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**M. V. Yushkevich**

Belarusian State Technological University

**SOCIAL ASPECTS OF FOREST RECREATION**

We consider the social aspects of recreational use of forests, such as forest recreants attendance and attractiveness of different stands on the size and type of locality, age, gender, employment. It was established that recreants distributed fairly evenly by the number of visits to the forest in the summer. Most vacationers are in a forest 1–2 times and 3–4 times per month. Women are in forest considerably less than men. Working in the forest are less likely than senior citizens, students and pupils. Residents of rural areas are more likely than residents of large cities, visiting the forest. More than 3/4 of the respondents prefer to rest in mixed stands, and one in five in the pure stands. More than a quarter of the women surveyed, and almost one in four works in favor of rest in pure stands. More than half of the respondents chose the pine stands as a place of rest. A large proportion of respondents (22.1%) of the answers a few tree species, including two species – 15.3%. Dominated by a combination of pine and birch, pine, birch and spruce. Women choose for rest stands consisting of one or two tree species, mostly pine, birch or mixed of these breeds. Men are more variation in their choice. Working are characterized by a more flexible approach to the selection of stands for summer vacation. The study offered the best in terms of recreants composition recreational forests of the country.

**Key words:** recreation, forest, composition, attractiveness, attendance, age, location.

**Introduction.** Among the diverse natural complexes forest creates the most favorable conditions for recreation, especially if there are some water bodies and open spaces nearby (meadow, beach and so on) [1]. With growing share of the population in the urban regions in Belarus (77.3% in 2015), the demand for forest recreation services increases [2]. To provide high quality forest recreation services and proper management in forest, it is necessary to know social aspects of a recreational forest management. It depends on the forest visitors and preferences of holidaymakers, the size and type of settlement, age, gender, employment, etc.

**Main part.** To identify the preferences of tourists a short descriptive sociological large-scale population survey was applied [3, 4]. While building the sample within each region and city of Minsk, we used stratified disproportionate selection. The preferences were given to the districts and major settlements near republican roads. Within the subsample systematic selection was used (the selection is determined depending on the size of the subsample and the required number of respondents). Primary data collection method was possible because of group and individual survey. The survey was carried out in 2014, the questionnaire was semi-closed. Among personal details (gender, age, size, residence and occupation), there were also the answers about forests they visited in summer, and the forests that they would like to visit (pine, spruce, birch, etc.; consisting of several tree species or same species).

The object of the survey was the complex of potential recreants living within the territory of Belarus. Taking into account the age structure the maximum amount of the population was 7,338,070 people by the beginning of 2014 [5].

According to L. N. Rozhkov, the maximum number of tourists in the forests of Belarus may reach 3.3 million people [1].

On this basis, in sociological studies the sample at a confidence level of 95% and confidence interval of 5% is set at not less than 384–400 [3, 4]. In our case, 391 people were asked, including 69 in Minsk, 53 in Brest region, 61 in Vitebsk, 47 in Gomel, 49 in Grodno, 64 in Minsk and 48 in Mogilev district. Among the respondents, men accounted for 43.1%. Respondents were divided by age as follows: under 17 years – 3.5%, 18–22 years – 14.1%, and 23–30 years – 15.2%, 31–60 years – 56.9%, 61 and more – 10.3%.

Recreants who enjoy spending time in forests during summer period spread equally enough according to the numbers of visits (Table 1). Mostly tourists visit forests 1–2 times in summer (26.3% of the respondents) and 3–4 times a month (25.0%). The proportion of those who visit forests rarely (1–2 times over the summer) and often (several times in a week) is always the same (21.2 to 22.0%). 5.5% of the respondents do not have vacation in summer.

Women visit the forest less than men. Among them dominate (58.8%) of those who visit forest 1–2 times per summer, or per month. Among men the proportion is 38%. The proportion of women who do not visit the forest in summer (6.5%) is slightly higher than men (4.6%). Employed recreants visit the forest less often than senior citizens, students and pupils. The proportion of those who visit the forest 1–2 times per summer, or per month, in these categories makes 69.7 respectively, 45.3 and 43.9%. At the same time the percentage of senior citizens who do not visit forest is rather high (9.5%).

Table 1

## Distribution of forest visitors in summer, %

Type of visitors	Number of visits				
	1–2 times in summer	1–2 times in summer	3–4 times in summer	Some times in a week	Don't visit
All	21.2	26.3	25.0	22.0	5.5
Men	15.5	22.5	29.5	27.9	4.6
Women	28.0	30.8	20.6	14.0	6.5
Pupils, students	20.1	23.8	28.0	22.8	5.3
Employed people	30.3	39.4	9.7	14.5	6.1
Senior citizen	14.6	30.7	27.3	17.9	9.5
Residents of Minsk and other regions	23.9	28.2	29.6	14.1	4.2
Rural residents	12.1	25.3	22.2	31.3	9.1

Residents of rural settlements are more likely than residents of large cities visit forest. The share of those who visit forest 3–4 times a month is 53.5 and 43.7%, and those who visit forest several times a week is 31.3 and 14.1%. However, there is high participation (9.1%) of those rural residents who don't visit during the summer.

In general, the above data of forest visitors are similar to the results of the studies conducted by L. N. Rozhkov. According to them, men visit the forest more often than women, the greatest frequency of forest visitors is characterized by age category 17–29 years, the lowest by senior citizens and recreants at the age of 17 years [1].

Among the tourists dominate recreants at the age of 30–50 and 17–29 years, and among the last ones are employed people [1]. Studies by other authors show that there is a correlation between the size of the settlement and forest recreational activity. In big cities, an indicator of recreational activity is higher and the rural population has a lower recreational activity, although they visit forest more often during their work [6].

More than 3/4 of the respondents prefer to relax in mixed stands, and every fifth prefers to relax in the pure stand (Table 2). The type of forest stand is not essential for 3.0% of holidaymakers. It should be noted that the share of such answers usually varies slightly (from 1.6 to 4.4%) depending on the category of tourists. It is the smallest among pupils, students, women and it is the highest among rural residents and men. Exception is employed people (10%).

The largest share of those who prefer to relax in mixed stands is senior citizens (82.2%) and men (80.6%), and the lowest is among women (72.9%) and the residents of large cities (74.6%). The share of employed people is significantly below the average data (66.1%).

More than a quarter of women prefer a holiday in pure stands. The proportion of men is thereof 15.5%. Almost every fourth working also prefers

pure stands and only 15.9% of senior people chose pure stands.

Significant differences in the responses among residents of different settlements have not been identified. The obtained data can serve as a guide in determining the optimal share of forest stands of different types in the forests of recreational value.

According to L. N. Rozhkov, the majority of holidaymakers (57.8%) prefer mixed forests, coniferous (31.2%) and deciduous (11%) [1]. In other studies, 52% of tourists prefer mixed forests, pine (23%) and deciduous (4%) [7].

For more detailed characteristics of the preferences of the respondents recreants indicated the forest(s) where they like to relax in the summer (pine, spruce, birch, oak, other types of trees). The results are presented in Table 3.

Pine stands have the most popular choice. More than half of respondents chose them as places of recreation. Forest stands composed of other species were chosen less frequently. Birch stands accounted for 11.0%. Other forest respondents were mentioned more rarely. Spruce and oak forests were selected in almost equal share (4.2 and 3.8%, respectively). It is not essential for 6.4% of tourists what type of forest stand to go to.

Relatively large share of respondents (22.1%) indicated several tree species, the share of those who chose two species is 15.3%. In such questionnaires pine (19.1%) and birch (17.8%) stands are often marked. If two tree species were chosen, It would be a combination of pine and birch stands (10.2%). Rarely can be found combinations of pine with spruce, birch with oak and pine with the oak. When three or more tree species were specified, a combination of pine, birch and spruce dominated.

Women (52.3%) like pine forest stands more than men (48.9%). Only 1.9% of women choose a spruce forest as the place of rest and (of 6.2%) of men respectively. At the same time, 14.0% of women and 8.5% men choose birch stands.

Table 2

## Distribution of recreants according to forest stand preferences, %

Recreants	Stands		
	pure	mixed	pure and mixed
All	19.9	77.1	3.0
Men	15.5	80.6	3.9
Women	25.2	72.9	1.9
Pupils, students	19.0	79.4	1.6
Employed people	24.2	66.1	9.7
Senior citizens	15.9	82.2	1.9
Residents of Minsk and other regions	22.5	74.6	2.8
Rural residents	17.6	77.9	4.4

Almost a quarter of women in their responses indicate several (more often two) tree species. Among them pine and birch dominate. Tree species have no significance for 9.3% of men.

In general we can say that women choose forest stands, consisting of one or two tree species, most often pine, birch or mixed of these breeds. Men are more variable in their choices.

63% of senior citizens like more coniferous trees. Among employed people such answers were given by 51.5% of respondents. Several tree species were chosen only by 15.2% of senior citizens, which is much lower than the average data. There is a very high proportion of those who chose several tree species, among them are employed (27.9%) people.

Thus, the working people are characterized by a more flexible approach to selecting forest stands for summer vacation. It is evident, in particular, there is a high proportion of those (10%) who chose the forest consisting of such tree species as

alder, aspen, etc.), and for whom the breed does not matter.

Residents of rural settlements are characterized by a high proportion of those who prefer to stay in birch and spruce stands, and a low part which chose pine stands in comparison with residents of Minsk and other regions.

It is necessary to note a high percentage of holidaymakers who chose oaks stands. If we consider a forest consisting of several stands, the attractiveness of oak stands to holidaymakers are slightly below than the spruce ones. It should be noted that the area of spruce stands in the Republic of Belarus is 2.6 times more than the oak ones. The results allow us to propose optimal from the point of view of recreants, shares of the most important formations of forests in the Republic: the pine forest – 62.3%, spruce – 7.9%, birch – 19.9%, oak – 6.4%, and other – 3.5%.

**Conclusion.** Recreants are equally distributed by the number of visits to forests in summer.

Table 3

## Distribution of recreants according to forest stand preferences, %

Forest stand	Recreants							
	All	Men	Women	Occupation			Residents	
				Pupils and students	Employed	Senior citizens	Minsk and other regions	Rural settlements
Pine	50.4	48.9	52.3	51.9	48.5	56.3	54.1	45.5
Spruce	4.2	6.2	1.9	4.2	3.0	6.7	2.9	6.1
Birch	11.0	8.5	14.0	11.6	8.1	9.2	8.0	15.2
Oak	3.8	3.9	3.7	4.8	2.5	2.9	3.6	4.0
Other species	2.1	2.3	1.9	2.1	3.2	1.2	2.9	1.0
Not essential	6.4	9.3	2.8	5.8	6.8	8.5	8.0	4.0
Several species	22.1	20.9	23.4	19.6	27.9	15.2	20.5	24.2
two species	15.3	12.4	18.7	15.3	20.3	10.4	14.1	18.7
three or more species	6.8	8.5	4.7	4.3	7.6	4.8	6.4	5.5
Including:								
pine	19.1	19.4	22.4	18.0	24.3	14.3	16.8	22.2
spruce	7.6	7.0	8.4	7.4	4.8	7.5	5.8	10.1
birch	17.8	17.1	18.7	15.9	24.0	13.9	16.8	19.2
oak	5.1	4.7	5.6	3.2	9.7	3.4	5.8	3.0

Most vacationers visit forests 1–2 times (26.3% of the respondents) and 3–4 times a month (25.0%). 5.5% of the respondents don't go to forest in summer.

Women visit forests less than men. Working recreants visit forests less often, than senior citizens, students and pupils. At the same time among senior citizens high proportion of those who do not go there in summer.

Residents of rural settlements are more likely than residents of large cities visit the forest. However, high participation (9.1%) of those rural residents who are not in the forest during the summer.

More than 3/4 of the respondents prefer to relax in mixed stands, and every fifth – in the pure stand. The largest share of those who prefer to relax in mixed stands are senior citizens (82.2%) and men (80.6%), and the lowest share take women (72.9%) and residents of large cities (74.6%). Working is significantly below the average data (66.1%).

More than one quarter of women and nearly one in four working people choose pure stands (men 15.5% and senior citizens 15.9%, respectively). More than half of respondents chose the pine forests, birch (11.0%), spruce and oak forests (4.2 and 3.8%) as places of recreation.

Relatively large share of respondents (22.1%) chose several tree species and two species (15.3%). Women choose stands, consisting of one or two tree species, most often pine, birch or mixed stands. Men are more variable in their choices. Employed people are characterized by more flexibility by selecting forest stands for summer vacation. Residents of rural settlements are characterized by a high proportion of those who prefer to stay in birch and spruce stands.

The study suggested the optimal, from the recreants point of view, formational composition of the recreational use of forests in Belarus: pine forest stands – 62.3%, spruce – 7.9%, birch – 19.9%, oak – 6.4%, and other species – 3.5%.

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### Information about the author

**Yushkevich Mikhail Valentinovich** – PhD (Agriculture), Assistant Professor, Assistant Professor, the Department of Silviculture. Belarusian State Technological University (13a, Sverdlova str., 220006, Minsk, Republic of Belarus). E-mail: ymv@belstu.by

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