Study Regarding the Quantitative Evolution of the Game Animals Populations from 29 Surduc, Forest Domain - Faget, in 2010-2014 Period

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Abstract
Integration of the Romania in the E.U. requires a special attention for to the game populations. The aim of the present paper was to study the quantitative evolution of the game for the 6 species during 2010-2015, on the hunting terrain 29 Surduc, from Forest Domain – Faget, with a total area of 15,500 ha. The study shows that from the 6 species monitored, one was not identified on this hunting terrain, Fallow Deer (*Dama dama* L). For the other species identified numerical evolution of the population demonstrated that there is a good correlation between the number of individuals and their biogenic capacity. We recommend carefully monitoring of the natural selection and the efficient use of artificial breeding especially for the Red Deer (*Cervus elaphus L.*) 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

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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.

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 6 animal species, from 29 Surduc area in the period of 2010-2014.

2. Materials and methods

The hunting terrain taken into study has a total surface of 15,500 ha. 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 29 Surduc 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	0.0	8750	3206	2797	14, 753	747	15,500
%	0.0	56.4	20.6	18.2	95.2	4.8	100

From table 1 it can be seen that, from the total surface of the land studied (15.500 ha) the terrain occupied by the Aquatic animals represents 0.0 ha (0.0%) while other species have 14.753 ha (95.2%) from which agricultural land 3.206 ha (20.6%), grazing field 2.797 (18.2%) and forest land 8750 ha (56.4%). The cynegetic non-productive surface is 4.8% respective 747 ha.

The study presented in this paper is aiming to evaluate the number of animals from this hunting ground in the period 2010-2014, 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 whole studied period.

From the analysis of the table 2, it can be noticed that from the 6 species studied, Fallow Deer (*Dama dama L*) specie, was not identified during of the time interval studied (2010-2014).

Red Deer (*Cervus elaphus L.*) specie, registered at the beginning of this study, 2010 respectively, a number of 12 individuals, number which was maintained and in 2011, but since 2012, the number of individuals registered a slightly decreased, at 11 individuals respectively (8.33%), number that was maintained and at the level of 2013. Instead, in 2014, the decrease of number returns back again, so that, at the end of this study, the final number registered was 10 individuals. Reported to the entire period studied (2010-2014), it can be concluded that this specie registering a decrease of the number of individuals with 16.66%, which entitles us to recommend the

granting of special attention for Red Deer (*Cervus elaphus L.*) specie.

Table 2. The evolution of the spring effectives from the 29 Surduc hutting terrain, in the period 2010-2014

Specie	2010	2011	2012	2013	2014
Red Deer (*Cervus elaphus L*)	12	12	11	11	10
Fallow Deer (*Dama dama L*)	-	-	-	-	-
Roe Deer (*Capreolus capreolus L*)	142	140	141	142	143
Wild hog (*Sus scrofa L)*	68	65	66	67	68
European hare (*Lepus europaeus P.*)	65	70	70	75	70
Wildcat *(Felis silvestres L*)	-	-	-	-	-
Common Pheasant (*Phasianus colchicus L*)	400	410	410	415	415
Grey Partridge (*Pedrix pedrix L*)	-	-	-	-	-
Red Fox (*Vulpes vulpes L*)	-	-	-	-	-
European Pine marten (*Martes martes L*)	-	-	-	-	-
Mustela (*Putorius putorius L*)	-	-	-	-	-
Least Weasel (*Mustela nivalis L*)	-	-	-	-	-
Muskrat (*Ondatra zibethica L.*)	-	-	-	-	-

Roe Deer (*Capreolus capreolus L.*) specie, registered at the beginning at this study (2010), a significant number of individuals, 142 individuals respectively, number which declined slightly in 2011, reaching at the 140 individuals (1.4%). Since 2012 the studied population had a permanent increase, 141 individuals respectively in 2012 (0.7%), 142 individuals in 2013 (1.4%), and at the end of this study, 2014 respectively, the number of individuals inventory was 143 individuals. We can say that during 2011-2014, Roe Deer (*Capreolus capreolus L.*) specie, registered a total increase of 2.1%, which does not require to paying a special attention.

Wild hog *(Sus scrofa L.*) specie, registered at the beginning of this study an number of 68 individuals, number that in 2011 decreased at 65 individuals (4.4%), but since 2012, the population studied had a permanently increase, 66 individuals respectively (1.5%), 67 individuals in 2013 (3%) and 68 individuals in 2014 (4.6%). If we analyse the evolution on the entire period studied, we observe that, in fact, at the level of 2014, the number of 68 individuals is the same as at the beginning of the study period (2010).

The European hare (*Lepus europaeus P.*) specie, registered a number of 65 individuals in 2010, number that increased in 2011 at 70 individuals (7.7%), it was maintained at this value and in 2012 (70individuals), then increased continuously in 2013 at 75 individuals (6.66%). Reported at the period 2010-2013, numerical increase of this population was 10 individuals (15.3%), but it should be noted that at the end of study period (2014), returns to the number of 70 individuals.

Common Pheasant (*Phasianus colchicus L.*) specie, registered at the beginning of this study (2010) an effective of 400 individuals, number that increased in 2011 at 410 individuals (2.5%), was maintained constant in 2012, and in 2013, the increase was resumed registered an number of 415 individuals (1.25%). This number was maintained constant until the end of this study, 2014 respectively. Throughout the period studied (2010-2014), this population was registered an increase of 15 individuals (3.5%), which demonstrates the contributory role of the general and specific environmental factors.

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 4 species identified.

We recommend careful monitoring of the natural selection and the efficient use of artificial breeding especially for the Red Deer (*Cervus elaphus L.*) specie.

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