

Тор клеткаларда орналасқан бөденелерге селекциялық жұмыс жүргізу үшін, олар жеке тор клеткаларға отырғызылады. Жұмыс уақытының құны жасанды ұрықтандырумен салыстырғанда жоғары емес. Бұл әдіс үшін жоғары жыныстық белсенділігі бар бөденелерді пайдалану керек.

Тор клеткаларда 1:3 бөдене қораздарымен мекиендерін топтастыру арқылы ұрықтандыру жасанды ұрықтандырудан қарағанда әлде қайда тиімдірек

**Кілт сөздер:** жұмыртқалы, будандастыру, ұрықтандыру, жасанды ұрықтандыру, қоныстандыру, эксплуатация.

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#### GROWING AND CONTENT OF BREEDS (COTUNIX COTURNIX) IN CELLS UNDER THE CONDITIONS OF THE NORTH WIDTH OF KAZAKHSTAN

##### **Abstract**

Based on the materials of the study, we consider it possible to draw the following preliminary conclusions:

Cultivation and maintenance of breeding Japanese quails in cells does not adversely affect their viability and reproductive qualities.

To conduct breeding work with quails in cages, along with artificial insemination, the method of individual coating of quail can be applied by attaching them to quail. The cost of working time is not higher than with artificial inseminations. For this method, quails with high sexual activity should be used.

With group content in quail cells with quails in a ratio of 1: 3, fertilization is higher than with artificial insemination or mating females by replanting to quails.

**Key words:** egg-laying, cultivation, fecundity, artificial insemination, landing, exploitation.

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#### QUESTIONNAIRE STUDY AIMED AT A NON-MARKET VALUATION OF BENEFITS IN SNNP "BURABAY"

##### **Annotation**

The article examines a questionnaire study conducted in SNNP "Burabay", which covers the following groups of issues, such as: a questionnaire survey in the SNNP "Burabay"; assessment of the monetary value of non-market benefits of the SNNP "Burabay"; a monetary estimate of the non-market value of the selected categories. The listed questions are part of the study. On the territory of SNNP "Burabay" 383 people were interviewed, who were acquainted with the purpose of the conducted research.

**Keywords:** questionnaire, recreational function, non-market benefits, monetary value.

##### **Introduction**

One of the most important types of natural resources is forest. The forest is a national property, which is one of the country's natural resources. The forest performs many useful functions, which can be conditionally divided into two groups: economic functions of the forest,

by which is meant the extraction of wood, as well as by-products of forest use (berries, mushrooms, gum, etc.); special - ecological and social - functions of the forest - water protection - protective, anti-erosion, sanitary - hygienic, recreational.

According to O.V. Likhomanov, in recent years, much attention is paid to recreational forests, as a place for recreation and eco-tourism. Evaluation of the recreational function of the forest is an actual problem, since they are not actually isolated as a separate resource, but referred to products of side use of the forest. The concept of "willingness to pay" is very important to determine the economic value of nature. It reflects an additional value, which the consumer would be willing to pay for the goods overpaid amount. In theory, this quantity is called the consumer surplus. In practice, this concept is built on the collection of statistical data related to the population and the population's willingness to pay annual contributions for the benefit of the forest. Further having all the necessary data, we set the percentage of willingness to pay in the region of interest. After, for each cost group we find the average value and already that most find how many people are willing to pay this or that amount. At the end, we summarize the results and obtain an approximate cost estimate of the recreational forest resources in this region [1].

The method of non-market direct assessment based on a willingness to pay recommended for use by the United Nations Department of Economic and social information and policy analysis [1]. The method of non-market direct valuation is used in situations where the market of natural resources is absent or poorly developed, that is, when the common market methods cannot be effectively applied. The method can be used when considering almost any ecological problem, when there are groups of consumers whose interests are affected.

#### **Materials and methods**

The object of research is SNNP (State National Nature Park) "Burabay" which is one of the most highly used and popular for tourists in Kazakhstan. The considered natural object provides users with various ecosystem services, among which a significant role is played by recreation, which has become noticeably more active in recent years.

Conducting a questionnaire survey using a survey of respondents in the SNNP "Burabay" aimed at a non-market valuation of benefits requires preliminary preparatory work [2]. Therefore, before the questionnaire was conducted, three different templates of questionnaires were developed, allowing mainly to perform a targeted assessment, as well as to identify specific categories of non-market value that are components of the whole economic value of the forest of the complex under study. First of all, a template of the basic questionnaire has been developed, which makes it possible to survey opinions and views on the nature of the environment and monetary valuation, as its peculiarity, and the goods, services and benefits used in this environment. The development of a sample of a basic questionnaire for the study of views, opinions and valuation of forest products should be taken as an important stage of the study and requires considerable effort from the research team. Since the sample of this questionnaire in our country is applied for the first time, it is necessary to draw on the theoretical and practical experience of foreign countries, in particular Poland, to develop carefully all the necessary items to obtain full and reliable information. Further, the second version of the questionnaire, adapted for economic and forest research, is being developed and finally the third version for conducting research in the SNNP "Burabay". These versions will make it possible to disclose social preferences with respect to the individual views of the forest complex under investigation and build a model conducted before determining the monetary value of goods, services and benefits of an off-market characteristic, as well as conducting social studies.

The questionnaire was developed by the consultation of Lech Plotkowski, professor of Warsaw University of the Life Sciences, Poland and were reviewed and discussed by experts, employees and managers of forestry organizations of the Republic of Kazakhstan. Consultations in the field of methodology for the development of personal data for this type of research have

also been taken into account by the staff of “Forest Resources and Forestry” Department of S. Seifullin Kazakh Agrotechnical University, implementing the silvicultural and economic study at the SNNP “Burabay”. Further, all the samples of the questionnaire were the subject of discussion among Bachelor, Master and PhD students of “Forestry” specialty of Turkey, Russia, Kyrgyzstan, South- Korea and Kazakhstan HEIs who were also engaged in scientific research in this field.

The object of research was SNNP “Burabay” where 383 respondents were interviewed during the period of 2015 and 2017. Based on the analysis of the reasoning and conclusions of the theoretical part concerning the evaluation of non-market goods, supplying forests and the forest economy, it can be concluded that the benefits that provide the level of demand for goods, services and forest benefits will not be exchanged in the market and this kind of actual many authors are involved in the problem. In this research direction, there are discrepancies between the opinions of the authors, of course, it concerns above all such topical issues as how to solve and find ways to construct a demand function (curve) and how to calculate the value of benefits (benefits) per one consumer-consumer of this type of forest products and services.

Based on the rules for classifying methods, they can be divided into two separate groups: direct and indirect methods. If it is a question of direct methods, then the method of transport-travel costs (TCM), which is very well known and has practical significance and fondness in developed foreign countries, especially in European and American countries, is acceptable in the study of the sphere of the national nature park. The direct methods used in this area include the Contingent Valuation Method (CVM), which involves asking questions to the individuals in question about the amount of the maximum amount that they can pay for accessing a given product, service or forest benefit in a non-marketable character. This trend is determined by the reduction of WTP (from the English term - Willingness To Pay). WTP corresponds to the amount of money income that an individual would like to pay to improve the quality of the good or, conversely, to prevent deterioration in the quality of the good. As an alternative, Willingness To Accept (WTA) is also used in studies. WTA is the amount that a consumer is willing to accept for refusing to consume goods. The economic assessment is WTA, due to the fact that sometimes people agree to partially abandon environmental benefits in exchange for a certain compensation (for example, for a higher wage, people are willing to work on environmentally “dirty” industries) .

### **Results**

It should be noted that research in the valuation of the value of the non-production function of the forest has a long traditional and relatively rich literature. However, those studies were made in terms of the producer of these functions than forestry. There was no general study considering the evaluation of such products both from the point of view of consumers. This means that the development of methods in this direction has a pioneering character in our domestic literature.

Summarizing the foregoing, it can be argued that estimating the value of non-market forest benefits of the SNNP “Burabay” will lead to the development (construction) of the demand function for these products and the assignment of monetary value to them using three principal economic models, such as: Model of Transport-Travel Costs (TCM); WTP model and WTA model [4]. For the evaluation and analysis of the following cost categories, which characterize the preferences of the respondents, the Hedonic Pricing Method (HPM) is also used in this work.

Methods for constructing these models and analyzing the results obtained are described in the following subsections of this part of the thesis.

The basis for constructing the demand function for non-market goods, services and benefits of the SNNP “Burabay” is the answers received from the surveys. This concerns first of all the definition of how long visitors (for how many days) visitors come to this place and how long (in days) they have stayed on the territory of SNNP “Burabay” (Table 1, question 5). In the

table it is shown only 10 questions among 30. The second principal source of information is the answer to the questionnaire-6 concerning the indication of the costs associated with staying at SNNP "Burabay". The answer to the question concerning the amount of the cost associated with staying on the territory of SNNP "Burabay" was answered in general by 383 persons among 385 respondents. If it is a matter of specifying the cost associated with the arrival and stay in the SNNP "Burabay", some of the individuals indicated the exact cost, and some did not even give an answer to this question. In the event that the respondent was unable to deliver the exact amount of expenses incurred, the respondent is asked to answer the support questions indicated by the numbers 7, 8, 9 and 10 (Table 1). The content of these questions makes it possible to estimate the amount of these expenses.

Table 1 – Questionnaire

№	Possible answers	Tick the right answer
1.	<b>When deciding whether to come here, did you know what is here?</b>	
	I know what is located here. There is a large area of the national nature park.	
	I had a general idea that this is a specially protected natural area	
	I did not imagine what is here	
2.	<b>How much did it affect your arrival here that it is a specially protected area?</b>	
	very large	
	large	
	large but not decisive	
	not large	
3.	<b>Tell please, what is your main goal of coming</b>	
	To have rest as the place is pretty good, like any other place.	
	I come here often; this is my favorite place from the very beginning.	
	To visit the famous natural park of "The pearl of Kazakhstan".	
	The knowledge about the SNNP "Burabay" is important for my current / future professional activity.	
	Accidentally came here, not thinking about what I'm here for.	
	I accidentally came here, did not think about what I was coming for this trip	
	Excursion, tourism or business trip.	
	It was necessary to come for personal reasons.	
4.	<b>How many times you have been in the SNNP "Burabay"?</b>	
	Never been	
	I have been ..... times	
5.	<b>For how many days did you arrive to the SNNP "Burabay"?</b>	
	I have come for .....days	
6.	<b>You can indicate the total amount of costs you spent to come here. We ask you to write down the amount you spent on arranging the visit (for example, the expenses of the tourist bureau) and those that you spent personally.</b>	
	Yes, the amount makes up .....KZT	
	No, it is not easy to answer	
7.	<b>Where did you stay in the SNNP "Burabay"?</b>	
	hotel (name of the hotel)	
	private apartment	
	camping or tent	
	free lodging with friends	
	tourist houses	
	did not spend the night here	
	other variant	
8.	<b>How much is the cost of lodging for the night? (in KZT)</b>	
	I have spent for the night .....KZT	

	I cannot define	
9.	<b>What expenses and how much did you spend to come here (round-trip expenses)?</b>	
	There were no expenses for arrival and back.	
	I have spent the sum of .....KZT	
	It's hard for me to determine	
10.	<b>What type of transport did you use to come here? Please, indicate all types of transport used, from your place of residence to the SNNP "Burabay" and back.</b>	
	train and bus	
	shuttle bus	
	sightseeing bus	
	private car	
	airplane	
	other type of transport. What type of transport?	

The next stage of the work considering the valuation of the goods and services provided by the SNNP "Burabay" and that, having a place on the market, are outside the negotiable ones, they will be ranked at the highest to the lowest cost declared in number 6 of the questionnaire - the cost of stay. This ranking took place in the framework of the individual respondents, announced through the visited species, characterized by their residence time. This strict ranking will be carried out as part of the separation into separate types of visits. The results of this stage of the work will be presented in the form of a table and figures, primarily comparisons characterizing: a) the distribution of travel expenses on the territory of the SNNP "Burabay" within each visit; b) the maximum cost of the visiting costs incurred in certain visiting groups (these costs will be the maximum measure of customer readiness before payment for certain non-market benefits); c) the relationship between the use of travel expenses and the time of visit.

Having the stay curve and knowing the maximum willingness of customers to pay certain expenses (in the form of travel and stay expenses) for access to non-market goods, services and works of the SNNP "Burabay" forest complex, it will be possible to provide, before determining the monetary value of gross non-market benefits in general respondents (scrap) as well as the same type of value, which are generally participants and visit the SNNP "Burabay" during the year [3].

Table 2 – The gross value of non-market goods belonging to a group of respondents

duration of visit (days)	% of persons declared, determined by the duration of the visit	number of persons declared, determined by the duration of the visit (383) * x (column 2)	gross cost of benefits for 1 person (in KZT / per person)	gross cost of benefits (KZT) (column 4 x column 3)	structure of common benefits %
1	63.45	243	500	121.500	50.4%
2	12.27	47	1 000	47 000	19.5%
3	5.74	22	450	9 900	4.1%
4	3.66	14	200	2 800	1.2%
5	3.39	13	300	3 900	1.6%
7	3.66	14	2 000	28 000	11.6%
10	2.35	9	600	5 400	2.2%
14	2.87	11	1 500	16 500	6.8%
Average 12.3	2.61	10	600	6 000	2.5%
	100.00	383	629	241 000	100%

383 – number of respondents who were determined to visit

In this paper, it seems that the character of the obtained dependences determined the study period (the months of vacations). In this period in the Park there are many excursions compared to other periods. According to the opinion of employees of SNNP "Burabay" and forest district foresters, the study of the duration of the stay, which conducts entrepreneurial activity on the territory of the SNNP "Burabay", would be worth repeating in the autumn period, paying attention to another character of the visit. This is not only a sociological survey of visitors to the Park, but primarily of other periods of individual visits. Short periods of the implementation of research have shown such a postulate unreal in terms of time.

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### ИССЛЕДОВАНИЕ АНКЕТИРОВАНИЯ, НАПРАВЛЕННОЕ НА НЕ РЫНОЧНУЮ ОЦЕНКУ ПРИБЫЛИ В ГНПП «БУРАБАЙ»

#### Аннотация

В статье рассматривается анкетирование, проведенное в ГНПП «Бурабай», который охватывает следующие группы вопросов, такие как: анкетирование в ГНПП «Бурабай»; оценка денежной стоимости нерыночной прибыли в ГНПП «Бурабай»; денежная оценка нерыночной стоимости выбранных категорий. Перечисленные вопросы являются частью исследования. На территории ГНПП «Бурабай» было опрошено 383 человека, которые были ознакомлены с целью проведенных исследований.

**Ключевые слова:** вопросник, рекреационная функция, нерыночные выгоды, денежная оценка.

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### «БУРАБАЙ» МҰТП КІРІСІНІҢ БЕЙНАРЫҚТЫҚ БАҒАЛАУЫНА БАҒЫТТАЛҒАН САУАЛНАМАНЫҢ ЗЕРТТЕУІ

#### Аңдатпа

Мақалада «Бурабай» МҰТП-дағы сауалнама; «Бурабай» МҰТП-дағы бейнарықтық кірісінің ақшалай құнының бағалауы; тандалған категориялардың бейнарықтық құнының ақшалай бағалауы сияқты сұрақтардан тұратын «Бурабай» МҰТП- да жүргізілген сауалнама қарастырылады. Аталған сұрақтар зерттеудің бөлігі болып табылады. Сауалнамадан «Бурабай» МҰТП аумағында жүргізілген зерттеудің мақсатымен танысқан 383 адам өтті.

**Кілт сөздер:** сауалнама, рекреациялық функция, бейнарықтық пайда, ақшалай құн.