CONSERVATION OF THREATENED SPECIES OF FAUNA IN SPAIN

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Introduction

Roughly speaking we can distinguish two different periods in the recent history of species conservation in Spain: before Law 4/89 (Law for the Conservation of Natural Areas and Wildlife, 1989) and after Law 4/89.

Before Law 4/89 the legal framework for species conservation were the Hunting Law of 1970 and a number of Royal Decrees (1973, 1980, 1982 and 1986) which listed those species which were excluded from the list of game species. Another hint during that period was the creation in 1986 of the Wildlife Service within ICONA (National Institute for Nature Conservation).

The Wildlife Service (WS) started a series of field inventories with the aim of determining the status and distribution of threatened species in Spain. These inventories were the basis for a number of publications (Technical Monographs), a broad collection of species studies which had a very good acceptance among the public.

The WS also worked quite intensively with the regional administrations of the Autonomous Communities developing the so called Coordinated Action Plans (CAP) for the most threatened species (Spanish Imperial Eagle, Bearded Vulture, Audouin's Gull, Brown Bear, etc). CAPs were technical documents which had no legal support but served very well to articulate the conservation of some key species across the country; in fact they were the basis for the Recovery Plans which had to come later on.

Law 4/89 for the first time provided a comprehensive legal framework for nature conservation in Spain. The Law establishes a basic protection regime for all wildlife species and creates two specific regimes, one for threatened species and one for game species, with two key instruments for the former: the National Catalogue of Threatened Species and the Species Action Plans.

In this paper we will concentrate in the period after Law 4/89 and will describe how the system for threatened species conservation works nowadays in Spain.

Red Data Books

The first comprehensive review of the conservation status of Spanish vertebrates was the Red List of Spanish Vertebrates (ICONA 1986) which was the result of a meeting of experts where each species was given a level of threat according to the IUCN categories. This work was reviewed in depth a few years later, including more expert's meeting and wide consultation, and the final product was the Red Data Book on Spanish Vertebrates (Blanco & González 1992), which is the most up to date scientific review currently available. This publication has had a great impact and has proved to be very useful both for scientists and managers. In fact, it is one of the most frequently quoted references in the species conservation literature in Spain.

In addition, Red Data Books have been prepared for other groups of animals (lepidoptera, ortoptera) and also at regional level (Red Data Book of the Canary Islands).

The National Catalogue of Threatened Species

It is a legal instrument which includes those species which being threatened at the national level require active conservation measures. The Law foresees four categories of threat for the species included in the Catalogue: *Endangered, Sensitive to Habitat Alterations, Vulnerable* and *Of Special Interest*. The first version of the Catalogue was officially published in 1990 as Royal Decree 439/90. It includes 448 species of animals and plants, of which 75 are classified as *Endangered* and 373 as *Of Special Interest*. The *Endangered* species include 55 plants, 1 invertebrate, 2 fish, 1 anfibia, 1 reptile, 11 birds and 4 mammals.

The Catalogue is an open document which can be updated at the initiative of the Ministry for the Environment, Autonomous Communities or NGOs. Since its publication in 1990 there has been a number of changes including the addition of an invertebrate, *Margaritifera auricularia*, classified as *Endangered*, and the deletion of a plant *Limonium neocastellonense* which was initially considered as *Endangered*. Regional Catalogues have also been developed by the Autonomous Communities.

Action Plans

Law 4/89 foresees 4 kinds of Action Plans according to the level of threat of the species concerned:

- Recovery Plans (RPs) for *Endangered* species

- Habitat Conservation Plans for species which are *Sensitive to Habitat Alteration*

- Conservation Plans for *Vulnerable* species

- Management Plans for species *Of Special Interest*

To date 14 official Recovery Plans have been prepared (Table 1), considering as such those which are prepared according to Law 4/89 and published in the official diary of the region concerned. These Plans are legally binding documents. Four Management Plans have been prepared as well (Table 2). The Law clearly states that the responsibility to elaborate and approve the Action Plans relies on the Autonomous Regions.

When a species range spreads over more than one region it is up to the National Commission for Nature Conservation to draw up orientation criteria for the Recovery Plans.

Co-ordination of the RPs is done through the bodies created by Law 4/89 for this purpose: the National Commission for Nature Conservation and the Wildlife Committee.

In addition, a number of "unofficial" action plans have also been prepared. By "unofficial" we understand those plans which have not been legally endorsed according to Law 4/89. They are technical documents very often promoted by regional authorities, and also by NGOs. Although not legally binding many of these plans are being effectively implemented. A summary of "unofficial" action plans is presented in Table 3.

The structure of all the Recovery Plans prepared so far is very similar and consists mainly of the following parts:

- Conservation guidelines

· Research guidelines

· Monitoring and coordination guidelines

· Training and public awareness guidelines

Risk analysis

Based on the experience of implementing a number of Recovery Plans in Spain and particularly on the recent events at the Monk Seal *Monachus monachus* colony in Mauritania, where an intoxication with phytotoxins delivered by red algae has led to the disappearance of 200 individuals, ca two/thirds of the colony (L.M. González, verbally), it appears that an essential part of any recovery effort has to be devoted to risk analysis. For this we suggest the approach summarised in Table 4.

Literature

Blanco, J.C. and J.L. González (1992). *Libro Rojo de los Vertebrados de España. Serie Técnica*, ICONA.

ICONA (1986). *Lista Roja de los Vertebrados de España.* Madrid

Ley 4/1989, de 27 de Marzo, de Conservación de los Espacios Naturales y de la Flora y Fauna Silvestres. Ministerio de Agricultura, Pesca y Alimentación. Madrid.

Real Decreto 439/1990, de 30 de Marzo, por el que se regula el Catálogo Nacional de Especies Amenazadas.

Table 1. Official Recovery Plans for animals in Spain.

Species	Autonomous Region	Year
Brown Bear	Cantabria	1989
Bearded Vulture 1	Navarra	1991
Brown Bear	Castilla-León	1990
Brown Bear	Asturias	1991
Brown Bear	Galicia	1992
Pyrenean Ibex	Aragón	1993
Bearded Vulture	Aragón	1994
Bearded Vulture	Cataluña	1994
Bearded Vulture 2	Navarra	1995
Black Stork	Castilla-León	1995
White-headed Duck	Castilla-La Mancha	1995
Brown Bear	Navarra	1996
Bonelli's Eagle	Navarra	1996
River Crab	Navarra	1996

Table 2. Official Management Plans for animals in Spain.

Species	Autonomous Region	Year
Sand Martin	Asturias	1993
Otter	Asturias	1993
Geoffroy's Bat	Asturias	1995
Cave's Bat	Asturias	1995

Table 3. Recovery plans which are being implemented in Spain outside the specific regime established by Law 4/89.

Species	Autonomous Region	Year
Giant Lizard	Canarias	1985
Houbara Bustard	Canarias	1985
Spanish Imperial Eagle	National	1987
Audouin's Gull	National	1987
Balearic Midwife Toad	Baleares	1990
Valencia Tooth Carp	Valencia	1992
Marbled Teal	Valencia	1992
Bittern	Navarra	1996
Iberian Lynx	Extremadura	1996

Table 4. Proposed approach for the preventive evaluation of risk in endangered populations of animals.

RISK ANALYSIS

1. FORWARD PLANNING

What can go wrong?

Why?

What are the consequences?

2. EVALUATION

Level of risk

Probability of occurrence

Foreseeable impact

3. MITIGATION

Eliminate the causes

Neutralise the causes

Assume the consequences