



## Results overview for the Guadiana river basin (Portugal)

This fact sheet summarises the results of the Water and Wetland Index for the Portuguese part of the Guadiana river basin. Information about the project and the different issues presented in this fact sheet can be found in the WWF Report “Water and Wetland Index - Critical issues in water policy across Europe” (2003).

### Water Resources in the Portuguese Guadiana

The Guadiana river basin covers 66,800 km<sup>2</sup> (11,580 km<sup>2</sup> in Portugal and the remaining 55,220 km<sup>2</sup> in Spain). It includes some of the poorest municipalities in Portugal, severely affected by an ageing population and unemployment. The poor economic indicators are frequently associated by the Portuguese Authorities to the lack of water availability. Water has always been considered an important development factor for the Guadiana river basin. There are several large dams along the Guadiana river. Alqueva is the largest and one of the newest dams in the Iberian peninsula and the construction of the main infrastructure was finished in 2002.

Currently, 60% of the available groundwater resources are being exploited, against 10% of the available superficial water resources. This preferential exploitation of groundwater resources is due to the low population density in Guadiana River Basin and the existence of a large number of small scale water supply systems. Water quality problems are usually associated to these systems, where control and monitoring activities are poor. There is a slight water deficit, aggravated in extremely dry years. One reason given by the Portuguese Authorities to justify the Alqueva dam was the need to address the water deficit through a “strategic water reservoir”.

The deterioration in water quality in the Guadiana river basin is mainly due to sewage water discharges from agro-industrial units and to agricultural activity, both in Portugal and Spain. The first political agreements between Portugal and Spain envisaging cooperation in the management of international rivers are from the 1960’s. Although the Albufeira Convention signed in 1998 is a strong advance in the development of cooperation and information between the two countries, a joint management of transboundary river basins like Guadiana is yet to be achieved.



## Application of Integrated River Basin Management principles

### Public participation in water management

#### Information provision

The provision of information is centralised in the Concelho de Bacia do Guadiana (the Guadiana River Basin Council, an Administration advisory body), in the National Water Institute (INAG), and Regional Authorities. There are only a few examples of information campaigns carried out by NGOs. A positive example in this field is the creation of the CAIA (Commission for the Environmental Monitoring of Alqueva dam), where national and regional environmental NGOs are represented.

Existence of arrangements<sup>1</sup>



Adequacy<sup>2</sup>



#### Public consultation

Public consultation is common in Environmental Impact Assessment processes and in the process of elaboration of strategic plans, but for legislation it is rare and limited to only a few selected stakeholders. Often, the provision of information in the consultation process is too technical and extensive for the general public. Also, public consultation arrives too late in the decision process, near the approval of the final project or plan, which demotivates the public and creates general discontent.

Existence of arrangements



Adequacy




<sup>1</sup> This assesses the existence of arrangements (e.g. the celebration of information days, the existence of public consultation procedures, the existence of water management plans, etc).

<sup>2</sup> This assesses the adequacy of the existing arrangements and their implementation on the ground. It is based on the opinion of WWF, partner NGOs and other water stakeholders.

## Active involvement

There are few successful attempts to promote active involvement. The CTAs (Technical Supervising Commissions) created to supervise the development of strategic plans, are one of the few examples where NGOs and independent researchers are represented. The Conselho de Bacia do Guadiana, although active after its creation, ceased meeting with the minimum frequency stipulated in the law.


Existence of arrangements 


Adequacy 

## Integrated management of water resources

### Transboundary cooperation

The CADC (Commission for the Application and Development of Albufeira Convention between Portugal and Spain) is particularly active in the Guadiana river basin. There are a number of Working Groups and Sub-commissions working in the Guadiana and several joint studies have been executed in the transboundary river basin. Despite the advances (in terms of information and cooperation) introduced by the Albufeira Convention, signed by Portugal and Spain in 1998, joint management is yet to be achieved.


Existence of arrangements 

Adequacy 

### Integration of competencies in water management


There is no single body in charge of water management in the river basin. The planning is in charge of INAG (Water Institute), while monitoring and licensing activities are carried out by the two regional environment authorities (DRAOT Alentejo and DRAOT Algarve). Wetlands are under the jurisdiction of ICN (Institute for Nature Conservation), as well as coastal and estuarine waters (except for the harbour area, under jurisdiction of the Ministry of Internal Administration).


Existence of arrangements  

Adequacy 

### Integration of water policy with sector policies

The Guadiana River Basin Plan considers the water demands of all sectors but fails in the integration and in a balanced treatment for all sectors. The largest part of the budget goes to the construction of domestic water supply and water sewage treatment infrastructure. The construction of a large dam like Alqueva is also a clear sign of the importance given to agriculture and power generation to the detriment of nature conservation.



Existence of arrangements 


Adequacy 

## Wetland management

### Integration of wetlands into water management



The Guadiana River Basin Plan does not mention the importance of wetlands or integrate their management into the management of freshwater resources. Wetland conservation is the responsibility of a nature conservation body belonging to the Ministry of Environment. The destruction and degradation of Mediterranean Temporary Ponds due to intensive farming is just an example of the lack of integration of wetlands into water management and other policies.

Existence of arrangements  

Adequacy  

### Wetland protection policy

The National Strategy for the Conservation of Wetlands is an operational strategy by ICN (Institute for Nature Conservation) and has no legal strength. The protection of wetlands is dependent upon general political instruments aimed at nature conservation (National Network of Protected Areas, Natura 2000 Network).

Existence of arrangements  

Adequacy  

## Wetland restoration policy

The above mentioned strategy by ICN includes restoration measures but they are dependent upon Management Plans that are not, in most cases, operational. Where wetlands are classified as Ramsar sites or sites under Natura 2000, the management plans will assure restoration measures. In “Sapais de Castro Marim”, the most important wetland in the Portuguese part of the Guadiana river basin, the management plan has been in preparation for several years.

Existence of arrangements	☹️/☹️
Adequacy	☹️/☹️

## Response to key pressures and impacts on freshwater ecosystems

### Water quantity problems (agriculture)

#### Approach to the problem

The problem is acknowledged in the most important plans and policies, like the Guadiana River Basin Plan and the National Water Plan but the solutions are oriented towards the construction of large water infrastructures such as the Alqueva dam or the rehabilitation of irrigation infrastructure. The problem is seen as an agricultural problem solely and is tackled, accordingly, by the agricultural sector, without having an integrated view over water resources.

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#### Legal & regulatory instruments

The basic licensing system, (Decreto-Lei n.º 46/94) is poorly implemented, as the authorities responsible for licensing and monitoring activities (DRAOT Alentejo and DRAOT Algarve) have little human and financial resources to foster its enforcement in the field. The Guadiana River Basin Plan (in Programme 7) stresses the importance of implementing the user-pays principle, but allocates few resources to that measure. There are excellent legal and regulatory instruments but they are not being implemented accordingly.

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#### Financial & economic instruments

Farmers don't usually pay for the water they consume. Only farmers served by collective irrigation schemes (which totals about 10% of the total irrigated land) pay for the water abstracted. Water price is relatively low (it is a “political” price, not a real price) and there are little incentives to water savings.

Adequacy	😊/☹️
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There are some financial and economic instruments included in the CAP (Common Agricultural Policy) aimed at the reduction of losses, the rehabilitation of collective irrigation systems and the development of extensive agriculture.

#### Information & voluntary instruments

There is a recent national voluntary instrument (National Plan for the Efficient Water Use) but it doesn't seem to be developed or enforced.

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The Guadiana River Basin Plan also includes an information programme (Programme 09) to stimulate water savings by the domestic and agricultural sectors and the EU Common Agriculture Policy (CAP) supports the development of voluntary codes and information programmes.

There is some information addressing water savings and good agricultural practices but, most of the time, is too technical. This material is edited by the Ministry of Agriculture and regional agricultural authorities, not by the water authorities.

## Water quality problems (agriculture)

### Approach to the problem

Water quality problems are associated with intensive farming and illegal sewage water discharges from pig production farms and olive mills. Several areas are affected by heavy pollution due to high nitrate concentration, but no Nitrate Vulnerable Zone has been declared so far in the river basin as a result of the Nitrates Directive.

Adequacy



### Legal & regulatory instruments

There are point source pollution control instruments for pig production units (Portaria 810/90 regulates sewage water discharges) but it is not being sufficiently enforced by the authorities.

As for diffuse pollution caused by nitrates, only farms situated in Vulnerable Zones under the Nitrates Directive are subject to legal and regulatory instruments. Although there are aquifers already contaminated and others in risk of contamination by nitrates, there are no Vulnerable Zones declared in Guadiana River Basin.

Adequacy



### Financial & economic instruments

The CAP agro-environmental policy includes some measures to reduce diffuse pollution caused by agriculture. Also under CAP, there are measures addressing monitoring activities.

Due to insufficient monitoring and a general problem with follow through in environmental legal cases, illegal discharges are rarely punished.

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### Information & voluntary instruments

The publication "Code for Good Agricultural Practices" is widely distributed by the regional agricultural authorities (DRA Alentejo and DRA Algarve), although it is too technical and not adequate for most farmers.

Several pilot projects and research projects financed by the CAP are carried out by the Administration, Universities and environmental NGOs. The results are always disseminated but rarely in a proactive way.

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## River fragmentation due to infrastructure

There are 1,824 dams in the Guadiana river basin. There is no national or regional policy or strategy addressing dams. The existing policies address the need for each sector to be taken separately (agriculture, energy production, domestic supply, etc.) and do not recognise the negative impacts of dams in the ecosystems or in the overall river basin. Portuguese authorities, companies and the general public rely on the construction of dams as a means to control floods and assure water supply.

There is no legal obligation to calculate and include minimum flow regimes or to build fish ladders as a means to minimise impacts, although some minimising measures are usually required after the Environmental Impact Assessment of a dam.

River fragmentation and dams



#### Legend:

Good



Fair



Poor



Very poor



**Note:** In 'Adequacy', where there is a double score, the face on the left of the slash represents the assessment of the adequacy of the instruments themselves, while the face on the right represents the assessment of the implementation of the instruments 'on the ground'. Where no double score is specified, it means that the two aspects got the same score.

#### Further information

The WWI for Portugal was completed by Liga para a Protecção da Natureza.

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