

STUDY DIAGNOSIS REGARDING THE HUNTING POTENTIAL OF NO.1 PINU HUNTING FUND – D.S. SUCEAVA

STUDIU DIAGNOSTIC PRIVIND PATRIMONIUL CINEGETIC AL FONDULUI DE VÂNĂTOARE NR 1 PINU – D.S. SUCEAVA

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Abstract. *The No 1 Pinu Hunting Fond is managed by the Forestry Direction Suceava. From the administrative point of view it belongs to the Forestry District Broșteni (95,1%) and Townhall Broșteni (4,9). It is a fond of medium dimensions with a total area of 12.351 hectares of which the productive area for hunting is of 9895 hectares (71,1%). Of then total areas, the forests occupy 67,7%, the agricultural field 5,7%, mountain holes and waters 2,4%, the difference being represented by the nonproductive hunting areas. The nonproductive areas represent intravillan fields belonging to 6 rural localities. From the equipments point of view, this hunting fond has a proper number of constructions specific to the hunting areas, with a house, and a hunting hut, 6 skulking cabins 15 foodstuffs for deer, 2 hofstands, 22 bathing places and 27 salt places. In 2007, within the fond there was a great variety of hunting species represented by 16 species, of which the most numerous are the common deer – 110 head, roebuck – 50 head, roosters – 60 head, fox – 30 head, wild boar and hares between 5-25 head. Between 2001-2007, during the numerous hunting parties there were hunted 13 trophies most of them being obtained by foreign hunters (Germany, Hungary). A whole assessment shows a hunting equilibrium from the ecological point of view.*

Key words: hunting potential, hunting equilibrium, economic efficiency

Rezumat. *Fondul de Vânătoare nr. 1 Pinu este gestionat de către Direcția Silvică Suceava. Din punct de vedere administrativ aparține de Ocolul Silvic Broșteni (95,1%) și Primăria Broșteni (4,9). Este un fond de dimensiuni medii având o suprafață totală de 12.351 hectare din care suprafață productivă pentru vânat de 9895 hectare (71,1%). Din suprafața totală, pădurile ocupă 67,7%, terenul agricol 5,7%, golurile de munte și luciul de apă 2,4%, diferența reprezentând-o suprafețele neproductive cinegetic. Suprafețele neproductive reprezintă terenuri intravilane aparținând unui număr de șase localități rurale. Din punct de vedere al dotărilor, acest fond de vânătoare deține un număr corespunzător de construcții specifice realelor de vânătoare: câte o casă și o colibă de vânat, șase bordeie de pândă, 15 hrănituri pentru cervide, 2 hofstanduri, 22 scăldători și 27 săvării. În cadrul fondului, există în anul 2007 o mare varietate a speciilor cinegetice reprezentată de 16 specii, dintre care cele mai numeroase ca număr sunt speciile de cerb comun – 110 capete, câprior – 50 capete, cocoș de munte – 60 capete, vulpi – 30 capete, mistreț și iepure comun, câte 25 capete. Celelalte specii (râs, lup, urs, vidră etc.) dețin efective cuprinse între 5-25capete. În perioada 2001-2007 în cadrul a numeroaselor partide de vânătoare s-au obținut 13 trofee de vânătoare, majoritatea fiind dobândite de vânători străini (Germania, Ungaria). Aprecierea de*

ansamblu arată că în cadrul Fondului de Vânătoare nr. 1 Pinu există un echilibru cinegetic din punct de vedere ecologic.

Cuvinte cheie: patrimoniu cinegetic, echilibru cinegetic, eficiență economică

INTRODUCTION

The hunting patrimony represents one of the national riches of Romania. Due to some specific conditions, Romania has a large variety of wild species and in a significant number of exemplars. One of the richest areas in hunting species is the western zone of Suceava county which has a mountainous relief with dense tree vegetation, ensuring a protective habitat for hunting.

No.1 Pinu Hunting Fund belonging to Suceava Forestry Direction is the research object of this study and has a representative character for the mountainous zone of Suceava county. The underdone study has as aim the diagnosis of the evolution of the hunting fund along a significant period (2001-2007) and of its state from the point of view of its number and variety in the first year of Romania's adherence to the European Union.

MATERIAL AND METHOD

As study material, we have taken into consideration the Pinu 1 area, with a surface of 12,351 ha on which we have made direct investigations on a period of seven years, regarding the hunting species, the evolution of their number, death and trophies. Also we have identified the infrastructure specific to hunting areas.

In order to gain the information we have used specific methods of direct investigation on the hunting patrimony, as well as some statistic data with official character belonging to Suceava Forestry Direction.

RESULTS AND DISCUSSIONS

No.1 Pinu Hunting Fund belongs to Brosteni Forestry Domain (95,1%) and Brosteni Town Hall (4,9%), from the administrative point of view. It is situated in the southern part of Suceava County, occupying approximately equal areas of Bistrita and Stanisoara Mountains which are separated by Bistrita river. In the hunting zone there are 43 pastures belonging to the inhabitants of that area.

The predominant unit is the versant mostly covered by forest, allocated between the minimum altitude of 980 m and maximum 1650 m, generally having a sunny position.

The studied hunting fund is crossed by a rich hydrological network dominated by Bistrita River with its numerous affluents which ensure the necessary quantity of water along the year to the game. The climate is typically mountainous, favorable to a large number of wild species. However, there are climatic accidents such as early or late frosts which cause numerous deaths among the cubs. Long winters with massive snowfalls ask for supplementary food for certain species (especially deer). Moreover, the thick snow with crust favours the losses among deer, as they can easily be hunted by wolves and lynx, being also harmful to wild-boars.

The structure of the hunting fund on categories of use (Table 1) proves that, of the 12 000 hectares, the productive hunting area is of 80%, of which 70% is represented by forest, the rest of 400 hectares being occupied by arable fields, meadows, orchards, and 700 ha represent pastures and mountain holes. The unproductive hunting area occupies 20% respectively.

Table 1

The area of the hunting fund on categories of use

UM	Productive area hunting for						Unproductive hunting	General total
	Lake game			The rest of the hunting species				
	Water	Forest	Arable (meadow, orchards)	Pasture	Mountain holes	Total		
HA	95	8700	400	500	200	9895	2456	12351
%	1	70	3	4	2	80	20	100

From the administrative point of view, the productive hunting zone belong with 95,1 % to Borșteni IF, the difference belonging to Broșteni Town hall.

The infrastructure of the hunting zone is appropriate, being made up by a house, a hunting cabin and 6 skulk huts, 15 feeders, 2 hofstands, 22 bathing places and 27 salt places. In the latest 7 years there have not been registered significant modifications regarding this number. Within the fond, there have existed numerous actions in order to ensure food and especially starting with the 2002-2003 hunting season when they ensures 11 tones of lucerne and clover, 15 tones of seeds and fruits and 0,5 concentrated tones. In 2007-2008 season these quantities have raised with about 20%. At the level of 2007, within the fund there were 16 hunting species. The evolution of the spring effectives at the hunting species is presented in Table 2. From the data of this table there results that in the period 2001-2007 there has been a different evolution of the number of exemplars on species, which, at some species, has been maintained within the optimum limit.

Table 2

The evolution of wild species effectives

Species	Significance	2001	2002	2003	2004	2005	2006	2007
Common deer	Effective	90	85	85	90	95	110	110
Roebuck	Effective	60	50	45	45	45	50	50
Wild boar	Effective	25	20	20	20	25	25	25
Common hare	Effective	35	30	35	25	25	25	25
Bear	Effective	8	7	7	7	7	7	8
Lynx	Effective	5	4	4	4	4	4	4
Wolf	Effective	5	4	4	4	4	4	4
Wild cat	Effective	10	10	10	10	10	8	8
Black cock	Effective	40	45	45	50	55	60	60
Hazel grouse	Effective	30	30	30	30	30	30	30
Fox	Effective	30	20	20	20	20	30	30
Badger	Effective	10	10	10	10	10	10	10
Otter	Effective	5	4	5	5	5	5	5
Tree marten	Effective	20	15	15	15	15	15	15
Polecat	Effective	20	15	15	15	15	15	15
Weasel	Effective	15	15	15	15	15	15	15

The optimum density is represented by the number of animals that can cohabit on an area unit (100ha), so that, through efficient use of bio-stationary conditions, the wild animals might bring hunting maximum quantitative and qualitative production (trophies, meat, fur) and without bringing disadvantages to the other elements of biocenose.

At the other species, the effectives have been constant (wild, boar, bear, fox, badger, otter, weasel) or easily dropped (roeback, hare, wolf, wild cat, marten, polecat). Each year, there have been a number of exterminated arying according to the fecundity of females and to the small number of exemplars of the areal. These effectives have been captured on cotes. Thus, as regards the common deer and wild-boar, the exterminated annual cote was of 3 exemplars, at wolf and black-cock 2 exemplars, at fox and between 5 and 8. At the other species there have been exterminated an exemplary every 2-3 years.

The diminishing or lack of increase of the effective of some species has been determined by the existence of some harmful species to game of which we mention crows, rambling dogs and cats (Table 3), as well as poaching. Between 2001 and 2007 there were harvesting actions (eradication), especially of crows and rambling dogs, and in 2007 and 2008 also rambling cats.

Table 3

Harmful eradicated species

Species	Significance	2001	2002	2003	2004	2005	2006	2007
Crows	Eradicated	15	14	15	15	15	7	7
Grive	Eradicated	-	-	-	-	-	8	8
Magpies	Eradicated	-	-	-	-	-	-	-
Jay	Eradicated	-	-	-	-	-	-	-
Rambling dogs	Eradicated	20	15	10	10	15	10	10
Rambling cats	Eradicated	-	-	-	-	-	10	10

The damage caused by wild animals can be different, according to specie, density or existence of some unfavourable climatic conditions. For example, at deer, this damage appear when the maximum density was overcome or because of tranquillity's disorder. In winter they are the biting off the stalks and cover of trees, and in the spring by running over the crops and uprooting the tubers of potatoes.

The bears produce damage, especially in animal husbandry, to the plum orchards and more rarely, to young trees by tearing and uncovering.

As regards the damage made by game to the agricultural crops, in the studied hunting fund this damage has been minor and has been caused especially by wild boars in the maize culture or by grouting in the peasants' meadows. As regards the damage made by the game to the forest, the most frequent have been made by deer, but haven't damaged the ecological equilibrium. The management techniques of the forests directly influence the dynamics and development of game populations which do the specific processes of life within the forestry ecosystem. The treatments adopted and the ways of implementation are factors that influence the game populations. For a better understanding of the problem there

was analysed the evolution of age classes of trees of all the hunting fund in the period 1969-1999 and its influence on the development of game effective (table 4).

Table 4

Evolution of age classes of trees within the No 1 Pinu H. F., between 1969-1999

Year of arrangement	Age classes(%)						Total wood
	I (1-20 years)	II (21-40 years)	III (41-60 years)	IV (61-80 years)	V (81-100 years)	VI (101-120 years)	
0	1	2	3	4	5	6	7
1969	16	12	29	35	8	-	100
1979	13	14	26	35	12	-	100
1990	9	17	18	36	16	4	100
1999	8	15	20	32	19	5	100

From the analysis of the data in the table there results that in 1969, the trees in tree classes V and VI is 8% of the total. After 30 years, in 1999 their weight is of 24%. This change of structure is favourable to the game as old forests permanently offer the necessary food as a consequence of the numerous openings and clearings and of numerous fruit of old trees.

Economic efficiency of hunting activities

The hunting activities implies every year an important volume of expenditures which has to be absorbed in a certain period of time, at the same time following the gaining of a profit which can ensure its continuity. They refer to the food cost, transport expenditure, ammunition, wages for the personnel within the hunting fund. We present in Table 5 the structure of expenditure for the maintenance of game in 2007.

Table 5

The structure of expenditures for game maintenance

Specification	MU	Quantity	Value (lei)	
			Unitary	Totally
Lease hunting fund	lei	-	-	431.17
Salt	Kg	615	0,5	307.50
Maize –grains	Kg	2000	0,35	700.00
Repair feeding places	Pc	5	35	175.00
Building feeding places	Pc	10	50	500.00
Designing hunting paths	Km	1.5	100	150.00
Wages custodian	lei	12 months	420	5040.00
Wages contributions to the state	lei	13 months	136.5	1638.00
Ammunition	lei	-	-	458.72
Equipment	lei	-	-	150.00
TOTAL EXPENDITURE				9550.39

Of the total expenditures for hunting activities, the weight is held by the wages expenditures – 70%, followed by forage expenditures, 7,3%. The rest of the expenditures are under 4,5%.

The calculus of the income from hunting activities in the hunting season 2006-2007 is presented in Table 6.

Table 6

The structure of income obtained from hunting

Specification	MU	Quantity	Value (lei)		%
			Unit	Total	
Roebuck					
- males trophies (inland)	Pc	2	450	900	5,6
Black-cock (out-land)	Pc	2	3340	6680	41,6
Black-cock (inland)	Pc	2	1000	2000	12,4
Game meat					
Common deer					
- male	Pc	2	1000	2000	12,4
-female and youth	Pc	3	750	2250	14,0
Roebuck					
-female and youth	Pc	2	120.24	240.48	1,5
Wild boar	Pc	5	400.8	2004	12,5
Total income				16074.48	100,0

Of the total income, the weight is held by the black-cock (41,6%) as a consequence to the hunting actions with foreigners. There have been obtained income from deer trophies and black-cock with inland hunters. By capitalization of the game meat, the income represented about 40% of the total. The difference between income and expenditure represent the profit. As we can notice, it is not very big (6524,09 lei), the economy of the game representing a reduce weight of the total economic activity within No1 Pinu Hunting Fund.

CONCLUSIONS

1. No1 Pinu Hunting Fund found in the Broșteni Forestry District has an area of 12.351 ha occupied 80% of the productive hunting area. Of this area, 70% is largely covered with resinaceous species.

2. The studied area ensures vary favourable conditions for the game life. There have been identified 16 game species, of which the most numerous overcoming the optimum density are the common deer, wild boar, black-cock and fox.

3. From the economic point of view the income obtained from the capitalization of the game overcome the expenditure ensuring the efficiency of this branch. Nevertheless we consider that the gained profit from game management has a reduced weight within the economic activity of Pinu Hunting Fund, being imposed different activities for the increase of the profit.

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