#### NATURAL RESERVE FUND OF ZHYTOMYR REGION

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Abstract. The priority area of activity of a developed country is the rational use, protection and reproduction of landscapes and biological diversity. The best and most effective form of biodiversity protection is the creation and development of territories and objects of the nature reserve fund (NRF). Protected areas have scientific, aesthetic, recreational, educational and educational value, and were created with the aim of preserving plant and animal diversity and natural landscapes. These territories create the necessary conditions for reducing the negative impact of economic activity on biological objects, contribute to the maintenance of natural mechanisms of interaction between biological species and their habitat. Taking into account the current trends in the deterioration of the ecological situation in our country and the world, the importance of nature conservation areas is constantly increasing. The purpose of this work is to study the modern distribution of NRF objects and territories in the united territorial communities of Zhytomyr region. The object of research is the nature reserve fund of the Zhytomyr region. The subject of the research is the distribution of NRF objects in united territorial community (UTC) of different districts of Zhytomyr region. Research methodology is based on generally accepted methods of analysis and comparison of materials that are reflected in the environmental passports of the Zhytomyr region. Results. As a result of the analysis of the nature reserve fund, it was established that in the Zhytomyr region, the number of objects and territories of NRF is 268, and the rate of protection is 4.77%. Zhytomyr region is represented by 6 categories of

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NRF: natural reserves, sanctuaries, natural monuments, botanical garden, dendrological parks and parks-monuments of horticultural art. The most common are nature reserves, their number is 196 objects. Forest reserves are the most common, and ornithological and geological reserves are the least common. The most valuable NRF objects in Zhytomyr Region are "Drevlyansky Nature Reserve" and "Polissia Nature Reserve". There are 43 natural monuments in Zhytomyr region, the share of botanical natural monuments is 55.8%. Artificially created objects in the Zhytomyr region include one botanical garden, three dendrological parks and twenty-three parks-monuments of horticultural art. The distribution of natural reserves and territories within the administrative districts of Zhytomyr region is uneven. Administrative districts of Zhytomyr region can be placed in a ranked order according to the decreasing number of nature conservation areas: Korosten > Zhytomyr > Zvyagel > Berdychiv. The analysis of the obtained results shows that within the administrative districts of the Zhytomyr region, each UTC has its own specifics of distribution both by the categories of NRF and by the number of objects. Practical implications. The results of the research can be used to study the patterns of development and find ways to protect, reproduce and create new objects and territories of NRF in the region. Value/originality. The value of the obtained results lies in the fact that the modern distribution of NRF objects and territories in the Zhytomyr region as a whole and separately within the united territorial communities of various districts of the Zhytomyr region has been analyzed.

#### 1. Introduction

Sustainable development of the state should equally combine social, economic and environmental components. As a result of human economic activity, there is an irrational use of natural resources and environmental pollution. As a result of such activities of society, biological, landscape and geographical biodiversity undergoes significant changes. In Ukraine, a practical mechanism for protecting natural ecosystems, landscapes, plant communities, and rare species is the creation of protected areas. Of course, other nature protection measures (formation of an eco-network, maintenance of the Green and Red Books) are effective, but they are implemented only at the expense of the announcement of new territories and objects of the Nature Reserve Fund (NRF).

Protected areas are being created in all regions of Ukraine, but recently the pace of their creation has decreased, which is connected with a number of organizational, economic, legislative, technical and social problems. In addition, the implementation of decentralization processes contributed to the formation of a large number of United Territorial Communities (UTCs), on whose "shoulders" the problems of environmental protection, including the creation and protection of nature conservation areas, shifted.

In scientific publications, the issue of preserving biological diversity, the peculiarities of the formation of the nature reserve fund of Ukraine, their historical development and further prospects for improvement, as well as the principles of classification, placement, representativeness and mapping of territories were reflected, in particular, in the works [3-13] Grodzinskyi M.D., Shelyag-Sosonko Y.R., Cherevchenko T.M., Shishchenko P.G., Miroshnychenko O.V., Artamonov V.A. Cheremnova A.I., Girny B.M., Mudrak O V., Vasylyuk O., Ivanenko E.I., Hetman V.I., Kirilyuk M.O., Polivach K.A., Yalymov B.Ya., Yalymova G.O., Shelestov A.Yu., Lavreniuk A.M. and others.

Issues related to the formation, functioning and current state of the NRF of the Zhytomyr region were investigated by experts from various fields. Thus, in work [14] a detailed description of the territories and objects of the NRF of the Zhytomyr region is given. In publications [15–17], a modern analysis of the NRF of the region was carried out, the distribution of nature protection territories within the administrative districts was evaluated, and the territorial distribution of the objects of the nature reserve fund within the UTC of the Korosten district was carried out. Papers [18; 19] investigated protected areas within forestry farms, and papers [20; 21] examined the representativeness of natural ecosystems in the nature reserve fund of the Zhytomyr region and studied the role of ecological trails as a means of forming environmental awareness and personal culture.

#### 2. Analysis of the nature reserve fund of the Zhytomyr region

As of 01.01.2023, a network of 268 objects and territories of NRF with a total area of 142.1 thousand hectares (4.77% of the area of the region) was formed in Zhytomyr region; of them, 20 objects of national importance with a total area of 57.9 thousand hectares and 248 objects of local importance with a total area of 84.2 thousand hectares [22; 23]. The structure of the NRF

of the region is represented by 6 categories (Figure 1), among them: nature reserves, sanctuaries, natural monuments, botanical gardens, dendrological parks and parks of monuments of horticultural art. A significant part of the nature reserve fund of Zhytomyr region is made up of territories and objects located on the lands of forestry enterprises of the Zhytomyr Regional Department of Forestry and Hunting -68.3% of the total.



#### Figure 1. Quantitative characteristics of the structure of the NRF of the Zhytomyr region as of 2023

Source: compiled by the authors based on [22; 23]

In the period from 1982 to 2023, the number of newly created territories and objects of the NRF of the region increased by 13.4 times, which indicates a positive dynamic nature (Figure 2). The development of the Zhytomyr region's NRF can be conditionally divided into three stages. During 1982–2001, 161 NRF objects were created, which is 4 times more compared to 2001–2015. Over the past 10 years, 47 NRF objects have been created, the main share of which was created in 2021. The reserve index for the Zhytomyr region increased by 5.4 times during this period and is 4.77%. However, this indicator is low for the region. For the sustainable ecological development of Zhytomyr region, it must be increased to at least 10%, and this is possible only through the creation of new areas of protected areas. In addition, many objects and territories of the NRF of the region are small and have a low ecological capacity to preserve the gene pool and living conditions of biota.



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The distribution of nature conservation areas within the administrative districts of Zhytomyr region is uneven (Figure 3). Thus, 45.9% of all protected areas are located in the Korosten district, while in the Zhytomyr and Zvyagel districts their share is 1.7 and 2.4 times smaller compared to the Korosten district. Berdychiv district has the smallest number of nature conservation areas – 8.2%. The rate of conservation in the administrative districts of Zhytomyr region is varied and ranges from 0.38% to 13.54%. On the basis of the obtained results, these administrative districts can be placed in a ranked order according to the decrease of the reserve index: Korosten > Zvyagel > Berdychiv > Zhytomyr.

The most valuable NRF objects in the Zhytomyr region are nature reserves: "Drevlyanskyi nature reserve" and "Polissia nature reserve". These territories of the NRF were created for the purpose of preserving typical natural complexes of Polissia, unique forest and wetland natural complexes, protection of relict and endemic plants and animals, and reproduction and enrichment of natural forests of Polissia [24; 25].

The most widespread category of NRF in the administrative districts of Zhytomyr region are nature reserves, their number is 196 objects. There are various types of nature reserves in the Zhytomyr region



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Figure 3. Distribution of the territories of the nature reserve fund by administrative districts of Zhytomyr region according to the number and indicator of the reserve, %

Source: own research

(Figure 4). Ornithological and geological reserves are the least common. Thus, the geological reserve is found only in the Korosten district, and the ornithological reserve in the Berdychiv (2 pcs.) and Zvyagel (1 pcs.) districts. Forest reserves are the most common, their main share is concentrated in the Korosten district – 44% of the total number, which is 1.8, 2.1, and 4.0 times more compared to the Zvyagel, Zhytomyr, and Berdychiv districts, respectively.

There are 1.6 times fewer landscape reserves in the Zhytomyr region than forest reserves. The smallest number of nature reserves of this type in Berdychiv district (1 pc.). In Zhytomyr and Zvyagel districts, their number ranges from 8 to 10, which is 2.0-2.5 times less than in Korosten district. The largest number of botanical reserves is concentrated in the Korosten district – 56.8% of the total number of botanical reserves. In the Zvyagel and Zhytomyr districts, the share of botanical reserves is 2.5 and 4.2 times smaller than in the Korosten district, respectively. Berdychiv district has the fewest botanical reserves – 5.4% of the total number.

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Figure 4. Distribution of different types of nature reserves by administrative districts of Zhytomyr region, pcs

Source: own research

There are 31 hydrological and 22 general zoological reserves in the Zhytomyr region. It is worth noting that there are no such types of nature reserves in the Berdychiv district. There are 3.3 and 2.6 times less zoological sanctuaries in Zhytomyr and Zvyagel districts than in Korosten district. There are 20 hydrological reserves in the Korosten district, which is 2.2 times more compared to the Zvyagel district, and there are only 2 objects in the Zhytomyr district.

There are 43 natural monuments in Zhytomyr Region (Figure 5). Botanical monuments of nature make up 55.8% of the total distribution in this category, the main share of which, 58.4%, is concentrated in the Korosten district. In the Zhytomyr district, there are 2.4 times fewer natural monuments compared to the Korosten district, and in the other two districts, the share of each is 8.3%. Hydrological and geological monuments of nature are most represented in Zhytomyr district, which together make up 57.9%, while in Berdychiv district there are no natural monuments at all. In the Korosten district, these types are 1.6 times less than in the Zhytomyr district, and there is only one geological monument of nature in the Zvyagel district.





# Figure 5. Distribution of natural monuments by types in administrative districts of Zhytomyr region, pcs

Source: own research



Figure 6. Distribution of parks-monuments of garden and park art by administrative districts of Zhytomyr region, pcs

Source: own research

In the Zhytomyr district of the Zhytomyr region there is a botanical garden – the "Botanical Garden of the Polish National University" of national importance. Created for the purpose of preservation and study in specially created conditions of rare and typical species of local and world flora for the most effective educational, scientific, cultural, recreational and other use, by creating, replenishing and preserving collections, conducting educational, educational and scientific work.

Parks-monuments of horticultural art in the Zhytomyr region are represented by 23 objects, which are distributed differently among the administrative districts of the region (Figure 6). Thus, the main share of 34.8% is concentrated in Zhytomyr and Berdychiv districts, in Korosten they are 8.7% less, and in Zvyagel there is only one such object.

There are 3 dendrological parks of local importance in the region. One of the dendrological parks is in the Zvyagel district ("Pilyava") and two in the Korosten district ("Elita" and "Gladkovytskyi").

#### 3. Analysis of the territorial distribution of objects of the nature reserve fund of the united territorial communities of Zhytomyr region

The state regional development strategy for 2021–2027 [26] provides for the expansion of the area of the NRF of Ukraine to 15% of the total territory of the country. The reserve indicator is an important indicator of the social and ecological development of the state, which contributes to the maintenance of the ecological balance of ecosystems and the ecologically stable development of territories. Today, the creation of new territories and objects of the NRF falls on the UTC, it is thanks to their purposeful and painstaking work in all regions of our country that we will be able to achieve this indicator.

To date, more than 8,400 territories and objects of NRF have already been created and declared, and the vast majority of UTCs have at least one of them on their territory. Therefore, you should be well aware of the responsibilities and opportunities of the UTC regarding the protection of the territories of the NRF and other lands when planning future activities. Thus, UTC can use protected areas in various areas of its activities: recreational activities and health improvement, tourism development, educational and ecological activities for the education of the younger generation, research work, environmental monitoring, nature protection, obtaining additional financing from ecofunds. It should be remembered that the UTC will be responsible for the possible negative consequences of the impact of anthropogenic activities on such objects when making its decisions and must fulfill all legal obligations regarding the protection of protected areas.

Not all UTCs have a sufficient number of valuable nature conservation areas on their territory. That is why it is necessary to carry out an analysis of the presence and possible creation of new territories within the boundaries of different regional administrative units. This will make it possible to compensate for the lack of nature conservation areas in those regions that are most affected by human economic activity.

### **3.1. Distribution of protected areas within the bounds of the united territorial communities of the Zhytomyr district**

Zhytomyr district concentrates 28.3% of protected areas of Zhytomyr region, which are represented by four categories. The distribution of protected areas within the UTC of the district fluctuates (Figure 7). UTC of Zhytomyr district can be conventionally divided into four groups based on the number of nature-protected territories. Thus, the largest number of nature reserves is located in the Romanivska, Khoroshivska, and Radomyshlska UTCs, and this constitutes 35.0% of the total number of objects in the district. The second group includes Lubarska, Korostyshivska, Zhytomyr and Chudnivska UTC, where the number of PZF objects in each individual UTC is 5. The third group is represented by Chernyakhivska, Teterivska, Berezivska, Volitska and Pulynska UTC, where the number of NRF objects ranges from 2 to 4. All other UTC of the district belong to the fourth group, where there is at least one NRF object.

The analysis of the distribution by categories of NRF shows that the main part of nature-reserved territories belongs to nature reserves – 48.70%. In general, sanctuaries are located stochastically in the UTC of the district. Yes, most of them are in Romanivska and Radomyshilska UTC. The results of the distribution of reserves in the UTC of Zhytomyr district give them an opportunity to place them in a ranked series by increasing the number of territories and objects: Berezivska, Novohuivynska, Kharytonivska, Potiivska, Kvitneva, Kozynska, Vyshevytska < Teterivska, Khoroshivska < Lyubarska, Pulynska, Chudnivska < Korostyshivska < Radomyshilska < Romanivska.

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#### Figure 7. Distribution of territories and objects of NRF by united territorial communities of Zhytomyr district, pcs

Source: own research

Forest reserves are the most represented, 36.84% of the total number, and landscape reserves are 1.3 times less compared to forest reserves (Figure 8). Ornithological sanctuaries are the least represented. By type, reserves can be presented in the following ranked order according to the decrease in their number: forest > landscape > botanical > zoological > hydrological > ornithological.

The distribution of natural monuments by UTC of the Zhytomyr district shows that the largest number is found in Khoroshivska UTC (Figure 9). In Chernyakhivska and Zhytomyr UTCs, the share of natural monuments is 1.5 and 2.0 times smaller compared to Khoroshivska UTC, and their share of the total distribution is 24.0%. Botanical sanctuaries are the most common in the Zhytomyr district UTC, their share is 44.0%. There are 1.4 and 1.8 times fewer geological and hydrological monuments of nature compared to botanical ones.

Parks-monuments of horticultural art are located in eleven UTC of Zhytomyr district. Yes, only Khoroshivska and Chudnivska UTCs have two of these categories, while other UTCs have only one object each. Also, Zhytomyr UTC has a botanical garden of national significance. On the



Figure 8. Distribution of different types of protected areas by united territorial communities of Zhytomyr district, pcs



Figure 9. Distribution of natural monuments by united territorial communities of Zhytomyr district, pcs

territory of the botanical garden there are more than 500 species of rare woody plants, more than 1000 species of herbaceous plants, more than 100 collections of medicinal plants.

### **3.2.** Distribution of protected areas within the bounds of the united territorial communities of the Korosten district

In the Korosten district of the Zhytomyr region, there are 122 NRF objects, which are represented by five categories: the natural ones include – nature reserves, sanctuaries and natural monuments; and artificially created dendrological parks and parks-monuments of horticultural art.

The distribution of nature conservation areas within the UTC of the Korosten district is uneven (Figure 10). The largest number of natureprotected territories is concentrated in Olevsk UTC, which is 28.2% of the total number of NRF objects in Korosten district, and there are no protected areas in Horshchikivsk UTC at all. In all other UTCs, the share of NRF objects from the total number ranges from 0.8% to 14.5%. Based on the results obtained, the UTC of the Korosten district can be placed in a ranked order according to the decreasing number of territories and objects: Olevska > Slovechanska > Ovrutska > Malynska > Korostenska > Luginska >



Figure 10. Distribution of territories and objects of NRF by united territorial communities of Korosten district, pcs

Source: own research

Ushomirska > Hladkyvytska > Narodytska > Irshanska > Chopovytska > Bilokorovytska > Horshchikivska.

In the Korosten district, there are high-ranking NRF objects – nature reserves, which are located within the boundaries of Olevska and Slovechanska UTC ("Polyssia Natural Reserve") and in Narodytsky UTC ("Drevlyansky Nature Reserve").

Reserves are the most represented among nature conservation territories of the Korosten district. Thus, their share of the total number of objects and territories of the NRF is almost 82.0% (Figure 11). The distribution of protected areas within the UTC is also uneven. Thus, there is only one reserve each in Irshanska, Chopovytska, Bilokorovytska, and Hladkyvytska UTC, while there are 32 objects in Olevska UTC. UTC of the Korosten district can be placed in a ranked order according to the number of reserves: Horshchikivska < Bilokorovytska < Chopovytska < Irshanska < Hladkyvytska < Narodytska < Korostenska < Ushomirska < Luginska < Malynska < Ovrutska < Slovechanska < Olevska.

14 objects of natural monuments have been marked for the UTC of the Korosten district of the Zhytomyr region (Figure 12). The most common are botanical monuments of nature -71.4%, which are found in six UTC.



Figure 11. Distribution of different types of protected areas by united territorial communities of the Korosten district, pcs

Source: own research

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### Figure 12. Distribution of different types of natural monuments by united territorial communities of the Korosten district, pcs

Source: own research

Geological monuments of nature are 2.5 times less compared to botanical monuments and they are found only in Korosten and Olevsk UTC.

There are two dendrological parks in the Korosten district, which are located in Hladkovytskyi ("Hladkovytskyi") and Kopostenskyi ("Elite") UTC. Memorial parks of horticultural art are represented by four objects. So, in Ovrutska UTC there are "Ovrutsky Park" and "Yulino Park", in Malynska – "Park named after. Miklukho-Maklaya" and Ushomyrska "Park Ushomyrskyi".

# **3.3.** Distribution of protected areas within the bounds of the united territorial communities of the Zvyagel district

The nature reserve fund of the Zvyagel district of the Zhytomyr region is represented by 52 objects. The distribution within the UTC of the district is motley (Figure 13). Yes, in Yemilchynsk and Horodnytskyi UTC there are the most protected areas -61.50% of the total number. On the basis





Figure 13. Distribution of territories and objects of NRF by united territorial communities of Zvyagel district, pcs

Source: own research

of the obtained results, the UTC of the Zvyagel district can be placed in a ranked series according to the increase in the number of territories and objects: Barašivska, Dubrivska, Yarunska < Chyzhivska, Bronykyvska < Baranivska < Piščivska < Zvyagelska < Horodnytska < Yemilchynska.

The most common nature reserves in the Zvyagel district are nature reserves, their share is 90.40% of the total number of objects in the district. There are different types of protected areas within the various UTCs of the district (Figure 14). Forest reserves are the most common and account for 32.60% of the total number, they are most often found in Gorodnytska and Yemilchynska UTC. There are 1.5 times less hydrological reserves in the UTC of Zvyagel district than forest reserves, and 1.3 times more botanical reserves than landscape reserves. UTC of the Zvyagel district can be placed in a ranked order according to the decrease of the reserves: Yemilchynska > Horodnytsia > Pishchivska > Zvyagelska, Baranivska > Chyzhivska > Yarunska, Bronykyvska, Dubrivska, Barašivska.



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Figure 14. Distribution of different types of protected areas by united territorial communities of the Zvyagel district, od Source: own research

On the territory of Zvyagel district, natural monuments are found only in two UTC. So, there is a botanical natural monument in Gorodnytskyi UTC, and a botanical and geological monument in Zvyagel. Dendrological Park "Pilyava" is located within the Pishchiv UTC. Park-monument of garden and park art "Horodnytskyi" is located within the boundaries of Horodnytskyi UTC.

### **3.4. Distribution of protected areas within** the united territorial communities of Berdychiv district

There are 17 territories and objects of the NRF in the Berdychiv district of the Zhytomyr region. The most common are sanctuaries, their share is 64.7% of the total distribution, there are 11 times fewer natural monuments compared to sanctuaries, and 5 times more parks-monuments of horticultural art than natural monuments. Nature reserves and objects are found in five out of ten UTCs. It is worth noting that the Andrushivska and Ruzhynska UTC concentrate 82.3% of all nature conservation areas of the district (Figure 15).





## Figure 15. Distribution of territories and objects of NRF by united territorial communities of Berdychiv district, od

Source: own research

The "Dub Veleten" nature monument is located within the Andrushivska UTC. Parks-monuments of horticultural art were evenly distributed among five UTC of Berdychiv district. Yes, they are available in UTC – Ruzhynska, Andrushivska, Shvaykivska, Raigorodtska and Chervonenska. Customers in Berdychiv district are concentrated in two UTCs: Ruzhynska and Andrushivska. Thus, there are two forest, ornithological and botanical sanctuaries each in Ruzhynska UTC. There are two landscape and three forest sanctuaries within the Andrushivska UTC.

#### 4. Conclusions

As a result of the analysis of the nature reserve fund, it was established that the current number of protected areas and objects for the Zhytomyr region is 268. The reserve index for the region is 4.77% and cannot be considered satisfactory. Such a low value of the conservation indicator indicates that our region lags behind the pace of development of the NRF from previously approved indicators in regulatory documents, in European countries this indicator ranges from 10 to 25%. In the Zhytomyr region, there are 6 categories of NRF, two nature reserves are especially valuable. The most common are the sanctuaries – 196 pcs. They can be placed in

the following ranked series by type (by increasing number): geological < ornithological < general zoological < hydrological < botanical < landscape < forest. According to the spatial distribution of the territory and objects of the NRF, they are unevenly distributed. Thus, the main part is concentrated in the Korosten district – 122 objects, in the Zvyagel and Zhytomyr districts, 52 and 77 objects, respectively, and the smallest in the Berdychiv district – 17 objects.

On the territory of Zhytomyr district, there are 77 objects and territories of NRF, which are represented by four categories. The distribution of protected areas within the UTC of the district fluctuates. Such UTCs as Romanivska, Khoroshivska and Radomyshlska are leaders in the number of protected areas. The largest number of reserves is in the Zhytomyr district - 48.70%. The results of the distribution of reserves in the UTC of Zhvtomvr district give them an opportunity to place them in a ranked series by increasing the number of territories and objects: Berezivska, Novohuivynska, Kharytonivska, Potiivska, Kvitneva, Kozynska, Vyshevytska < Teterivska, Khoroshivska < Lyubarska, Pulynska, Chudnivska < Korostyshivska < Radomyshilska < Romanivska. Botanical sanctuaries are the most common in the Zhytomyr district UTC, their share is 44.0%. There are 1.4 and 1.8 times fewer geological and hydrological monuments of nature compared to botanical ones. The largest number of natural monuments can be found in Khoroshivska UTC. Zhytomyr region also has a botanical garden and eleven parks-monuments of horticultural art.

There are 5 categories of NRF in Korosten district, two nature reserves are especially valuable, but the most represented are sanctuaries (82.0%). The distribution of nature conservation areas within the UTC of the Korosten district is uneven. The largest number of protected areas is found in Olevska OTG, and in Horshchikivska there are no protected areas at all. UTC of the Korosten district can be placed in the following ranked order according to the decreasing number of territories and objects of NRF: Olevska > Slovechanska > Ovrutska > Malynska > Korostenska > Luginska > Ushomirska > Hladkyvytska > Narodytska > Irshanska > Chopovytska > Bilokorovytska > Horshchikivska. The analysis of the distribution of protected areas within the various UTCs of the Korosten district by type shows that forest protected areas are the most common, and geological protected areas are the least common. It is worth noting that each UTC of the Korosten district (except Horshchykivska UTC) has at least one reserve. Natural sights are found in seven UTC, the most common botanical ones – 71.4%. There are two dendrological parks and four parks-monuments of horticultural art from the artificial objects of NRF.

The natural reserve fund of the Zvyagel district of the Zhytomyr region is represented by 52 objects. UTC of the Zvyagel district can be placed in a ranked series according to the increase in the number of territories and objects: Barashivska, Dubrivska, Yarunska < Chyzhivska, Bronykyvska < Baranivska < Pishchivska < Zvyagelska < Horodnytska < Yemilchynska. As in the entire Zhytomyr region, nature reserves are the most common – their share is 90.40% of the total number of objects in the district. Reserves are most often found in Gorodnytska and Yemelchynska UTC.

Berdychiv district is the least represented by nature reserves. The most common are sanctuaries, their share is 64.7% of the total distribution, there are 11 times fewer natural monuments compared to sanctuaries, and 5 times more parks-monuments of horticultural art than natural monuments. In addition, protected areas and objects are found in five UTCs out of ten districts.

In recent years, the number of territories and objects of the NRF in the region has been increasing, but there is a need for its further improvement for more efficient functioning and ecologically sustainable development. Therefore, it is necessary to involve state and local authorities in the issue of creation and preservation of the territories and objects of the NRF of the region, as well as to improve the management of the existing nature conservation territories and improve their condition.

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