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Review Article

Bisons - A New Home

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Abstract

The article presents the work of Russian biologists who have been working for many years on the acclimatization and conservation of the endangered species Bison bonasus (Linnaues, 1758). This introduced population of European bison has demonstrated a high degree of survival and successful development of habitats in the northern conditions of Russia. Reproduction of such a large mammal will help to fulfill the tasks of preserving biodiversity in the conditions of harmonious coexistence of natural complexes with human economic activity.

Keywords: European Bison, Acclimatization, Vologda Region, Group, North

The European bison Bison bonasus (Linnaues, 1758) is the largest ungulate in Europe, currently living in Russia, Belarus and Poland. In addition to Eastern Europe, they occupied vast forest areas of the Caucasus and Transcaucasia, Northern Iran [1]. The threat of extinction overtook the species in 1927, when the last bison, the largest ungulate in Europe, was exterminated in the wild. Understanding that the ecological niche had become much poorer, scientists initiated incredibly painstaking work in the pre- and post-war years to recreate the exterminated species on the planet. It took almost 100 years for us to be able to observe one of the most beautiful and powerful animals on Earth in nature today. Over time, it became clear that there was no room left for the bison in their former habitats. Since this is a large animal, the territory must have large food reserves and be safe for their existence. After certain studies, the Vologda region turned out to be such a territory, namely forest areas of three administrative districts, including Ust-Kubinsky [2]. In the future, the existence of a bison population of 800-1000 heads is possible here, but this is in the distant future. In addition, the remoteness of the bison grouping of the Vologda region from the main groups of the central and western European part creates conditions for improving the northern grouping as an "insurance" one.

The first animals, three in number, were brought to the Vologda region in 1991 [3]. There were many doubts and assumptions that the bison would not be able to live here, but in spite of everything, acclimatization was successful (Photo 1).

Photo 1: Inspection of animals after transportation.

During the experiment, bison were introduced to their northernmost habitat - the conditions of the Vologda Region in the Ust-Kubensky District. The snow cover depth ranges from 26 cm to 66 cm with a duration of 150-160 days.

With minimal human support, the bison group successfully adapted to harsh natural conditions and produces offspring. In their new habitat, the animals have a vast territory to form a large population, a rich food supply, and favorable terrain with a network of rivers and streams (Table 1).

Table 1: Territories for the settlement of teeth.

Name of forestry enterprises in districts	Total land area, thousand hectares
Ust-Kubensky	104,1
Kharovsky	234,5
Kirillovsky	214
The total area of the territory planned for bison breeding	
552,6	

In addition, the introduction of the European bison into the ecosystem successfully solves the problem of using old arable lands and cut-down forest areas overgrown with small trees.

The conservation of bison, Bison bonasus (Linnaues, 1758) in the Vologda Region generally contributes to the restoration of the species, as well as a positive effect on natural ecosystems in the northern areas of settlement. During the acclimatization period and the thirty-year stay of bison in the Vologda Region, we have not found any negative impact of the reintroduced species on forest ecosystems. The animals do not harm valuable tree species, and do not have a negative effect on the distribution and life of other animal species. Confirmation of successful acclimatization is the excellent condition of the animals [4], their health and regular offspring from females of the herd (Table 2).

Table 2: Infection of bison by parasites depending on the season of the year.

Faecal samples were examined	Prevalence, %			
	March - April	August	November	February
44	66	75	62	-

Considering that the replenishment of the group with new individuals was insignificant, and the herd increased due to its own reproduction, the increase is significant. At the beginning of 2025, the total population of the world's northernmost group of European bison was 210 individuals. A team of scientists managed to create a population of freely reproducing bison in the conditions of the North of the European part of Russia (Photo 2).

Photo 2: Bison of the "Northern" group".

In the Vologda region, biologists conduct constant environmental monitoring, monitor the dynamics of the bison population. An important area of work is monitoring the health of animals and their reproductive functions [5]. The bison is the largest herbivorous animal in Europe, capable of influencing the clearing of forests, the formation of a certain ecosystem in habitats. In addition, today we can talk about the Bison bonasus L., 1758 species as a historical monument of the creative work of people, a successfully restored species. The bison has unique qualities, we can consider it in the future as a hunting species. Biological features, first of all, the unique use and digestion of wood and branch feed, resistance to many diseases, large live weight and others can be useful in the future in human activities, in improving domestic breeds of cattle

At present, the priority tasks for the development of a free-breeding group of bison in the North of the European part of Russia are: certification of the existing free-breeding herd, monitoring, assessment of the genetic diversity of the group, study of viability indicators (nutrition, reproduction, ethology, exterior, interior), study of the health of animals, human impact [6]. Of no small importance is the determination of ecologically optimal conditions, survey and selection of new territories, determination of the forage capacity of lands for expanding the boundaries of the habitat of the existing group of bison. Thus, the long-term work of Russian scientists and specialists on the conservation of ecosystems and the increase in the number of European bison Bison bonasus (Linnaues, 1758) and its reproductive potential confirms the effectiveness of

the introduction of this species in the Ust-Kubensky district of the Vologda region and contributes to the conservation goals of popularizing the nature of the Russian North.

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