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**SOME OBSERVATIONS ON THE OTTER POPULATION IN THE HOMEM
CATCHMENT (N.W. PORTUGAL)**

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Abstract: It has always been assumed that the otter population was good in Peneda-Geres National Park in northern Portugal. This study examined the River Homem catchment in detail, and found that the population was less good than expected, and isolated from other otters by the reservoir of the Vilarinho das Furnas dam. The authors consider that the current dam-building policy is not conducive to the conservation of otters.

INTRODUCTION

In general terms, the compatibility between socio-economical activities and the preservation of animal species and habitats is of great concern to conservationists. When such compatibility is required in protected areas, several problems arise which are often very difficult to solve.

To define the measures of intervention and management necessary in the water courses located within a protected area, an interdisciplinary project was established. The area under study was the National Park of Peneda-Gerês and investigations were made on macro-invertebrates, fish, reptiles, amphibians, mammals and vegetation. Two species of mammal associated with the freshwater environment - *Galemys pyrenaicus* and *Lutra lutra* - were especially investigated.

Field work was carried out between May 1987 and October 1989 and the preliminary results presented here relate exclusively to the European Otter. The situation of this species in Portugal is frequently mentioned as one of the most viable in Europe.

STUDY AREA

The National Park of Peneda-Gerês is located in north western Portugal and comprises an area of 72 ha. Due to its altitude and latitude, it has one of the heaviest rainfalls in the country (average 3400 mm year from 1950 - 1980). Therefore the wooded area is extensive and the hydrographic system is extremely developed. This protected area includes Albergaria and Palheiros, two important English Oak (*Quercus robur*) woods which are considered of high natural value in Europe and integrated into the European Network of Biogenetical Reserves. The River Homem flows through both woods

The selected working area corresponds to a sector that includes the River Homem from its source (1307 m alt.) down to the beginning of the backwater at the hydroelectric power reservoir of Vilarinho das Furnas, together with its main tributaries.

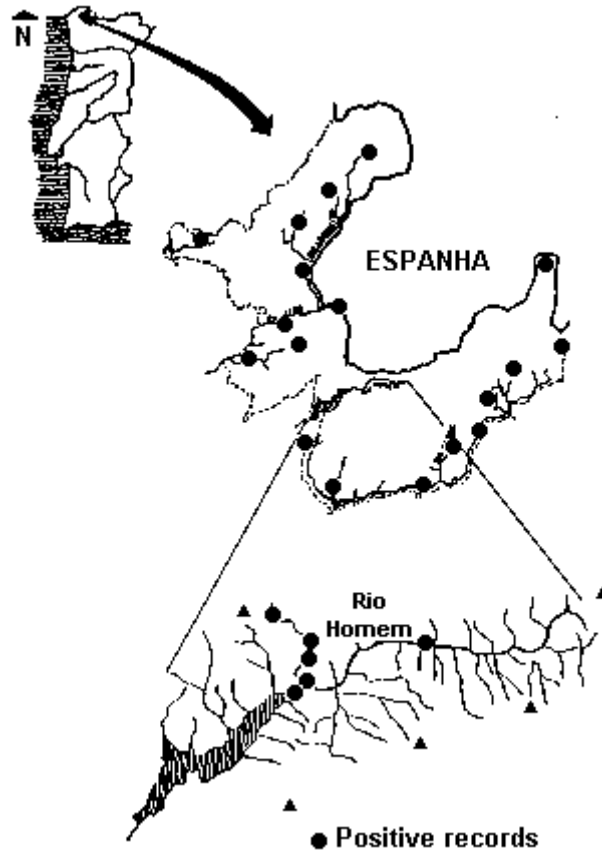


Figure 1: Study Area

All the streams are of torrential regimen, clearly unpolluted and quite unmanaged . The water is oligotrophic , hardly mineralized and slightly acid. The streams flow on a granite substratum. There is a general lack of the most characteristic riparian vegetation and the oak trees come very near to the water edge. The presence of boulders on the river bed is very common and trout, *Salmo trutta*, is the only fish species to be found.

Fortunately, human pressure is not excessive and only during spring and summer are a few places used for bathing and angling.

METHODS

Initially during 1987, an enquiry was made to the 75 villages within the limits of the National Park in order to gather a general view of the species distribution and status. It was composed of 25 questions including parameters connected with the activity of the informer (hunter / fisherman), with the water streams characterization and utilization, and with the presence and habits of the species.

The second stage of this work was developed in a selected area where a survey for otter signs was made. The banks of the Rivers Homem and Maceiras and of the Gramelas and Monção brooks were examined as were, whenever possible, the river beds. Whenever the presence of otter was noticed, a printed form was filled in with the characterization of the habitat suitability. Spraints were collected and later analysed.

RESULTS

National Park - General Enquiry

The aim of the enquiry was to describe otter distribution and status in the National Park and the results show that the: species is well distributed there. This information, however, is not sufficient to define

the exact status of the otter population. The construction of dams along rivers in the whole area is certainly a negative indirect factor against the species. However the situation was assessed as being between stability and the beginnings of a decline in population.

Selected Study Area

Monção and Maceiras Brooks

During the research made along these water streams, neither direct observations of the otter nor signs of the species were found

River Homem and Gramelas Brook

Three direct observations were made and some signs of the species presence were visible such as spraints and potential holt sites in the Homem River near the beginning of the backwater of Vilarinho das Furnas dam. On that river, two potential holts, respectively on the left and right bank, were found in piles of large rocks above the maximum river flood height and the presence of spraints was detected there.

At Gramelas, otter spraints were collected and two direct observations were made.

Of the 33 spraints found during the work, 25 were collected from the Homem River and 8 from Gramelas brook. Remains of snake, most probably *Natrix maura*, were found in 1 spraint collected from the Homem River. All 33 spraints contained fish bones or scales of *Salmo trutta*. *Chondrostoma* sp. remains found in 3 spraints collected on the Homem River suggest that the otters may also use the dam for feeding.

DISCUSSION

In the area, the biotic and abiotic parameters are propitious to the existence of the species and direct and indirect factors presented as the cause of its decline are almost absent. Initially, we believed that a numerous population of otters would exist. However, the frequency of signs in the study area was very low. The average was one sign per 600m. This number is much inferior to that found by Macdonald and Mason (1982) in central Portugal, where the lowest frequency was 1.5 signs/200m.

It is known that otters can change their ranges with season as the habitat and availability of resources change, especially in torrential streams. In this area dry river beds with scattered pools become torrents in winter, but even so there is little difference between the frequency of signs found during winter and summer.

We believe that the relative scarcity of this animal is related to prey availability. In fact few potential prey items were observed and the fish biomass levels are very low (Homem River - spring/summer - 11.6/21.6 kg/ha; Gramelas brook - spring/summer - 14.2/14.0 kg/ha. L. Rogado, pers. comm.).

Most otter signs were found downstream on the Homem River near the beginning of the backwater at Vilarinho das Furnas. The average river flow characteristics allow a richer fish fauna and feeding may be easier for otters there.. From the data collected and because there is a lack of information before 1986, one cannot definitely conclude what the exact situation of the species is. Therefore it is uncertain if we are in the presence of a small stabilized group, or if the species is in fact endangered due to a recent decline in numbers.

Bearing this in mind we would like to draw attention to the possibly delicate situation of the otter population above the Homem Diver dam. Small isolated groups of otters have generally a quite low viability. In fact, the hydro-electric power reservoir is a very important physical barrier to the movements of the species and this group is presently isolated from others down river below the dam.

The maintenance and improvement of the biotopes still propitious to the existence of otters as well as the renovation of the damaged ones is indispensable to the maintenance of the existing population and must be the priority in a future conservation strategy. We also recommend fish restocking in the Homem tributaries, as commonly happened some years ago.

The energy and agriculture policies in the north of Portugal are presently in favour of the construction of reservoirs along waterways, some with EEC funding. These actions are clearly not conclusive to otter population maintenance and the attention of the European environment departments should be drawn to these matters in order to avoid funding on the one side for development and on the other for conservation.

Note: In spite of doubts on the reliability of the use of spraints to monitor otter populations stated by Kruuk et. al. (1986); Kruuk & Conroy (1987) and Conroy & French (1987), this was the only way to relate otters and habitats in the present situation.

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