document, since they were awaiting the outcomes of the joint works conducted by the General Directorate for Water Policy alongside the Centre of Water Studies (*Centro de Estudios Hidrográficos, CEDEX*), regarding the Water Reuse Plan.

In addition, these works were meant to forge an agreement between the Tagus and Segura River Basin Management Authorities on a very significant issue: the terms of the regulation for the Tagus-Segura transfer which had not been finally decided yet. It was stated, at all times, that it was a preliminary draft to be reviewed. Notwithstanding the short period of time during which it was published online, the Draft Plan had a wide dissemination. The Ministry asserted that the document itself was not a Draft Plan, but a mere working document, and therefore it should not have been published.

The most critical sectors with the Ministry's decision claimed that a public consultation stage was required not only regarding the publication of the final draft, but also for the publication of previous documents, to the end of having a true public consultation stage in the procedure.

The dimension of the controversy that sparked in connection with this incident allows for presenting the state of the question, as well as for showing the stances of the various stakeholders: political parties, economic operators, or NGOs.

The environmental organizations assured that the Ministry, when removing the Tagus Draft Plan from the River Basin Authority's website, had "concealed" all the data against the Tagus-Segura transfer, since it was abundantly clear that there was not going to be enough water available to perform such transfer.

The Draft Plan mentioned the decrease in water resources of the Tagus headwaters resulting from climate change, from the excess of demand for the transfer, and from the need of such resources for irrigation purposes in the basin. The regulation was approved on technical grounds. Thus, it was proposed to increase the strategic reserves from 240 hm^3 to 400 hm^3. It was also proposed to lay down a maximum volume of water for the Tagus-Segura transfer amounting to 324 hm^3 per year (from 90 to 343 hm^3, almost half of the amount that could be authorized to that date). Indeed, Talavera was considered to be a critical spot concerning

river management duties, and it was the core spot for hydrological planning in the area. Actually, in that town there were “water quality problems” and “river basin degradation” could be noticed.

The document specified that the Entrepeñas and Buendia Dams had to ensure the river flows in Talavera. The Tagus River Basin Authority’s experts asserted in the draft that the flow that went through Talavera was so little that it was recorded as 0 hm3 per second, whereas in Aranjuez it amounted to 6 hm3/s and in Toledo to 10 hm3/s.

In this regard, the draft proposed to measure in Talavera the river flow for the first time, subsequently establishing a minimum average flow in that city of 15.92 hm3/s. The river flow would increase by 40% in Toledo, where it would increase from 10 m3/s to 14, and this increase would be even greater in Aranjuez, where it would rise from 6 m3/s to 10.86. The end-date to obtain such ecological flows was 2021.

In the document removed by the Ministry of the Environment, the Tagus River Basin Authority, a state-sponsored body, contended that the exploitation rules applicable back then prevented compliance with the Water Framework Directive.

The debate on the possibility of imposing these measures aimed at reducing the amount of water transferrable to the Segura River further delayed the approval of this Plan, which was finally enacted in 2014, five years after the end-date laid down by the EU. The relevance of the proposed measures implied that during the election campaign, the content of those measures was hidden from the public opinion.

The NGO Ecologistas en Acción considered that by removing the draft plan the Ministry had been antidemocratic, irresponsible, and highly unprofessional. The said NGO also considered that it was not reasonable to deceive those citizens that were going to profit from the transfer, by making them think that they were going to have water resources available that right now do not exist; the Ministry censored a document that was only based on actual technical data. The said NGO deemed the removal of the Draft Plan as a measure only aimed at catching some extra votes in the receiving basins located in Eastern Spain.

The members of another important NGO, the Platform in Defence of the Tagus and Alberche rivers, who actually submitted the petition examined herein, had the following slogan: “Tagus + river flow in Talavera or the transfer: nothing else.” There were no other alternatives.
Other NGOs, such as Ecologistas en Acción, Greenpeace, SEO/BirdLife, and WWF, claimed that the removal from the website had occurred only after technical evidenced had shown that the Tagus-Segura transfer was “impracticable” under the back then current format, and that it could hurt the Socialist Party in the upcoming elections. On that basis, the environmental NGOs demanded the “immediate” publication of the Draft Plan, as well as meetings to study and assess such document.

Conversely, the irrigation associations from Eastern Spain opposed to the cutbacks in the Tagus-Segura transfer. On the same day the draft plan was published, the Segura River Basin Authority made public the basin’s data for hydrological year 2010-2011. These data reflected the contribution of 343.856 hm3 from the transferring Tagus basin to Alicante, Murcia and Almeria. Out of the total amount, 235 hm3 were allocated to irrigation, 101 to supplying Taibilla, and 7 hm3 were diverted to Andalusia, to meet the demand of 2.5 million people and 70,000 irrigation farmers. The Head of the Segura River Basin Authority stated the following: “the Draft Tagus Plan is mere speculation.” Regarding the amendment of the

regulation applicable to the transfer he added: “we are not going to tolerate this, we could not live without the Tagus water.”

The spokesman of the Provincial Federation of Irrigation Farmers in Alicante (Federación Provincial de Regantes de Alicante) rated the underlying intentions of the document as “aberrant” and a “mess,” which if approved would entail that “no one will invest in agriculture here.” The spokesman added that “this cannot be done without giving any alternative whatsoever, because 60% of the irrigated crops in Alicante depend on the transfer.” “Alicante is the fourth province in Spain in terms of population and we feel disrespected, since our needs are disregarded,” he added. He concluded by saying that “no one would ever dare to announce that Madrid or Barcelona are going to be deprived of water.”

The Head of the Association of Young Farmers (Asociación Agraria de Jóvenes Agricultores, ASAJA) in Alicante, was bold. “We are not going to tolerate this,” he asserted, “because we cannot live here without the Tagus water.” The Vice-president of the Coordinating Agency for Farmer and Stockbreeder Organizations, (Coordinadora de Organizaciones de Agricultores y Ganaderos, COAG) asserted the following: “What we do not want is to lose agricultural production.” She insisted in disregarding all basin plans drafted on the basis of errors of public authorities when calculating the surface of irrigated crops: “the surface of irrigated crops must be accurately calculated and recorded, and action must be taken to ensure their continuity.”

The cutbacks in the Tagus River Basin Management Plan added up to those contained in the Jucar Plan, wherein the removal of 18,000 hectares of irrigation crops in 39 towns was provided. This would entail, according to research conducted by the Vinalopo Users Association endorsed by the Alicante University, destroying 35,000 jobs and an economic loss of Euro 220 million per year. The envisaged Jucar Plan led to the conclusion of the Monforte Covenant (Pacto de Monforte), concluded in this town of the area of Vinalopo Mitja, also entered into by the Socialist Party in the Region of Valencia, in defence of the Alicante irrigated crops.

Finally, certain important aspects contained by the removed Draft Plan passed onto subsequent drafts and ended up being included in the final Plan. One of these aspects was, for instance, the provision of a strategic reserve of 400 hm3 per year in the Tagus headwaters. However, other proposals such as the maximum volume subject to transfer, which the Draft Plan estimated to be 324 hm3/year, were not finally included.

CAT: QA-04-16-025-EN-C (paper)
CAT: QA-04-16-025-EN-N (pdf)

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PHOTO CREDIT: iStock International Inc.

ISBN 978-92-823-8591-3 (paper)
ISBN 978-92-823-8592-0 (pdf)

doi: 10.2861/004439 (paper)
doi: 10.2861/8882 (pdf)

Publications Office