POPULATION SURVEY AND MONITORING OF EAGLE OWLS IN CENTRAL AND NORTHERN RIBATEJO – PORTUGAL

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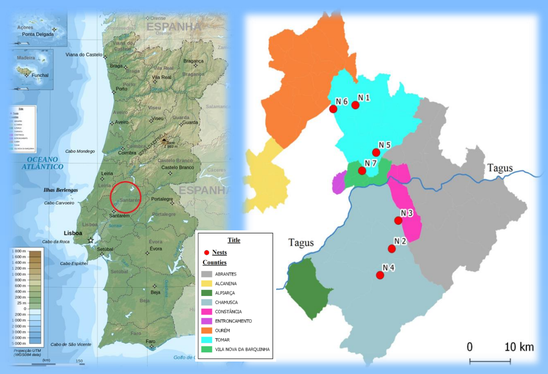
I. INTRODUCTION

The members of the Scientific Association for the Study of Birds of Prey - AÇOR (1992-2006), BAFARI (2006-2017) startet in 1996 to carry out a monitoring study on the Eagle Owl - *Bubo bubo*. The first results were presented as a poster at the V World Conference on Birds of Prey and Owls, in Midrand, South Africa in August 1998. Since then and to date, we have carried out the annual surveys of the Eagle Owl population in the central and northern area of Ribatejo, Portugal. Our aim is to register the number of occupied territories, breeding success, and collect information on food habits and mortality. This study is based on volunteering, as citizen / proactive scientist.

STUDY AREA



II. METHODOLOGY

1. Combination of the knowledge acquired in the field with the study of diverse bibliography on the Eagle Owl. In this first phase we also collected information about the presence of the Eagle Owl in the various biotopes, among the local people (farmers, shepherds, hunters and others).

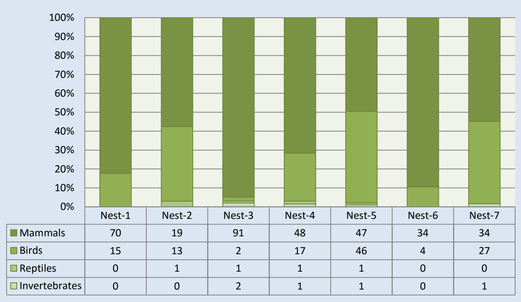
2. Confirmation of the previous information by listening to owl vocalizations, observation of breeding behavior with the help of binoculars, Doctor Optics 40x telescope, verification and collection of information on the site.

3. Confirmation of the presence signs left by the Eagle Owl. Collection of some dietary material in the nests for study of the diet of each pair.

4. Periodic visits to the territories in order to collect data such as laying date, clutch size, number of fledglings, causes of mortality, diet composition. We underline the fact that much of the data was collected outside the breeding season in order to have the least impact as possible, so that owls continued to occupy territories year after year [9].

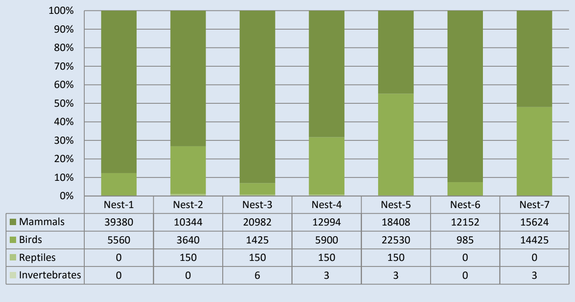
GENERAL INFORMATION OF ALL NESTS

Prey number percentage in each nest site



	Nest-1	Nest-2	Nest-3	Nest-4	Nest-5	Nest-6	Nest-7
Mammals	70	19	91	48	47	34	34
Birds	15	13	2	17	46	4	27
Reptiles	0	1	1	1	1	0	0
Invertebrates	0	0	2	1	1	0	1

Prey biomass percentage in each nest site

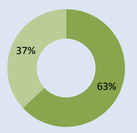


	Nest-1	Nest-2	Nest-3	Nest-4	Nest-5	Nest-6	Nest-7
Mammals	39380	10344	20982	12994	18408	12152	15624
Birds	5560	3640	1425	5900	22530	985	14425
Reptiles	0	150	150	150	150	0	0
Invertebrates	0	0	6	3	3	0	3

INDIVIDUAL INFORMATION BY NEST

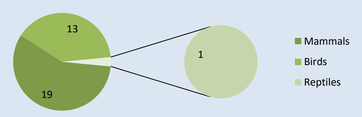
Nest-2

Rats and rabbits number percentage



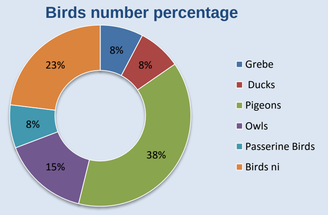
Nest-2

Number percentage by group of prey



Nest-2

Birds number percentage



Nest-2

Group prey biomass percentage

III. RESULTS AND DISCUSSION

We have been studying the Eagle Owl for 20 years in the Central and North Ribatejo - Portugal - Abrantes, Alcanena, Alpiarça, Constância, Entroncamento, Ourém, Tomar and Vila Nova da Barquinha counties (an area of ca. 1555 km²), as proactive citizens and based on voluntary work.

The morphology of the territories is characterized by two distinct types of soil, one mainly composed by limestone and the second composed essentially by sandstone [8]. The known territories occur between 10 and 570 meters above sea level [10]

As for the vegetal cover, it is composed by Mediterranean scrub, cork oak woodland, pine and eucalyptus plantations [9].

There are data on 31 visits to occupied territories that started the reproduction. The average posture date was 24-Jan, ranging from 6-Dec to 12-Mar. The mean posture size was 2.26 eggs (n = 31), ranging from 1 to 3 eggs. The breeding success of couples that made a posture was 1.65 juveniles / breeding pair [10].

Until 2015, we identified 19 territories with confirmed breeding and 21 with confirmed occupation. In 2015 we made a total of 38 visits to nest sites.

The Eagle Owl as a super predator is also a generalist. It is an important bio-indicator of habitats quality, contributes to pest control and studies on contamination of food chains. In years of few rabbits we have found that the food diet has more predators, Corvids and Hedgehogs. The most frequently preyed Mammals are Rabbit, Hare, Rats and Hedgehog, whereas for birds, the most preyed are Partridges, Pigeons and Corvids.

To maintain the Eagle Owl population regionally, it is essential to promote ecologically balanced habitats, involving local populations, and schools, so we aim to develop concerted actions [1], (workshops, training, observations, etc.) with multidisciplinary teams and in partnership with private and local authorities. People should know not only the Eagle Owl, but also its habitats, and therefore contribute to their effective conservation.

IV. BIBLIOGRAPHY

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