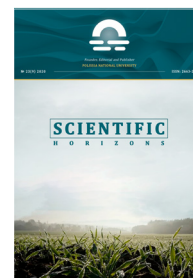


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Structure of Forest Sites of the Green Belt of Zhytomyr City

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Abstract. Zhytomyr is one of the cities of Ukraine, which has large areas of green belts. Due to the lack of the latest integrated information on the characteristics of green belts around the city, an analysis of the forest fund of three enterprises was carried out, the area of which form the green zone. Based on the analysis of forest management information, it was determined that about 58% of the area of suburban forests belongs to forestry enterprises. Accordingly, the share of land plots in the forest-park part of the urban green belt amounts to 42%. The area of each part was divided into categories, predominant species, age groups, forest types, and the presence of specific features in the plot. Recreational forests are mainly represented by forested areas, the share of which reaches 91% against 89% in the plots of forestry enterprises. By age, stands in recreational forests are slightly older. It was found that the species and typological structure of forests in both zones differs. Forest-growing conditions in the forestry part are richer, which has led to the allocation of more forest types, more diverse species composition, and the predominance of oak stands. In general, more than a third of the areas of hayfields and more than half of the areas of swamps are overgrown with woody and shrubby vegetation in suburban forests, due to the overdrying. The areas of hayfields and bogs were categorised by type and use. Areas with important recreational features include areas with the presence of scenic overlooks, drinking water sources, monuments, landscaping elements, century-old trees, small glades, biotechnical objects, and forest areas that are monuments of landscape art, places of memorable events, places of settlement of rare animals and birds. It was found that the forest zones of Zhytomyr contain significant areas of plots with existing berry-bearing plants (430 ha) and medicinal plants of industrial significance (179 ha). Berry fields are represented only by blueberries and strawberries, the projective coverage of which varies from 5 to 35%. Future studies can be promising to determine the level of recreational use of plots that have valuable features, elements of landscaping, and berry fields

Keywords: recreational forests, forest site types, forest species composition, typological structure, berry field areas



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INTRODUCTION

The most important functions of the forest stand for society are health-improving and recreational. Recreation of Ukraine's population can take place on most forested areas that are suitable for their functional purpose and forest-growing conditions. One of the forest categories, which is entrusted with the function of health improvement and recreation of the population, is recreational forests. Forests of this category can be located both within and outside populated areas, which is regulated by the relevant decree [1]. According to this document, the areas of green belts (GB) and recreational forest plots are established depending on the natural zone, forest cover, and population size of the corresponding locality.

The analysis of the concepts of "green belt" and "complex urban green belt" with variants of interpretation by many scientists was carried out by I. Kuzyk [2]. The researcher noted that the category "urban green belt" should be understood as forest stands outside the city. Today, the structural elements of the urban green belt are recreational forests and forestry enterprises. In forest management, the forest-park part of the GB has been allocated under conditions of high anthropogenic loads since 1961, and the forestry part – since 1928 [3]. The areas of forests that belong to the latter are more remote from the city limits and belong to the so-called "restricted forests", in which principal use felling (PUF) can be carried out. Sections of the recreational part of the GB are classified as "special-use forests", which excludes the possibility of PUFs. In addition, the forests of both types differ in the age gradations of the age groups of tree species, since the exploitable age of the main forest-forming species in recreational forests is 10-30 years higher [4].

The key role in identifying the green belt around a city is played by the distance of forest areas from its border [5]. Due to the large distance to wooded areas, a large number of cities in the Steppe zone of Ukraine actually do not have green belt forests. As a rule, with the growth of forest cover, there is also a tendency to the increase of suburban forest areas. However, population density [6; 7], accessibility to wooded areas [8; 9], and the industrial load of cities [10] play a very important role in determining the area of green belts both in Ukraine and abroad. Air pollution in many major cities of the world, which is caused by the growth of the number of vehicles and the development of industry, increasingly negatively affects the microclimate of cities, which poses serious challenges in the design of the so-called "green frame" [11; 12]. Another serious problem in the development of urban green belts is ecological and climatic changes, which in recent decades have increasingly

manifested themselves in the Eastern European region, in particular in the form of temperature anomalies [13].

A fairly large number of research papers by both Ukrainian researchers and scientists from neighbouring countries are devoted to the study of the structure of forests in the urban green belts [14-16]. In Ukraine, the main studies mainly concerned the green belts of large cities of the Forest-steppe [17-19] and Polissya regions [20-22]. Regarding the Zhytomyrska Oblast, which has significant areas of recreational and health-improving forests, unfortunately, recent studies were very limited [23].

Due to the lack of information on the characteristics and structure of forest sites in the green belt of Zhytomyr city, *the purpose of the study* was to carry out appropriate research. To achieve this goal, the following tasks were set: to investigate the distribution of forest sites by area, to determine the species, typological, and age structure of plantings, to find out the presence of berry fields, hotbeds of medicinal plants, the features that can affect the recreational use of territories in the context of forestry and recreational parts of the GB.

MATERIALS AND METHODS

The materials for the study were the forest inventory data of three forestry enterprises: SE "Zhytomyrske LH", SE "Zarichanske LH", and SE "Pulynskiy lishosp APK" as of 01.01.2016. Information on forest management was obtained and analysed using the VO "Ukrderzhlisproekt" inventory database using the SQL Server and "Lisovporiadnyk" software tools in accordance with the instructions [24]. At the first stage of the study, the analysis of forest management data was carried out separately for each forestry enterprise. All sections of the forest fund of forestry enterprises within the Zhytomyrska Oblast were taken into account. Filtering of database information was carried out by grouping the areas of green belts by a certain indicator. The analysis was carried out in the following sequence: categories of protectability of recreational forests; categories of sites of the forest fund; features of sites; forest sites (species, typological, and age structure); non-forest sites (types of hayfields and swamps, the degree of their overgrowth with woody and bush vegetation), berry fields and medicinal plants (types, coverage areas). First, the search was carried out for areas of the forest fund within two categories of protectability that form the urban green belt: "the forestry part of green zones" and "the recreational part of green zones". For plots within the corresponding functional part of suburban forests, the areas of forest and non-forest plots were determined. Among the forested areas, the distribution of areas by predominant tree species,

forest site types, and age groups was determined. The intensity of economic operations in the forests of both parts of the GB was determined by the share of certain categories of un-forested areas. Among the non-forested areas, only swamps and hayfields were analysed. The types of swamps, the predominant vegetation, the degree of overgrowth of trees and shrubs, and their species composition were determined. Regarding hayfields, the main users, types of land, quality, condition, degree of overgrowth, and species composition of tree and shrub vegetation were determined.

The analysis of the features of subcompartments, the presence of berry bushes and medicinal plants was carried out within the forest fund of both parts of the GB. Out of the total area of land plots that had certain special characteristics, only 23 categories of features that can potentially affect the recreational use of the territory (both positively and negatively) were logically filtered out. The total coverage areas of medicinal and berry plants were determined by the percentage of their projective coverage in a particular area.

RESULTS AND DISCUSSION

Within the Zhytomyrska Oblast and the city of Zhytomyr, there are more than 44 thousand hectares of forest plots, of which 33.4 thousand hectares belong to recreational and health-improving forests. About 25.98 thousand hectares of recreational and health-improving forests within the administrative district are subordinated to SE “Zhytomyrske LH” (Berezivske, Bogunske, Korabelne, Levkivske, Stanishyvske and Trigirske forestries);

3.36 thousand hectares belong to SE “Zarichanske LH” (Zarichanske and Korbutivske forestries) and about 4.08 thousand hectares belong to SE “Pulynskiy lishosp APK” (Zhytomyrske forestry).

Within the city limits of Zhytomyr, there are only 18 hectares of forest areas (Bogunske forestry), which belong to forests within localities. The remaining recreational forests of the Zhytomyrska Oblast form the green belt of the Zhytomyr city. Among suburban forests, the plots that belong to the forestry part of the GB predominate in terms of area – 19.37 thousand hectares (58%). The area of recreational forests themselves (the forest-park part of the GB) is about 14.04 thousand hectares (42%).

The structure of forest sites in different parts of the green belt differs, which is caused by forestry activities in the forestry part. The use of PUFs in these forests causes the appearance of cut area (2.2%) and, accordingly, free-growing plants (2.5%). In the forestry part of the GB of Zhytomyr, the share of forest vegetation is about 89%, including 50% of artificial origin. Non-forest areas are dominated by swamps (2.0%), other non-forested areas (1.6%) and hayfields (0.6%). The distribution of areas by compartment categories differs most from the general part of the GB in SE “Zarichanske LH”, which is conditioned by the use of a significant part of the territory for military purposes and the presence of significant areas of non-forest areas (more than 300 hectares), including the most developed network of unpaved roads (Table 1).

Table 1. Distribution of forest areas in the forestry part of the GB by compartment categories

Compartment categories	SE “Zhytomyrske LH”		SE “Zarichanske LH”		SE “Pulynskiy lishosp APK”		Total	
	Area, ha	%	Area, ha	%	Area, ha	%	Area, ha	%
Paved roads	24.7	0.2	–	–	–	–	24.7	0.1
Swamps	379.8	2.4	6.3	0.7	2.1	0.1	388.2	2.0
Other non-forest lands	–	–	308.2	32.1	–	–	308.2	1.6
Reclamation canals	–	–	0.6	0.1	–	–	0.6	0.0
Decorative glades	–	–	4.3	0.4	–	–	4.3	0.0
District boundaries	–	–	–	–	8.7	0.3	8.7	0.0
Glades	–	–	5.3	0.6	2	0.1	7.3	0.0
Economic and administrative buildings	1.7	0.0	–	–	–	–	1.7	0.0
Dirt roads	37.5	0.2	21.4	2.2	7.5	0.3	66.4	0.3
Failed plantations	2.4	0.0	–	–	–	0.0	2.4	0.0

Table 1, Continued

Compartment categories	SE "Zhytomyrske LH"		SE "Zarichanske LH"		SE "Pulynskiy lishosp APK"		Total	
	Area, ha	%	Area, ha	%	Area, ha	%	Area, ha	%
Cuttings	404.7	2.6	–	–	21.5	0.8	426.2	2.2
Forest borders	20.6	0.1	1.7	0.2	–	0.0	22.3	0.1
Electric lines	9.6	0.1	3.2	0.3	–	0.0	12.8	0.1
Communication lines	0.9	0.0	–	–	–	0.0	0.9	0.0
Forest plantations	8,190.3	52.2	418.2	43.6	1,023.8	37.6	9,632.3	49.7
Stands with an artificial admixture	1.1	0.0	5.3	0.6	–	0.0	6.4	0.0
Natural stands	5,774.4	36.8	171.4	17.9	1,621.6	59.5	7,567.4	39.1
Free-growing plantations	472.5	3.0	–	–	20.3	0.7	492.8	2.5
Lakes	1.5	0.0	–	–	–	0.0	1.5	0.0
Pastures and grasslands	3	0.0	–	–	–	0.0	3	0.0
Plantations	30.3	0.2	–	–	–	0.0	30.3	0.2
Compartment lines	135.5	0.9	2.6	0.3	2.4	0.1	140.5	0.7
Broadleaved plantings, bio-meadow, feeding sites	17	0.1	–	–	14.1	0.5	31.1	0.2
Rivers	6.6	0.0	–	–	–	–	6.6	0.0
Arable land	31.6	0.2	0.5	0.1	–	–	32.1	0.2
Forest nurseries	0.9	0.0	–	–	–	–	0.9	0.0
Gardens	1	0.0	–	–	–	–	1	0.0
Estates	31.3	0.2	0.3	0.0	–	–	31.6	0.2
Hayfields	100.5	0.6	8.4	0.9	–	–	108.9	0.6
Ponds	7.3	0.0	0.3	0.0	–	–	7.6	0.0
Streams	1	0.0	2	0.2	–	–	3	0.0
Total	15,687.7	100	960	100.0	2,724	100	19,371.7	100

Source: calculated based on forest inventory materials as of 2016 using the relational database of VO "Ukrderzhlisproekt"

The most active forestry management is established in SE "Zhytomyrske LH", which is confirmed by the share of temporarily forested areas, namely cuttings and free-growing plantations. In the recreational part of the green zone, there is a correspondingly higher share of forested areas – 91%, but cuttings (0.8%) and free-growing plantations (0.8%) are less common due to the low-intensity farming. Artificial plantings, as in the forestry part of the GB, natural stands predominate in terms of area (57% vs. 34%). The swampiness of the territory of recreational forests is insignificant – about 1.4%. The road network is slightly better developed than in the forestry part, which is confirmed by almost twice the share of dirt roads – 0.7%. The best developed road network is the territory of forest parks, which is subordinate to SE "Zarichanske LH" – 2.8%. At the same time, within the recreational part of this enterprise

there are significant areas of non-forested land – 2.6%.

Among non-forested areas, hayfields and swamps can be used for recreational purposes to a certain extent. About half of the hayfields in the suburban forests of Zhytomyr are used for hay harvesting. Most of these lands are dry (52%), the rest are swampy and floodplain (24% each). The vast majority of land areas (59%) are clean, but the share of land overgrown with shrubs and woody vegetation is 30%. About 11% of the land area has a bumpy structure. The percentage of overgrowth of hayfields with shrubs and trees is mainly from 5% to 35%. Most of the areas are overgrown with black alder (*Alnus glutinosa* (L.) Gaerth.), common birch (*Betula pendula* Roth.) and willows – *Salix caprea* L., *S. viminalis* L. and *S. triandra* L. As for swamps, most of them are low-lying (83%), the share of areas of transition and upper swamps is significantly smaller (16% and 1%, respectively). According

to the type of vegetation, swamps in the suburban area are mainly sedge and sedge-sphagnum, the participation of which is 73% and 22%, respectively. The vast majority of swamps in suburban forests are overgrown with shrubs (shrubby willows) and trees up to a third of their area.

Large areas of land in suburban forests have certain characteristics that significantly affect their recreational assessment and use. For example, in SE "Zhytomyrske LH" such plots cover more than 6.5 thousand hectares (Table 2).

Table 2. Areas of land plots within the recreational and health-improving forests of SE "Zhytomyrske LH", which have special characteristics for recreation, ha

Site features	Recreational forest part of the GB	Forestry part of the GB
Used for public recreation	1.4	3.0
Rocky outcrops on the area	0.9	11.8
Plantings of different ages	48.6	111.1
Stand density is uneven	554.9	1,259.5
Stand composition is heterogeneous	229.5	1,297.8
Monument of the garden art of local significance	–	0.6
The area is cut by small ravines	–	17.5
Place of memorable events	–	1.5
The compartment contains		
Bio-meadow	4.0	25.5
Overlook	4.9	1.1
Feeder	12.2	78.7
Small swamps	330.8	1,529.2
Small glades	174.9	224.7
Anthills	270.3	137.3
Badger burrows	1.5	–
Vacation site	29.7	9.5
Drinking source	12.1	–
Alkali soil	5.6	30.6
Artificial bird nests	8.4	68.4
Ancient tree	–	27.6
Monument	–	3.1
Black stork habitat	–	0.2
Fly camp for livestock	–	5.5
Total	1,691.9	4,844.2

Source: calculated based on forest inventory materials as of 2016 using the relational database of VO "Ukrderzhlisproekt"

Some features of land plots negatively affect their patency and stability, for example, the presence of small swamps and ravines. A number of special characteristics that are associated with hunting, attracting and preserving avifauna can be effectively used in the design of functional zoning and ecological and educational routes. The most valuable in recreational terms are the forest plots that are used for recreation of the

population, compartments with the presence of overviews, sources of drinking water, monuments, landscaping elements, ancient trees, and small monuments of landscape art, places of memorable events. The total area of such plots at the enterprise is more than 480 hectares, while they are represented both in the recreational and in the forestry parts of the FGM of Zhytomyr.

Due to the fact that the GB of Zhytomyr covers

a significant territory, which is located on the border of the natural zones of Polissya and Forest-steppe, the typological structure of forest sites is quite diverse. Forests of the forestry part of the GB differ from forest parks in richer forest-growing conditions. In forests of this category of protectability, 22 forest site types are

established, among which the most common are wet hornbeam-oak-pine sudubrava (C_3hoP) – 16.6%, wet hornbeam dubrava (D_3hO) – 15.5%, wet hornbeam sudubrova (C_3hO) – 14.6%, fresh hornbeam-oak-pine sudubrova (C_2hoP) – 14.6%, and wet oak-pine subor (B_3oP) – 14.6% (Table 3).

Table 3. Typological structure of suburban forests in Zhytomyr

Forest type	Forestry part		Recreational forest part	
	Area, ha	%	Area, ha	%
A ₁ P	–	–	32.4	0.2
A ₂ P	84.9	0.5	99.6	0.8
A ₃ P	0.4	0.0	–	–
B ₂ oP	1,757.5	9.7	3,859.1	29.3
B ₃ oP	2236	12.3	875.5	6.6
B ₄ oP	61.9	0.3	27.8	0.2
B ₅ bP	51.9	0.3	2.3	0.0
D ₂ hO	1,030.8	5.7	390.5	3.0
D ₃ hO	2,829.6	15.5	296.8	2.3
D ₄ BA	59.4	0.3	1.9	0.0
D ₄ hO	29.2	0.2	–	–
D ₅ BA	17.5	0.1	–	–
C ₂ hO	710.9	3.9	217.2	1.6
C ₂ hoP	2,653.1	14.6	3,869.8	29.4
S ₂ hpO	0.5	0.0	26.6	0.2
C ₃ hO	2,659.3	14.6	522.1	4.0
C ₃ hoP	3,016.4	16.6	2,314	17.6
C ₃ hpO	4.8	0.0	68.9	0.5
C ₄ BA	842.6	4.6	544.1	4.1
C ₄ hO	11	0.1	12.1	0.1
C ₄ hoP	22.6	0.1	7.2	0.1
C ₅ bP	0.7	0.0	–	–
C ₅ BA	120.7	0.7	11.9	0.1
Total	18,201.7	100	13,179.8	100

Source: calculated based on forest inventory materials as of 2016 using the relational database of VO “Ukrderzhlisproekt”

If the forestry part is characterised by the dominance of wet edatopes, the share of which is 59%, then fresh conditions are more typical for the recreational part of the forest (61%). In total, 19 site types were found in recreational forests. The most common types of forest are C_2hoP – 29.4%, fresh oak-pine subor (B_2dP) – 29.3%, and C_3hoP – 17.6%.

The species composition in the forestry part of the urban green belt differs by three enterprises. For example,

oak stands predominate in SE “Zhytomyrske LH” (48%), in SE “Zarichanske LH” and SE “Pulynskiy lishosp APK” – pine stands predominate (70% and 54%, respectively). In general, in the forestry part, common oak (*Quercus robur* L.) prevails on 40% of forested areas, Scots pine (*Pinus sylvestris* L.) – on 35%, common birch (*B. pendula* Roth.) – on 12%, black alder (*A. glutinosa* (L.) Gaerth.) – on 6%, other species – by 7% (Fig. 1).



Figure 1. Distribution of forest areas of Zhytomyr by predominant species, ha.
A – forestry part of the GB, B – recreational forest of the GB

The recreational part of forests significantly differs from the forestry part in terms of species composition. In forests of this category of protectability, Scots pine prevails on 61% of the land area, common oak – 27%, white birch and black alder – 5% each, other species – 2%. The share of oak stands in recreational forests is higher in SE “Zhytomyrske LH” (30%) and SE “Zarichanske LH” (25%), relative to SE “Pulynskiy lishosp APK”, oak

stands here cover only 6% of the area. The age structure of forests in different parts of the GB has certain differences. According to the distribution areas by age groups, the share of young stands in recreational forests is very small – 3.5% against 9.2% in the forestry part. Furthermore, in the forests of this part of the green belt, the share of areas of ripening stands is almost twice as high (Table 4).

Table 4. Age structure of suburban forests in Zhytomyr

Age groups	Forestry part		Recreational forest part	
	Area, ha	%	Area, ha	%
Young stands of the 1 st class	619.2	3.6	129	1.0
Young stands of the 2 nd class	972.1	5.6	326.1	2.5
Average age of stands	7,245.1	42.1	7,296.3	57.0
Average age of stands, included in the calculation	3,881.1	22.6	2,397.3	18.7
Ripening stands	2,671.7	15.5	889.5	6.9
Ripe stands	1,376.5	8.0	1,482.8	11.6
Overripe stands	440.4	2.6	285.1	2.2
Total	17,206.1	100	12,806.1	100

Source: calculated based on forest inventory materials as of 2016 using the relational database of VO “Ukrderzhlisproekt”

But the share of stands of average age is higher in the recreational forest by more than 11%. In the recreational part of the GB, the share of ripe and overripe stands is slightly higher. The age structure in the context of enterprises also has significant differences. In SE “Zhytomyrske LH” in recreational forests, the share of ripening, ripe, and overripe stands is significantly higher, but in other enterprises, there are younger and average-aged forests.

The latest forest inventory data on the accounting of berries and medicinal raw materials in the suburban forests, on the example of SE “Zhytomyrske LH”, suggests that within the urban green belt, there are more

than 430 hectares of plots with the presence of berries and about 190 hectares of plots with medicinal plants. In recreational forests contain almost 208 hectares of plots with berry fields, among which their uneven distribution is observed on an area of 157 hectares. In the Forestry part of the forests of the green zone of the enterprise, the area of plots with berry fields is almost 224 hectares. As for plots with the presence of medicinal plants of industrial importance, their area in the recreational part of the GB is more than 103 hectares (among them almost 36 hectares with uneven distribution of plants), in the forestry part – 76, including 41 hectares with uneven distribution of plants on the

territory. Berry bushes are represented by only two types of plants – blueberries (*Vaccinium myrtillus* L.) and wild strawberries (*Fragaria vesca* L.) at the same time, wild strawberries are present only in the recreational forests (Fig. 2).

The projective coverage of strawberries on plots varies from 10% to 20% and averages about 16%. Blueberry coverage in recreational forests is almost twice as large. As a rule, blueberries cover within 10-30% of the area of plots, on average at the level of 19%. The area of land overgrown with blueberry plants in the forestry

part of the green belt is much larger, while berry fields cover from 5% to 50% of the land area. As for medicinal plants, the growth of 8 plant species of industrial significance has been observed in the suburban forests of SE “Zhytomyrske LH”. At the same time, the coverage areas of these plants are larger in recreational forests (Table 5).

The most common types of medicinal plants in the recreational forests are common yarrow and St. John's wort, and in the forestry part of the green zone – calamus root and Stinging nettle.

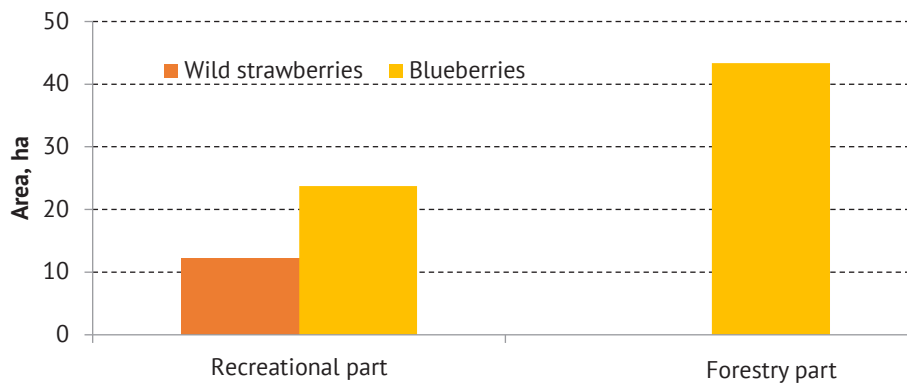


Figure 2. The area of berry fields in the GB of SE “Zhytomyrske LH”

Table 5. Areas of coverage of medicinal plants within SE “Zhytomyrske LH”, ha

Medicinal plants	Recreational for-est part	Forestry part
Common yarrow (<i>Achillea millefolium</i> L. s.)	4.4	0.72
St. John's wort (<i>Hypericum perforatum</i> L.)	3.13	0.4
Stinging nettle (<i>Urtica dioica</i> L.)	–	2.42
Calamus root (<i>Acorus calamus</i> L.)	1.46	3.59
Erect cinquefoil (<i>Potentilla erecta</i> L.)	0.78	–
Wormwood (<i>Artemisia absinthium</i> L.)	1.22	1.32
Immortelle (<i>Helichrysum arenarium</i> L.)	1.39	1.32
Total	12.38	9.77

Source: calculated based on forest inventory materials as of 2016 using the relational database of VO “Ukrderzhlisproekt”

CONCLUSIONS

The area of suburban forests in Zhytomyr is more than 33.4 thousand hectares, among which the plots of the forestry and recreational parts of the green belt cover 19.37 and 14.04 thousand hectares, respectively, which corresponds to the current standards. The distribution of forest areas by site category, including the species, age, and typological structure of stands in both parts of the green zone have differences. This is due to both forest-growing conditions and different forest management regimes. The share of forested areas in recreational forests is 2% higher due to the insignificant participation of free-growing plantations and cuttings,

which are significantly higher in the forestry part of the green belt. By age, the recreational forests are on average slightly older, which is the result of a special farming regime. Due to the fact that the areas of the forestry part are more spatially dispersed, their typological and species structure is more diverse. Richer forest conditions in these stands have caused a greater species diversity of trees and a greater proportion of megatrophic plants in the species composition.

In both parts of the city's green belt, there are about 480 hectares of land with existing facilities and features that have a significant impact on the recreational

use of the surrounding area. More than 67 hectares are occupied by plots with various levels of landscaping, more than 235 hectares with habitats of rare animals and birds, and with existing biotechnical facilities. Plots with berry fields and medicinal plants of industrial significance are equally represented in the forests of the

two zones. Only in suburban forests within SE “Zhytomyrske LH” blueberries and strawberries occupy an area of about 671.1 and 121.8 thousand m², respectively. As for medicinal plants, their coverage area is about 221.5 thousand m².

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Структура ділянок лісового фонду зеленої зони міста Житомира

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Анотація. Місто Житомир є одним із населених пунктів України, яке має великі площі лісів зеленої зони. У зв'язку із відсутністю актуальної інтегрованої інформації щодо характеристики приміських лісів міста, було проведено аналіз лісового фонду трьох підприємств, лісові масиви яких власне й утворюють зелену зону. За результатами аналізу лісовпорядної інформації було визначено, що близько 58 % площ приміських лісів належать до лісгосподарської частини. Відповідно, частка площ ділянок лісопаркової частини зеленої зони міста становить 42 %. Для кожної з частин було здійснено розподіл площ ділянок за категоріями, переважаючими породами, групами віку, типами лісу, наявністю особливостей у виділах. Ділянки лісопарків представлені здебільшого покритими лісом територіями, частка яких сягає 91 % проти 89 % у лісгосподарській частині. За віком деревостани у лісопарках є дещо старшими. Встановлено, що породна і типологічна структура лісів обох зон відрізняється. Лісорослинні умови у лісгосподарській частині лісів зеленої зони є багатшими, що зумовило виділення більшої кількості типів лісу, різноманітніший породний склад насаджень, переважання дубових деревостанів. Загалом у приміських лісах встановлене заростання деревною та чагарниковою рослинністю понад третину площ сіножатей і більше половини боліт, внаслідок їх пересихання. Проведено розподіл площ сіножатей і боліт за типами та використанням. До виділів із важливими для рекреації особливостями віднесені ділянки із наявністю видових точок, джерел питної води, монументів, елементів благоустрою, вікових дерев, дрібних галявин, біотехнічних об'єктів, а також урочища, які є пам'ятками садово-паркового мистецтва, місцями пам'ятних подій, місцями поселення рідкісних тварин і птахів. Досліджено, що в лісах зеленої зони м. Житомира є значні площі ділянок з наявними ягідниками (430 га) та лікарськими рослинами промислового значення (179 га). Ягідники представлені лише чорничниками та суничниками, проективне покриття яких варіює в межах від 5 до 35 %. Надалі є перспективними дослідження щодо визначення рівня рекреаційного використання ділянок, які мають цінні для рекреації особливості, елементи благоустрою та ягідники

Ключові слова: лісопарки, категорії ділянок, породний склад лісів, типологічна структура, площі ягідників