

ASSESSMENT OF RECREATION FORESTRY THROUGH SOCIETY COMMUNICATION: ON THE CASE OF BURABAY NATIONAL PARK, KAZAKHSTAN

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ABSTRACT

Recreation is considered an important ecosystem service in forests and puts pressure on other ecosystem services. The issues of forestry and the recreation assessment of ecosystem services of forests, on the example of Burabay National Park are investigated in this study. The relevance of forest ecosystem services, such as carbon fixation, oxygen emission, soil conservation from erosion and precipitation redistribution, are important environmental factors that contribute to the conservation of natural capital. The ecosystem services of forests should be valued in monetary terms and considered in the context of the national wealth of the country. The results obtained can be used in planning measures to improve the sustainability of forests, ecotourism organizations and management decision-making. The most important instrument for achieving public support is communication. In our paper, we demonstrate methods to describe recreational demand by collecting data from interviews.

RESEARCH OBJECTIVE

Burabay State National Natural Park is located in the north of Kazakhstan in the Akmola region, and its territory is located in the Kokshetau Upland. (Figure 1). The type of climate is sharply continental. The total area in the Burabay National Park makes up 129,900 hectares, of which 79,300 hectares are covered with forests.



The main forest-forming species are Scots pine (*Pinus sylvestris*) and birch (*Petula pendula* sp.), of which the proportion is 65.6% and 29.0%, respectively. There are small areas of aspen (*Populus tremula*) and other tree and shrub species. On the territory of the park, there are the following types of game animals: Cervidae, Capreolus, Alces, Lepus, Sciurus, Marmota, Ondatra zibethicus, Vulpes, Canis lupus, Tetrao urogallus, Lyrurus tetrix and Perdix perdix.

Figure 1. The map of the territory of Burabay National Park

RESULTS

Carbon Fixation Value

Total Stock in the Forested Area, Tons	Fixed Carbon Mass, Tons	Price for 1 Ton of Carbon, USD	The Total Carbon Fixation Value of Forests, USD
6652.7	3326.4	69.33	230,619.3

Table 1. Determination of the value of the forests of the Burabay National Park for carbon fixation.

Calculation of Oxygen Release	Calculation of Oxygen Release	Value of Soil Protection	Redistribution of Precipitation
The oxygen-producing function of forests was estimated at USD 30,000 per hectare of forested area.	The oxygen-producing function of forests was estimated at USD 30,000 per hectare of forested area.	The average conservation value per hectare of forests would be USD 748.68.	Services of a forest area equal to 79,285 hectares for the redistribution of precipitation can be estimated at USD 10,465.1 or USD 132 per hectare of forest.

Recreational Value

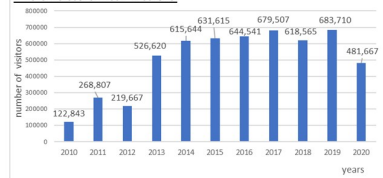


Figure 2. Number of visitors to the national park Burabay (Source: Department of Statistics for the Akmola region)

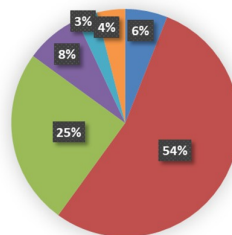


Figure 3. Percentage of respondents by category

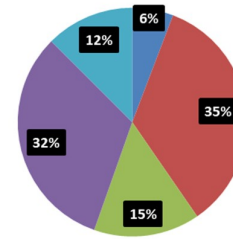


Figure 4. Respondents' answers to the question about the implementation of development programs

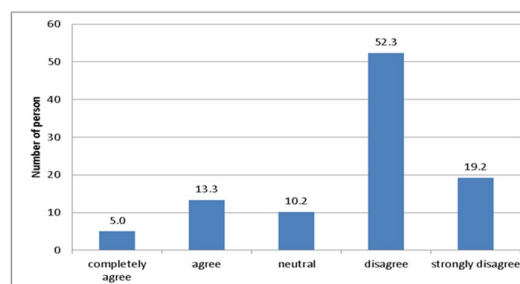


Figure 5. Respondents' answers regarding whether they would like to invest in the environment.

DISCUSSION

Summarizing the results obtained, it can be argued that they match with the results of scientists from Iran, Poland and other countries. In line with current research, more people were interested in financially supporting the Burabay National Park. The research results showed that the citizens of Kazakhstan were very interested in the development and protection of specially protected areas, such as the Burabay National Park. Additionally, a significant number of the respondents who answered the questionnaire were concerned about the situation and asked for increased attention from the decision-making bodies regarding the future development of the park as a nation-wide and valuable asset. The total value of the regulatory ecosystem services reviewed was USD 302.8 million.

CONCLUSION

The results of this study can be used in the following ways:

- Profile ministries, as well as the Committee for Forestry and Wildlife Protection of the Republic of Kazakhstan and its subordinate organizations, can develop standards aimed at the prudent use of natural resources to improve the state of the unique forests of the resort zone;
- Based on the results of this research, it is possible to determine the potential of the region in the global balance of production and consumption of resources such as carbon, as well as the possibility of buying or selling these resources in the future, based on the intra-republican and interstate quotas established for them;
- The experience of advanced countries shows that significant material and financial costs for improving the infrastructure of the national park are gradually paid off, primarily due to an increase in the flow of tourists and vacationers, not only in the summer but also in the winter

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