

A French Conservation Action Plan for the Pyrenean Desman *Galemys pyrenaicus*

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Abstract

In 2008, the French Ministry of the Environment commissioned the production of a Conservation Action Plan for the Pyrenean Desman in France. This step was taken because of the Desman's population status, its restricted and declining geographic distribution, the numerous threats and the lack of knowledge about its biology and its ecology. The French Mammal Society (SFEPM) and about 40 partners drew up this plan and identified 25 priority actions with three main objectives: 1) To improve knowledge of the Desman's biology and ecology and of conservation threats (12 actions); 2) To protect Desman populations and habitats (3 actions); and 3) To structure a network of partners (volunteers and workers) involved in Desman conservation and to increase public awareness on the Desman and river protection (10 actions). The Conservatoire régional des espaces Naturels de Midi-Pyrénées coordinates this plan with a steering committee (≈30 partners) and a scientific committee (≈ 15 researchers). Approved in September 2009, the plan will last until 2015. It is supported by the European Commission and 7 other financial partners.

Keywords: Conservation Action Plan, France, Pyrenean Desman.

Resumen

En 2008, el Ministerio de Medio Ambiente francés propuso la redacción de un plan para la conservación del desmán ibérico (*Galemys pyrenaicus*) en Francia. El estado de sus poblaciones, la regresión de su área de distribución, la existencia de numerosos factores de amenaza y la carencia de conocimientos sobre su biología y ecología justificaban la puesta en marcha de este proyecto. La Sociedad Francesa para el Estudio y la Protección de los Mamíferos (SFEPM), junto con aproximadamente 40 socios, propusieron 25 acciones, agrupadas en tres objetivos generales: 1) Estudio de la biología, la ecología y los factores de amenaza del desmán ibérico, particularmente el impacto de las actividades humanas sobre su hábitat (12 acciones); 2) Protección y gestión del hábitat del desmán y de sus poblaciones (4 acciones); 3) Creación de una red de socios interesados en el desmán y sensibilización de la sociedad sobre la necesidad de conservación de esta especie (9 acciones). El plan es coordinado por el *Conservatoire régional des espaces Naturels de Midi-Pyrénées*, un comité directivo de 30 organismos y un comité científico de 15 especialistas. Fue aprobado en septiembre 2009 y tiene prevista una duración de cinco años: 2010-2015. El plan es financiado por 7 organismos y por la Comisión Europea.

Palabras clave: Plan Conservación, desmán ibérico, Francia.

Backgrounds

The Pyrenean Desman, *Galemys pyrenaicus* (E. Geoffroy Saint-Hilaire, 1811), is a small semi-aquatic mammal. It is restricted to the Pyrenees (Andorra, France and Spain), as well as parts of northern and central Spain and northern Portugal. It lives in mountain brooks, cold and well oxygenated water courses from sea level to 2700 m in the French Pyrenees (Némoz & Bertrand 2008) (Figure 1).

The Pyrenean Desman's biology and ecology are largely unknown (reproductive behaviour, social organisation, etc.). However its feeding activity was well studied: the Desman appears to be highly specialised in its diet (essentially based on Trichoptera, Ephemeroptera and Plecoptera) (Puissegur 1935, Peyre 1956, Bertrand 1994) and therefore highly vulnerable to any changes in its environment (Bertrand & Medard 1996). Human activities conducting to



Figure 1. Desman observations (scat or individuals) collected from 1985 to 2000 by Bertrand A.

Observaciones de desmanes (rastros o individuos) recogidos desde 1985 a 2000 por A. Bertrand.

habitat reduction and/or alteration, including river regulation (hydro-electric plants, dam and reservoir construction) and pollution, canyoning, etc., can have a dramatic impact on Desman populations.

All experts record a substantial decline in its worldwide distribution and conclude that the Pyrenean Desman is becoming increasingly threatened (Fernandes *et al.* 2010, Gisbert & García-Perea pers. comm.) The Pyrenean Desman is listed as Vulnerable by the IUCN (Fernandes *et al.* 2010) but Near Threatened in France. It is listed in Annexes II and IV of the Habitats Directive (European Directive 92/43/EEC) and in Annex II of the Bern Convention. The French ministerial decree of 23 april 2007 protects not only the Pyrenean Desman but also its breeding and shelter habitats.

All these considerations lead the French Ministry of the Environment to request the production of a Conservation Action Plan for the Pyrenean Desman.

A national priority: the production of a Conservation Action Plan for the Pyrenean Desman

The French Ministry of the Environment commissioned the French Mammal Society (Société Française pour l'Etude et la Protection des Mammifères) to draw up this plan. The document should include (1) a synthesis of the information about the Pyrenean Desman (biology, ecology, etc.), and a list of the threats for the species and its habitats. It should also identify (2) a national strategy for its conservation and (3) a list of priority actions. The production lasted from June 2008 to December 2008.

The second and third points required collaboration with many partners (≈ 40) regrouped in a steering committee: administrations, NGOs, electricity produ-

cers, universities, public organisations, national and regional nature parks, etc. The SECEM was represented in this committee by Julio Gisbert. This large collaboration aimed to make the adoption of the plan and its implementation easier.

A three-points strategy for Desman conservation

The french strategy includes three main objectives for the 2010 - 2015 period:

- ***To improve the knowledge on the Desman's biology and ecology and of the threats.*** Twelve actions are planned. In 2010 genetic studies are led to challenge the species, the sex and the individual identification from faeces. A survey of all hydro-electric plants of the French Pyrenees will also permit to highlight parameters most impacting the Desman and its habitats. And last a protocole is being elaborated in order to update the distribution map in 2011, 2012 and 2013.
- ***To protect Desman populations and its habitats.*** Three actions are planned. In 2010 specifications will be elaborated to improve impact assessment on Desman. An NGO is testing the protection of a network of six rivers in Ariège for the Desman. And a nature reserve is implementing a survey of all the infrastructures potentially threatening the Desman and riverine ecosystem on its territory in order to propose appropriate management of water courses and habitat restoration.
- ***To structure a network of partners (volunteers and workers) involved in Desman conservation and to increase public awareness on the Desman and river protection.*** Ten actions are planned. Some actions target partners like the publication of a handbook on management recommendations,

or the conduction of training sessions on Desman study methods. Other actions target a larger public like the publication of a booklet on the Desman or the designation of “Desman Havens” (agreements with landowners in order to create ideal habitats for the Desman).

An ambitious programme

The Conservation Action Plan was approved the 3th september 2009. It covers three regions: Aquitaine, Languedoc-Roussillon and Midi-Pyrénées and 6 départements (Pyrénées-Atlantiques, Hautes-Pyrénées, Haute-Garonne, Ariège, Aude and Pyrénées-Orientales) (Figure 2). The Conservatoire Régional des Espaces Naturels de Midi-Pyrénées (CREN MP), a regional NGO, coordinates this plan of 5 years (2009-2014). A steering committee (≈ 30 partners), a scientific committee (≈ 15 researchers) and thematic groups contribute to the implementation of the 25 priority actions of the plan (Figure 3). The European Commission (FEDER funds) and seven financial partners (Conseils Régionaux d’Aquitaine, de Languedoc-Roussillon and de Midi-Pyrénées, Conseil Général des Pyrénées-Atlantiques, Directions



Figure 2. The plan covered 3 regions and 6 départements: Pyrénées-atlantiques, Hautes-Pyrénées, Haute-Garonne, Ariège, Aude and Pyrénées-orientales (from left to right).

El plan cubre tres regiones y seis departamentos: Pyrénées-Atlantiques, Hautes-Pyrénées, Haute-Garonne, Ariège, Aude y Pyrénées-Orientales (de izquierda a derecha).

| Objectives & Actions | | |
|----------------------|--|---|
| Etude | Obj. I | To improve the knowledge on the Desman's biology and ecology and of the threats |
| | Action 1 | To study a method for the species, the sex and the individual identification from faeces |
| | Action 2 | To elaborate a protocol in order to update the range map of the Desman |
| | Action 3 | To study demographic and genetic structure of Desman populations |
| | Action 4 | To characterize Desman habitat and to study habitat selection |
| | Action 5 | To study Desman movement and social behavior |
| | Action 6 | To estimate Desman colonisation capacity |
| | Action 7 | To update the Desman distribution map |
| | Obj. II | To study human activities impact and elaborate recommendations |
| | Action 8 | To study hydro-electric plants parameters most impacting the Desman and its habitats |
| | Action 9 | To study impact of water courses and banks management on Desman |
| | Action 10 | To study populations fragmentation due to hydro-electric plants |
| Action 11 | To study impact of exogenous fishes introduction | |
| Action 12 | To study canyoning impact | |
| Protection | Obj. III | To improve Desman conservation statut |
| | Action 13 | to improve impact assessment on Desman |
| | Action 14 | to construct a protected areas network |
| | Action 15 | To assess management actions |
| Communication | Obj. IV | To inform, train and increase awareness of managers, water courses users and a large public |
| | Action 16 | To publish an handbook on management recommendations |
| | Action 17 | To conduct training sessions for partners |
| | Action 18 | To increase water courses users awareness |
| | Action 19 | To publish a synthesis of french former studies |
| | Action 20 | To develop "Desman Havens" |
| | Action 21 | To develop communication tools |
| | Obj. V | To coordinate the Plan and encourage collaboration |
| | Action 22 | To structure a data base on the Desman |
| | Action 23 | To compil bibliography |
| Action 24 | To propose a scientific and technical assistance on the Desman | |
| Action 25 | To coordinate the Plan | |

Figure 3. List of the 25 priority actions of the first French Conservation Action Plan for the Pyrenean Desman.

Relación de las 25 acciones prioritarias del primer Plan de Acción Frances para la Conservación del desmán de los Pirineos.

Régionales de l'Environnement, de l'Aménagement et du Logement d'Aquitaine et de Midi-Pyrénées, and EDF) support the plan in 2010. The overall budget for 2009 and 2010 reaches 280,000 €.

This plan is the first initiative of its kind for this species in France. It seems highly successful in stimulation and promising..." We would be very pleased to exchange results and experiences with researchers and fieldworkers of other countries and are opened for cross-border collaborations

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