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Hunting records of game species in Luxembourg during the period 1946 to 1995

by

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Résumé: Cette étude présente, sous forme graphique, les données des tableaux de chasse des espèces de gibier du grand-duché de Luxembourg, comprenant les ongulés, les lagomorphes, les carnivores et le gibier à plumes, de 1946 à 1995.

Abstract: This study presents the data from, and identifies trends in, the hunting records of most of Luxembourg's game species, including ungulates, lagomorphs, carnivores and game birds, from 1946 until 1995.

Keywords: hunting records, game species, Luxembourg.

1. Introduction

Data from hunting records can provide a useful tool with which to evaluate trends in game populations (e.g. Gérard et al. 1991). Here we present the hunting records for most of Luxembourg's native and introduced game species including roe deer *Capreolus capreolus* L., red deer *Cervus elaphus* L., fallow deer *Dama dama* L., mouflon *Ovis musimon* Pallas, rabbit *Oryctolagus cuniculus* L., brown hare *Lepus europaeus* Pallas, red fox *Vulpes vulpes* L., feral cat *Felis catus* L., badger *Meles meles* L., small mustelid species (pine marten *Martes martes* L., beech marten *Martes foina* Erxleben, stoat *Mustela erminea* L., weasel *Mustela nivalis* L. and polecat *Mustela putorius* L.), partridge *Perdix perdix* L., pheasant *Phasianus colchicus* L., mallard *Anas platyrhynchos* L. and woodcock *Scolopax rusticola* L. We do not include data on the wild boar *Sus scrofa* L., as this species is the subject of a separate paper (Schley et al. 1998). Also not included is the otter *Lutra lutra* L., because numbers shot of this species, prior to its protection in 1972, were always limited to a few individuals per year. We briefly comment on the status of each species in Luxembourg and speculate on the value of the data for reflecting trends in actual population sizes.

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2. Methods

The study was based on the official hunting records kept by the Service de la Chasse et de la Pêche (S. C. P.) of the Administration des Eaux et Forêts. We covered a period of 50 years, from 1946 until 1995. The S. C. P. gather the hunting records at the end of each hunting year (1st August - 31st July) by sending out a questionnaire, on which hunters must indicate numbers shot of each species. More details are required for the ungulate species, except for fallow deer (see Schley et al. 1998). For more general information on hunting in Luxembourg, see Ministère de l'Environnement (1997).

3. Results

Roe deer, Reh, chevreuil (Fig. 1 a)

Number of roe deer shot has increased since World War II (WWII), more consistently than any other species. However, the increase has been relatively slight since 1980 and appears to be tending towards zero.

Red deer, Rothirsch, cerf élaphe (Fig. 1 b)

Number of red deer shot increased steadily until about 1980, and thereafter has remained relatively constant, subject to interannual fluctuations.

Fallow deer, Damhirsch, daim (Fig. 1 b)

In Luxembourg, this ungulate species is thought to have been introduced accidentally into the wild when some individuals escaped from the animal park in Hosingen in 1977. The first fallow deer were shot in 1979 and numbers shot reached 54 in 1995.

Mouflon, Mufflon, mouflon (Fig. 1 b)

In Luxembourg, this wild sheep was introduced into the wild in 1970 (Massard & Kintziger 1994). Its present status is unclear, although numbers are thought to be increasing. The first mouflon was shot in 1974, and numbers shot reached 94 and 93 in 1994 and 1995 respectively.

Rabbit, Wildkaninchen, lapin de garenne (Fig. 1 c)

This lagomorph has undergone dramatic fluctuations in numbers shot since WWII, with large peaks in the 1950s and 1970s. Since the all-time peak in 1976, numbers have fallen and have been low since the early 1980s.

Brown hare, Feldhase, lièvre commun (Fig. 1 c)

The number of hares shot per year increased immediately after WWII, then remained relatively constant from 1950 to 1966. Since that time, numbers have been declining steadily.

Red fox, Rotfuchs, renard (Fig. 1 d)

The number of foxes shot increased relatively steadily after WWII until the late 1960s, when fox dens were gassed systematically in the anti-rabies campaign. Gassing was stopped in the late 1970s and early 1980s, and since 1986, vaccination of foxes has been used as a new method for controlling the disease. After a period of slow recovery, number of foxes shot per year has increased dramatically since the late 1980s.

Feral cat, verwilderte Katze, chat haret (Fig. 1 d)

Numbers of feral cats shot increased after the war, but since 1968 they have more or less progressively declined.

Badger, Dachs, blaireau (Fig. 1 d)

Luxembourg's largest carnivore became a protected species in 1984, after it had probably suffered dramatic declines as a result of the gassing of the fox earths. The present status of the badger population is not known, although the species is thought to have recovered since the gassing period.

Small mustelid species (Fig. 1 d)

(pine marten - Baummarder - martre, beech marten - Steinmarder - fouine, stoat - Hermelin - hermine, weasel - Mauswiesel - belette and polecat - Iltis - putois)

Hunting of pine martens and weasels became prohibited in 1993, hence after that date the numbers shot only comprise the other three species. Numbers shot fluctuate following a pattern similar to that of the red fox. However, since the late 1970s, there has been a progressive decline.

Partridge, Rebhuhn, perdrix (Fig. 1 e)

Numbers of partridge shot have decreased rapidly since 1960, down to very low levels in the late 1970s. Hunting of the species was prohibited in 1981.

Pheasant, Jagdfasan, faisan (Fig. 1 e)

Numbers shot of this introduced species have declined steadily since the mid-1970s: only 246 were shot in 1995 compared with 6492 in 1974.

Mallard, Stockente, canard (Fig. 1 f)

Number of mallard shot has increased slowly but steadily over the study period.

Woodcock, Waldschnepfe, bécasse (Fig. 1 f)

Number of woodcock shot has never been as high as numbers for the other three game bird species; nevertheless, the number has declined steadily since about 1960.

4. Discussion

Overall, there has been a dramatic decline in the numbers shot of small prey species (lagomorphs and birds), except for the mallard. Number of foxes shot has increased, but for other predators the numbers have decreased. The badger and the polecat are currently being studied by L. S. and A. B. respectively, to determine their distribution and population density in Luxembourg, but similar studies are needed for the other small carnivore species. The fact that every year, on average two feral cats are shot in each hunting area increases the risk that by accident a rare wild cat *Felis silvestris* Schreber could die in this way (see Moes 1993). On the other hand, shooting feral cats decreases the risk of genetic pollution of the remaining wild cat population through hybridisation. As regards ungulates, both red and roe deer have remained relatively constant over the past few years, but mouflon and fallow deer have increased, although their numbers shot, as well as that of red deer, are very low in comparison with roe deer.

Fig. 1. Numbers shot of game species, from 1946 to 1995.

Fig. 1. (continued)

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The numbers presented in the present paper are the numbers shot per year for each species. The data are collected from all over the country, from 607 hunting areas. Throughout the study period, number of hunting permits issued per year, and thus presumably the hunting pressure, has remained relatively stable (Schley et al. 1998). We therefore suggest that the numbers of animals shot, although only indirectly related to actual population sizes, probably reflect changes in the populations of the respective species.

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