

ORIGINAL PAPER

Social preferences regarding leisure and recreation time in forests in Poland

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ABSTRACT

The purpose of this paper is to determine the seasons of the year preferred by the society, the time allocated for leisure and recreation, as well as days of the week and times of the day when people usually visit the forests managed by the State Forests National Forest Holding. Social preferences for forest recreation time were learned from the responses of 476 adult respondents (individual questionnaire interviews). The selection of respondents included the proportions of gender, age and place of residence of adult Poles, presented in statistical data. The respondents indicated a total of 175 forest districts (out of 430 all over Poland), in which they rest. The results obtained in the course of the work indicate that members of the society choose forest recreation usually during the vegetation period. On the average, the respondents indicated 2.4 seasons of the year – the share of respondents who indicated spring was 58%, summer – 76%, autumn – 74% and winter – 29%. There is a need to promote winter in the society, as it should be considered more frequently as a period when enjoyment of various forms of tourism and recreation is possible – including in forest areas. The study demonstrated that members of the population rest in forests most often for a total of several days or several weeks during the year – a total of $\frac{2}{3}$ of the respondents. The correlation of the length of stay in the forest with the age of interviewed persons was demonstrated – the length of stay increases with age. Research has shown that the majority of the society rests in the forests primarily on weekends (70%). Persons who visit the forests for tourism and recreation purposes on all days of the week are the smallest group. The clearly uneven distribution of tourism and recreation pressure on the forests during the week may explain the increasing meaning of the presence of others as a factor disturbing while leisure and recreation. The study demonstrated that the population visits the forests for recreation purposes most frequently in the afternoons (more than 40%). The established uneven preference for certain times of day is smaller in comparison to preference for specific days of the week. The indicated need to modify social preferences regarding the time of leisure and recreation cannot always be fulfilled, because of, among other reasons, the time constraints of a large part of the population.

KEY WORDS

individual questionnaire interview, social functions of forests, social needs, tourist-recreational stay in the forest

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Introduction

Forests in Poland take up the area of almost 9.3 million hectares, which accounts for 29.6% of total area of the country (GUS, 2020). The majority (79.6%) of forests constitute public property. The State Forests National Forest Holding manages 95% of the public forests. Forests in Poland are not only a source of wood raw material. Increasingly, they are the space where people benefit from the intangible values of the natural environment, mainly through tourism and recreation. One of the commonly accepted objectives of forest usage is to use them for purposes other than production (Paschalis-Jakubowicz, 2004). The increasingly important role of forests as recreational areas entails the need for ongoing scientific research, especially into the tourism and leisure preferences of the public. This is important both due to the need for fulfilling various social expectations, and from the standpoint of proper management of the forest areas.

The purpose of this paper is to determine the seasons of the year preferred by the society, the time allocated for leisure and recreation, as well as days of the week and times of the day when people usually visit the forests managed by the State Forests National Forest Holding. The obtained results were analysed in order to establish whether statistically relevant differences are visible in the replies of respondents depending on their social features.

Materials and methods

Social preferences for forest recreation time were learned from the responses of 476 adult respondents. The study was conducted with the technique of individual questionnaire interview. The number of possible responses to questions regarding seasons of the year, days of the week and times of day when the respondents usually engaged in forest recreation was not limited. Morning hours were defined as the time before 3:00 p.m., and the afternoon hours after 3:00 p.m., which results from the culturally conditioned division of time of day (Nowicka, 2006). The question regarding time allocated for recreation referred to the whole year. The following response options were offered: a few days, several days, a few weeks, a few months. A question was also included with the view to obtain information on the forest districts where the respondents usually spend their leisure time. The questionnaire covered the period of the last 5 years, which is relatively long, and at the same time takes into account the limited capacity to remember (Babbie, 1995; Ossowski, 2014). The particulars section contained questions on gender, age, place of residence, level of education and profession. The choice of the individual questionnaire interview technique for the study involved the need to consult the methodology with a sociologist.

Individual questionnaire interviews were conducted during the period 15 April – 15 May 2020 (278 interviews) and 14 March – 11 April 2021 (198 interviews). This formed part of scientific research carried out during specialization classes on forest utilization – by 84 students of the Faculty of Forestry of the Warsaw University of Life Sciences (a total of 453 interviews). The author of this paper conducted 23 interviews. The respondents included members of extended families and friends of the persons conducting the research, as well as persons unknown to them (suggested by members of families and friends). The study excluded persons who due to their profession or education have any ties to the management of forest resources in Poland. Each selected person received (by e-mail) the questionnaire, preceded by a question whether they are interested in participating in the study. In the next step, the individual questionnaire interview was conducted (telephone conversation – 65%, video call – 29%, face-to-face conversation with observance of sanitary requirements, i.e. safe distance and mask – 6%). The selection of

respondents included the proportions of gender, age and place of residence of adult Poles, presented in statistical data (GUS, 2019). This assumption was largely fulfilled (Table 1).

The breakdown of respondents based on their education level was as follows: primary or vocational education – 16.0%, secondary – 37.1%, university education – 46.9%. In terms of occupation, the different groups of respondents were (calculated based on responses from 452 persons – 22 respondents worked and studied, 2 respondents did not answer): farmers – 12.6%, blue-collar (manual) workers – 28.3%, white-collar workers – 49.1%, students – 10.0%. The respondents declared that they usually rest in the forests of: a single forest district (390 respondents), 2 forest districts (72), 3 forest districts (11), 4 forest districts (3). The respondents indicated a total of 175 forest districts (out of 430 all over Poland), in all 17 Regional Directorates of the State Forests: Olsztyn (28), Białystok (25), Radom (18), Toruń (17), Lublin (15), Warszawa (14), Łódź (13), Poznań (8), Szczecin (6), Szczecinek (6), Wrocław (6), Krosno (5), Gdańsk (4), Katowice (4), Kraków (4), Piła (1), Zielona Góra (1).

Statistical analysis was performed using a nonparametric test, because the distributions of the responses to the questions differed from the normal distribution (determined with the Shapiro-Wilk test). The χ^2 (chi-squared) function in logarithmic form (G function) was used in this study (Stupnicki, 2015). The obtained values of the G statistic (calculated using Microsoft Office Excel 2007) were compared with the table values for the assumed level of significance (0.05) and the number of degrees of freedom. If the resulting G value:

- 1) is lower than 3.84 (table value for one degree of freedom – in the case of a single response option and comparison of two groups of respondents) – this means that there certainly are no significant differences between comparable groups;
- 2) falls between 3.84 and the table value for the given number of degrees of freedom – the compared groups may differ significantly in terms of provided responses;
- 3) turned out to be larger than or equal to the table value for the given number of degrees of freedom – in such case statistically significant differences certainly exist.

If case 2) or 3) occurred, further analysis was performed – which groups and variants of answers are affected by the significance of differences.

The mean percentage error from the sample of 476 interviews, depending on the variants of the distribution of the bivariate variable, is 4.5% (at the 95% confidence level) (Babbie, 1995).

Table 1.

Social characteristics of the respondents (U resp [%]) on the background of demographic data (UPL [%])

Social groups		U resp [%]	UPL [%]
Gender	females	48.9	52.3
	males	51.1	47.7
Age (years)	18-25	14.5	10.6
	26-35	22.1	18.5
	36-45	22.5	19.2
	46-55	18.1	15.0
	>55	22.9	36.6
Place of residence	village	41.2	39.2
	city ≤50 thous. inhabitants	27.3	21.5
	city 50-100 thous. inhabitants	7.8	8.1
	city >100 thous. inhabitants	23.7	31.2

Results

Results of study, presented in Fig. 1, indicate that the largest group of respondents (one-fifth of all) are persons who rest in forests managed by the State Forests National Forest Holding during all seasons of the year. A slightly smaller number of respondents (18%) indicated three seasons: spring, summer and autumn. Persons who visit forests for tourism and recreation purposes in the summer and autumn constitute one-sixth of all respondents. The share of those who choose forest leisure either only during the summer or only in the autumn is the same (10% for each group). The number of respondents choosing spring and summer for their recreation was slightly smaller. Other, different answers were given by one-sixth of the respondents. Taking into account all variants of answers, the largest group of respondents (165 persons, or 35%) indicated 2 seasons of the year. 117 respondents, or 25%, rest in the forests during one season of the year. The numbers of persons who visit forest areas during 3 or 4 seasons of the year were the same (97 persons, or 20%, for each of these responses). On the average, the respondents indicated 2.4 seasons of the year – the share of respondents who indicated spring was 58%, summer – 76%, autumn – 74% and winter – 29%.

Statistical analysis showed no significant differences in preferred seasons for recreation by gender. A number of statistically significant differences ($G > 3.84$) were found, which are presented in Table 2. They show that respondents from the age groups 18-25, 26-35 and 36-45 were more likely, and the oldest respondents less likely, to answer that they usually rest in forests during a single season of the year, namely the summer. Persons aged 46-55 and >55 indicated two seasons of the year – summer and autumn – more frequently than the youngest respondents. The presented dependence of preferences upon age may suggest differences in time allocated for recreation, which was later confirmed (older respondents spend more time in the forests). Within the social characteristic of place of residence, the demonstrated differences show that respondents from cities with >100,000 inhabitants were more likely to respond that

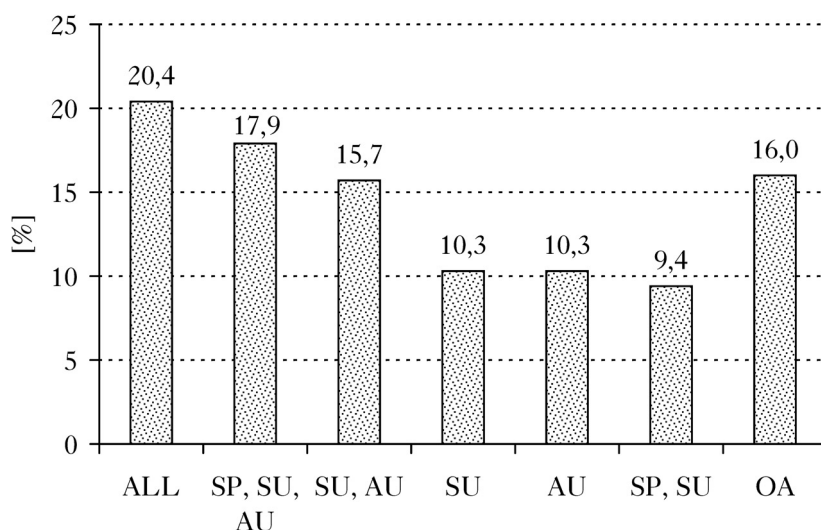


Fig. 1.

Seasons of the year preferred by respondents for recreation in forests

ALL – all seasons, SP, SU, AU – spring, summer and autumn, SU – summer, AU – autumn, SP, SU – spring and summer, OA – other answers (various combinations of answers)

Table 2.Statistically significant differences ($G>3.84$) regarding seasons of the year preferred for forest recreation

Social characteristic	Compared social groups	Variant of response	Share of respondents in the compared social groups [%]		G	
Age (years)	18-25	46-55	summer and autumn	8.7	22.1	5.36
		>55	summer and autumn	8.7	19.3	3.92
			summer	14.5	4.6	5.22
	26-35	36-45	spring, summer and autumn	12.4	25.2	5.82
		>55	summer	12.4	4.6	4.34
			summer	12.1	4.6	4.17
Place of residence	village	city >100 thous. inhabitants	summer	5.6	18.6	12.45
	city 50-100 thous. inhabitants	city >100 thous. inhabitants	spring and summer	16.2	5.3	3.93
Education	primary or vocational	secondary	autumn	26.3	7.4	15.29
		university	autumn	26.3	7.2	17.17
Occupation	farmer	white-collar worker	autumn	17.5	8.1	3.95
		student	summer	7.0	24.4	6.16
	blue-collar worker	student	summer and autumn	20.3	4.4	7.61
			summer	10.9	24.4	4.49
white-collar worker	student	summer and autumn	16.7	4.4	5.64	
		summer	9.0	24.4	7.28	

they usually visit the forest in summer than those from rural areas. Residents of large cities indicated spring and summer less frequently than residents of medium-sized cities (50,001-100,000 inhabitants). Respondents' preferences vary depending on their education level. This is particularly true for autumn recreation, which is definitely most frequently chosen by persons with primary or vocational education (over one-fourth of this group). Students of schools and universities constitute this group of respondents which clearly more frequently uses the forests for tourist and recreation purposes in the summer (almost 25%). In addition, students were much less likely to indicate summer and autumn than blue-collar and white-collar workers. In the occupation groups, it was also found that the farmers statistically more likely, and white-collar workers less likely, to respond that they rested in the woods primarily in the fall.

The study demonstrated that members of the population rest in forests most often for a total of several days or several weeks during the year – a total of $\frac{2}{3}$ of the respondents (Fig. 2). Almost one-fourth of the respondents allocate a few days for a forest stay. The smallest number of persons (slightly over 7%) responded that they allocate a few months per year for tourism and recreation in forests.

The time allocated by respondents for recreation in forests does not differ in a statistically significant manner depending on the place of residence and education level. Statistically significant differences in responses arise depending on gender – the data presented in Table 3 shows that men rest for longer time in the forests. Analysis of age-related differences allows to notice a certain dependency, namely that with age, people tend to spend more time in the forests. The more frequent response 'a few days' given by students falls into the age-related difference.

Responses to the question regarding days of the week preferred for recreation in forests allowed to define a few groups of respondents (Fig. 3). The largest proportion (one-third) are

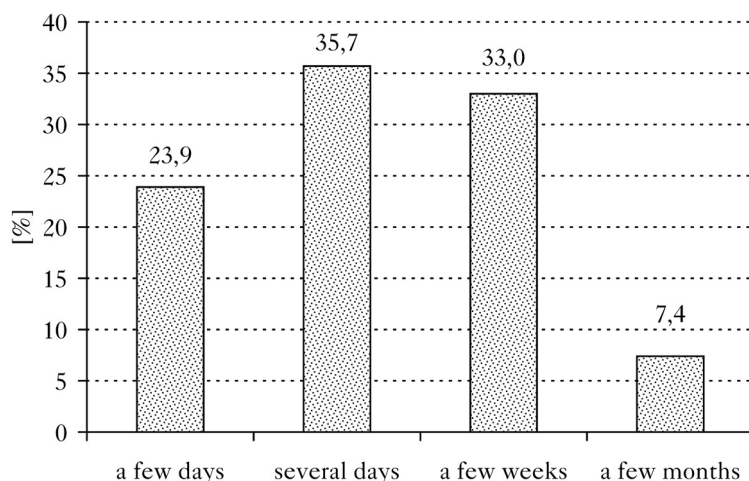


Fig. 2.

Time allocated for recreation in forests (total per year)

Table 3.

Statistically significant differences ($G > 3.84$) regarding the length of forest recreation

Social characteristic	Compared social groups		Variant of response	Share of respondents in the compared social groups [%]		G
Gender	female	male	several days	40.8	30.9	5.09
			a few months	3.9	10.7	8.52
Age (years)	18-25	26-35	a few weeks	37.7	22.9	4.41
		36-45	a few days	29.0	15.9	4.25
	26-35		several days	27.5	43.0	4.38
		36-45	a few days	34.3	15.9	9.73
		46-55	a few weeks	22.9	36.0	4.00
		>55	a few days	34.3	18.3	7.10
		a few weeks	22.9	37.6	5.56	
Profession	white-collar worker	student	a few days	20.3	35.6	4.57

persons who spend time in the forests on Saturdays and Sundays. The proportion of respondents who visit the forests only on Saturdays or only on Sundays reached almost 14%. Thus, almost half of the respondents visit the forests for tourism and leisure only on weekends. Moreover, taking into account persons who indicated Friday, Saturday and Sunday as their preferred days (almost one-fourth of respondents), it turns out that 70% of the society spend their leisure time in the forests mostly on weekends. Only 10% of respondents indicated all days of the week. Other (various) answers were given by one-fifth of the respondents.

Answers given by respondents to the question on days of the week selected for recreation did not differ in a statistically significant manner due to gender and education. Preferences in that regard vary depending on age: persons aged 26-35 are more likely than respondents from the next age group to spend their free time in the forests on Saturdays and Sundays (Table 4). The place of residence also influences the choice of days when the respondents go to the forests for tourism and recreation purposes – residents of the countryside choose Saturdays and Sundays less frequently than the urban residents, and more frequently indicated other (various) answers.

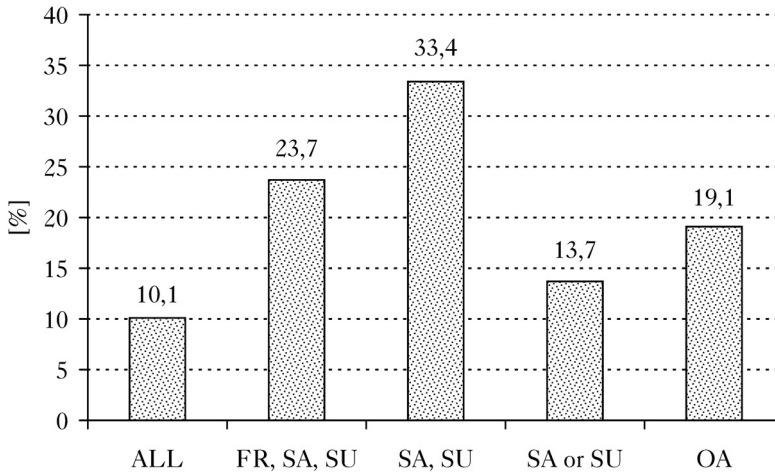


Fig. 3.

Days of the week preferred by respondents for recreation in forests

ALL – all days of the week, FR, SA, SU – Friday, Saturday and Sunday, SA, SU – Saturday and Sunday, SA or SU – Saturday or Sunday, OA – other answers (various combinations of answers)

Table 4.

Statistically significant differences ($G > 3.84$) regarding days of the week preferred for recreation

Social characteristic	Compared social groups	Variant of response	Share of respondents in the compared social groups [%]		G	
Age (years)	26-35	36-45	Saturday and Sunday	41.9	28.0	4.51
	Place of residence	village	city ≤50 thous. inhabitants	Saturday and Sunday	26.0	39.2
city >100 thous. inhabitants			other answers	26.0	13.8	7.24
farmer		blue-collar worker	Saturday and Sunday	26.0	37.2	4.17
			other answers	26.0	14.2	6.24
Profession	white-collar worker	all days of the week	19.3	7.0	5.68	
		all days of the week	19.3	9.5	3.86	

No statistically significant differences were demonstrated compared to respondents from cities with a population of 50,001-100,000; however, also in this group, the share of respondents who indicated ‘Saturday and Sunday’ was high (40.5%). In terms of occupation, it was established that the farmers more frequently than blue-collar and white-collar workers, did not name specific days of the week.

The study demonstrated that the population visits the forests for recreation purposes most frequently in the afternoons (Fig. 4). This is evidenced by the large share of respondents (more than 40%) who indicated only the afternoon hours. At the same time, the pressure of the tourism and recreation traffic during these hours is generated also by persons who spend more time during the day in the forests (one-fourth of respondents, the ‘all day’ response variant). The share of respondents who indicated only the morning hours amounts to 33%.

Statistical analysis of results did not demonstrate influence of the place of residence on the choice of time of the day. Significant differences were found between the genders: men visit the forests for longer time during the day (Table 5). In terms of age, it turned out that respondents from the age groups 18-25 and 26-35 years were significantly less likely, compared to the oldest respondents, to declare recreation in the morning. A reverse dependence was established

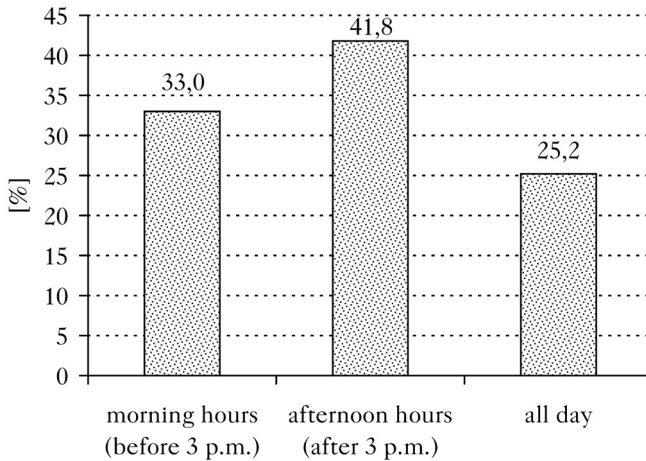


Fig. 4.

Times of day (hours) preferred by respondents for recreation in forests

Table 5.

Statistically significant differences ($G > 3.84$) regarding the time of day preferred for recreation

Social characteristic	Compared social groups		Variant of response	Share of respondents in the compared social groups [%]		G
Gender	female	male	all day	20.6	29.6	5.17
		36-45	morning hours	18.8	37.4	7.14
Age (years)	18-25	>55	morning hours	18.8	44.0	12.51
			afternoon hours	53.6	32.1	8.10
	26-35	>55	morning hours	26.7	44.0	7.11
			afternoon hours	45.7	32.1	4.18
Education	primary or vocational	secondary	morning hours	43.4	26.7	6.67
			afternoon hours	30.3	50.0	8.59
	secondary	university	afternoon hours	50.0	39.5	4.43
Profession	farmer	student	morning hours	43.9	17.8	8.14
	blue-collar worker	student	morning hours	33.6	17.8	4.29
	white-collar worker	student	morning hours	34.2	17.8	5.12
	farmer	student	afternoon hours	29.8	60.0	9.44
	blue-collar worker	student	afternoon hours	42.2	60.0	4.25
	white-collar worker	student	afternoon hours	40.5	60.0	5.72

with respect to the afternoon hours – respondents aged 55+ rest in the forests less frequently after 3:00 p.m. Respondents with secondary education choose the afternoon hours more frequently (half of this group) than persons from the other 2 groups. Many of the established statistical differences applied to occupation: students were by far the most likely (60%) to respond that they visit forests for tourism and recreation in the afternoons. At the same time, they choose the morning hours clearly less frequently (17.8%).

Discussion

The results obtained in the course of the work indicate that members of the society choose forest recreation usually during the vegetation period. This is evidenced by the shares of respondents who most often indicated summer, autumn and spring as the seasons during which they visit

forests for tourism and recreation. The importance of the vegetation period has already been underscored in earlier research – according to Krzymowska-Kostrowicka (1995), during this period, 31 out of 58 forms of tourism and recreation are practiced, of which 18 forms mostly during the summer. The current study presented in this paper covers a large part of Poland. It shows that in general, the tourism and recreation activity in forests managed by the State Forests National Forest Holding is characterized by a certain uniformity during the vegetation period. It has already been demonstrated earlier, with respect to various areas. Janeczko (2002) has demonstrated that in the forests of the Mazowiecki Landscape Park (covering part of areas managed by 3 forest districts) the summer period is the most important one for 32% of respondents, spring – for 27%, autumn – 26% and winter for 15%. A certain domination of summer, comparable importance of spring and autumn, and definitely least popular winter – such preferences characterized the residents of the Podlasie and Silesia regions (Gołos, 2018). A study conducted in the municipal forests of Warsaw has shown that the respondents visit them most frequently in the summer (36%), spring was indicated as the second most popular season (25%), next autumn (20%) and winter (19%) (Janeczko and Woźnicka, 2009). At the same time, Grzelak-Kostulska and Hołowiecka (2013) demonstrated that the forest can be a good place for recreation (including active recreation) also outside the summer season – more than half of their respondents declared that they visit the forests located in the north-eastern part of Toruń (Barbarka) during the whole year. Meanwhile in the Kampinoski National Park the tourism and recreation traffic is the most intense in March and April, and in September and October (Dzioban, 2013). During the summer season (July) the number of visitors is the smallest, which is probably due to the summer travels of the residents of the Warsaw agglomeration. In the Bieszczady National Park, the most intense tourist traffic on the trails is recorded in August (29%) and July (23%) – this means that half of the total number of visitors to the Park arrive during the summer vacation season (Prędko and Demko, 2018). The issue of uneven distribution of tourist traffic has also been broached, with respect to the Babia Góra National Park, by Buchwał and Fidelus (2010). As Partyka (2010) informs, tourism in most national parks is seasonal, while the Tatra Mountains National Park and Karkonoski National Park are also the locations for winter tourism. The two seasons (summer and winter) in the Polish mountainous national parks were mentioned also by Hibner (2013). The very clear seasonal nature of forest recreation was established in the lakeland districts, where the natural attractions (lakeland landscape), combined with the varying weather conditions during the year, result in preference for leisure primarily during the summer season. Almost 75% of respondents indicated the summer as the only season of the year when they choose recreation in the forests of the Warlubie Forest Subdistrict (eastern part of the Tuchola Forest) and the Drwęca Forest Subdistrict (Iława Lake District, the Warmian-Mazurian Province) (Kikulski, 2015). A clear domination of the summer as the period for tourism and recreation in the Warmian-Mazurian Province is noted also by Karbowski (2008). At the same time, Karbowski adds that Warmia and Mazuria do not need to be associated with summer leisure only, quote, ‘This region offers excellent conditions for the development of winter tourism’. The seaside towns are characterized by a distinct seasonality of the tourist traffic and in that respect are very similar to the lake districts – the peak is in July and August, which is true for example for Poddąbie (Jażewicz, 2009). Very clear seasonality of tourist demand in Polish seaside areas is pointed out also by Hącia (2015).

Based on the answers given by the respondents it appeared that the population usually allocated several days or a few weeks per year for forest recreation. The situation was very similar in the course of studies conducted in the years 2005-2006 in the lake districts (Kikulski,

2015). In that case, it was established that a smaller share of people stayed in the forests for a total of a few days (18%), while the share of respondents who answered 'a few months' was much larger (17%). In contrast, Garbula (1997) pointed out that one-day recreation was usually chosen in the forests of Krasnobrodzki Landscape Park, while recreation lasting a few days was noted by: Strzelec (1999) with respect to the Szklarska Poręba Forest District; Mandziuk *et al.* (2019) with respect to the Tanew river nature reserve. Half of the respondents visit the Tatra Mountains a few times per year, while 30% only once per year (Wlazło *et al.*, 2015). In terms of length of stay, the largest group of persons (42%) come for 1 to 2 days, while those visiting for 3-4 days amount to 25%. The share of tourists who spend a week or more in the Tatra Mountains amounts to 22%. In the Podkarpackie Province, the largest group of the population chooses forest recreation several times a year (54% of respondents) (Dudek, 2016), while the smallest share (9%) are persons who answered 'a few times a week'. The largest group of respondents using the forests of the Mazowiecki Landscape Park for recreation declared that they visit it 'at least once per week' – meanwhile the share of these respondents grew, from 2000 to 2012, from 38% to 45% (Janeczko *et al.*, 2017). In the Rogów municipality (Łódzkie Province), the largest group of respondents (40%) profited from the forests only for a few days during the year (Sławski and Sławska, 2009). A large part (29%) of these persons are those who visit the forests a few times during the month, while 13% of respondents spend time in the forests a few times per week. According to Janeczko and Woźnicka (2009) respondents usually rest once a week (44%) or once a month (30%) in the municipal forests of Warsaw, and 17% declared visiting them daily. A study conducted by Jazewicz (2009) demonstrated that the average time of stay of persons choosing recreation by the sea (Poddąbie) amounted to 11 days.

Research has shown that the majority of the society rests in the forests primarily on weekends. Persons who visit the forests for tourism and recreation purposes on all days of the week are the smallest group. Attention is drawn to the statistically significant differences in respondents' answers. Residents of rural areas were less likely to indicate Saturday and Sunday, but more likely to indicate 'other' options (various combinations of days of the week). Moreover, the farmers more frequently chose the answer 'all days of the week', which should be understood as the absence of specific, preferred days, meaning that the choice of time for forest recreation is 'accidental' in a way. Considering simultaneously answers given by urban respondents (statistically more often 'Saturday and Sunday'), it can be concluded that the factor of distance from the place of residence to the forest, combined with the time of work (farmers often work all week) influences social preferences. As a result of study conducted in the lake districts, it was found that persons who visited the forests on all days of the week constituted the largest proportion (56%) (Kikulski, 2015). This was associated with the fact that the study areas (Warlubie and Drwęca forest subdistricts) are characterized by the presence of resorts, and therefore respondents staying in these resorts (holidays, vacation stays) constituted a large (and proportional) group of participants of this study (42%). These respondents, similarly as those interviewed in the nearby villages, usually indicated all days of the week (59% and 61%, respectively). Taking into account recreational visitors on Saturdays and Sundays – the pressure of weekend tourist and recreational traffic in the Warlubie and Drwęca forest subdistricts was comparable to the total pressure from Monday to Friday. In the Babia Góra National Park, the traffic on the studied tourist trail was clearly higher on Saturdays and Sundays than on business days (78% and 22%, respectively) (Buchwał and Fidelus, 2010). With respect to trails in the Tatra Mountains National Park, the results obtained by the authors suggest that the share of weekend tourists amounts to 57%.

Simultaneously, the distribution of traffic correlated with weather conditions was analyzed for both parks – about three-fourths of tourists visit the parks on rain-free weekend days. Prędko and Demko (2018) point out to the more intense tourist traffic in the Bieszczady National Park during the long May weekend. Primarily Saturday and Sunday recreation is prevalent also in the Kampinoski National Park (Dzioban, 2017), the Bug Landscape Park (Mączka, 2009), and the Mazovia Landscape Park, which was established through research both in 2000 and in 2012 (Janeczko *et al.*, 2017), as well as in the municipal and suburban forests of Warsaw (Gołos, 2013). In the Podkarpacie region, the population visits the forests usually on weekends (43% of respondents) and on holidays (40%); only one-sixth of respondents declared that they engage in forest recreation on weekdays (Dudek, 2017).

Results obtained in the course of this study, as well as in other studies, demonstrate that the distribution of the tourist and recreation traffic is significantly uneven over the week. The increased public pressure in forest areas on certain days (weekends) may be one of the reasons for the growing importance of other people's presence as a factor that increasingly disrupts recreation in forests, as shown in current studies on forests managed by the State Forests National Forest Holding – in a large part of Poland (Kikulski, 2021). The promotion of more even distribution of the tourism and recreation traffic on all days of the week is a solution that, on one hand, would reduce the problem of large pressure of weekend visitors. On the other hand, increase of this pressure on weekdays would lead to a higher number of persons who would be disturbed by forestry work during their recreation (this does not apply to national parks, where little forestry work is done). This factor should also be taken into account, because research demonstrates that the performance of forestry work is another aspect that has an increasingly negative influence on forest recreation (Kikulski, 2021).

When asked about their preferred time of the day, over 40% of respondents indicated the afternoon hours, while one-third opted for the morning hours. One-fourth of respondents rest in the forests for more than only during one time of the day. Very similar results were obtained for lake districts (Kikulski, 2015). A completely different situation is found on the Czarny Staw – Rysy mountain trail, where the largest numbers of tourists were found from 9:00 to 10:00 a.m., and the smallest numbers – after 1:00 p.m. (Wlazło *et al.*, 2015). During the study, researchers did not note a single person who would set out on the trail later than 2:00 p.m. The authors point out that respondents indicate security issues as justification for choosing morning hours. At the same time, they stress the influence of weather conditions on the volume of tourist traffic. The study conducted in the Bieszczady National Park has also shown a definitely larger numbers of tourists in the morning hours (Prędko and Demko, 2018). The results show that 41% of persons start on the trail between 9:00 and 11:00 a.m., while 29% – between 11:00 a.m. and 1:00 p.m.

The results of the study indicate that the pressure of persons seeking recreation in forests managed by the State Forests National Forest Holding is larger during the afternoon hours. On one hand, this situation is positive, because, as the study demonstrated, persons who seek recreation in the forests mostly in the afternoons are statistically less prone to encounter forestry works (Kikulski, 2011). On the other hand, the larger intensity of tourism and recreation traffic during one time of the day can lead to negative perception of the presence of others, which has already been mentioned.

Conclusions

✦ The study, covering a significant part of Polish forests, indicates that the tourism and recreation activity in forests managed by the State Forests National Forest Holding is distributed

rather evenly over most of the year. There is a need to promote winter in the society, as it should be considered more frequently as a period when enjoyment of various forms of tourism and recreation is possible – including in forest areas.

- ✦ The tourist-recreational stay of the respondents in the forests usually lasts for several days or for a few weeks per year in total. The demonstrated correlation of the length of stay in the forest with the age of interviewed persons (the length of stay increases with age) may suggest an understanding of the need to benefit from the positive impact of the forest on human health – an understanding that grows with age.
- ✦ The clearly uneven distribution of tourism and recreation pressure on the forests during the week (more intense tourism and recreation traffic on weekends) may explain the increasing meaning of the presence of others as a factor disturbing while leisure and recreation. A suggestion to the public, regarding partial abandonment of weekend days in favour of weekdays, may in turn lead to higher significance of forestry work as a factor limiting recreation. A more appropriate solution would be to make the population aware of the tourism and recreation opportunities in forest areas other than those chosen so far.
- ✦ The tourism and recreation traffic in forests is more intense during the afternoon hours. The established uneven preference for certain times of day is smaller in comparison to preference for specific days of the week. Thus, the possible attempt to encourage people to change their choice of recreation hours can be narrowed to a single social group, namely school and university students, who mostly stay in the forests in the afternoon.
- ✦ The statistically significant variations shown in the paper is understandable. They result not only from the preferred forms of tourism and recreation, but also from the characteristics of the area in question, as well as from the time constraints of a large part of the population. Thus, the indicated need to modify social preferences regarding the time of recreation cannot always be fulfilled.

Conflicts of interest

The Author declare no conflicts of interests.

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STRESZCZENIE

Preferencje społeczne w zakresie czasu wypoczynku w lasach w Polsce

Celem niniejszej pracy jest ustalenie preferowanych przez społeczeństwo pór roku, czasu przeznaczanego na wypoczynek oraz dni tygodnia i pór dnia, w których ludność zazwyczaj przebywa w lasach zarządzanych przez Państwowe Gospodarstwo Leśne Lasy Państwowe. Preferencje społeczne w zakresie czasu wypoczynku w lasach poznano na podstawie odpowiedzi 476 dorosłych respondentów, dobranych z uwzględnieniem przedstawionych w danych statystycznych proporcji płci, wieku oraz miejsca zamieszkania Polaków w wieku ≥ 18 lat (tab. 1). Badania przeprowadzono techniką indywidualnego wywiadu kwestionariuszowego (rozmowa telefoniczna – 65% wy-

wiadów; wideorozmowa – 29%; rozmowa bezpośrednia z zachowaniem nakazów sanitarnych, tj. bezpieczny dystans, maseczka – 6%). Ankietowani zadeklarowali, że zazwyczaj wypoczywają w lasach: 1 nadleśnictwa (390 respondentów), 2 nadleśnictw (72), 3 nadleśnictw (11), 4 nadleśnictw (3). Respondenci wskazali w sumie 175 nadleśnictw (na 430 w całej Polsce) we wszystkich 17 regionalnych dyrekcjach Lasów Państwowych. Uzyskane w pracy wyniki wskazują, że społeczeństwo wypoczywa w lasach zazwyczaj w okresie wegetacyjnym (fig. 1). Średnio respondenci wskazali 2,4 pory roku – udział ankietowanych, którzy wymienili wiosnę, wynosi 58%, lato – 76%, jesień – 74%, zimą – 29%. Istnieje potrzeba propagowania w społeczeństwie częstszego uwzględniania zimy jako okresu, w którym możliwe jest korzystanie z różnych form turystyki i rekreacji – również na terenach leśnych. Pobyt ankietowanych w lasach w celach wypoczynkowych trwa zazwyczaj w sumie kilkanaście dni lub kilka tygodni rocznie – tak odpowiedziało po ok. $\frac{1}{3}$ respondentów (fig. 2). Prawie $\frac{1}{4}$ ankietowanych przeznaczają na pobyt w lesie kilka dni, a najmniej osób (nieco ponad 7%) – kilka miesięcy. Zarysowana zależność długości czasu pobytu w lesie od wieku ankietowanych osób (wzrost długości pobytu wraz z wiekiem) (tab. 3) może świadczyć o rosnącym wraz z wiekiem rozumieniu potrzeby korzystania z pozytywnego wpływu lasu na zdrowie człowieka. Badania pokazały, że zdecydowana większość społeczeństwa wypoczywa w lasach głównie w weekendy (70% respondentów, wliczając również osoby, które wskazały piątek, sobotę i niedzielę) (fig. 3). Najmniejszy udział (10%) stanowią osoby, które w celach turystyczno-rekreacyjnych udają się do lasu we wszystkie dni tygodnia. Bardzo wyraźna nierównomierność wielkości presji turystyczno-rekreacyjnej w lasach w ciągu tygodnia (nasilenie ruchu turystyczno-rekreacyjnego w weekendy) może stanowić wyjaśnienie wzrostu znaczenia obecności innych osób jako czynnika przeszkadzającego podczas wypoczynku. Proponowanie społeczeństwu częściowej rezygnacji z dni weekendowych na rzecz dni powszednich może spowodować wzrost znaczenia wykonywania prac leśnych jako aspektu ograniczającego wypoczynek. Właściwszym rozwiązaniem jest uświadamianie ludności możliwości wypoczynku na innych terenach leśnych niż dotychczas wybierane. Badania wykazały, że ludność przebywa w lasach w celach wypoczynkowych najczęściej w godzinach popołudniowych (fig. 4). Świadczy o tym duży udział respondentów (ponad 40%), którzy wskazali tylko godziny popołudniowe. Jednocześnie presję ruchu turystyczno-rekreacyjnego w tych godzinach tworzą również osoby, które przebywają w lasach dłużej, tj. w ciągu całego dnia ($\frac{1}{4}$ ankietowanych). Stwierdzona nierównomierność w preferowaniu określonych pór dnia jest, w porównaniu do dni tygodnia, mniejsza. Tym samym ewentualne zachęcanie do zmian w zakresie wyboru godzin wypoczynku można zawęzić do jednej grupy społecznej, tj. uczniów i studentów, którzy w zdecydowanej większości przebywają w lasach popołudniami. Wykazane w pracy statystycznie istotne zróżnicowania preferencji w zależności od cech społecznych respondentów (tab. 2-5) są zrozumiałe. Wynikają one nie tylko z preferowanych form turystyki i rekreacji, ale również ze specyfiki danego terenu, a także ograniczeń czasowych dużej części ludności. Tym samym zasygnalizowana potrzeba modyfikacji preferencji społecznych w zakresie czasu wypoczynku nie zawsze będzie mogła być zaspokojona.