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WILD BOAR IN PORTUGAL

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ABSTRACT

Social and political revolutions that occurred in Portugal centuries ago have reflected upon big game populations, especially those of wild boar, which lead to its decline and, in some areas to its extirpation. In the last century, industrialisation and emigration that occurred after the 1960's, led to the abandonment of agricultural lands, mainly inland, and the return to forest and brushwood. Therefore, the development of wild boar populations in Portugal was emphasised after that time, which led to the occupation of the entire country (excluding some coastal areas) by this species. Since the middle of the 1980's, with the development of hunting areas, we began to have a better understanding of wild boar populations, mainly through hunting activities. Here, we show the significant increase of wild boar population in recent years has led to an increase in hunting and to damages in agriculture and forestry, as well as highway accidents. As a consequence, an effort is being made to make multiple uses of the land more compatible. We present data on breeding and hunting licenses, and show how and when wild boar can be hunted. For a better understanding of this species in Portugal, several agreements were signed among several scientific institutions, which will be reported here.

Key words: big game, Portugal, status, *Sus scrofa*, wild boar.

INTRODUCTION

In Portugal, big game species conservation goes back to the end of the Middle Ages, when rules concerning illicit means of hunting and penalties for those who kill wild boars were defined. At the beginning of the 17th Century, restrictions were imposed on the breeding of domestic pigs so as to avoid crossbreeding with wild boars. At the end of the 18th Century (1781), wild boar hunting was forbidden, a policy that remained until the Constituent Courts – 1821 (Bugalho et al. 1984). Pressure on the wild boar increased in the 19th Century with the end of the Royal Game Reserves voted in Constituent Courts, in the liberal period, allowing its depredation and the elimination of jobs, such as the kingdom huntsman. This succession of misfortunes has contributed to the decline of wild boar populations and all big game species throughout the Portuguese continental territory.

At the beginning of the 20th Century, some of the residual populations of wild boar were kept in limited number of areas, primarily near the border with Spain: Terras de Bouro-Montalegre (1), Bragança-Lombada (2), Sabugal-Penamacor (4), Portalegre-Arronches (5) and Barrancos-Moura (7) (Figure 1). There were unconfirmed, reports of occurrences in Amarante (3), Alcácer do Sal-Grândola (6), Monchique (8) and Loulé (9). In the meantime, the wild boar found suitable protection in Portuguese National Forests. A partial reserve aimed to help in its protection was created in 1940 in Gerêz National Forest (part of area 1 in Figure 1).

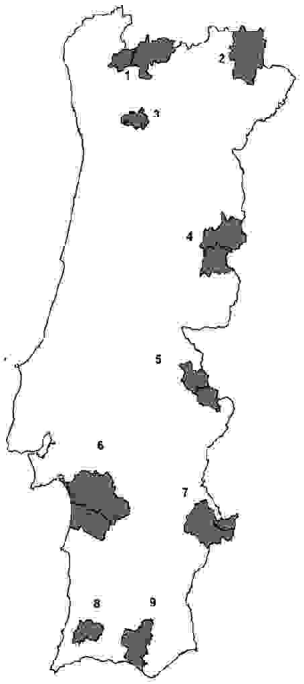

Figure 1. Wild boar distribution by county at the beginning of the 20th Century in Portugal: 1. Terras de Bouro-Montalegre; 2. Bragança-Lombada; 3. Amarante; 4. Sabugal-Penamacor; 5. Portalegre-Arronches; 6. Grândola; 7. Barrancos-Moura; 8. Monchique and 9. Loulé (adapted from Bugalho et al. 1984).

The recovery of wild boar populations in Portugal started at the beginning of the 1980's, as indicated by the occurrence of damage, mainly near the border with Spain, which seems to indicate that re-colonisation originated from populations in Spain (Figure 2).

In 1983, the wild boar was present mainly in areas near the border with Spain, in Minho (Northwest), Trás-os-Montes (Northeast), Beira Interior (Central East), Baixo Alentejo (Southeast) and Algarve (South), which showed intensive occupation at that time (Figure 2). Larger areas of wild boar distribution are a result of the isolated nucleus spreading out over the years. Information from hunting areas in 2000/2001 indicates that the wild boar is now hunted almost everywhere in Portugal and, in some areas (i.e., the southeast), in an intensive way (Figure 3). So, we conclude that the wild boar is present in the entire country, with the exception of the coastal municipalities, where the human density is much higher. The expansion might be a consequence of two main factors: those associated with the physical environment, and those associated with the biological characteristics of the species. Examples of the former are: (i) economic transformations – regression of agriculture; (ii) decreases in rural populations; (iii) increase in protection

conditions of hunted species – establishment of game reserves; and (iv) abandonment or retrocession of practices concerning land-owning structure – extensive cattle breeding that promotes forestry and brushwood regeneration. Examples of the latter are: (i) reproduction capacity – this is a very prolific species; (ii) presence of a population nucleus nearby; (iii) reduction of the population of predators (mainly wolf); (iv) lack of hunting pressure in the early years of its expansion, because there is no tradition of wild boar hunting in Portugal.

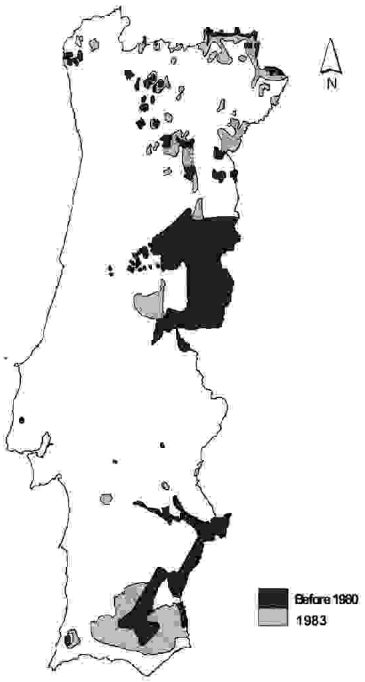

Figure 2. Wild boar distribution before 1980 and in 1983. In only three years the population increased considerably, mainly in Trás-os-Montes (northeast) and in Algarve (south) (adapted from Bugalho et al. 1984).

Wild boar populations have expanded into many areas in the country, which forces us to achieve a compromise between species protection, agricultural damage control, and hunting. The increase in wild boar populations followed the reduction in agricultural areas and the expansion of the forest area (Figure 4). For example, as a consequence of financial support given by EU financed programs, agricultural lands have given way to brushwood areas and forest, which contribute to the improvement of the habitat conditions advantageous to the wild boar.

HUNTING

With the new hunting Law, published in August 1986 (Lei no. 30/86), a new cycle was born in Portugal. There was an increase in game areas, especially associative (ZCA) and tourist (ZCT) zones. Today, there are about 1700 ZCA and 720 ZCT, with a total area of 3.2 million ha (more than 1/3 of the territory). There are more 600 game areas of other types with a total of 1.8 million hectares. According to the results from game area managers, there has been an increase in the number of wild boar shot in recent years. That is associated with the growing number of the game areas and with the hunter's growing interest in this type of hunting (Figure 5).

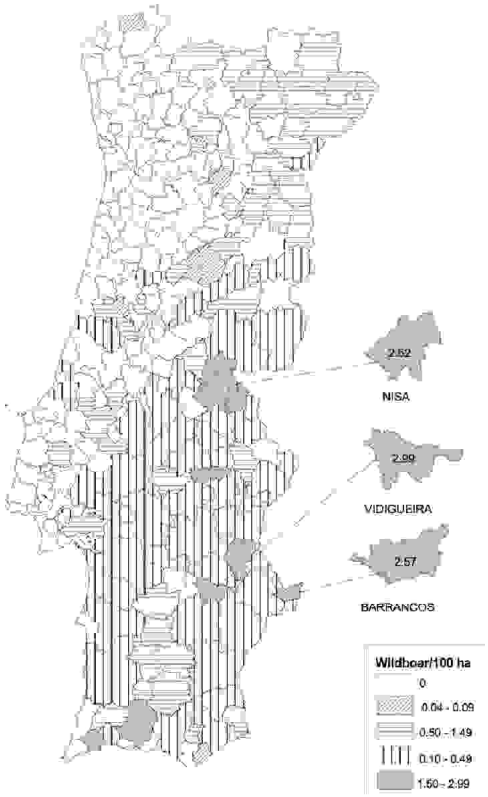

Figure 3. Wild boar shot in managed areas in 2000-2001, by municipality (densities per 100 ha). Enlarged counties with higher densities – Nisa, Vidigueira and Barrancos.

The Alentejo region in southern Portugal contributes about 61.5% of the wild boar shot in the country. Alentejo has Mediterranean characteristics, with a predominance of cork and holm oaks forests, and agricultural crops year-round that ensure a good feeding supply for wild boars. Only two regions of Portugal, Alentejo and Beira Interior, contribute a total of 81% (Figure 6 and Table 1).

The wild boar shot in managed areas (RO) represents 85.5% of the total, and the remaining 14.5% are shot in unmanaged areas (RñO) (Table 1). With the increasing number of hunting areas, wild boar hunting in unmanaged areas is becoming less important. Wild boars shot by farmers with official permission in unmanaged areas is a fight against the damages caused to agriculture by wild boars. Organised hunting parties, from Algarve to Bragança, along the border with Spain, have the same purpose, which started at the beginning of the 1980's, with imposed rules that have contributed to a change in the mentality of hunters. In addition, the beginning of the exploitation of game areas led to an increase in the number of wild boars shot (Figure 7).

According to the present law, it is possible to hunt wild boar by stand, stalking, battues, hunting parties, and by spear. In game areas, it is possible to shoot year-round, except by battues and hunting parties (only allowed between October and February). In unmanaged areas, it is possible to shoot between October and February, by battues and hunting parties, in official services pre-defined locations. By stand, year-round to prevent damages to agriculture, but only after an official permit has been obtained.

The major increase in wild boar hunting in recent years is also reflected in the growing number of big game hunting licences that have been sold (which costs ¤29.93 plus ¤24.94 for the national licence). Between 1995/96 and 1999/2000, the number

of hunting licences sold increased by more than 50%. That can be explained by the improvement of the economic conditions of the hunters and a growing interest in this kind of game (Figure 8).

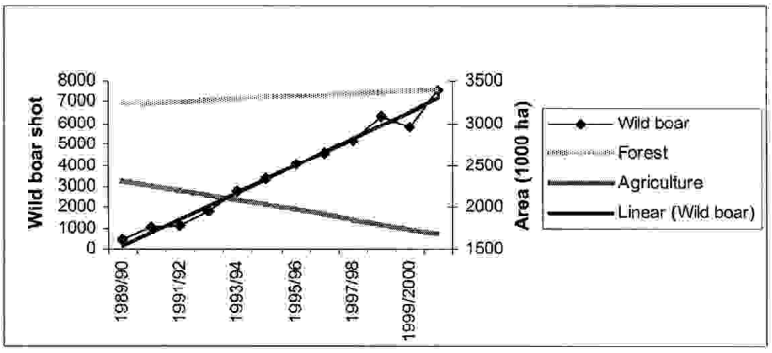

Figure 4. Evolution of wild boar shot in relation to forest and agricultural areas (1989/90-2000/01). The decrease of in agricultural areas is greater than the increase in forest areas because those areas turned into brushwood land before becoming forest lands (Forest and agricultural areas data from INE, 2000).

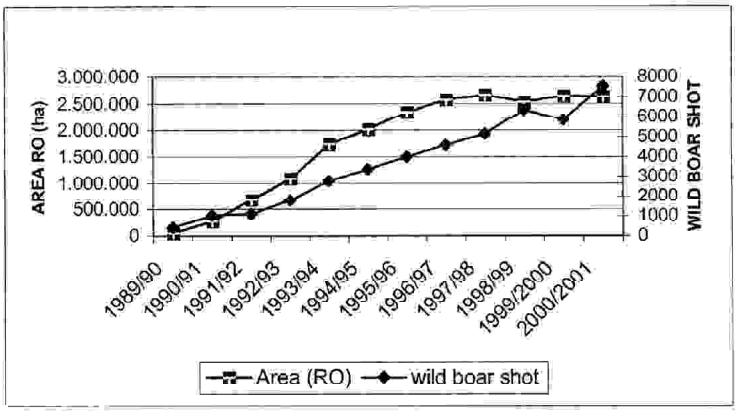

Figure 5. Wild boar shot in relation to the development of managed areas (RO) (1989/90-2000/01). The decrease in the number of wild boar shot in 1999/2000 is due to a lack of information from a Regional Agricultural Service (Alentejo).

DAMAGES

The wild boar causes many damages to agricultural crops and new forest stands. Those types of damages are generally supported by game areas managers or by farmers themselves. Recently, many traffic accidents (without human deaths or injuries) caused by collisions with wild boars have been reported - none significant before 1999, seven in 1999, 19 in 2000, 16 in 2001, 13 in 2002, and 11 in 2003. That is a factor that we must consider in the management of wild boar populations.

Although there are different methods of damage prevention and reduction (i.e., electrical fences or repellents), the control of wild boar populations has been adopted as the most convenient and biologically sound solution. These days, there is considerable pressure against the wild boar, with special attention being paid to the species' hunting in maize fields, where the eventual negative impact on the wild boar population must be evaluated.

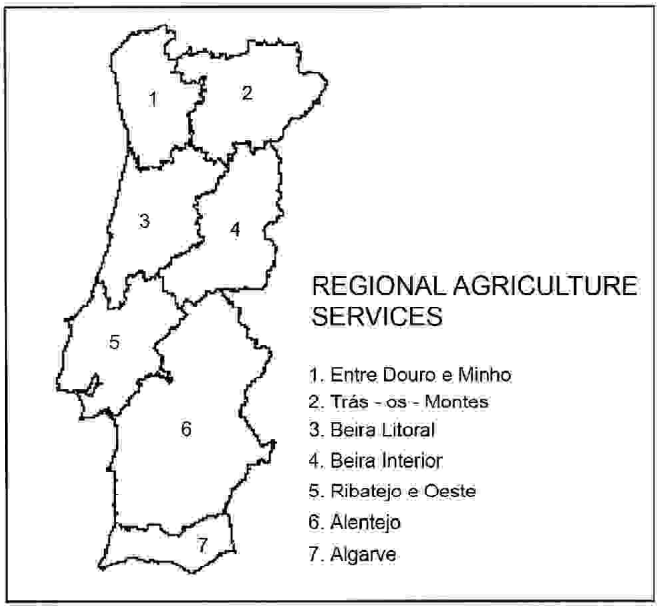

Figure 6. Identification of Regional Agricultural Services (RAS)in Portugal.

TABLE 1
Wild boar shot per Regional Agricultural Services (RAS) in 2000/01, in managed (RO), unmanaged (RñO) and total areas (RñO+RO) in Portugal. The RAS locations can be seen in Figure 6.

RAS	RñO	%	RO	%	RñO + RO	%
1 Entre Douro e Minho	15	1.2	3	0.0	18	0.2
2 Trás - os - Montes	96	7.5	504	6.7	600	6.8
3 Beira Litoral	63	4.9	153	2.0	216	2.5
4 Beira Interior	507	39.8	1197	15.9	1704	19.4
5 Ribatejo e Oeste	21	1.6	330	4.4	351	4.0
6 Alentejo	499	39.2	4909	65.2	5408	61.5
7 Algarve	72	5.7	431	5.7	503	5.7
Total	1273	100	7527	100	8800	100

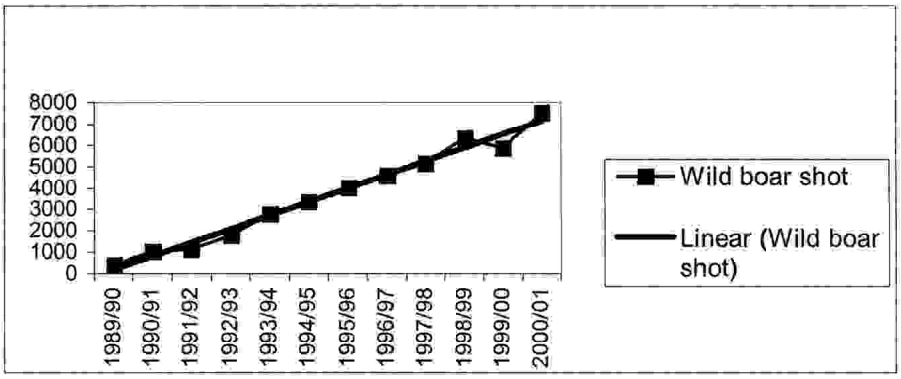

Figure 7. Changes in the number of wild boar shot in managed areas – linear trend.

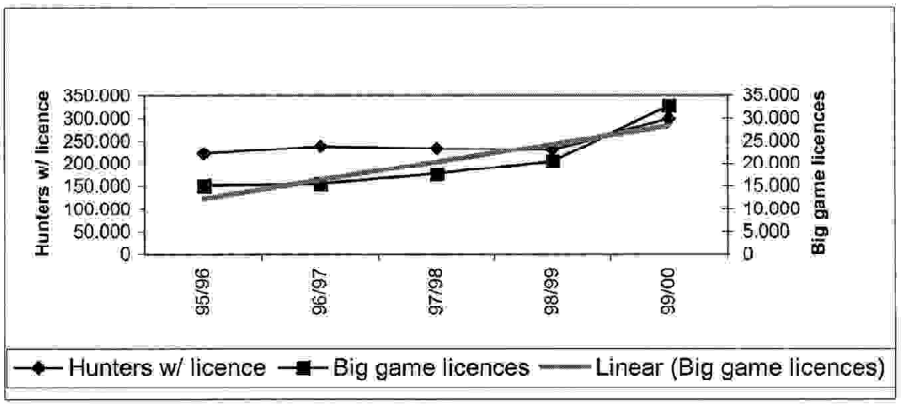

Figure 8. Changes in the number of hunting licenses sold (1995/96-1999/2000) and the relationship between hunters with licenses and hunters with big game licenses.

BREEDING

Breeding farms for wild boar have little importance in Portugal, mainly due to issues related to health, i.e., problems associated with the spread of African swine fever, and the abundance of the species throughout country. The number of breeding farms for wild boar has varied since 1997, with the total of 19 with 83 reproductive animals (Figure 9). Meat production is the main purpose for those farms.

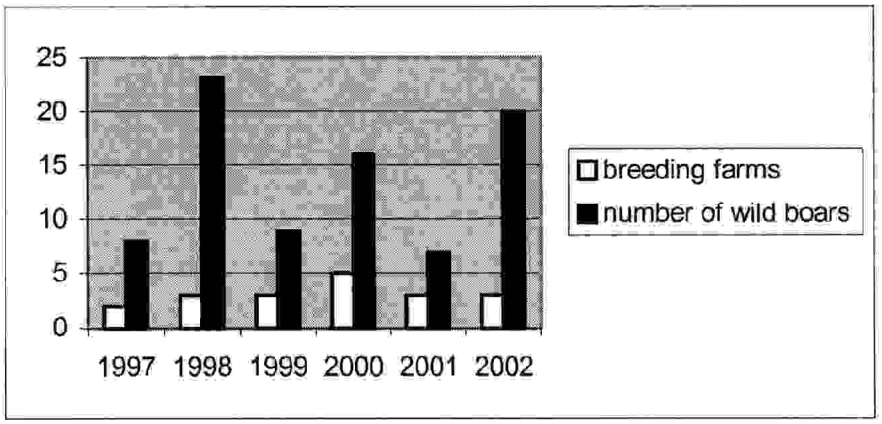

Figure 9. Changes in the number of wild boar breeding farms (1997-2002) in Portugal.

PROJECTS ON WILD BOAR

The National Forestry Service (Direcção-Geral das Florestas) has celebrated an agreement with the University of Lisbon Sciences School Foundation – Environmental Biology Centre (Fundação da Faculdade de Ciências da Universidade de Lisboa – Centro de Biologia Ambiental) to settle the most frequent genotypes (by primers) in the wild boar. The preliminary results indicate that the great majority (93%) presenting a cariotype formed by 36 chromosomes and a minority (7%) formed by 37 chromosomes, identical to those resulting from crossbreeding with domestic pig. This matter requires further research (Dias 1999).

Another agreement has been celebrated with Universities of Évora (EU), Coimbra (UC) and Trás-os-Montes and Alto Douro (UTAD) to study the impact of the game period on the wild boar's breeding cycle. It was stated that there is a relation between region and reproductive phenology. In fact, an obvious regional difference in the seasonal distribution of births has been observed. That is though to be explained by the year-round availability of food resources (Santos et al. 2001, Fonseca et al. 2004).

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