

ECOLOGY, SILVICULTURE AND FOREST HUNTING MANAGEMENT

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COMPARATIVE EVALUATION OF HUNTING MAGEMENT OF HUNTING WITH VARIOUS INTENSITY OF ANTHROPOGENIC EFFECT

Conducting the hunting management largely determines the extent of impact of anthropogenic factors impact, such as recreation, hunting, minor usage. The work analyzes populations of hoofed game animals, their population dynamics, the impact of hunting in conditions of various intensity of anthropogenic factors. Based on the principles of sustainable development there have been given recommendations for minimizing the impact of anthropogenic factors in order to improve the economic efficiency of hunting management.

Introduction. Currently, the development of hunting in Belarus is of great importance – in 2005 the “State Program of hunting development for 2006–2015” was adopted [1]. In accordance with the Program working activities are aimed at increasing the volume and quality of biotechnical measures, enriching of species diversity of game animals by invasion of new species for the country (spotted deer, fallow deer, mouflon) and resettling of indigenous species of hoofed animals (deer, bison), as well as game breeding, with particular attention paid to the development of hunting tourism.

Improvement of methods and techniques of hunting management is impossible without a thorough analysis of the factors affecting wildlife populations and conditions of hunting sector in general. In this connection it is interesting to analyze hunting management of two sectors with similar structure but different in the number of animal populations and economic conditions. Both hunting sectors are located at different distances from Minsk – a major city of the country and an important industrial center. Varying degree of remoteness from the city determines the intensity of anthropogenic load on the farm land, not only by hunters but also by holiday makers. Due to easy availability of hunting grounds of state forestry enterprise “Smolevichi Forestry” have significantly more intense anthropogenic pressure, in comparison with hunting lands of state forestry enterprise “Stolbtsy experimental forestry”.

Main part. Hunting farm SFE “Smolevichi forestry” is located in the central part of the territory of Minsk region (Smolevichi, Minsk and Cherven districts) with its total area of 18.3 hectares. Total area of forest stands in hunting sector com-

prises 13,4 hectares (73.2%), farm lands – 4.1 hectares (22.4%), wetlands – 0,8 ha (4.4%).

Hunting grounds of “Stolbtsy experimental forestry” are located in the western part of the territory of Minsk region (Stolbtsy district). Total area comprises 17.5 hectares. Total area of forest hunting grounds in the sector is 10.3 hectares (58.9%), farm lands – 7.1 hectares (40.6%), wetlands – 0.1 ha (0.5%).

Thus, both hunting farms are approximately equal in size and distribution of hunting grounds according to categories. The core of hunting farm “Smolevichi forestry” is a big forest, located near the river and limited by roads from three sides. Proximity to Minsk, good entrance ways contribute into visiting hunting farms by tourists at any time of the year. Hunting grounds of “Stolbtsy experimental forestry” are at a greater distance from Minsk and major highways.

Today hunting for wild hoofed animals is the main activity of the hunting area. To assess the resource potential of the farms there have been done hunting lands appraisal in accordance with TAP 291-2011 (02080) “Rules of hunting management” [2] for main species of wild hoofed animals: elk, deer, wild boar, roe deer (Table 1). The obtained results show that hunting lands are close in quality to animal habitats.

Comparing economic performance of two farms in 2010 (Table 2) shows that the difference in income and expenses of hunting farms is significantly different, and this indicates different levels of economic opportunities. Profit income from hunting tourism is slightly higher in Stolbtsy hunting farm, which indicates a greater attractiveness of these lands for international hunting tours or their better advertising. Profit from hunting houses

and camps in Smolevichy hunting farm comprises actually half of the income from all hunting activities. It is connected with the fact that the premises are rented not only by hunters, but also other citizens for various activities.

Biological activities are the most important type of activities for hunting farms in determining their future profits in hunting management. The share of expenditure on biological activities in Smolevichy hunting farm is 23% of the total cost, and Stolbtsy hunting farm – 11%. Such distribution costs can be attributed to the need for more biotechnical activities due to intense anthropogenic impact on the hunting lands.

Actual number of hoofed animals populations inhabiting hunting lands is given in Table 3.

Elk numbers in both farms are low and far from optimal. Hunting grounds of “Smolevichi Forestry” poorly suited for the formation of elementary elk population because of the high anxiety factor (affects the proximity of a large settlement) and limited farm roads that prevent transfers of animals and increases their death under the wheels of vehicles. Hunting grounds of “Stolbtsy experimental forestry” are in this respect more favorable. Proximity of forest massif Nalibokskaya Pushcha facilitates the exchange of genetic information and replenishment of elk population due to migration.

Table 1

Hunting lands appraisal of “Smolevichi Forestry” and “Stolbtsy experimental forestry”

Hunting farm	Types of game animals			
	elk	deer	wild boar	roe deer
“Smolevichy Forestry”	III.3	III.2	II.8	III.4
“Stolbtsy experimental forestry”	III.0	III.0	III.2	III.0

Table 2

Economic parameters of hunting farms in 2010

Expenditures and expenses	Units of measurement	“Smolevichy Forestry”	“Stolbtsy experimental forestry”
Profit from hunting activities			
Including:	mln. rub.	63.8	35.6
Hunting tourism (including foreign hunters)	mln. rub.	2.1	4.6
Accommodation in hunting houses	mln. rub.	30.0	10.0
Hunting management expenditures			
Including:	mln. rub.	60.8	34.8
Biotechnical activities	mln. rub.	13.8	3.7
Staff salary	mln. rub.	39.6	17.9

Table 3

Wild hoofed animal numbers in 2011

Hunting Farm	Types of game animals			
	elk	deer	wild boar	roe deer
“Smolevichy Forestry”	13	–	88	150
“Stolbtsy experimental forestry”	11	6	120	72

Hunting grounds of Stolbtsy experimental forestry are favorable for the formation of elementary red deer population, which in recent years has appeared on the farm.

Nowadays, the population of this species is low, but the proximity of Nalibokskaya Pushcha suggests the possibility of migration of some individuals on the hunting territory.

Wild boar numbers in the hunting grounds of “Smolevichi Forestry”, despite the best qualitative characteristics of land in comparison to the hunting grounds of “Stolbtsy experimental forestry” is lower than in compared sector. This may be partly due to the presence of latent poaching as the hunting lands have good accessibility.

European roe deer numbers in hunting lands of “Smolevichi Forestry”, despite the lower quality class land is more than two times higher than that in “Stolbtsy experimental forestry”. This fact is explained by the proximity of agricultural land, which may be the main habitats of this species in the summer-autumn period and the lack of lynx.

Lynx is a species to be protected, so the adjustment of its numbers in the farms is not carried out. However, with the appearance on the farm it can have a significant impact on the number of roe deer, and sometimes boar. The last few years lynx constantly lives on the farm “Stolbtsovsky experimental forestry”, which led to a decrease in the number of roe deer.

Due to the current economic and geographic location of Smolevichi hunting lands one of the most promising forms of improving its efficiency is to create an enclosure for the purpose of breeding species such as red deer, fallow deer, mouflon, roe. Captive farming can be used not only for hunting and to maintain the population of wild hoofed animals, but also for ecotourism.

Unlike Smolevichi hunting farm, hunting grounds of "Stolbtsy experimental forestry" is more favorable for the formation of elementary populations of wild hoofed animals, especially moose and red deer as the most valuable trophy hunting facilities and attracting foreign hunters. For this purpose it is necessary to support natural growth increase of hoofed animals living on the farm by means of enhancing protection of hunting lands and their sanitary condition control, biotechnical activities and culling, regulating predator numbers.

Conclusion. Despite of regularly biotechnical measures, protection of hunting lands from poaching, fighting undesirable species for hunting management, elk numbers are low. And if in hunting lands in Stolbtsy experienced forestry, elk can and should be considered as a promising and attractive animal for development of hunting tourism, in hunting lands of "Smolevichi Forestry" it is not that one due to the high impact of anthropogenic factors and the relative isolation of forestry.

Problem of lynx, due to its increased numbers in hunting lands can not be solved within a single

hunting farm and needs to be considered at republican level.

The proximity of a large settlement can be used for further development of hunting farm "Smolevichi Forestry" by organizing a captive farm, which will inspire the development of ecological tourism.

Assessing the condition and factors affecting the population of wild hoofed animals in "Stolbtsy experimental forestry", it should be noted that the anthropogenic impact, compared to the hunting lands of "Smolevichi Forestry" is not significant as hunting land is removed from major population settlements and highways. In this regard, the most promising direction of development is to increase the economic growth of elk, deer, roe deer and wild boar and the formation of future populations of these animals with high males trophy qualities that will increase the flow of both foreign and Belarusian hunters.

References

1. Государственная программа развития охотничьего хозяйства на 2006–2015 гг. – Минск: М-во лесного хоз-ва, Нац. акад. наук Беларуси, М-во природ. ресурсов и охраны окружающей среды, 2005. – 15 с.

2. Правила проведения охотоустройства: ТКП 291–2011 (02080). – Введ. 15.10.11. – Минск: М-во лесного хоз-ва, 2011. – 66 с.

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