

NATURE AND BIODIVERSITY 2.4



As a result of its particular orography, climatology, size and geographic situation, Spain has one of the most diverse collections of flora and fauna in Europe. Overall, almost 80,000 taxa have been recorded in this country. There are 8,000 species of vascular plants in Spain (over 80% of the EU total and 59% of the total on the European continent as a whole), 1,500 of which are endemic (in fact, almost half of Europe's endemic species are native to Spain).

Meanwhile, the fauna species present in Spain account for more than 50% of those found in Europe, and also include a high percentage of endemic species. This is particularly the case in the Canary Islands, where endemic species constitute 44% of total existing species.

One way of guaranteeing species conservation, as covered both by the Natural Areas and Wildlife Conservation Act 4/89 (*Ley 4/89, de Conservación de los Espacios Naturales y de la Flora y Fauna Silvestre*) and Royal Decree 439/90 (*Real Decreto 439/90*), governing the Spanish National Catalogue of Endangered Species (*Catálogo Nacional de Especies Amenazadas*), is to draw up Conservation Strategies (and in some cases Management Strategies as well) which are specific to those species under some degree of threat.

Protection of natural areas is one form of preserving this natural wealth, and many of the efforts to protect and



reinstate species therefore focus on protecting their habitats. Over recent years the area protected has grown, as has the number of natural areas with corresponding management plans, although not all of these have been put into practice yet.

This extensive, varied and, in many cases, particularly valuable natural heritage is nowhere more apparent than in Spain's wetlands. The great wealth and diversity of their biotic and

INDICATOR	GOAL	TREND
Protected areas	Increase the area protected in order to preserve natural wealth	Increase in PAs and size of the Natura 2000 Network
Forest defoliation	Quantify forest defoliation and identify causes	Defoliation is more serious in broad-leaved forests than in coniferous ones
Forest ecosystems	Increase the area and quality of forest ecosystems	The forested area is increasing in every Autonomous Community
Endangered species	Identify endangered species in order to preserve biodiversity	Birds are most under threat, followed by flora and mammals
Spanish wetlands included in the Ramsar Convention	Guarantee wetland preservation and protection of associated species	In 2005, Spain had 63 Ramsar wetlands
Environmental monitoring	Prevent damage to the environment and reduce environmental offences	In 2005 SEPRONA reported 162,520 environmental offences

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abiotic components make wetlands one of the planet's most complex and productive ecosystems. With their wide range of biotopes and habitats, they often straddle terrestrial and aquatic ecosystems, and so play a key role in preserving biodiversity.

Forest ecosystems, whether wooded or not, contribute to the preservation of biodiversity and economic development as they constitute a source of natural resources and are a provider of many environmental services (soil and hydrological cycle protection, atmospheric carbon sequestration, and as a biodiversity repository, among others), as well as being essential elements of the landscape.

In the 1980s, the continual and progressive deterioration in forest health seen in Europe started to cause widespread concern throughout society. In order to quantify the damage and investigate the causes behind this degradation, the International Cooperative Programme on the Assessment and Monitoring of Air Pollution Effects on Forests was set up. This is an international large-scale systematic network used to perform annual analysis on the state of health of wooded areas and the main negative factors to which they are subject.

In addition to technical management of areas and species, monitoring and surveillance are increasingly important. The Spanish Civil Guard's Nature Protection Service (*Servicio de Protección de la Naturaleza de la Guardia Civil*) has been strengthened in recent years and acts together with the Autonomous Communities' Environmental Wardens (*Agentes Ambientales*) and the River Police (*Guardería Fluvial*) to preserve this natural heritage. Within this context, Act 10/2006 (*Ley 10/2006*), of 28 April, reforming the Forests Act 43/2003 (*Ley de Montes, 43/2003*), of 21 November, set up a specific Public Prosecutor's office to pursue environmental offences, gave forest wardens the status of officers of the law, and banned the re-zoning of burnt forested areas as development land for at least 30 years after the event to combat deliberate fire-starting by property speculators.

Although this edition does not include a specific indicator, one further factor which must not be overlooked is the introduction of alien species (which has accelerated hugely in recent years) as one of the main threats to biodiversity. According to the IUCN, invasive alien species are defined as those which establish themselves in natural or semi-natural ecosystems or habitats and represent a threat to indigenous biological diversity. The Convention on Biological Diversity in turn defines alien species as any found outside its area of natural distribution.

In 2005, the Spanish Ministry of the Environment (*Ministerio de Medio Ambiente*) began to draw up an Action Plan for Invasive Alien Species (*Plan de Acción para las Especies Exóticas Invasoras*), which will lead to the approval of a National Strategy to Combat Invasive Alien Species (*Estrategia Nacional de lucha contra las Especies Exóticas*)

Invasoras). The Ministry is currently working together with the Autonomous Communities on a range of programmes to control this growing threat to biodiversity. This includes monitoring the American mink (*Mustela vison*) in areas potentially inhabited by the highly endangered indigenous species, the European mink (*Mustela lutreola*); surveillance and eradication of the alien ruddy duck (*Oxyura jamaicensis*), the main threat to the indigenous white-headed duck (*Oxyura leucocephala*), which is in danger of extinction; and working with the Autonomous Communities to control the spread of the zebra mussel (*Dreissena polymorpha*), an invasive bivalve which threatens to become a true pest capable of radically changing the ecology of the water bodies where it settles and causing hugely costly damage to hydraulic and energy infrastructures. Other highly problematic species include, for example, the red palm weevil (*Rhynchophorus ferrugineus*), the red-eared slider turtle (*Trachemys scripta elegans*) and the ailanthus (*Ailanthus altissima*).

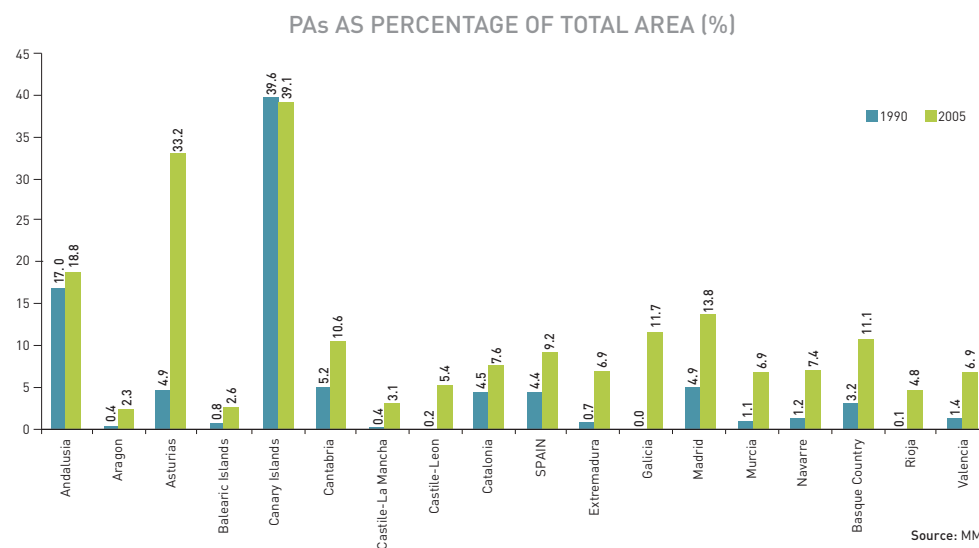
It should finally be pointed out that in 2006 the Spanish Ministry of the Environment worked on drafting the Natural Heritage and Biodiversity Bill (*Proyecto de Ley de Patrimonio Natural y de la Biodiversidad*), intended to facilitate planning, protection, conservation, restoration and sustainable development of Spain's natural heritage and biodiversity. In addition to an annual report, its proposals include drafting a National Strategic Plan for National Heritage and Biodiversity (*Plan Estratégico Nacional del Patrimonio Natural y de la Biodiversidad*) and administration of a National Inventory for National Heritage and Biodiversity (*Inventario Nacional del Patrimonio Natural de la Biodiversidad*), which would include forestry statistics, the wetlands inventory, the Natura 2000 Network, the National Parks Network and the Spanish National Catalogue of Endangered Species.

Protected areas

In 2005, protected areas made up 9.16% of Spain's geography (26.30% if the areas protected by the Natura 2000 Network are included)

YEAR	1990	1994	1998	2001	2003	2004	2005
PAs as percentage of total area (%)	4.38	5.75	7.34	7.9	8.8	8.93	9.16

Source: MMA



Spain's protected area exceeded 9% in 2005, very close to the 10% figure recommended by the World Parks Congress in 1992. Excluding the Autonomous Cities (Ceuta and Melilla), there are currently four Autonomous Communities with less than 5%, and a further six which fall short of the 10% level. The trend is positive, with an increase in protected area evident in both the national total and in most of the Autonomous Communities in comparison with previous years. The regions with the highest percentage of PA designated land are the Canary Islands, Asturias and Andalusia. In terms of the rise in this percentage, the Autonomous Communities with the biggest increases over the period 1990-2005 were Rioja, Castile-Leon, Extremadura, Asturias, Aragon and Navarre.

The instruments provided in Spanish legislation to ensure proper management and planning of protected areas include the Natural Resources Management Plans (PORN - *Planes de Ordenación de los Recursos Naturales*) and the Use and Management Master Plans (PRUG - *Planes Rectores de Uso y Gestión*), the latter only being applicable to areas designated as Parks.

According to Europarc-España, the number of PAs with an approved PORN stood in 2005 at 347 (85.47% of the areas which should have such a plan). These areas cover 3,321,327 hectares, representing 95% of the total area which should be included.

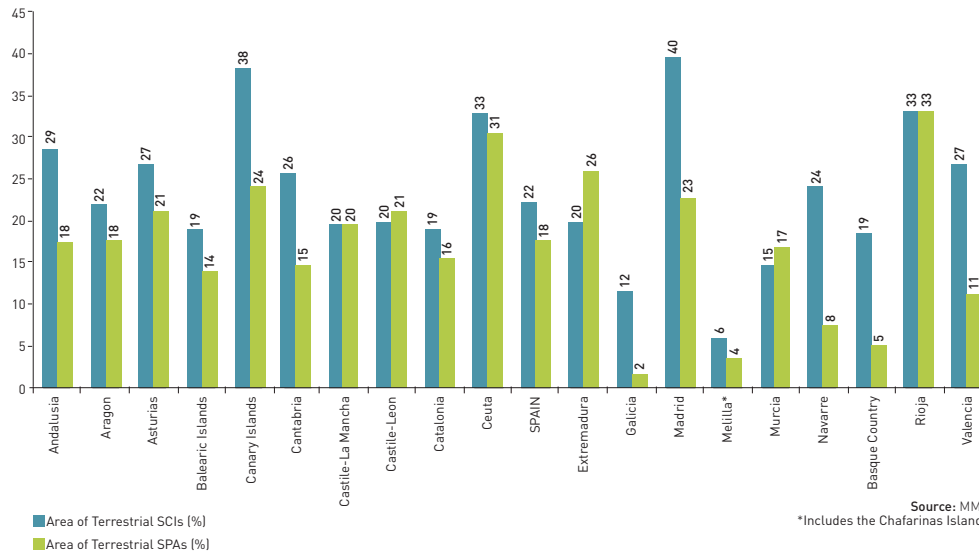
If we also consider the Natura 2000 Network categories (Sites of Community Importance, SCIs, and Special Protection Areas, SPAs), the protected area rises considerably, to a level of almost 26% of the national total (even more if PAs are also included), excluding any overlaps among categories. The percentages of protected area by Autonomous Community are shown in the graph below.

NATURAL AREA PROTECTION CATEGORIES

PROTECTION CATEGORY		2003	2004	2005
SCI	Number	1,301	1,381	1,381
	Area (ha)	11,943,736	11,909,638	11,262,047
SPA	Number	416	480	512
	Area (ha)	7,836,617	8,379,733	9,104,799
PA	Number	828	891	1,224
	Area (ha)	4,445,000	4,521,935	4,816,106

Source: MMA

TERRESTRIAL SCIs AND SPAs AS PERCENTAGE OF TOTAL AREA (%). 2005



Source: MMA

*Includes the Chafarinas Islands

According to the EU's Natura 2000 Network Eurobarometer, in December 2006 the 512 SPAs declared in Spain made up 11.3% and 20.8% of the number and surface area, respectively, of all those present in the EU. These figures put Spain in third place in terms of number, behind Germany and Sweden, and first in terms of declared SPA.

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As regards SCIs, Spain has the fifth-highest number, with 6.6% of the EU's SCIs, ranked behind Germany, Sweden, Italy and Finland. However, as in the previous case, it is the country with the largest surface area and accounts for 21.3% of the area designated as SCIs in the EU, almost twice as much as the second-ranked country, Sweden (11.2%).

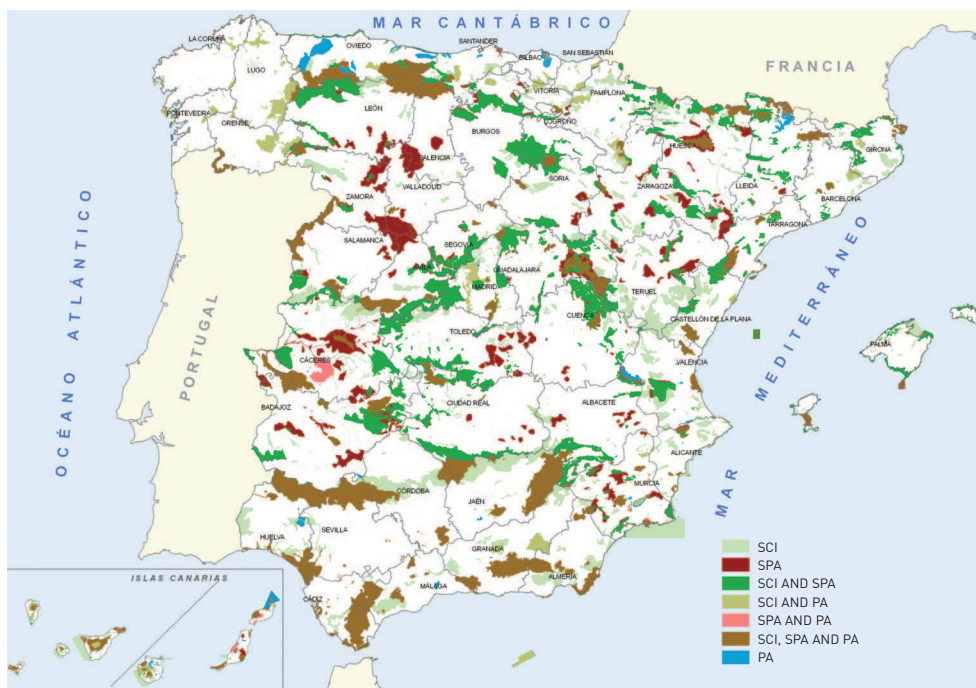
If we exclude overlaps in area between the Natura 2000 Network and Protected Areas, in 2005 protected area covered a total of 14,036,306 hectares, of which 13,322,883 were terrestrial, and 713,422 marine. These figures mean that 26.3% of Spain's geography is now protected. The situation is presented graphically on the map of sensitive areas below, identifying and combining those areas which fall under more than one protection category.

PROTECTED AREA BY PROTECTION CATEGORY, 2005

	PA and Natura 2000 Network	PA	Natura 2000 Network
Terrestrial area protected (ha)	13,322,883	4,641,920	13,024,965
Marine area protected (ha)	713,422	174,185	669,460
Total area protected	14,036,306	4,816,106	13,694,425
% terrestrial area protected	26.30	9.16	25.72

Source: MMA

MAP OF SENSITIVE AREAS: PA, SCI, SPA, 2005



Source: Biodiversity Database (Banco de Datos de la Biodiversidad). MMA.

NOTES

- Natura 2000 is a European ecological network of biodiversity conservation areas. It includes Special Areas of Conservation (SACs), designated in accordance with the Habitat Directive, in addition to Special Protection Areas (SPAs) established under the terms of the Birds Directive. Its purpose is to ensure the long-term survival of Europe's most endangered species and habitats, thereby helping to halt biodiversity loss resulting from adverse human impact. The establishment of SCAs requires an administrative process which begins with the proposal of Sites of Community Importance (SCIs) by the Member States, which, following assessment by the EU, may then be declared SACs.
- Royal Decree 1997/1995 (*Real Decreto 1997/1995*), of 7 December (modified by Royal Decree 1193/1998 [RD 1193/1998], of 12 June) transposed the terms of the Habitats Directive into Spanish law, thereby giving legal status in Spain to the Natura 2000 Network.
- The Birds Directive was transposed into Spanish law by Act 4/1989, of 27 March, and modified by the Fiscal, Administrative and Social Measures Act, 53/2002 (*Ley 53/2002 de Medidas Fiscales, Administrativas y del Orden Social*), of 30 December, and the Forests Act, 43/2003, of 21 November.
- Within Spanish legislation, the Natural Areas and Wildlife Conservation Act, 4/1989, of 27 March, defines Protected Areas as "...any areas within Spain, including inland waters and marine environments subject to Spanish jurisdiction, the exclusive economic zone and the continental shelf, which contain natural elements and systems of special interest or of outstanding natural value..." that are declared as such. It also establishes four categories for designation, depending on the assets to be protected: Parks, Nature Reserves, Natural Monuments and Protected Landscapes.

SOURCES

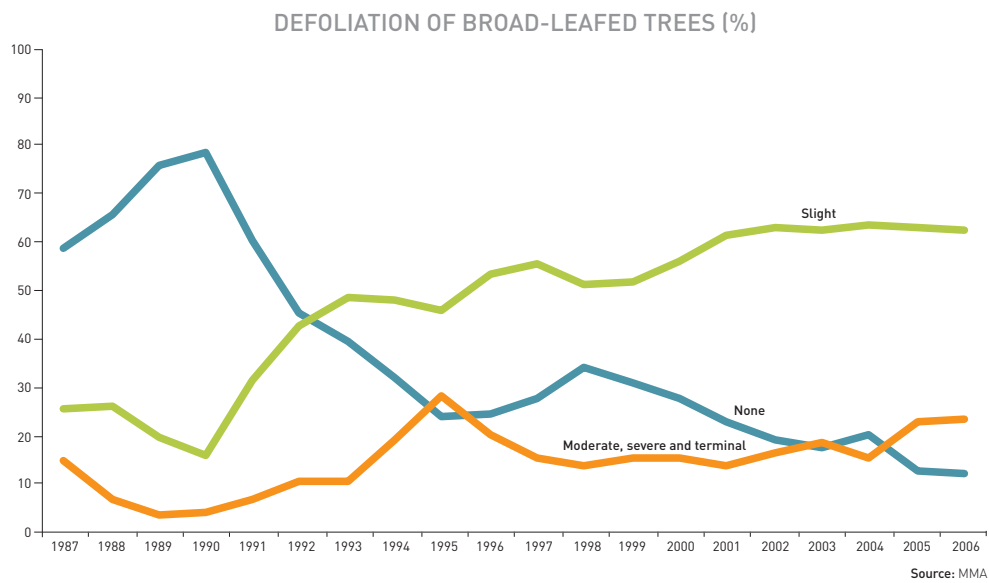
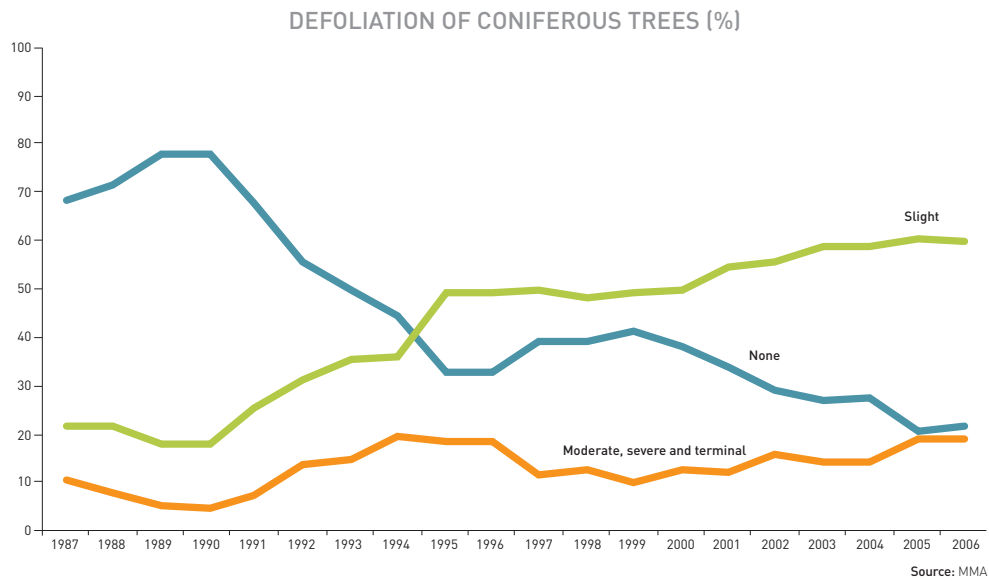
- Data provided by the Directorate General for Biodiversity (*Dirección General para la Biodiversidad*). Spanish Ministry of the Environment.
- EUROPARC-Spain. 2006. "EUROPARC-Spain Yearbook on the Status of Protected Areas 2005" (*"Anuario EUROPARC-España del estado de los espacios naturales protegidos 2005"*). Pub. Fundación Fernando González Bernáldez. Madrid.

FURTHER INFORMATION

- www.mma.es
- www.europarc-es.org
- <http://ec.europa.eu/environment/nature>

Forest defoliation

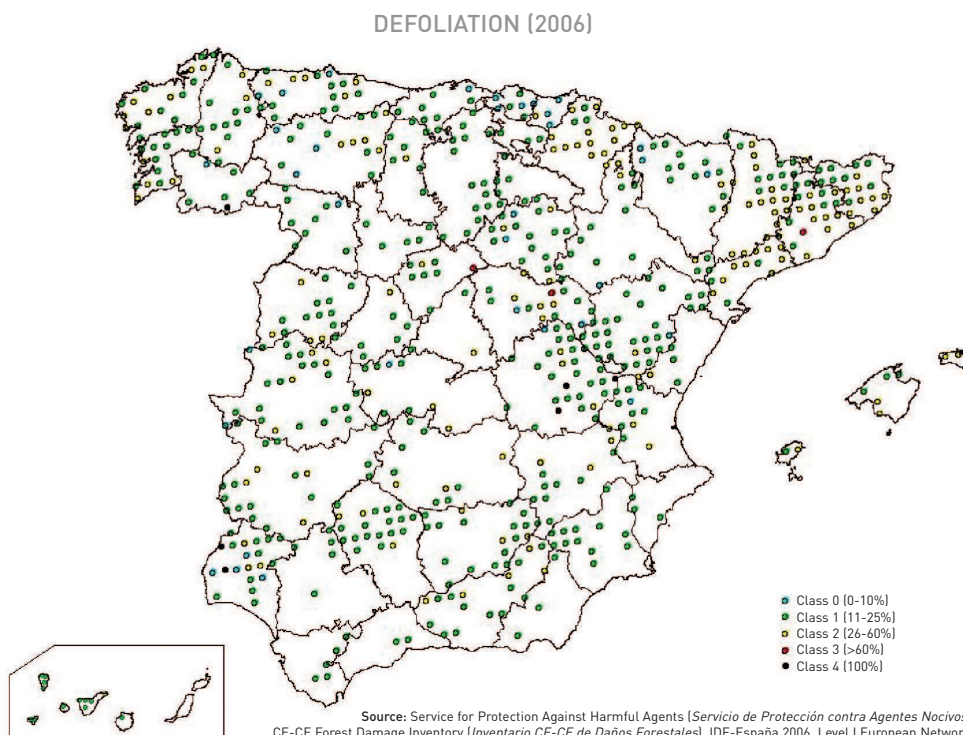
Atmospheric pollution, defoliating and wood-boring insects and water stress are some of the factors affecting forests' state of health



The figures for the 2006 campaign reveal that overall forest health has remained virtually unchanged since the previous year, with the number of healthy and damaged trees maintaining generally constant levels.

The two groups of species show differing behaviour, with a slight recovery in the case of coniferous trees and a slight deterioration in that of broad-leafed trees. In this latter group a greater number of sampling points show “moderate, severe and terminal damage”, whilst a lower number of points record damage rated in the “none” category. Looking at the agents which cause damage, there is an increase in reports of damage caused by insects, applying to 38% of trees, and a major reduction in reports of abiotic damage, mainly drought, which accounted for 30% of reports, a fall of almost 10% compared with the previous year.

The weather in 2006 was notable for the absence of extreme cold spells in winter. As regards precipitation, after a dry winter the spring brought moderate but adequate rainfall, while the summer was again very dry and hot across much of the country. All this, combined with the effect of atmospheric pollution, helps explain the state of health of Spain’s woodlands.



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NOTES

- Forest defoliation is the process whereby a plant species loses its leaves as a result of pathological or climatic stress, causing them to fall prematurely or abnormally. The degree of forest defoliation indicates forests' health status. It is analysed in terms of foliage loss from the tree crown at a series of sampling points, classifying the results into the following categories:

Loss of needles/leaves	Degree of defoliation
0 - 10%	None
10-25%	Slight
> 25%	Moderate, severe and terminal

- Under the International Cooperative Programme on the Assessment and Monitoring of Air Pollution Effects on Forests, the Level I network, an international large-scale systematic network consisting of more than 5,700 monitoring points distributed on a 16 x 16 km grid covering all of Europe, was set up in 1986 from a random start point. This network annually analyses forest health and assesses the main factors that have a negative impact on the same. The number of sampling points in the Spanish Network currently stands at 620. Furthermore, and within the framework of the Forest Focus EC regulation and the future Life+ financial instrument, its design allows for monitoring of other issues, such as the effects of climate change on forests, sustainable management and preservation of forest biodiversity.

SOURCES

- Data provided by the Service for Protection against Harmful Agents. Directorate General for Biodiversity. Spanish Ministry of the Environment.

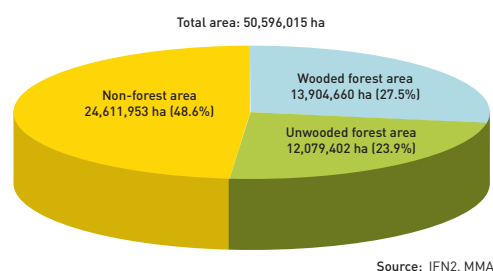
FURTHER INFORMATION

- www.mma.es
- www.icp-forest.org

Forest ecosystems

More than half of Spain's surface area is designated as forest

BREAKDOWN OF SPAIN'S SURFACE AREA
BY FOREST TYPE. 1996



According to the Second Spanish National Forest Inventory (IFN2 - *Segundo Inventario Forestal Nacional*), completed in 1996, Spain's forest ecosystems occupied 25,984,062 hectares, of which almost 14 million were wooded and around 12 million unwooded. In short, more than half of Spain's surface area featured forest structure (27.5% being wooded, and 23.9% unwooded), while the remaining 48.6% had other uses (agricultural, urban, industrial, transport, water bodies or non-productive). According to provisional data available in 2006 from the Third Spanish National Forest Inventory (IFN3), the forest area examined covered more than 21 million hectares (42.3%). If we include the forested areas of the three missing Autonomous Communities, the total forest area could amount to more than 27 million hectares, or 54% of Spain's total surface area.

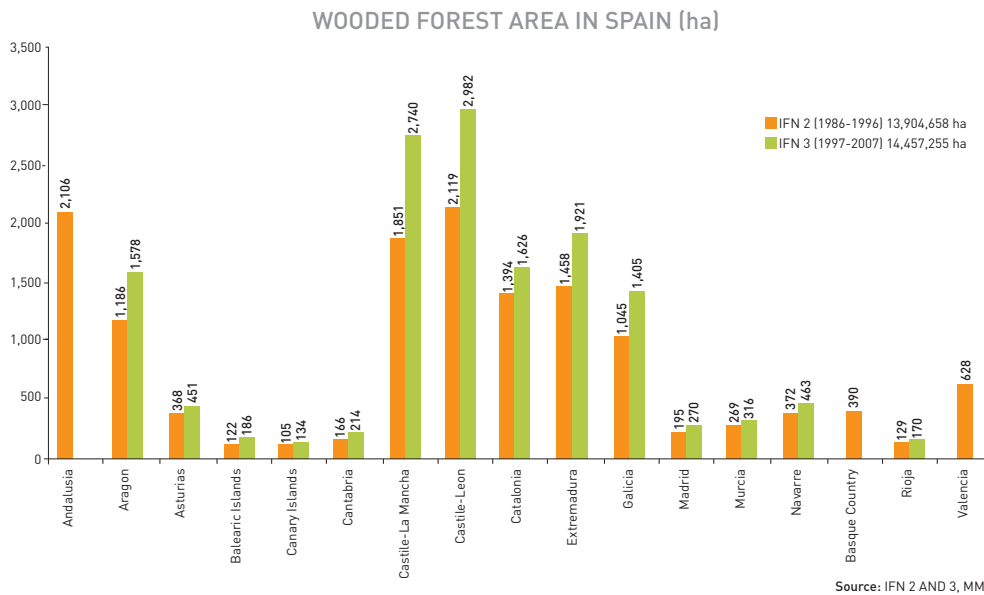
This distribution has been established over centuries and is the result both of natural causes (relief, location, proximity to transport routes, nature of the terrain and climatic characteristics) and human intervention.

In those Autonomous Communities where IFN3 has been completed, there are significant increases between the two inventories, in particular in the Balearic Islands (52.2%), Castile-La Mancha (48.0%) and Castile-Leon (40.7%). Common Agricultural Policy measures and certain conservation plans have undoubtedly contributed to this increase. According to current information, Spain's wooded forest area increased by 34.1% between IFN2 and IFN3.

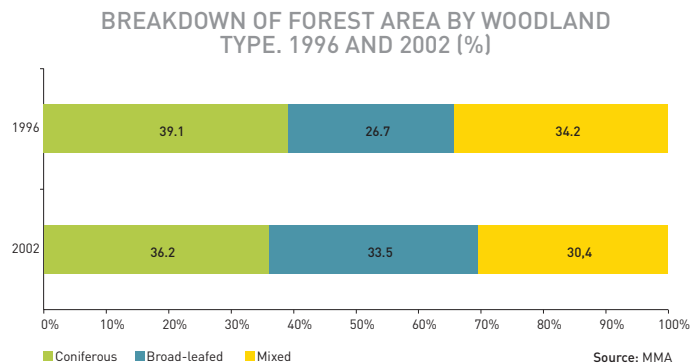
In terms of composition, in 1996 coniferous woodland occupied a slightly greater area than broad-leaved woodland (5.4 and 3.7 million hectares, respectively), while mixed woodland occupied an area between the two (4.7 million ha). The IFN3 figures reveal an

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increase in the area of broad-leaved woodland, with the respective figures for 2002 for coniferous, broad-leaved and mixed woodland being 5,502,458 ha, 5,092,404 ha and 4,624,151 ha. By province, Caceres has the largest area of wooded forest, followed by Badajoz, Cuenca and Huelva. Meanwhile, Almeria, Alicante and Las Palmas have the smallest wooded areas.



By species, the most widely distributed broad-leaved trees are the holm oak (*Quercus ilex*), followed by the Pyrenean oak (*Quercus pyrenaica*), eucalyptus (*Eucalyptus spp.*) and cork oak (*Quercus suber*). As regards coniferous trees, the most widely distributed species is the Aleppo pine (*Pinus halepensis*), followed by the maritime pine (*P. pinaster*), Scots pine (*P. sylvestris*) and European black pine (*P. nigra*).



NOTES

- The Forests Act, 43/2003, of 21 November, establishes a new legal framework governing forests, refocusing conservation, improvement and exploitation of forest areas throughout Spain in accordance with current social and economic concerns and within the context of a devolved State. It replaces the previous 1957 Forests Act.
- The definition of forest (Article 5) is fairly broad and encompasses all land which is home to tree, shrub, scrub or herbaceous species, whether spontaneously or as a result of sowing or plantation, and fulfilling or potentially fulfilling an environmental, protective, productive, cultural, landscape or recreational function. The following are also considered as forest: barren, rocky and sandy areas; buildings and infrastructure intended to serve the forest areas in which they are located; abandoned agricultural land meeting the conditions and terms established by the Autonomous Community; land which, although it may not meet the above requirements, is subject to potential repopulation or reclassification as forest, in accordance with the applicable regulations; and forest on agricultural land covering the minimum surface area established by the Autonomous Community.
- Meanwhile, under the terms of the Act, forest does not include cultivated agricultural land, urban land or any other areas excluded by the Autonomous Community in its forestry and town planning regulations.
- The Spanish National Forest Inventory is a statistical survey intended to obtain the maximum amount of information possible about the status, ownership, protection, nature, legal circumstances, probable evolution and productive capacity of Spain's forests. It operates at provincial level and, as a continuous inventory, the same measurements are taken across the whole country every 10 years.
- The First Spanish National Forest Inventory (IFN1) was taken over the period 1966-1975. The Second Spanish National Forest Inventory (IFN2) was taken between 1986 and 1996, and produced higher quality, more extensive and more user-friendly results than its predecessor. The Third Spanish National Forest Inventory (IFN3 - 1997-2007) is now almost complete, with provisional figures available at the close of 2005 for all but three Autonomous Communities.

SOURCES

- Figures provided by the Sub-Directorate General for Biodiversity Coordination and Databases (*Subdirección General de Coordinación y Banco de Datos de la Biodiversidad*). Directorate General for Biodiversity. Spanish Ministry of the Environment.
- Spanish Ministry of the Environment. National Parks Agency (*Organismo Autónomo Parques Nacionales*), 2004. "Criteria and Indicators for Sustainable Management of Spain's Forests" (*"Criterios e indicadores de gestión forestal sostenible en los montes españoles"*). 2003.
- Spanish Ministry of the Environment website: <http://www.mma.es/portal/secciones/biodiversidad/inventarios/ifn>

FURTHER INFORMATION

- www.mma.es

Endangered species

The Spanish National Catalogue of Endangered Species (CNEA) identifies taxa requiring priority conservation action

NUMBER OF ENDANGERED SPECIES AND SUBSPECIES ACCORDING TO THE CNEA

YEAR	IN DANGER OF EXTINCTION	SENSITIVE TO CHANGES IN HABITAT	VULNERABLE	OF SPECIAL INTEREST	TOTAL TAXA
1990	75	-	-	373	448
1996	75	-	-	373	448
1998	155	4	10	364	533
1999	158	7	17	365	544
2000	161	18	35	381	591
2001	162	18	36	380	592
2002	155	21	45	381	597
2003	156	21	46	381	598
2004	157	21	58	367	597
2005	161	21	56	367	599
2006	166	21	61	363	603

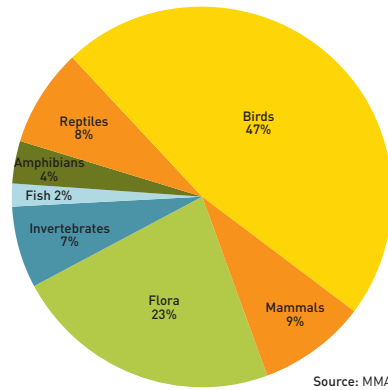
Source: MMA

In 2006, the number of taxa included in the Spanish National Catalogue of Endangered Species stood at 603, compared with 448 in 1990, an increase of 34.6%. By threat category, those species which are “in danger of extinction” or “vulnerable” have seen the greatest increase due to the inclusion of new taxa as well as the shift of other species into these categories from other groupings.

For example, compared with the previous year, the number of species “in danger of extinction” rose 3.1%, while “vulnerable” species were up 8.9%, whereas those which were “of special interest” fell by 1.1% (some of them being moved into the two previous categories, at a greater level of threat). Species “sensitive to changes in habitat” remained constant, as since the publication of the Cataloguing Criteria in 2004, these apply only to the categories “in danger of extinction”, “vulnerable” and “of special interest”.

By species type, the taxa subject to some degree of threat include in particular birds (47%), followed by flora (23%) and mammals (9%). In terms of major groups, in 2006, 93.1% of endangered species were vertebrates, and 6.9% invertebrates.

PERCENTAGE OF ENDANGERED TAXA, 2006



THREAT CATEGORY ACCORDING TO CNEA	NUMBER OF TAXA, 2006			
	VERTEBRATES	INVERTEBRATES	FLORA	TOTAL TAXA
In danger of extinction	38	16	112	166
Sensitive to changes in habitat	7	7	7	21
Vulnerable	43	9	9	61
Of special interest	342	10	11	363
Total Taxa under threat	424	42	139	603

Source: MMA

The inclusion of a species in the CNEA should be seen as the result of the efforts made to study and monitor it (in particular with reference to those species catalogued as “of special interest”). Among the most endangered species, the Cantabrian brown bear, Iberian lynx, bearded vulture, Spanish imperial eagle, Cantabrian and Pyrenean capercaillie, wolf, white-headed duck, European mink and Balearic shearwater now have approved conservation and management strategies, with monitoring required in order to assess their contribution to the conservation of the species.

As regards flora, the “Atlas and Red Book of the Endangered Vascular Flora of Spain, 2004” (“*Atlas y libro rojo de la flora vascular amenazada de España, 2004*”) marks a continuation of the “Red List of Vascular Flora (Red List 2000)” (“*Lista Roja de la Flora Vascular (Lista roja 2000)*”).

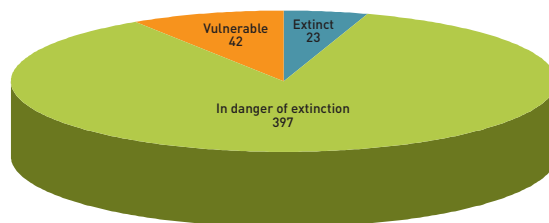
Even though the IUCN categories have been updated, in 2004, 165 species were listed in a threat category higher than the one they were recorded in in 2000; 246 remained in the same category, and 64 species of flora saw their level of threat reduced. It should be pointed out that this review included new species not contained in the initial Red List.

Two more species are now considered extinct in Spain, and around a further eighty are critically endangered, in particular such extremely delicate cases as *Pseudmisopates rivas-*

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martinezii, *Thymalaea lythroides*, *Limonium aragonense* and *Erodium astragaloides*. However, most endangered flora are protected *in situ* within National Parks, Nature Parks or other lower category areas.

NUMBER OF ENDANGERED SPECIES
OF SPANISH VASCULAR FLORA. 2004
(IUCN threat categories)



Source: MMA

NOTES

The Natural Area and Wildlife Conservation Act, 4/1989, of 29 March, set up the *Spanish National Catalogue of Endangered Species (CNEA)* to catalogue species, subspecies and populations for which effective protection requires specific measures on the part of the Public Administration. Along similar lines, Royal Decree 1997/1995 (Real Decreto 1997/1995), establishing measures to help guarantee biodiversity through the conservation of natural habitats (transposition of Habitats Directive 92/43/EEC) reinforces the role of the National Catalogue.

Definitions:

- *Taxon*: Category in the taxonomic classification system, in this case: species and subspecies.
- *Species*: Groups of natural interbreeding populations which from a reproductive point of view are isolated from other groups.
- *Population and Population Size*: Population is understood as the total number individuals of the species, with size referring to the number of mature individuals.
- *Subpopulations*: Subpopulations are defined as groups of a population which are geographically or otherwise separated, and among which there is very little genetic or demographic interaction.

SOURCES

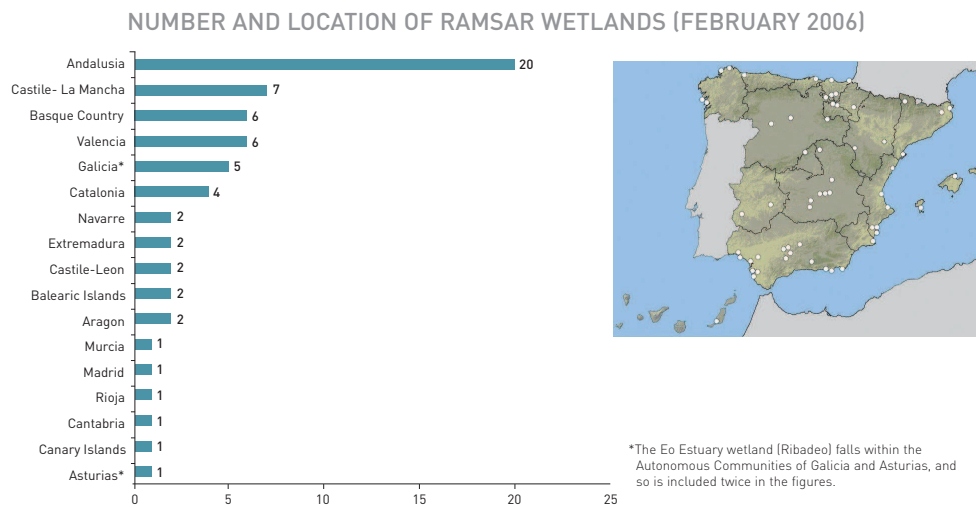
- Figures provided by the Sub-Directorate General for Biodiversity Coordination and Databases. Directorate General for Biodiversity. Spanish Ministry of the Environment.
- Spanish Ministry of the Environment. Information about Conservation of Endangered Species published on the website. (http://www.mma.es/portal/secciones/biodiversidad/especies_amenazadas/lista_roja)
- BAÑARES Á., BLANCA G., GÜEMES J., MORENO J.C. & ORTIZ S., ed. 2004. *Atlas and Red Book of the Endangered Vascular Flora of Spain (Atlas y Libro Rojo de la Flora Vascul ar Amenazada de España)*. Directorate General for Nature Conservation (Dirección Gral. de Conservación de la Naturaleza). Madrid, 1,069 pp.

FURTHER INFORMATION

- www.mma.es/portal/secciones/biodiversidad/especies_amenazadas/catalogo_especies/
- www.iucn.org

Spanish wetlands included in the Ramsar Convention

In February 2006, Spain had 63 Ramsar wetlands, covering 0.56% of the country's surface area

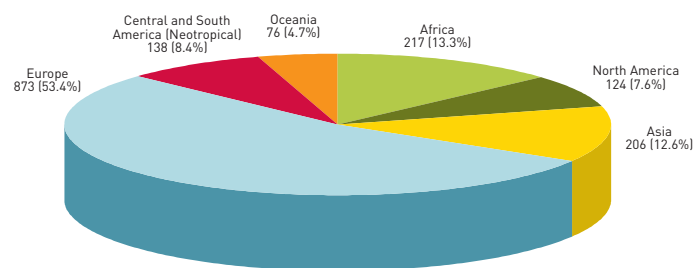


Source: MMA

Spain ratified the Ramsar Convention in 1982, including two wetlands in the “List of Wetlands of International Importance”: Doñana and Tablas de Daimiel. Since then, various other wetlands have been added, reaching a total of 63 Spanish wetlands on the List by February 2006, covering around 283,000 hectares.

Worldwide, the Convention had 153 signatory countries in 2006 and included a total of 1,634 designated wetlands occupying a surface area of 145,637,879 hectares. Spain is thus home to 3.9% of the world's Ramsar Wetlands, and 7.3% of those in Europe.

WORLDWIDE DISTRIBUTION OF RAMSAR WETLANDS. November 2006 (1,634 wetlands and 145,637,879 ha)



Source: Ramsar Site database

2.4 NATURE AND BIODIVERSITY

The Spanish National Wetlands Inventory (*Inventario Nacional de Zonas Húmedas*), covered by Royal Decree 435/2004 (*Real Decreto 435/2004*), of 12 March, is produced using mandatory information supplied by the Autonomous Communities in order to track the evolution of such areas and, where necessary, to specify protective measures to be included in the hydrological plans for the corresponding river basin. It serves as a wetland preservation instrument, providing information about the number, size and state of conservation of all such areas within Spain, and is open to permanent public scrutiny. The Inventory is currently being produced, with the Autonomous Community of Madrid proposing the inclusion of 23 wetlands, and Andalusia 129 (as of 2005). The preliminary studies used as the basis for the Inventory estimated that Spain had 2,559 wetland areas, of which approximately 17% are covered by some form of protection (provisional figures).

WETLANDS INVENTORY. 2004



Source: MMA

NOTES

- The Convention on wetlands of international importance especially as waterfowl habitat (published in Spain in the Official State Gazette (BOE) of 20 August 1982), known as the "Ramsar Convention", dictates that signatories must designate the relevant wetlands within their territory for inclusion in the list of wetlands of international importance. The boundaries of each wetland must be precisely described and traced on a map, and may include riverside and coastal areas adjacent to the wetlands, in addition to any islands or areas of marine water of a depth of no more than 6 metres at low tide within the wetland area, in particular in those cases where such areas, islands or water bodies are of significance to waterfowl habitat. Selection of wetlands must be based on their international importance in terms of ecology, botany, zoology, limnology or hydrology, with those wetlands of international importance for waterfowl in all seasons the first to be included.
- Spain signed up to the Ramsar Convention by means of the Instrument of 18 March 1982 for the accession of Spain to the Convention on Wetlands of International Importance especially as waterfowl habitat, created at Ramsar on 2 February 1971.
- Under the terms of the Convention, wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 metres.
- The Wetlands Committee (*Comité de Humedales*) is one of the specialist committees of the Spanish National Commission for the Protection of Nature (*Comisión Nacional de Protección de la Naturaleza*), dedicated to "coordinating actions in the field of conservation of such ecosystems, in particular as derived from fulfilment of the Convention on wetlands of international importance especially as waterfowl habitat (Ramsar Convention), in addition to monitoring the National Wetlands Inventory". Ultimately, this body serves to coordinate between the Public Administration and the Administrations of the Autonomous Communities regarding the conservation and sustainable use of Spain's wetlands. It includes a representative of each Autonomous Community, in addition to delegates from the Ministry of the Environment, acting as Chair and Secretary. Its work includes in particular the Spanish Strategic Plan for the Conservation and Rational Use of Wetlands (*Plan Estratégico Español para la Conservación y Uso Racional de los Humedales*) and Royal Decree 581/2001 (*RD 581/2001*), banning the use of lead ammunition when hunting in certain wetland areas.

SOURCES

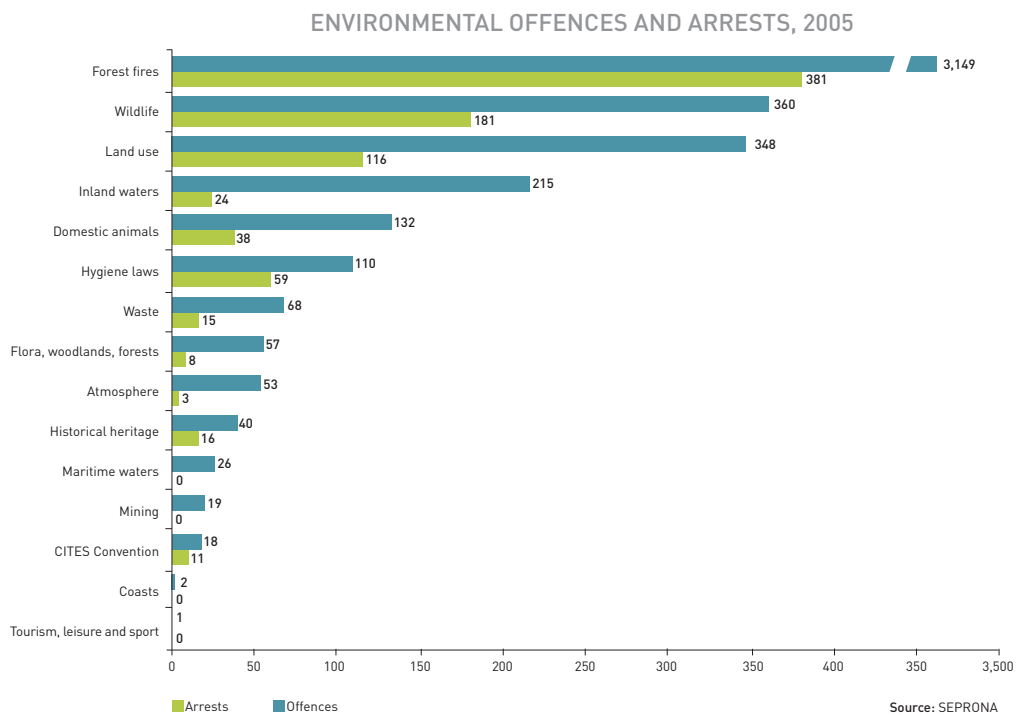
- Biodiversity Database (*Banco de Datos de la Biodiversidad*). Sub-Directorate General for Biodiversity Coordination and Databases. Directorate General for Biodiversity. Spanish Ministry of the Environment.
- Wetlands International. Ramsar Sites Information Service. Information published on the website (www.wetlands.org/RSDB/default.htm).

FURTHER INFORMATION

- www.mma.es
- <http://www.ramsar.org/indexsp.htm>

Environmental monitoring

Spain's law enforcement forces play an important role in protecting the environment



The Nature Protection Service (SEPRONA) of the Spanish Civil Guard is responsible for ensuring compliance with regulations intended to safeguard nature and the environment, water resources, and hunting, fishing, forestry and other resources within the natural environment.

During 2005, SEPRONA reported 162,520 offences (criminal and administrative), 10% fewer than the previous year, and 852 individuals went before the courts in connection with an environmental offence.

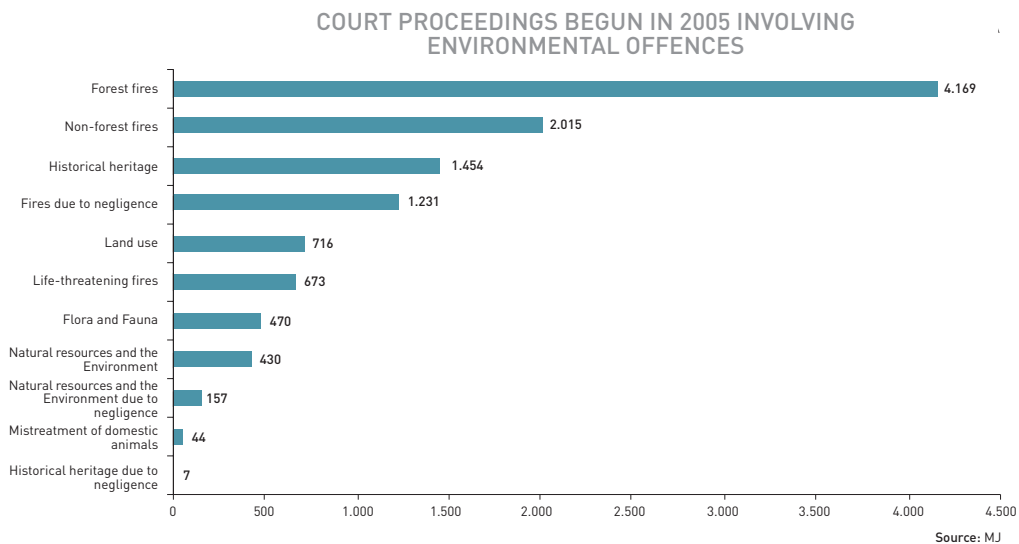
Forest fires led to the greatest number of reported offences and arrests. 5,492 offences involving forest fires were dealt with, with 45.9% of these being resolved, and 381 individuals were arrested. The most common reasons established following investigations include negligence and arson.

Wildlife is also the subject of many criminal acts, and makes up a large proportion of the Service's work. The considerable number of offences committed has led to the creation of specific programmes to combat these, in particular:

The Spanish Annual Programme for the Integrated Monitoring of Fisheries (PACIAP - *Programa Anual de Control Integral de Actividades Pesqueras*), intended to prevent the sale of immature fish. Following more than 1,700 operations, this programme resulted in the seizure of 270,895 kg of fish at highway and market checkpoints.

The "Antidote Programme" (*Programa Antídoto*), intended to control the illegal use of poisoned bait in hunting, run in partnership with the Spanish Ministry of the Environment, the Royal Spanish Hunting Federation (*Real Federación Española de Caza*) and leading environmental associations, led to the neutralisation of more than 800 items of bait in 192 operations, with a total of 10 individuals going before the courts. Nonetheless, the deaths of more than 400 animals (both wild and domestic) were discovered.

A total of 718 operations took place to implement CITES (Washington Convention) in monitoring the international trade in endangered species, with more than 1,200 mammals, birds, reptiles, corals and other specimens being seized. Over 1,000 kg of flora were also seized, in addition to over 7 m³ of illegal mahogany. Trade in endangered species led to the arrest of 11 suspects.



Many of these offences led to court proceedings being opened. In 2005, 11,366 preliminary investigations were opened into environmental offences reported by SEPRONA, members of the public, environmental associations, etc.

2.4 NATURE AND BIODIVERSITY

Forest fires are the most common cause of legal proceedings, leading to 37% of trials. Galicia and Andalusia have the largest number of cases, accounting for 56% between them.

Andalusia heads the list of legal proceedings involving land use, historical heritage, natural resources and the environment, flora and fauna, fires due to negligence and non-forest fires, making up 34% of all investigations opened nationwide. iniciadas en todo el país.

NOTES

- Court proceedings opened in 2005 could be the result of offences committed in the closing months of the previous year.
- It may take several months for a final sentence to be passed.

SOURCES

- Nature Protection Service. Directorate General for the Civil Guard (*Dirección General de la Guardia Civil*). Spanish Ministry of the Interior (*Ministerio del Interior*) (Specific query).
- Report of the Crown Prosecution Service (*Fiscalía General de Estado*), 2005.

FURTHER INFORMATION

- www.guardiacivil.org

