

WILD BOAR MANAGEMENT IN AN AREA OF SOUTHERN TUSCANY (ITALY)

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Abstract: In the South-West of Tuscany (Maremma) the Wild boar is traditionally hunted. In order to improve the management of this important natural resource an "A.R.S." (especially managed area) was established in 1988 and a study about the age and sex composition of the culled population was started.

Keywords: Wild boar, *Sus scrofa*, Suidae, Hunting.

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1. Introduction

In the area of Monticiano, southern Tuscany, Wild boar hunting is an ancient tradition (Mazzoni della Stella, 1986) and it is also an important part of the local culture and economy. In 1988 an "A.R.S." (Area a Regolamento Specifico, *i.e.* especially managed area) for advanced Wild boar management was established there. The A.R.S. agency has carried out a successful management of the Wild boar reserving to hunt an exclusive territory about 5,600 hectares large, while protected areas (within the A.R.S. or to it contiguous) are about 7,000 hectares large. Since 1990-91 hunting season, the wild boars killed in the A.R.S. were aged to improve the knowledge of the local population structure.

2. Methods

Age was determined by tooth eruption (Boitani & Mattei, 1991). Four age classes were established: the 1st class included 0 to 12 months old piglets, the 2nd class comprised 13 to 24 months old yearlings, the 3rd class included 25 to 36 months old individuals and the

4th class included adults more than 36 months old. The proportions of age classes between the different years were compared by a contingency analysis (Daniel, 1978).

3. Results

During three hunting seasons 1,669 culled wild boars were aged: 487 in 1990-91, 413 in 1991-92 and 769 in 1992-93. 67.77% of the wild boars killed had an age between 0 and 24 months (Tab. 1). The sex ratio was in favour of males in the first three age categories, while in the last age class it was in favour of females: on average, in the three years, the sex ratio of the population of killed animals was 1:0.80 (Tab. 2). Observed differences in the proportion of age categories (Tab. 1), in the three hunting seasons, were highly significant (chi-square=52.57, df=6, $p<0.001$). However the observed difference in proportion of 1990-91 vs 1992-93 age ratios was not statistically significant (chi-square=2.99, df=3, n.s.), while those between 1990-91 and 1991-92 (chi-square=39.93, df=3, $p<0.001$) as well as between 1991-92 and 1992-93 (chi-square=39.31, df=3,

Table 1: Age classes distribution (%) of wild boars shot in A.R.S. Monticiano.

Hunting season	0-12 months	13-24 months	25-36 months	>36 months
1990/91	36.76%	29.98%	15.81%	17.45%
1991/92	25.91%	41.89%	24.21%	7.99%
1992/93	38.88%	29.52%	17.56%	14.04%
Mean	35.05%	32.72%	18.69%	13.54%

Table 2. Culled wild boars' sex ratio in the three successive hunting seasons and in the four age categories (A.R.S.)

Hunting season	M:F	Age category (months)	M:F (mean three years)
1990/91	1:0.78	0-12	1:0.78
1991/92	1:0.74	13-24	1:0.68
1992/93	1:0.86	25-36	1:0.78
Mean three years	1:0.80	>36	1:1.33

Table 3. Number of wild boars culled per 100 ha in A.R.S. Monticiano.

Hunting season	Number
1990/91	8.7
1991/92	7.4
1992/93	13.8
Mean three years	10.0

$p < 0.001$) resulted highly significant. The number of wild boars killed per 100 ha in the hunting areas of Monticiano was always very high (Tab. 3).

4. Discussion

The rather small game-bag of 1991-92 may have been caused by an abundance of food. Therefore a lot of sows and piglets likely preferred to stay in the protected areas rather than going to the hunting areas. Apparently, many adult males stayed in protected areas because they were attracted by the presence of receptive females (hunting season and rutting season coincide). Conversely, most young males and young females, because of their greater mobility, visited the hunting areas. This hypothesis may explain the higher proportion of the 2nd age class in 1991-92 (41.9%) vs 1990-91 (30.0%) and vs 1992-93 (29.5%), as well as the smaller game-bag too.

5. Conclusions

The hunting of Wild boar is important to the local economy. The knowledge of relationships between game-bags and food abundance in both protected and hunted areas is advisable to improve the conservation and the management of this natural resource.

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