2.2 WATER

River basins are the natural geographic and administrative units for comprehensive water management. In Spain, in cases where they lie completely within one region (Andalusia's Atlantic and Mediterranean River Basins, Balearic Islands, Canary Islands, Galicia-Coast and the Inland River Basins in Catalonia and the Basque Country), responsibility for them falls to the corresponding Autonomous Communities. In addition, eight inter-region river basins (North, Douro, Ebro, Tagus, Júcar, Guadiana, Guadalquivir and Segura), which extend into several different Autonomous Communities, are managed by the Public Administration through the basins' respective water authorities.

It is important to point out in this regard that River Basin Districts' geographical scope is established in accordance with the Water Framework Directive. A River Basin District is defined as the terrestrial and marine area comprising one or more neighbouring river basins and the transitional, ground and coastal waters associated with those basins.

The indicators presented here have been selected from among many used to monitor and study water issues and management, and are grouped into three key blocks: available resources, water quality and basic management issues.

In general, the quality of inland surface and marine water

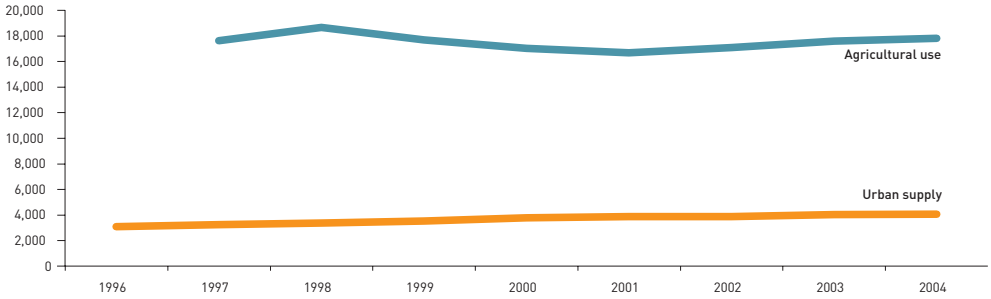
is progressively improving, mainly as a result of increased treatment of urban wastewater. However, there has not been an improvement in control of diffuse pollution, which is mainly produced by the agricultural sector. Advances can also be seen in the use of marine water as a result of improved desalination processes. Nonetheless, total water consumption is rising faster than availability.

INDICATOR	GOAL	TREND
Water consumption	Reduce and optimise consumption	Urban consumption is increasing while agricultural use remains stable
Reservoir water levels	Brackish and sea water desalination	Provide sufficient reserves to guarantee supply
Increase desalination capacity to boost available resources	Reserves have fallen over the last two years	Increase in installed desalination capacity
Nitrate pollution	Minimise pollution of groundwater	Status varies between River Basins
Salinisation of groundwater bodies	Reduce salinisation and preserve catchments	Status varies between River Basins
Organic pollution of rivers	Urban wastewater treatment	Achieve good ecological status in rivers
Decrease in effluent discharges	Treat entire pollutant load to comply with Directive 271/91/EC	Continuous increase in pollutant load treated
Coastal bathing water quality	Maintain 'good health status' of coastal bathing waters to ensure they remain suitable for bathing	Continuous improvement in coastal bathing water quality

Water consumption

Over the last decade, urban water consumption has risen by more than 30%, while agricultural use has stabilised

WATER CONSUMPTION: URBAN AND AGRICULTURAL USE (million cubic metres)



Source: INE

Over the period 1996-2004, the total volume of water treated and distributed for public supply (including household consumption, municipal use and use in economic activity) rose by 31.4%, reaching a total of over 4,042.4 million m^3 in 2004. Analysis of the major groups into which urban use is divided highlights the growth in economic sectors' consumption (57.9%), while household and municipal use have risen less sharply (28.9% and 28.0% respectively).

Over the period 1997-2004, water distribution for agriculture rose by 1.05%, accounting for over 17,807.7 million m^3 in 2004. As regards irrigation techniques, there have been key advances in resource optimisation, with an increase in the use of drip irrigation, from 4.9% in 1999 to 27.1% in 2004, and a fall in gravity-fed methods, from 64.6% in 1999 to 51.2% in 2004.

As regards the industrial sector, the mining, quarrying and manufacturing industries consumed around 1,839.6 million m^3 in 1999, of which 15.5% was taken from urban public supply, and the remaining 84.5% from the companies' own intake (1,554 million m^3), with 70% drawn from surface water, 19% from groundwater and 11% from other resources.

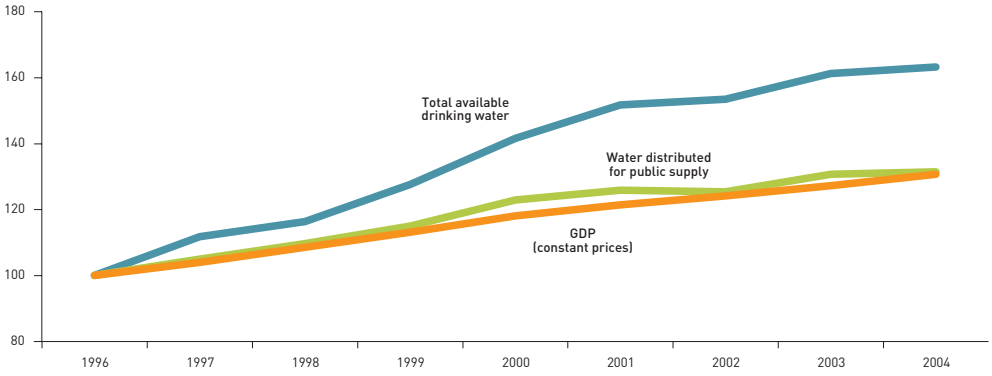
The relationship between increases in GDP (calculated at constant prices) and increased water consumption, expressed as "total volume of water treated and distributed for public supply" and also "total available drinking water" is shown below.

On the one hand, the total volume of water treated and distributed for public supply has risen practically in parallel to GDP. This clear coupling of economic growth and water

distribution represents a situation at the limits of environmental efficiency, and is by no means as favourable to the environment as one would wish.

However, the growth in total available drinking water is far above increases in GDP, here revealing signs of clear environmental inefficiency which will require consideration in future analyses.

COMPARISON BETWEEN WATER DISTRIBUTED FOR PUBLIC SUPPLY AND GDP
(index: 1996=100)



Source: INE

NOTES
- Water distributed includes all water available in the public distribution network, plus any losses from the network. It is based on total water collected by the supply company plus the net balance of water sales and purchases by and from other companies and local authorities.

SOURCES
- Water consumption figures:

Spanish National Institute of Statistics *(Instituto Nacional de Estadística)*. Environmental statistics *(Estadísticas sobre medio ambiente)*. Environmental water statistics *(Estadísticas medioambientales sobre el agua)*. In INEbase (www.ine.es/inebase/cgi)

– Survey on Water Supply and Treatment (Encuesta sobre el suministro y tratamiento de agua); 1996-2004.

– Survey on Water Use in the Agricultural Sector *(Encuesta sobre el uso del agua en el sector agrario)*; 1999-2004.

- GDP figures:

Spanish National Institute of Statistics. Spanish Regional Accounts *(Contabilidad Regional de España)*. Base 1995. Series 1995-2004. In INEbase. (www.ine.es/inebase/cgi/axi)

FURTHER INFORMATION
- www.ine.es
- www.aeas.es
- www.mma.es

Reservoir water levels

Over the last two hydrological years, reservoir water levels have been lower than the average for preceding years, causing major supply problems

HYDROLOGICAL TREND REPORT. Figures for 2 January 2007
CAPACITY (hm^3) AND RESERVES (%) IN PENINSULAR RESERVOIRS

RIVER BASINS	Total reservoir capacity	Reserves	Reserves compared to total capacity (%)				
	hm^3	hm^3	2006	2005	2004	5-year average	10-year average
Galicia-Coast	684	489	71.5	59.9	46.6	59.2	64.2
North I	3,030	2,399	79.2	57.1	50.7	58.9	64.9
North II	554	397	71.7	66.2	68.6	70.7	73.8
North III	71	40	56.3	87.3	80.3	71.8	76.3
Basque Country Inland Basins	21	10	47.6	95.2	81.0	82.9	84.3
Douro	7,463	5,786	77.5	47.6	46.9	57.4	62.8
Tagus	11,009	6,482	58.9	41.2	48.0	52.6	57.4
Guadiana	8,292	4,875	58.8	57.1	74.8	66.9	65.4
Andalusian Atlantic Basin	2,216	1,069	48.2	46.3	69.7	67.8	67.6
Guadalquivir	7,152	2,874	40.2	39.2	70.8	63.4	64.4
Andalusian Mediterranean Basin	1,041	308	29.6	26.2	45.4	40.4	49.0
Segura	1,129	133	11.8	11.6	15.1	15.1	20.1
Júcar	3,346	478	14.3	19.8	34.7	26.2	27.7
Ebro	7,403	4,393	59.3	57.2	65.9	68.0	72.0
Catalonian Inland Basins	740	356	48.1	45.5	57.0	55.4	55.0
Atlantic Basins	40,492	24,421	60.3	47.5	59.0	60.0	62.7
Mediterranean Basins	13,659	5,668	41.5	40.1	51.0	49.4	53.3
Entire Peninsula	**54,151**	**30,089**	**55.6**	**45.8**	**57.1**	**57.5**	**60.5**

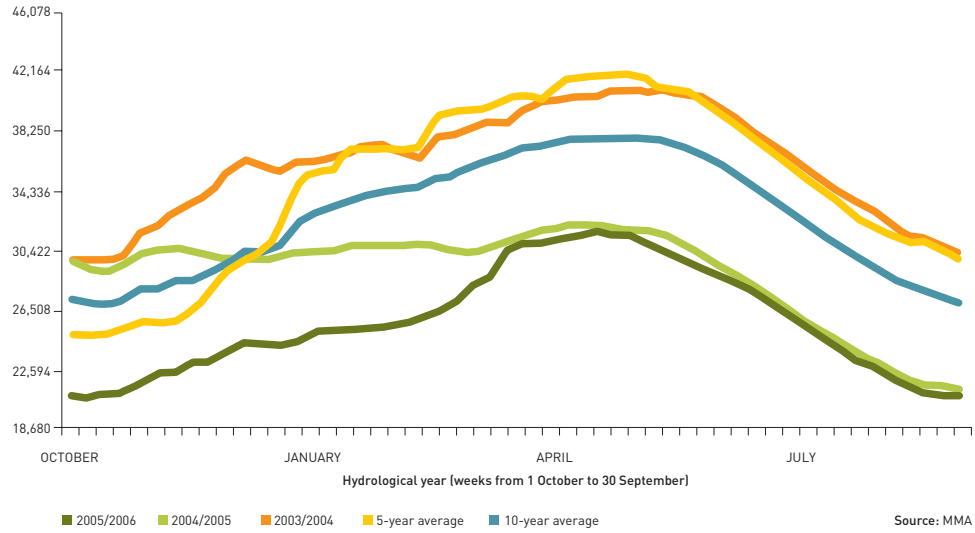
Source: MMA

If we compare reserves during the 2006 hydrological year (taken as of 2 January 2007) with those in place on the same date in previous years, there is notable recovery from the low levels of 2005, approaching the average values for the last 5 and 10 years. In 2005, reserves were below the average for previous years, at 46% for the entire peninsula, compared with 57.5% and 60.5% on average over the previous 5 and 10 years.

Although there was a slight overall improvement in 2006 compared with 2005, this was much more significant in the Atlantic Basins than in their Mediterranean counterparts. The situation worsened particularly in the Basque Country Inland Basins and the North III and Júcar Basins.

The graph below shows changes in peninsular water reserves over the course of the 2005-2006 hydrological year, comparing these with those of the two previous hydrological years and the average over the last five and ten years. As may be seen, availability in 2003-2004 was slightly higher than average, a situation which was then reversed in the two subsequent years. A policy for rational use of this resource must therefore be established in order to allow accumulated reserves to be used in years of shortfall.

PENINSULAR WATER RESERVES



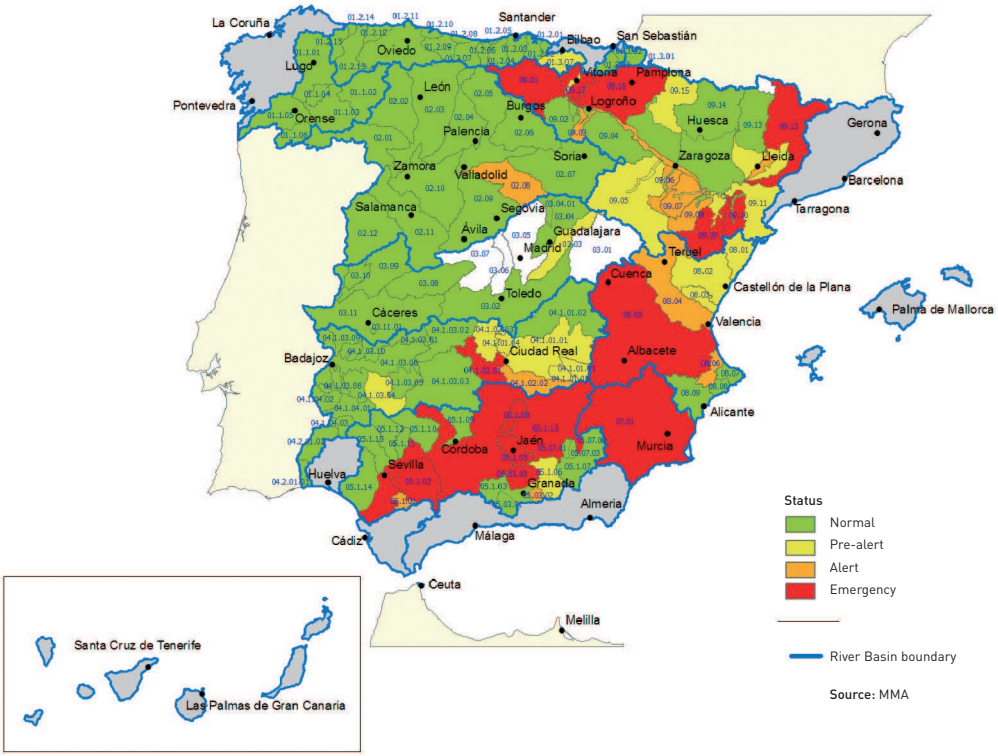
Source: MMA

In recent months, Spain's Water Authorities have produced Special Action Plans for Alert and Temporary Drought Situations (*Planes Especiales de Actuación en Situaciones de Alerta y Eventual Sequía*), together with the corresponding Environmental Sustainability Reports (*Informes de Sostenibilidad Ambiental*), in an attempt to deal with the country's emerging water problems as efficiently and effectively as possible.

These documents were drawn up in accordance with the terms of Article 27 of Act 10/2001, and Act 9/2006, on the assessment of the environmental effects of certain plans and programmes (*Ley 9/2006, sobre evaluación de los efectos de determinados planes y programas en el medio ambiente*).

The drought monitoring map shown below is based on the status of resource exploitation systems in December 2006, in accordance with information supplied by the Water Authorities.

DROUGHT MONITORING MAP. DECEMBER 2006
Status of Resource Exploitation System (RES)



Weighting this value at each point (in accordance with the scale of actual demand) produces the average overall figure for each exploitation system.

To provide a clearer idea of the drought situation, the map divides the status of resource exploitation systems into four categories (normal, pre-alert, alert and emergency). The map only depicts the situation in those basins managed by the Public Administration.

NOTES

- Reserves are calculated as the percentage of stored water compared to the total potential storage capacity (total reservoir capacity).

SOURCES

- Hydrological Bulletin *(Boletín Hidrológico)*. Reports on the Hydrological Status of Spain's River Basins *(Estado Hidrológico de las Cuencas en España)*, on the website. http://servicios.mma.es/wlbolehll/

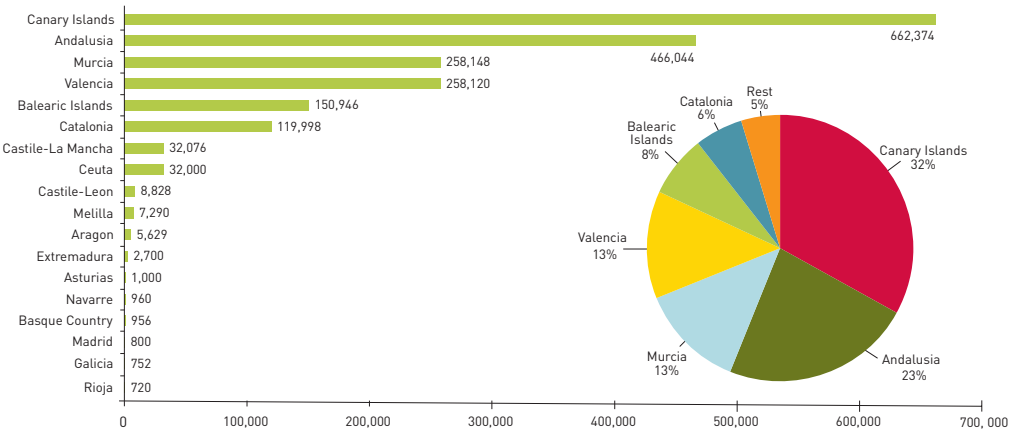
FURTHER INFORMATION

- www.mma.es

Brackish and sea water desalination

In Spain, desalinated water output now accounts for more than 2% of consumption

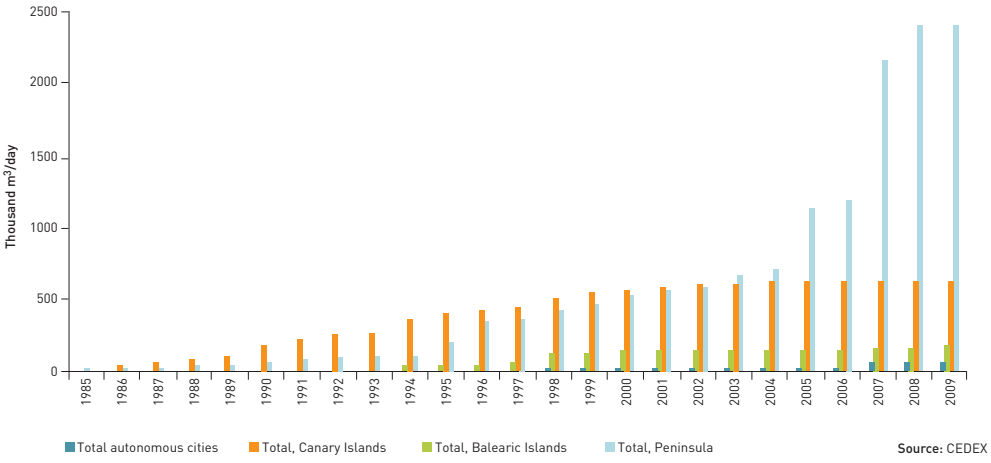
INSTALLED CAPACITY (m^3 desalinated water/day) OPERATIONAL IN 2006
TOTAL 2,009,341 m^3/day



Source: MMA/CEDEX

Spain has more than 700 desalination plants, with an installed capacity of more than two million m^3/day. Of these, 70% desalinate sea water, while the remaining 30% use brackish water (from groundwater reserves and salt water reservoirs). In terms of ownership, public desalination plants generally use sea water, while private facilities usually employ brackish water. The Canary Islands have the greatest installed capacity of any Autonomous Community, followed by Andalusia, Murcia and Valencia.

INSTALLED CAPACITY UP TO 2005 AND FORECAST FOR 2009



Source: CEDEX

Spain is a pioneer in desalination technology: it has been using water from desalination plants for more than 30 years, and is ranked fifth in the world for this type of facility. Desalinated water output in Spain in 2004 was double the year 2000 level and now accounts for 2% of consumption. The table below shows how the process has progressed.

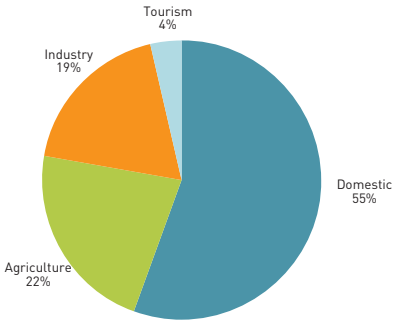
DESALINATED WATER OUTPUT

1990	2000	2004	2009 (Forecast)
0.1 hm^3/day	0.7 hm^3/day	1.4 hm^3/day	3.4 hm^3/day

Source: CEDEX

Desalinated water is used mainly in the domestic sector, followed by agriculture and industry. In many coastal areas with considerable tourist development, desalination plants supply water to hotel complexes.

DESALINATED WATER USE



Source: AEDyR

Desalination offers a solution to low water availability and quality, two major problems facing Spain. The systems' flexible nature means they can adapt to changing needs, allowing for modular installations and providing an independent, often local, solution.

The negative environmental impacts of such processes generally involve the waste generated and energy consumption, although the latter is constantly falling as a result of improvements in technology. Energy consumption in brackish water desalination, for example, is less than 1.5 kWh/m^3, while improvements in energy efficiency have seen consumption in sea water desalination fall from 8.5 kWh/m^3 in 1990 to 4.5 kWh/m^3 in 2000 and around 3.5 kWh/m^3 in 2005.

It is foreseeable that a reduction in power consumption below 3 kWh/m^3 will lead to an increase in desalination output, above all given the structural shortfall (urban and

agricultural) which exists in island and Mediterranean coastal areas, where there is also considerable tourist potential and development requiring a guaranteed minimum supply level.

Meanwhile, the issue of waste brine can be resolved technically by using diffusers to reduce discharges' saline concentration.

NOTES

- Various techniques are used to desalinate water, in particular:
  – Distillation: the water is heated to boiling point and the steam generated is condensed.
  – Reverse osmosis: this process involves feeding the water through a semi-permeable membrane at a considerable pressure difference, allowing the salt ions to be retained.

SOURCES

- Centre for Applied Technology Studies *(Centro de Estudios de Técnicas Aplicadas)*. Spanish Centre for Public Works Studies and Experimentation *(CEDEX - Centro de Estudios y Experimentación de Obras Públicas)*.
- Website of the Spanish Desalination and Reclamation Association *(AEDyR - Asociación Española de Desalación y Recuperación)*.

FURTHER INFORMATION

- www.mma.es
- www.cedex.es
- www.aedyr.com

Nitrate pollution of groundwater

Nitrate pollution estimates vary by river basin

PERCENTAGE OF MONITORING STATIONS WITH NITRATE CONCENTRATIONS ABOVE 50 mg/l (2005)

River Basin District	%	River Basin District	%
North*	0	Guadalquivir	30.17
Douro	9.85	Segura	9.23
Tagus	10.15	Júcar*	28.39
Guadiana	35	Ebro	12.05

*2003 figure.

Source: MMA

One parameter used in assessing 'good chemical status' in groundwater bodies established both in Water Framework Directive 2000/60/EC and Directive 2006/118/EC on the protection of groundwater against pollution and deterioration, is nitrate concentration. In 2005, the percentage of monitoring stations with nitrate concentrations above 50 mg/l varied considerably across the different River Basin Districts.

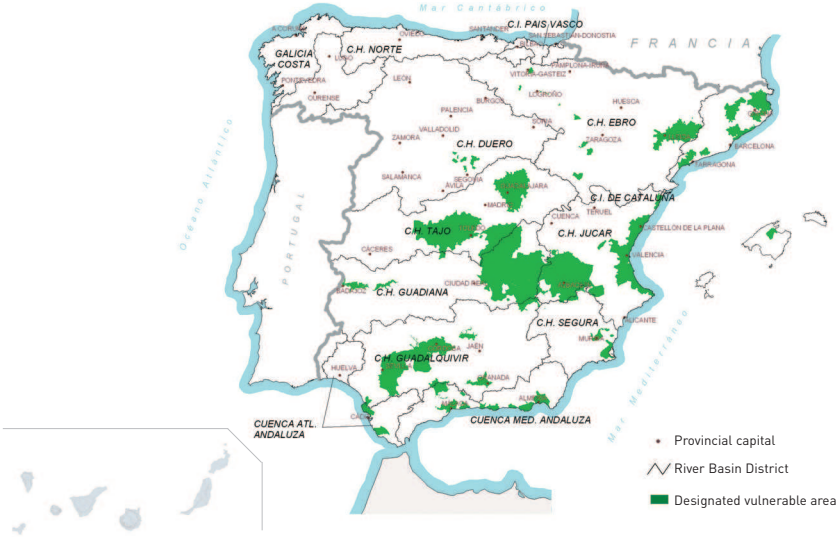
MONITORING STATIONS WITH NITRATE CONCENTRATIONS ABOVE 50 mg/l (2005)

Nitrate pollution of groundwater is mainly caused by the infiltration of fertilisers (nitrogen compounds and phosphates), applied to the soil in agriculture, and livestock manure. The map below displays monitoring stations on the groundwater quality control network in the

inter-regional River Basin Districts that recorded nitrate concentrations above 50 mg/l in 2005 (2003 for the North and Júcar river basin districts).

In accordance with the obligations set out in Directive 91/676/EEC, vulnerable areas have been designated for the implementation of pollution reduction programmes. Designation of vulnerable areas was split into two phases. The first phase ran from 1997 to 1999, whilst the second phase ran from 2000 to 2006.

VULNERABLE AREAS DESIGNATED IN COMPLIANCE WITH DIRECTIVE 91/676/EEC



NOTES

- The definition of vulnerable areas is set out in Directive 91/676/EEC, in accordance with run-off and nitrate pollution.
- Directive 2000/60/EC, which establishes the European framework for action in the field of water policy, establishes as one of its objectives the need to prevent groundwater pollution. In order to meet these objectives, rafts of measures should be established that, among other aspects, include those set out in Directive 91/676/EEC. In addition, the vulnerable areas established in accordance with Directive 91/676/EEC are also included in a register of protected areas under Directive 2000/60/EC.
- Directive 91/676/EEC, on the protection of waters against pollution caused by nitrates from agricultural sources, transposed into Spanish law by Royal Decree 261/1996 (Real Decreto 261/1996), defines groundwater as being affected by this type of pollution if the nitrate concentration is more than 50 mg/l, or could potentially reach such levels.

SOURCES

- Data provided by the Sub-Directorate General for Integrated Public Water Resource Management *(Subdirección General de Gestión Integrada del Dominio Público Hidráulico)*. Directorate General for Water *(Dirección General del Agua)*. Spanish Ministry of the Environment *(Ministerio de Medio Ambiente)*.

FURTHER INFORMATION

- www.mma.es
- www.eea.europa.eu

Salinisation of groundwater bodies

Many coastal groundwater bodies are affected by salt intrusion

The Water Framework Directive establishes "water bodies" as the reference unit for water management. Estimated salt intrusion in coastal areas can be assessed using the percentage of monitoring stations recording chloride concentration of more than 1,000 mg/l. The figures for 2005 are as follows:

PERCENTAGE OF COASTAL GROUNDWATER BODIES RECORDING CHLORIDE CONCENTRATIONS ABOVE 1,000 mg/l (2005)

River Basin District	%	River Basin District	%
North*	0	Guadalquivir	13.33
Douro	-	Segura	17.64
Tagus	-	Júcar*	2.04
Guadiana	0	Ebro	0

*2003 figure.

Source: MMA

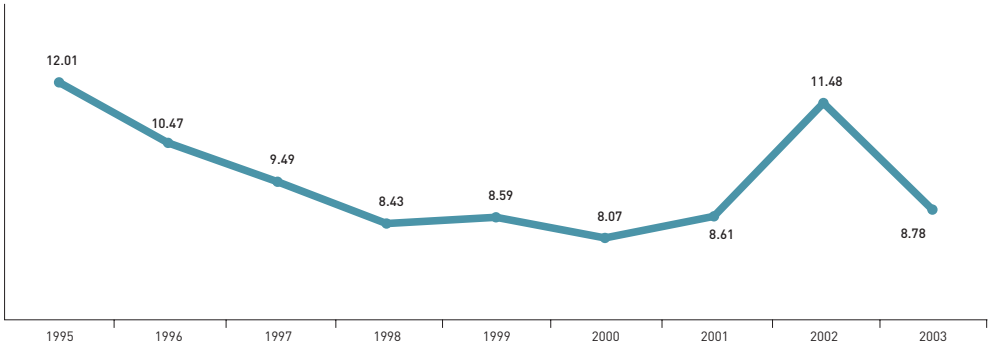
The map below displays groundwater quality control network stations monitoring coastal groundwater bodies in the inter-regional basins in which 1,000 mg/l of chloride was exceeded during 2005 (2003 for the North and Júcar regions).

STATIONS RECORDING CHLORIDE CONCENTRATIONS ABOVE 1,000 mg/l (2005)

Analysis of the surface area of coastal hydrogeological units affected by sea water intrusion for the data series available since 1995 reveals that the positive trend of previous years suffered a reversal in 2002 followed by recovery in 2003. That is the last year for which information is available for hydrogeological units, since subsequent information deals with water bodies.

Sea water intrusion is fairly widespread along the Mediterranean coastline, in most cases as a result of over-exploitation of water resources.

SURFACE AREA OF HYDROGEOLOGICAL UNITS AFFECTED BY SEA WATER INTRUSION (%)



Source: MMA

NOTES

- Groundwater abstraction above recharge levels causes a decrease in phreatic levels, leading to water salinisation and hence a fall in water quality.
- In coastal areas there is a fringe along the shoreline where a balance exists between groundwater and sea water. Water abstraction and the consequent reduction of piezometric levels is responsible for sea water intrusion, generally in volumes similar to those abstracted.
- A coastal hydrogeological unit is considered subject to sea water intrusion if monitoring station samples contain chloride concentrations above 1,000 mg/l. Consideration is given only to those hydrogeological units where the monitoring network density is above one station per 150 km^2.
- The hydrogeological unit data available are somewhat skewed, as most monitoring stations on the measurement network are concentrated in the most problematic zones, generally irrigated coastal areas.
- Framework Directive: 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.

SOURCES

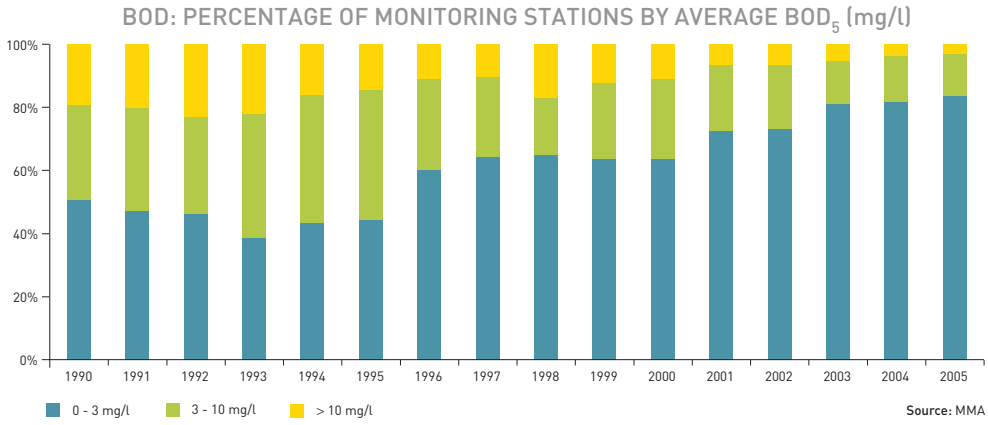
- Data provided by the Sub-Directorate General for Integrated Public Water Resource Management. Directorate General for Water. Spanish Ministry of the Environment.

FURTHER INFORMATION

- www.mma.es
- www.eea.europa.eu
- *Europe's water: An indicator-based assessment.* European Environment Agency, 2003. Spanish version: MMA, 2005.

Organic pollution of rivers

The pollutant load in Spain's rivers due to organic waste is steadily decreasing



One of the parameters systematically monitored by water quality control networks is Biological Oxygen Demand (BOD_5).

BOD_5 is the amount of dissolved oxygen present in the water and consumed by microorganisms to oxidise the organic substances also present in the water over a five-day period. BOD_5 is a good indicator of the general quality of inland surface waters.

When organic matter is present in water, summer is less favourable for aquatic fauna than winter. This is because in addition to there being less water volume, there is also a decrease in oxygen solubility due to the rise in temperature.

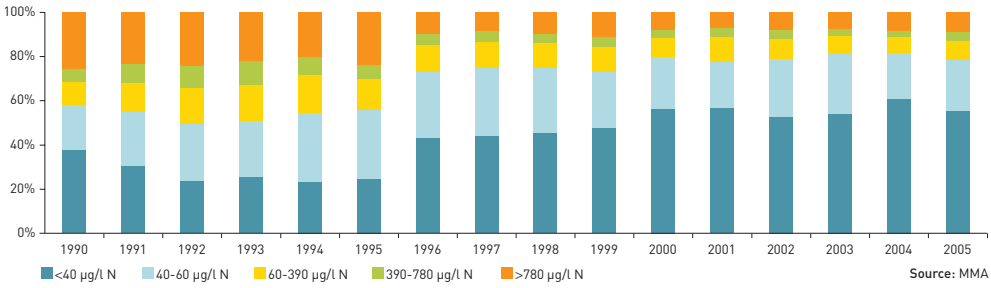
As may be observed in the above graph, the trend in Spanish rivers is for a fall in biodegradable organic pollution measured as BOD_5, with a higher percentage of monitoring stations recording lower average BOD_5 levels (below 3 mg/l of O_2) in recent years. This trend is reflected in a favourable increase in the percentage figure, which has risen from 50% in the 1990s to 84% today.

Ammonium, which enters water from sewerage systems, is another significant compound as regards water quality. Together with nitrates, it is the main source of nitrogen in water, thus contributing to eutrophication. A high ammonium concentration may indicate a recent discharge of domestic wastewater into the water body.

As with BOD_5, there has been an upward trend over recent years in the number of monitoring stations recording lower ammonium levels (<390 µg/l N). Specifically, the graph from 1990 onwards reveals a considerable improvement after 1995 in values below 60 µg/l N, with the percentage rising from around 60% to levels of 80% in 2005.

This reduction is clearly the result of an increase in urban wastewater treatment as a consequence of the introduction of Directive 91/271/EC on wastewater treatment, and the National Sewerage and Wastewater Treatment Plan (PNSD - *Plan Nacional de Saneamiento y Depuración*) implemented in Spain. The situation in general coincides with that seen elsewhere in Europe.

AMMONIUM IN RIVERS: PERCENTAGE OF MONITORING STATIONS BY AVERAGE AMMONIUM LEVEL (µg/l N)



Source: MMA

NOTES

- Biological oxygen demand, also referred to as biochemical oxygen demand (BOD), is used as a parameter to measure the quantity of matter liable to be consumed or oxidised by biological means within a liquid sample, and is used to establish the degree of pollution. This is normally measured after 5 days (BOD5), and stated in mg O2/litre. It should not be confused with chemical oxygen demand (COD), the parameter used to measure the quantity of organic matter liable to be oxidised by chemical means within a liquid sample.

SOURCES

- Data provided by the Sub-Directorate General for Integrated Public Water Resource Management. Directorate General for Water. Spanish Ministry of the Environment.

FURTHER INFORMATION

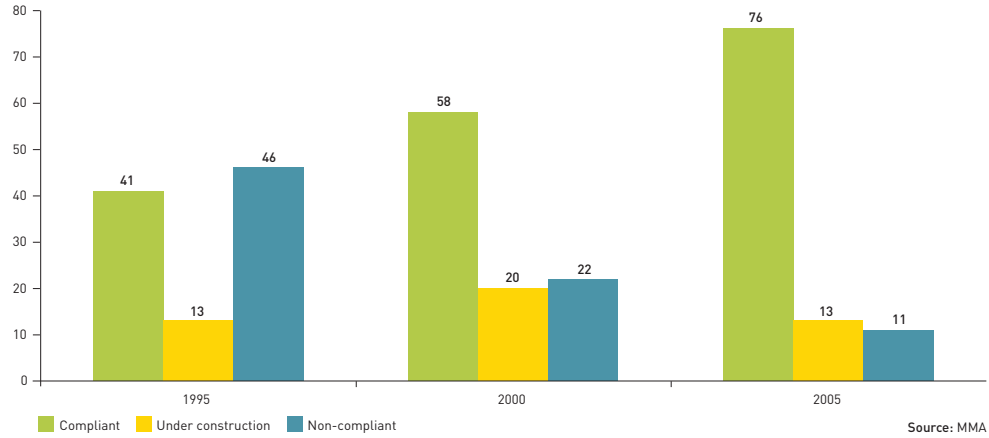
- www.mma.es
- www.eea.europa.eu

Urban wastewater treatment

Major progress has been made in wastewater treatment, although not all the targets set for 2005 in the PNSD have been met

COMPLIANCE WITH NATIONAL SEWERAGE AND WASTEWATER TREATMENT PLAN 1995-2005 (PNSD)

DEGREE OF COMPLIANCE WITH DIRECTIVE 91/271/EC IN TERMS OF POLLUTANT LOAD TREATED (% p-e)



Source: MMA

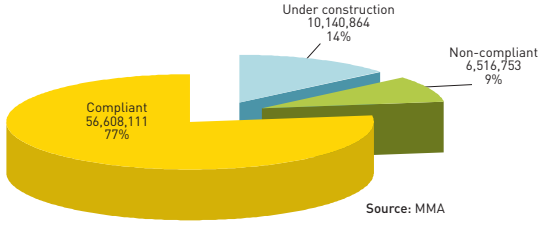
Declining water quality is one of Spain's major problems, and is largely the result of wastewater from urban agglomerations. Population increases (with the corresponding increase in pollutant load) and a rise in water consumption (constantly decreasing the amount in circulation) mean that watercourses' self-purification process is no longer sufficient, leading to the need to treat wastewater before discharge.

Monitoring urban wastewater treatment allows us to assess compliance with the requirements of Directive 91/271/EEC and the targets established in the National Sewerage and Wastewater Treatment Plan 1995-2006.

By the end of 2005, treatment of 76% of the pollutant load generated in Spain meant that the quality targets established were met. Moreover, the figure rises to 89% if facilities under construction are included. There has been a highly positive trend since 1995, when the figure stood at only 54%, making for an increase in treatment capacity of 65% by 2005. However, the targets established in Directive 91/271/EEC and the PNSD 1995-2006 have not been fully achieved, as 11% of the pollutant load is still not subject to compliant treatment.

In 2006, compliance improved on 2005 levels, with non-compliance dropping from 11% to 9%. This situation accurately reflects the difficulty in improving treatment, with achievements taking place over a slightly longer term than desirable.

POLLUTANT LOAD COMPLIANCE, p-e and %. (mid-2006)

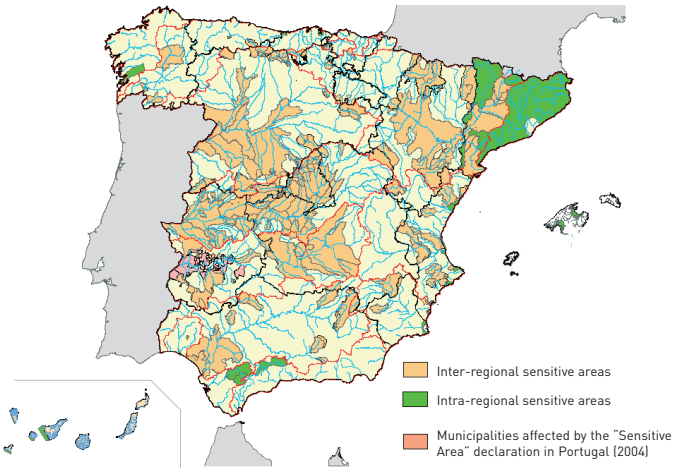


Source: MMA

One major aspect of wastewater treatment is the definition of new 'sensitive areas', leading to the need to apply more demanding treatment targets for many regions. The maps below portray the increase in the number, surface area and distribution of these recently declared sensitive areas (July 2006), compared with those in existence during the period covered by the first Plan.

"SENSITIVE AREAS" PRIOR TO THE NEW DECLARATION

NEW "SENSITIVE AREAS" (2006)



NOTES

Directive 91/271/EEC, of the Council, of 21 May 1991, on urban wastewater treatment, modified by Directive 95/15/EC, of the Commission, of 27 February 1998, is intended to protect the environment against deterioration caused by urban wastewater discharge from urban agglomerations and biodegradable wastewater from the agri-food industry. In addition to being transposed into the legal framework of each member state, the Directive also imposed an obligation for wastewater to be collected using a sewerage system, for areas to be defined as sensitive and less sensitive, and for an implementation programme to be produced. In Spain, this programme took the form of the National Sewerage and Wastewater Plan 1995-2005, approved in a Resolution of 28 April 1995.

The ultimate aim of the Directive is to make it obligatory, by 2005, to provide specific treatment for all urban wastewater from agglomerations with a pollutant load of more than 2,000 p-e (population equivalent) if discharged into inland and estuary waters, and 10,000 p-e if discharged into coastal waters. It also established a series of mid-term targets prior to achievement of the final goal. The key definitions include the following:

- Population equivalent (p-e): biodegradable organic load with a 5-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day.
- Urban agglomeration: area with a population and/or economic activities of sufficient concentration to justify collection of urban wastewater and transport of the same to a treatment facility or final discharge point.
- Urban wastewater: domestic wastewater or a mixture thereof with industrial wastewater and/or rain run-off.
- The pollutant load, or population equivalent, to be treated in urban agglomerations is established by: actual population, seasonal population (which increases demand and pollutant load to be treated in areas, mainly on the coast, with a major tourist industry) and pollution from industry and agriculture connected to the urban sewerage system.
- Sensitive area: established in accordance with the criteria set out in Annex II of Directive 271/91/EC (Article 5) for lakes, lagoons, reservoirs and eutrophic estuaries, or those which could become so, for inland surface water used for drinking water, and for those water bodies requiring treatment in addition to secondary treatment in order to meet the Directive targets.

In furtherance of the above, the National Water Quality, Sewerage and Treatment Plan 2006-2015 (Plan Nacional de Calidad de las Aguas, Saneamiento y Depuración 2006-2015) is currently being drawn up and will include the new Sensitive Areas within Spain's Inter-regional River Basins (Resolution of 10 July 2006 (Resolución de 10 de julio de 2006), of the Secretariat General for Spatial Development and Biodiversity (Secretaría General para el Territorio y la Biodiversidad), of the Spanish Ministry of the Environment).

SOURCES

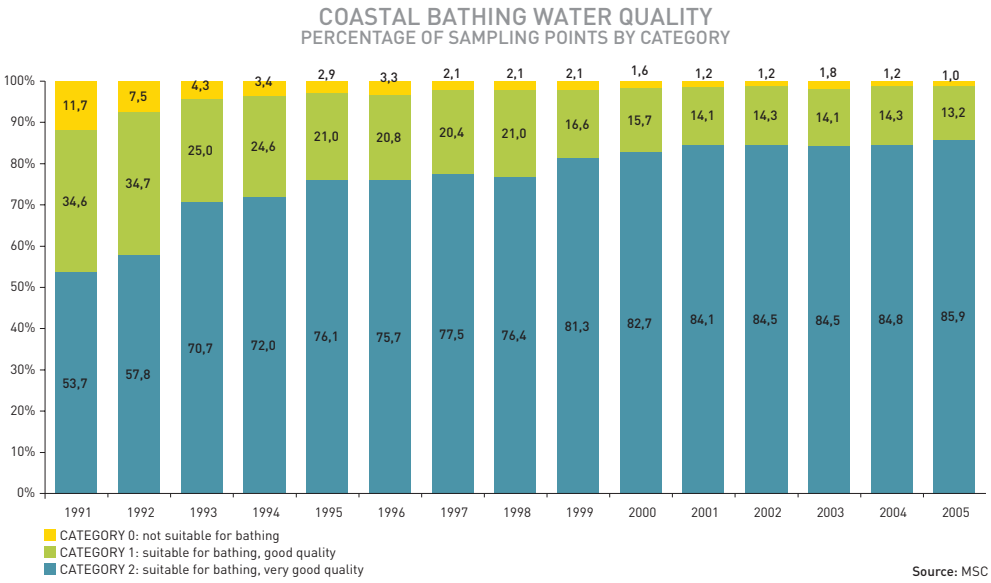
Figures provided by the Sub-Directorate General for Infrastructure and Technology *(Subdirección General de Infraestructuras y Tecnología)*. Directorate General for Water. Spanish Ministry of the Environment.

FURTHER INFORMATION

- www.mma.es

Coastal bathing water quality

In 2005, only 1% of sampling points recorded water not suitable for bathing



Source: MSC

This indicator shows the annual change, by quality category, in the percentages recorded at coastal bathing water quality sampling stations. The categories under which bathing waters are classified are those set out in Directive 76/160/EEC, of 8 December, on bathing water quality.

Coastal bathing water quality is clearly improving around the Spanish shoreline. Since 1999, more than 80% of the sampling points have recorded very good quality (group 2), with more than 85% achieving this category in 2005. Meanwhile, the very poor quality areas are gradually disappearing: since 2000 less than 2% of the sampling points revealed water unsuitable for bathing, with the figure dropping to just 1% by 2005.

The EU Commission summary report "Bathing Water Quality. 2005 Bathing Season", published in May 2006, identifies 14,230 monitored bathing areas along the coast of the 25 Member States with a shoreline. Although bathing was forbidden at only 1.9% of these throughout the entire season, this was a higher figure than in 2004 (1.5%), and above all in 2000 (0.1%). This outcome may, among other reasons, be the result of an increase in the number of monitoring points, and the water quality levels at the same, following the accession of new EU member countries.

NOTES

- Classification of the quality of these waters is based on microbiological criteria: presence/absence of faecal coliforms and total coliforms. The most frequent sources of pollution are direct discharges of untreated wastewater and temporary breakdowns in wastewater treatment infrastructure. Hygiene Classification of Bathing Water at Sampling Points follows the criteria below:
  - CATEGORY 2: Water suitable for bathing, very good quality. Such water simultaneously meets the following conditions:
    - At least 95% of samples must not exceed the required values for: Total Coliforms, Faecal Coliforms, Salmonella, Enteroviruses, pH, Colour, Mineral Oils, Surface-active Substances, Phenols and Transparency.
    - At least 80% of samples must not exceed the guideline values for: Total Coliforms and Faecal Coliforms.
    - At least 90% of samples must not exceed the guideline values for: Faecal Streptococci, Transparency, Dissolved Oxygen and Floating Materials.
  - CATEGORY 1: Water suitable for bathing, good quality. Such water complies with condition 1) of Category 2, but not conditions 2) and/or 3).
  - CATEGORY 0: Water not suitable for bathing. This is water which does not meet condition 1) of Category 2.
- In accordance with the terms of Directive 76/160/EEC, on the Quality of Bathing Water, the Spanish Ministry of Health and Consumer Affairs (Ministerio de Sanidad y Consumo) sends the European Commission an Annual Summary Report on Bathing Water Quality in Spain, setting out the key aspects of hygiene monitoring of such water by the various Autonomous Communities and the Autonomous Cities of Ceuta and Melilla, in accordance with Royal Decree 734/88 (Real Decreto 734/88), of 1 July.
- On 15 February 2006, the new Bathing Water Quality Directive (EC/7/2006) was approved. Among other aspects, this Directive modifies the current bathing water classification system, establishing four assessment categories (Excellent, Good, Sufficient and Poor), reducing the number of parameters considered and defining water quality at each point using a three-year average.

SOURCES

- Data provided by the Sub-Directorate General for Environmental Health and Health and Safety at Work *(Subdirección General de Sanidad Ambiental y Salud Laboral)*. Spanish Ministry of Health and Consumer Affairs.

FURTHER INFORMATION

- www.msc.es
- http://ec.europa.eu/water/water-bathing/index_en.html