



Life Chiro Med - Conservation and integrated management of two bat species in the French Mediterranean region.

LIFE08 NAT/F/000473



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#### Project description:

##### Background

Bats are highly threatened in Europe. The greater horseshoe bat (*Rhinolophus ferrumequinum*) and Geoffroy's bat (*Myotis emarginatus*) are particularly affected, both being listed in Annex II of the Habitats Directive. With a total of 750 females, the reproductive population of the greater horseshoe bat in the Camargue is crucial to the maintenance of the species in the South of France. Most of the roosts used by the greater horseshoe bat are also occupied by Geoffroy's bat. These two species have similar ecological requirements and any action involving one species also impacts on the other.

##### Objectives

The main objectives of the Life Chiro Med project were to strengthen, improve and monitor the conservation status of the greater horseshoe bat and Geoffroy's bat in the Camargue. The project area was a network of six Natura 2000 sites, centring on the "geological" Camargue and including the nearby locations of Alpilles and Gorges du Gardon. There are known to be some 550 individuals of each of the two target bat species in this area, and larger numbers also use it for foraging. In particular, the project aimed to conserve and improve the quality of nursery colonies and hibernation roosts, through physical and/or regulatory protection. The project also planned to create nursery roosts in unoccupied

buildings and to prospect buildings and caves to discover new colonies.

## Results

The Life Chiro Med project increased the knowledge of the roosts and hunting habitats used by the greater horseshoe bat and Geoffroy's bat and, through its concrete actions, helped preserve these two species in Camargue, Alpilles and Gorges du Gardon. In cooperation with various stakeholders, the project addressed the main threats to bats in the region, namely, a lack of favourable roosts, road mortality, deterioration of hunting habitats and decreased food resources. Project partners included bat experts, organisations in charge of land management in the project area, two public authorities owning significant land areas, and the regional technical service in charge of road management issues. Habitat quality was improved in five existing roosts, while 15 favourable buildings were restored and 20 km of hedges were planted as additional foraging areas. At cave and building roost sites, for example, entrances were modified to benefit bats and prevent predator access. Food resources were also improved by changes in pastoral practices that were initiated in the Camargue; with a specification document being created and agreed among relevant stakeholders, including livestock farmers. Moreover, several reproduction and wintering roosts were discovered, which are now being monitored. Bat mortality was addressed at “black spots” by an experimental modification to the road surface at three crossing points, through cooperative work with DIRMED (Inter-Departmental Management of Mediterranean routes). The crossing device consisted of a road surface which emits a sound of a particular frequency as each vehicle passes to deter greater horseshoe bats. Project beneficiaries will continue advising the local authorities in charge of road management, especially Conseil Général 13 and CG 30, who are interested in the bat crossing device. The work done within the project is likely to be used in environmental impact studies linked to road infrastructure projects, such as the extension of the A54 motorway in the Camargue. Communication, dissemination and awareness-raising activities were developed by the beneficiaries and geared towards scientists and bat experts, natural area managers, the general public and school children. The project's dissemination tools included technical guides, a documentary film, educational activities and events. Technical guides summarised the findings for the three experimental road crossings (technical guide no. 1), the experiments on pastoral practices to replace avermectin treatments with treatments that are less detrimental to bat food resources (no. 2), and the definitions of optimal conditions in the reproduction roosts for the two target bat species (no. 3). Further technical guides summarised the best use of tools to monitor bats and study their behaviour, using automatic ultrasound recording systems (AnaBat) to prospect winter roosts (technical guide no. 4), telemetry (no. 5) and night vision cameras (no. 6). The project has contributed to raising the awareness of local and regional authorities on the issue of bat preservation. The data collected within the project have also been used to argue in favour of the extension of three Natura 2000 sites to enhance bat foraging areas, in addition to the site "Petit Rhône". The actions implemented within the project not only benefit the two targeted species, but also other bat species. The project used the services of local economic operators and created a number of full-time contracts over its five years. Many trainees also benefitted from the project, which contributed to its educational objective. The training activities also helped develop the awareness

and skills of decision-makers and economic operators.

Further information on the project can be found in the project's layman report and After-LIFE Conservation Plan (see "Read more" section).

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Environmental issues addressed:

Themes

Species - Mammals

Keywords

endangered species, nature conservation, protected area

Target EU Legislation

- Nature protection and Biodiversity
- Directive 92/43 - Conservation of natural habitats and of wild fauna and flora- Habitats Directiv ...

Target species

Myotis emarginatus Rhinolophus ferrumequinum

Natura 2000 sites

SPA FR9110081	GORGES DU GARDON
SPA FR9112001	CAMARGUE GARDOISE FLUVIO-LACUSTRE
SPA FR9310019	Camargue
SPA FR9310064	Crau
SPA FR9312001	Marais entre Crau et Grand Rhône
SCI FR9101395	LE GARDON ET SES GORGES
SCI FR9101405	Le Petit Rhône
SCI FR9101406	PETITE CAMARGUE
SCI FR9301590	Le Rhône aval
SCI FR9301592	CAMARGUE
SCI FR9301594	LES ALPILLES
SCI FR9301595	Crau centrale - Crau sèche
SCI FR9301596	Marais de la vallée des Baux et marais d'Arles
SPA FR9112013	PETITE CAMARGUE LAGUNO-MARINE

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## Beneficiaries:

Coordinator	Syndicat mixte de gestion du Parc naturel régional de Camargue
Type of organisation	Regional authority
Description	The regional Natural Reserve of the Camargue was created in 1970, covering 86 400 ha. The “Syndicat Mixte” of this Park is responsible for managing this territory and human activity on it to respect its natural, economic and social heritage.
Partners	Groupe Chiroptères de Provence (GCP), France Conseil Général des Bouches du Rhône (CG13), France Conservatoire du Littoral (CL), France Syndicat Mixte pour la Protection et la Gestion de la Camargue Gardoise (SMCG), France Syndicat Mixte d'Aménagement, de Protection et de Mise en Valeur des Gorges du Gardon (SMGG), France Les Amis des Marais du Vigueirat (AMV), France Centre d'Etude Technique de l'Équipement Méditerranée (CETE), France

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## Administrative data:

Project reference	LIFE08 NAT/F/000473
Duration	01-JAN-2010 to 30-JUN -2014
Total budget	2,320,060.00 €
EU contribution	1,160,030.00 €
Project location	Languedoc-Roussillon(France) Provence-Alpes-Côte d'Azur(France)

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## Read more:

Project web site [Project's website](#)

Publication: After-LIFE  
Conservation Plan

Title: Plan de conservation après-LIFE  
Author: David Bienaimé *et al* Year: 2014  
Editor: Parc Naturel Régional de Camargue No  
of pages: 32

Publication: Layman report

Title: Layman report Author: David Bienaimé *et al* Year: 2014 Editor: Parc Naturel Régional de Camargue No of pages: 39

Video link

["Une vie de Grand Rhinolophe"](#)

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