Dynamics of Game from 65 Giera Aria Forest District Lunca Timisului in 2009-2013 Period

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Abstract
Integration of the Romania in the E.U., is imposing a special attention to game populations. The aim of the present paper was to study the quantitative evolution of the game for the 13 species during 2009-2013, on the hunting terrain 65 Giera, from Forest Domain – Lunca Timişului, with a total surface of 11,974 ha. The study shows that form the 13 species monitored, 3 were not identified on this hunting terrain Red Deer (Cervus elaphus L.), Fallow Deer (Dama dama L), European Pine Marten (Martes martes L.). For the other species identified the population evolution in number demonstrated that there is a god correlation between the number of individuals and its biogenic capacity. We recommend careful monitoring of the natural selection and the efficient use of artificial breeding especially for the European hare (*Lepus europaeus P.*) specie.

Key words: game animals, game population, cynegetic

1. Introduction

The EU integration of the Romania is imposing a special attention to the populations of wild animals for hunting. The hunt was always a spring of rich in our country, not only by the large number of animals but also by the variety of species. The hunt represents the oldest occupation, before all others humans were hunter and gatherer. As old as man, the hunt evolved with the humans and with the development of the society. In this domain, man made the first observations, research and discoveries, also the first inventions. After extended study of the paleolithic hunters, it was proven that there were domesticated animals [1]. The discovery of the spear, bow with arrows, perfecting the tools and hunting methods were the first and most important inventions of the primitive era, which lead to an increase of the success of the hunt [2].

Romania is one of the few countries in EU, that still have pools for aquatic hunting, large forest for roe deer, bears and other big game. The duty of hunters is to know the environmental requirement of the game and to contribute to its preservation.

The hunting terrain with the constructions makes up the hunting patrimony.

Starting from the year 1948, all over our country, the hunting terrain becomes state propriety. From that date, since there was no private propriety, large hunting terrain could be established. The management measures applied to a hunting terrain depends of the species that populate it. Presently, in Romania, after the institute of the Law 103/1996, the number of the hunting domains is 2.227 [2]. Main developmental conditions for a hunting domain and existence are: food, shelter and quiet.

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There is considered that the hunt density is optimal when a sufficient number of individuals exist according to biogenic capacity. Exceeding the optimal density can cause damage to other economical arias and also can affect the specie in cause, through lack of food, shelter and rapid expansion of diseases and other detrimental factors [3].
The aim of the present study was to study the quantitative evolution of the hunting populations for 13 animal species, from 65 Giera aria in the period of 2009-2013.

2. Materials and methods

The hunting terrain taken into study, has a total surface of 11,974 ha, and is bordered at North by Lanca – Birda channel from Ghilad at Timis river, at East by Banloc – Ofsenita local road, Ofsenita – Ghilad county road, at South by Banloc national road– Livezile – Giera – Toager- Graniceri, and at the West by Timis river from Lanca– Birda channel at Graniceri. In table 1 is presented the total surface of the hunting ground of the hunting ground studied divided in categories.

Table 1. The surface of the hunting terrain 65 Giera divided into categories

	The cynegetic productive surface for:						
	Aquatic animals land	Other hunt species					
UM	Water length	Forest	Agricultural land	Grazing field	Total	Unproductive land	Total
Ha	361	54	8,921	2,101	11, 076	537	11,974
%	3.0	0.45	74.52	17.55	92.52	4.48	100

From table 1 it can be seen that, from the total surface of the land studied (11,974 ha) the terrain occupied by the Aquatic animals represents 361 ha (3.0%) while other species have 11,076 ha (92.52%) from which agricultural land 8,921 ha (74.52%), grazing field 2,101 (17.55%) and forest land 54 ha (0.45%). The cynegetic non-productive surface is 4.48% respective 537 ha.
The study presented in this paper is aiming to evaluate the number of animals from this hunting ground in the period 2009-2013, because without this information a rational hunt of the animals would not be possible. Knowing the effective of animals serves for evaluate the annual number of animals that can be hunted and for calculate the complementary food requirements for the winter, and it also helps maintaining the sex ration. The number of animals is crucial for achieving an optimal density and prevent de degradation of the trophies and the damages in forest an agricultural cultures. This is why this action to be made with responsibility by the persons that know well the terrain and the biology of the hunted animals.

3. Results and discussion

In table 2, we presented the evolution of the spring effectives by species and number of individuals during the hole studied period.
From the analysis of the table 2, it can be noticed that from the 13 species studied, 3 were not identified on this hunting ground: Red Deer (*Cervus elaphus L.*), Fallow Deer (*Dama dama L*), European Pine Marten (*Martes martes L.*).
Roe Deer (*Capreolus capreolus L.*) specie, is registering in the first interval of the study an increase of the effective with 21.9%, respectively from 105 individuals in 2009, at 128 in 2010. In the next study interval the effective is decreasing at 125, in 2011, after which it is stabilized at 120 individuals in 2012, and 2013.
Wild hog *(Sus scrofa L.*) specie, is registering ar the begining of the study an efective of 10 individuals, which remaines contant until 2012, when it increases at 12 individuals (20%) after which in the last interval of studying (2013) it comes back to 11 individuals.

Table 2. The evolution of the spring effectives from the 65 Giera hutting terrain, in the period 2009-2013

Specie	2009	2010	2011	2012	2013
Red Deer (*Cervus elaphus L*)	-	-	-	-	-
Fallow Deer (*Dama dama L*)	-	-	-	-	-
Roe Deer (*Capreolus capreolus L*)	105	128	125	120	120
Wild hog (*Sus scrofa L)*	10	11	10	12	11
European hare (*Lepus europaeus P.*)	670	730	720	715	700
Wildcat *(Felis silvestres L*)	3	3	3	3	3
Common Pheasant (*Phasianus colchicus L*)	520	550	550	540	550
Grey Partridge (*Pedrix pedrix L*)	50	50	50	50	50
Red Fox (*Vulpes vulpes L*)	20	20	20	20	20
European Pine marten (*Martes martes L*)	-	-	-	-	-
Mustela (*Putorius putorius L*)	5	5	5	5	5
Least Weasel (*Mustela nivalis L*)	5	5	5	5	5
Muskrat (*Ondatra zibethica L.*)	10	10	10	10	10

Common Pheasant (*Phasianus colchicus L.*) specie, is registering in the firsta year of study an effective of 520 individuals, effective that is increasing, in 2010 at 550 (5,76%). In the next intervals studied, this specie is stable in number, except for 2012, when a decrease of 1.8%, but it is recovered in 2013.

The European hare (*Lepus europaeus P.*) specie, registers an effective of 670 individuals 2009. In 2010 there is an increase with 60 individuals (8.95%), reaching 730 individuals. Remarkable, is the fact that in the next study period this specie registers a constant decrease, in 2011- 720 individuals (1.35%), in 2012-715 individuals (0.7%), at the end of the study, in 2013 -700 individuals (2%). We consider that 2010 was a favorable year for this specie because the tendency was to equilibrate towards the value from the beginning of the study

In our study at 65 Giera hutting terrain, in the period 2009-2013, we identified 6 species which during the period maintained constant in number, Wildcat (*Felis silvestres L*) specie 3 individuals, Grey Partridge (*Perdix perdix L.*) specie 50 individuals, Red Fox (*Vulpes vulpes L*) specie 20 individuals, Mustela (*Putorius putorius L*) specie 5 individuals, Least Weasel (*Mustela nivalis L.*) specie 5 individuals, and Muskrat (*Ondatra zibethica L.*) specie 10 individuals.

4. Conclusions

All of these findings led us to the conclusion that on a hunting ground there is a good relation between the number of individuals and the biogenic of the hunting terrain at all 10 species identified.

We recommend careful monitoring of the natural selection and the efficient use of artificial breeding especially for the European hare (*Lepus europaeus P.*) specie.

References

1. Dronca D., Ameliorarea genetică a populațiilor de animale. Editura Mirton, 2007.

2. Cotta V., Badea M., Micu, I., Vânatul şi vânătoarea în România, Ed.Ceres, 2008.

3. Bud I., Economia vânatului, Editura Tipo Agronomia Cluj-Napoca 1998.