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СТАН ТА НАПРЯМИ РОЗВИТКУ ПРИРОДНО-ЗАПОВІДНИХ ТЕРИТОРІЙ ОДЕСЬКОГО РЕГІОНУ В КОНТЕКСТІ «БЛАКИТНОЇ ЕКОНОМІКИ»

Актуальність. В умовах посилення антропогенного навантаження на природні території зростає роль дослідження природно-заповідного фонду (ПЗФ) країн та регіонів, оскільки якась життя населення значною мірою залежить від екологічного стану природного середовища як основи життєдіяльності людини. Наразі в Світі на самому високому рівні визнано, що роль природно-заповідних територій (ПЗТ) із переходом до сталого розвитку є фундаментальною і ключовою. Ці світові тенденції визнано і Україною і затверджено в національному законодавстві серед найважливіших приоритетів довгострокової державної політики. А в умовах сьогодення цей приоритет набуває особливої значущості, і в ньому виокремлюється цільова установка на збільшення площ ПЗТ в прибережних регіонах та на реалізацію їх рекреаційного потенціалу.

Мета та завдання. Виходячи з існуючої в Україні і Світі особливої актуальності розширення ПЗТ, розвитку прибережних регіонів в рамках «блакитної економіки», а також спрямованості на використання національного потенціалу територій в Україні, метою даного дослідження є проведення аналізу стану та існуючих напрямів розвитку територій та об’єктів ПЗФ Одеської області, в тому числі в розрізі приморських та неприморських районів.

Матеріали та методи. При проведенні досліджень використовувались методи: статистичного аналізу - для визначення площ територій та об’єктів ПЗФ, порівняльного аналізу - при дослідженні площ об’єктів ПЗФ в приморських та неприморських районах Одеської області, наукового узагальнення - для аналізу стану та існуючих напрямів розвитку територій та об’єктів ПЗФ регіону.

Результати. Проведений в статті аналіз стану та існуючих напрямів розвитку територій та об’єктів ПЗФ України, Одеської області та її районів, показав, що в цілому в Україні простежується загальна державна тенденція до збільшення площ територій ПЗФ. Але темпи розвитку територій природно-заповідного фонду в країні відстають від задекларованих у програмних документах орієнтирів.

Щодо Одеської області, слід зазначити, що в рейтингу адміністративно-територіальних одиниць за величиною територій ПЗФ, яка відображає величину заповідних територій (ПЗТ) із переходом до заповідного фонду, вона займає аж 19 місце, а за зміною фактичних площ територій ПЗФ - 9 місце. Для Одеського регіону, з його потенціалом, це вкрай низьки по оцінці.

Висновки. Не дивлячись на те, що за останні десятиріччя в Україні зрослі багатовідповідні кроки в напрямку розвитку ПЗТ, у післявоєнні роки регіон стає переважно суто заповідним, а також територіями природної історичної пам‘ятки. Але відомі ознаки, що суміжність поверхні і структурних форм екологічного колоніального розподілу, відображає значну диференціацію у територіальному розподілі об’єктів ПЗФ. Так, фактична площа ПЗФ в приморських районах втричі більша ніж в неприморських. А за відсотком заповідності приморські райони випереджають неприморські в 5 разів. Крім того, регіон не відповідає науково обґрунтованим рекомендаціям щодо відсотку заповідності для степової зони (10%). Так, в приморських районах високий рівень заповідності (9,48%), а в неприморських – дуже низький (1,82%). І, якщо відносно середнього рівня заповідності по області, з трьох районів, з яких дві є неприморськими, в Одеському регіоні, чергова відповідно відсотками заповідності в Одеській області відбувся переважно за рахунок збільшення територій заповідного фонду на 13,9%.

Такими словами, існуюча структура території ПЗФ регіону відображає певні ознаки, що, з одного боку, відображає особливу рівень заповідності в прибережному регіоні. Ситуація зростає все на тій самій основі, що та вищезазначені. На рівні території ПЗФ, з національної позиції, знижують можливість рекреації, а в неприморських районах доцільно більше розвивати багатофункціональні території ПЗФ з можливістю рекреації, а в приморських - переважно суто заповідні, а також території природно-заповідного фонду.

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STATUS AND DIRECTIONS OF THE DEVELOPMENT OF NATURAL PROTECTED AREAS OF THE ODESSA REGION IN THE CONTEXT OF THE "BLUE ECONOMY"

**Topicality.** In the conditions of increased anthropogenic load on natural territories, the role of the study of the nature reserve fund (NRF) of countries and regions. It is increasing, since the quality of life of the population largely depends on the ecological state of the natural environment as the basis of human life. Currently, it is recognized at the highest level in the world that the role of protected natural areas (PNA) in the transition to sustainable development is fundamental and key. These global trends have been recognized by Ukraine and approved in national legislation among the most important priorities of long-term state policy. And in today's conditions, this priority acquires special significance, and it sets out the target setting for increasing the area of recreational areas in coastal regions and realizing their recreational potential.

**Aim and tasks.** Based on the existing in Ukraine and the world, the special relevance of the expansion of the PNA, the development of coastal regions within the framework of the "blue economy", as well as the focus on using the own potential of the territories in Ukraine, the purpose of this study is to conduct an analysis of the state and existing directions of development of the territories and objects of the NRF Odessa region, including the cross-section of coastal and non-coastal regions.

**Materials and methods.** Statistical analysis methods were used when conducting research to determine the areas of territories and objects of the NRF, when studying the areas of the NRF objects in the seaside and non-sea areas of Odesa region, the method of comparative analysis was used, the method of scientific generalization was used to analyze the state and existing directions of development of territories and objects of NRF facilities of the region.

**Research results.** The analysis of the state and existing directions of development of the territories and objects of the NRF of Ukraine, Odesa region and its districts, carried out in the article, showed that in general in Ukraine there is a general state tendency to increase the area of the territories of the NRF. But the rate of development of the territories of the nature reserve fund in the country lags behind the benchmarks declared in the program documents.

As for Odesa region, it should be noted that in the ranking of administrative territorial units by the size of the territories of the NRF (as a percentage of their total area), it takes as much as 19th place, and according to the change of the actual areas of the NRF territories - 9th place. For the Odesa region, with its potential, these are extremely low positions. And this emphasizes that the region's capabilities in this area are not being used to their full extent.

The analysis of indicators of the state of the nature-reserved area of the region showed that the main increase in the area of protected areas in the region took place in the last 2 years. At the same time, the overall increase in the territories of the NRF of the region occurred mainly due to the increase in the territories of national importance (+13%). At the same time, in the Odesa region, there is significant differentiation in the territorial distribution of NRF objects. Thus, the actual area of the NRF territories in the coastal areas is three times larger, than in the non-coastal areas. And in terms of the percentage of protected areas, seaside areas are 5 times ahead of non-sea ones. In addition, the region does not meet scientifically based recommendations for the percentage of protection for the steppe zone (10%). Thus, the level of protection is high (9.48%) in the coastal areas, and very low (1.82%) in the non-coastal areas. And along with the average level of conservation in the region (4.63%), which is almost 1.5 times less than the average Ukrainian indicator (6.80%), it is necessary to note the need for further development of the network of protected areas and objects in Odesa region. At the same time, coastal and non-coastal areas should have different target orientations for the development of NRF. So, for example, in the coastal areas, it is advisable to develop more multifunctional areas of the NRF, with the possibility of recreation, and in the non-coastal areas - mainly purely protected areas, as well as areas for reservation for future.

**Conclusion.** Despite the fact that over the past decades, appropriate steps have been taken in the direction of the development of PNA in Ukraine, in the post-war period, the work should be continued and strengthened, with a focus on attracting investments to restore the lost and develop the existing potential, including recreational, expansion of the network of PNA to the necessary, legally established scales.

To ensure the sustainable long-term functioning of NRF objects, it is necessary to take a number of measures and comply with certain requirements regarding: expansion of the network of existing territories and NRF objects; scientific
substantiation of the creation of new NRF objects; development of recreational capacity of PNA; informing the local population about the value of NRF objects, etc.

Keywords: Odesa region, "blue economy", nature reserve fund, percentage of protected areas, recreation.

Problem statement and its connection with important scientific and practical tasks.

In the conditions of increased anthropogenic load on natural territories, the role of the study of the nature reserve fund (NRF) of countries and regions is increasing, since the quality of life of the population largely depends on the ecological state of the natural environment as the basis of human life.

Currently, it is recognized at the highest level in the world that the role of protected natural areas (PNA) in the transition to sustainable development is fundamental and key. These global trends have been recognized by Ukraine and approved in national legislation among the most important priorities of long-term state policy. And in today's conditions, this priority acquires special significance, and it highlights the goal of increasing the area of nature-protected areas in coastal regions and realizing their recreational potential.

Analysis of recent publications on the problem.

It should be noted that the work of many domestic scientists is devoted to the issue of the development of the territories and objects of the NRF in Ukraine, in certain regions and on the objects of the NRF (Yavorskaya et al., 2015; Popova, 2017; Nikolaychuk & Khumarova, 2019; Nikolaychuk, 2019; Khumarova et al., 2020; Nikolaychuk, 2020; Smyrnova et al., 2021; Rusiev et al., 2022; Shershun & Mykytyn, 2023).

Allocation of previously unsolved parts of the general problem.

At the same time, the analysis of the current state of the territories and objects of the NRF is always relevant. Also, the issues of the development of nature reserves in the coastal regions, taking into account the potential of their recreational opportunities, remain insufficiently disclosed.

Formulation of research objectives (problem statement).

Therefore, based on the existing in Ukraine and the world, the special relevance of the expansion of PNA, the development of coastal regions within the framework of the "blue economy", as well as the focus on using the own potential of territories in Ukraine (specified in the State Strategy for Regional Development for 2021-2027), the purpose of this research is an analysis of the state and existing directions of development of the territories and objects of the NRF of Odesa region in the section of coastal and non-coastal areas.

Materials and methods.

Statistical analysis methods were used when conducting research to determine the areas of territories and objects of the NRF, when studying the areas of the NRF objects in the seaside and non-sea areas of Odesa region, the method of comparative analysis was used, the method of scientific generalization was used to analyze the state and existing directions of development of territories and objects objects of the NRF of the Odesa region.

An outline of the main results and their justification.

Today, the reform of the NRF is being actively discussed in Ukraine, the premise of which was that the existing system of management of the nature reserve fund does not meet the modern requirements for state management, control over compliance with environmental legislation, financing of measures to preserve the nature reserve fund and realize its recreational potential. The Ministry of Environment defines the purpose of the mentioned reform as ensuring the preservation and reproduction of living nature through the implementation of effective management, effective protection services and the development of the recreational capacity of nature conservation areas. It should be noted that the publication of information on the reform of the NRF caused quite a stir on the part of the environmental community. And such a reaction only emphasizes the importance and relevance of the issues of the development of nature reserves in Ukraine.

Today, the development of nature reserves is recognized as one of the most important priorities of Ukraine's long-term state policy. And in today's conditions, this priority acquires special significance, and it sets out the target setting for increasing the area of PNA in the coastal regions of the world.

Note that in December 2022, almost every country in the world signed the "Kunming-Montreal Agreement" (Decision adopted by the Conference, 2022), which provides for the protection of 30% of land and oceans by 2030, as well as 22 other goals aimed at reducing the loss of biodiversity. Thus, Goal 3 of the Agreement provides that by 2030 "at least 30% of terrestrial, freshwater, coastal and marine areas, especially the most ecologically valuable, should be effectively protected and managed with the help of
ecologically representative, well-connected and equitably managed systems of protected areas. Any use of these areas must fully comply with environmental protection measures" (Kunming-Montreal Global biodiversity framework, 2022). This target setting is called the "30 for 30 Strategy" and is one of the central ones for the "blue economy".

It should be noted that currently the topic of the development of a sustainable "blue economy" and the management of coastal ecosystems is actively discussed at numerous international conferences within the framework of the UN Decade (2021-2030), dedicated to ocean science for the benefit of sustainable development. The object of the "blue economy" is coastal ecosystems and coastal territories. It is precisely because of the fact that about 40% of the Earth's people live in coastal areas that the "blue economy" has acquired such extreme relevance and significance. In addition, the population of the coastal regions of the world today makes a significant contribution to the world economy. According to some estimates (Sustainable blue economy vital, 2022), it is now 1.5 trillion dollars per year, and by 2030 this figure is predicted to exceed three trillion.

It should be noted that as early as 2018, the relevance of development in the coastal areas of the NRF territories was recognized. Thus, at the Conference in Nairobi, within the framework of the direction "Blue Economy and the Sustainable Development Agenda for the period until 2030", among the nine key issues (Sustainable Blue Economy Conference, 2018) were: "Cities, tourism, sustainable coasts and infrastructure " and "Maritime security, safety and compliance ". Therefore, the use of the resources of the world's oceans and sea coasts is of great importance to meet the existing demand and it is very important that this is done on a sustainable basis.

Thus, it is currently recognized at the highest level in the world that the role of PNA with the transition to sustainable development is fundamental and key. These global trends have been recognized by Ukraine and approved in national legislation. Thus, in the State strategy of regional development for 2021-2027 (State strategy of regional development, 2020), one of the main tasks in the direction of "Formation of a network of nature protection territories, preservation and reproduction of ecosystems, improvement of the state of the natural environment" is "increasing the area of territories and objects of the nature reserve fund of local and national importance". And a very important ecological and social indicator, the increase of which contributes to maintaining the ecological balance of ecosystems and the ecological stability of territories, is such an indicator of monitoring the achievement of the Strategy's goals as "the share of territories and objects of the nature reserve fund in relation to the area of the state (region)" (or "percentage of protected areas"). This indicator, according to the target settings of the above-mentioned Strategy, is planned to be increased to 15% by 2027 (Fig. 1). And in the Strategy of the state environmental policy of Ukraine for the period until 2030 (Strategy of the state environmental policy of Ukraine, 2019), which was adopted in 2019, it is recorded that the target values of the percentage of protected areas should be 10.4, 12.5 and 15 percent in 2020, 2025 and 2030, respectively (see Fig. 1). Here we see the presence of a certain contradiction in the time reference points. But, without focusing on these differences, in general, we see a general state tendency to increase the area of the territories of the NRF.

At the same time, despite the fact that during the years of independence the area of the nature reserve fund has doubled, the share of nature reserve fund land in Ukraine is insufficient.

The relatively small experience of land use of the natural reserve fund of Ukraine has led to the fact that the percentage of reserves in Ukraine is three times less than in European countries (Smyrnova et al., 2021), where on average it is equal to 21% (Strategy of the state environmental policy of Ukraine, 2019). Thus, according to the data of the Department of the Nature Reserve Fund of the Ministry of Environment Protection and Natural Resources of Ukraine (Analysis of the areas of the nature reserve fund of Ukraine, 2021), the reserve rate in Ukraine as of January 1, 2021 was only 6.8%, and the protected water areas (within the Black Sea water area) is generally less than 1 percent (0.67%). And the rate of development of the territories of the nature reserve fund in the country lags behind the benchmarks declared in the program documents (see Fig. 1).

We note that, in general, for the analysis of the state of the territories of the nature reserve fund, there are currently appropriate monitoring indicators for the implementation of sustainable development goals, which were approved by the Decree of the Cabinet of Ministers of Ukraine (Data collection for monitoring, 2019). Among these indicators related to the creation of a network of territories and objects of the nature reserve fund, which were identified by the Department of the Nature Reserve Fund of the Ministry of Environment of Ukraine (Analysis of the areas of
the nature reserve fund of Ukraine, 2021), the following are available:

1. Area of territories and objects of the nature reserve fund, thousand hectares (Goal 15. Protection and restoration of land ecosystems);

2. The share of the area of the territories and objects of the nature reserve fund in the total territory of the country (the "percentage of protected areas" already mentioned by us above), % of the country's territory (Goal 15. Protection and restoration of terrestrial ecosystems);

3. The area of the nature reserve fund of national significance, % of the country's territory (Goal 11. Sustainable development of cities and communities);

4. The area of the territories and objects of the nature reserve fund of the maritime regions, % of the territory of the maritime regions (Goal 14. Conservation of marine resources);

5. The area of the territories of the nature reserve fund in mountainous regions, thousand hectares (Goal 15. Protection and restoration of terrestrial ecosystems);

6. The area of territories and objects of the nature reserve fund in the water area of the Black and Azov Seas, thousand hectares (Goal 14. Conservation of marine resources);

7. The share of the territory of the national ecological network in the total territory of the country, % of the territory of the country (Goal 15. Protection and restoration of terrestrial ecosystems).

But not all are available for review. So, for the Odesa region, for example, the first four indicators are relevant. The fifth is not of interest to us in terms of the analysis of PNA in the Odesa region, for the sixth - currently, unfortunately, only fragmentary data can be found, and for the seventh indicator - there are no statistical data for it at all. And, as stated in the analytical report "Indicators for monitoring state of achieving sustainable development goals: data collection and calculation methodology," for this indicator, "metadata not defined" (Indicators for monitoring, 2017).

As for Odesa region, it is located in favorable natural-geographical and climatic conditions, it has a powerful natural resource potential and a significant potential for the development of NRF. Thus, in the lower reaches of large rivers (Danube, Dniester) and estuaries, on the sea coast and in the shelf zone, there are valuable unique natural complexes, wetlands, ecosystems that form the high biosphere potential of the region, which has of national and international importance.

The NRF of the Odesa region includes

Fig. 1. Dynamics of the increase in the area of territories and objects of the nature reserve fund in Ukraine for 2011-2020 (in % of the total area of the country)

Source: built by the author on materials (Strategy of the state environmental policy of Ukraine, 2019; Analysis of the areas of the nature reserve fund of Ukraine, 2021)
important nature reserves and objects of different hierarchical levels. They include territories and objects of natural origin (biosphere reserve, national natural parks, regional landscape park, sanctuaries, natural monuments, protected tracts), and artificially created objects (botanical garden, zoological park, garden and park art). And by categories, as of January 1, 2023, in the Odesa region, these territories and objects are distributed as follows: national natural parks - 34.2%, biosphere reserves - 29.4%, nature reserves - 18.4%, regional landscape parks - 9%, protected tracts - 8%, and together natural monuments, botanical gardens, zoological parks, park-monuments of horticultural art - 1%.

Table 1 shows the dynamics of the development of the areas of the territories and objects of the PZF, as well as the percentage of the protected area of the Odesa region.

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of NRF objects, units</th>
<th>Actual area of PNA, ha</th>
<th>Percentage of protected areas, %</th>
<th>Growth rate of the actual area of PNA, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>120</td>
<td>145,445,05</td>
<td>4.37</td>
<td>-</td>
</tr>
<tr>
<td>2012</td>
<td>124</td>
<td>150,842,94</td>
<td>4.53</td>
<td>+3.7</td>
</tr>
<tr>
<td>2013</td>
<td>123</td>
<td>150,842,90</td>
<td>4.53</td>
<td>-0.00003</td>
</tr>
<tr>
<td>2014</td>
<td>123</td>
<td>150,842,92</td>
<td>4.53</td>
<td>+0.00001</td>
</tr>
<tr>
<td>2015</td>
<td>123</td>
<td>150,840,90</td>
<td>4.53</td>
<td>-0.00134</td>
</tr>
<tr>
<td>2016</td>
<td>123</td>
<td>150,840,90</td>
<td>4.53</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>123</td>
<td>150,837,50</td>
<td>4.53</td>
<td>-0.00225</td>
</tr>
<tr>
<td>2018</td>
<td>123</td>
<td>150,837,50</td>
<td>4.53</td>
<td>0</td>
</tr>
<tr>
<td>2019</td>
<td>125</td>
<td>154,389,75</td>
<td>4.63</td>
<td>+2.4</td>
</tr>
<tr>
<td>2020</td>
<td>125</td>
<td>154,389,75</td>
<td>4.63</td>
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<tr>
<td>2021</td>
<td>127</td>
<td>154,686,20</td>
<td>4.64</td>
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<tr>
<td>2022</td>
<td>128</td>
<td>166,343,09</td>
<td>4.99</td>
<td>+7.5</td>
</tr>
</tbody>
</table>

Source: built by the author on materials (Analysis of the areas of the nature reserve fund of Ukraine, 2021; List of territories and objects of the nature reserve fund, 2023; Development strategy of the Odesa region, 2020)

It can be seen from the table that the main increase in the area of NRF (almost half of the total increase over 12 years) took place in the last 2 years. In our opinion, this can be connected with the approval of the Odesa Oblast Development Strategy for the period 2021-2027, adopted in 2020, where one of the main tasks within the framework of the strategic priority "ecological and technogenic safety" was defined as "preservation, development and creation of objects of the nature reserve fund" (Development strategy of the Odesa region, 2020).

However, for the Odesa region, these indicators and their growth rates are not only insufficient, but do not even correspond to the planned indicators defined in the above-mentioned Strategy. Thus, this document states that the value of the conservation indicators should be 5.4, 6.0, and 6.5 percent in 2021, 2023, and 2027, respectively (Fig. 2). At the same time, there is a dispute with the target indicators that were specified in an earlier document - the State Strategy of Regional Development for the period until 2020, where it was determined that the share of the land area of the natural reserve fund of the Odesa region as of January 1, 2020 was to be 10.4% of the area of the region (State strategy of regional development, 2014; Rusiev et al., 2022) (see Fig. 2). It is not clear why the target benchmarks became lower, especially for Odesa, as a region whose districts have all the necessary natural prerequisites for the development and expansion of the PNA network here (including water areas in coastal areas). But we can operate and focus only on the indicators specified in the current normative legal acts of the legislation of Ukraine. At present, as we can see, they have not yet been achieved.

With regard to such an indicator as "the area of the NRF of national importance" (in % of the total territory of the administrative-territorial unit), it
can be stated that the overall ratio of territories and objects of the NRF of national and local importance in the Odesa region has not changed significantly in recent years. And as of 01.01.2023 it reached the following values: 72% - territories and objects of the NRF of the Odesa region of national importance and 28% - local.

At the same time, the territories and objects of national importance represented by the NRF of the Odesa region include: the Danube Biosphere Reserve, the Nizhnyodnistrovskyi, Tuzlovskyi, Kuialnytskyi national natural parks, as well as various types of nature reserves, natural monuments, a botanical garden, a zoological park, a memorial park of horticultural art. And the objects of local significance include: regional landscape parks "Izmail Islands", "Tiligulsky", nature reserves and monuments of various types, parks-monuments of horticultural art, protected tracts.

As for the territories of the NRF of the Odesa region of national and local importance in general, it can be noted that their number and area have increased in recent years (Table 2).

At the same time, we can see that the overall increase in the territories of the NRF of the region occurred mainly due to the increase in the territories of national importance (+13%). This is quite important, since it is precisely such territories that can later acquire international status and become part of the international network of territories of special environmental importance.

Table 2

<table>
<thead>
<tr>
<th>Years</th>
<th>Of national significance</th>
<th>Of local importance</th>
<th>TOTALLY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Of national significance</td>
<td>Of local importance</td>
<td>TOTALLY</td>
</tr>
<tr>
<td></td>
<td>Quantity, units</td>
<td>Total area, ha</td>
<td>Quantity, units</td>
</tr>
<tr>
<td>2017</td>
<td>16</td>
<td>112719</td>
<td>107</td>
</tr>
<tr>
<td>2018</td>
<td>16</td>
<td>112719</td>
<td>107</td>
</tr>
<tr>
<td>2019</td>
<td>16</td>
<td>116271</td>
<td>107</td>
</tr>
</tbody>
</table>
At the same time, the peculiarity of the NRF of the Odesa region is a small number of territories and objects, a small share of nature reserves, a significant share of ecologically unstable objects (44.2% outside the boundaries of the regional center), uneven distribution of territories and objects (objects higher categories and the largest area are concentrated in the south in the deltas of large rivers and the system of estuaries), which does not reflect the general features of the steppe zone (Popova, 2017).

So, it can be stated that in the Odesa region in the last 2 years, a certain shift in the direction of increasing the territories and objects of the NRF has been outlined. But at the same time, according to the data of the Department of the Nature Reserve Fund of the Ministry of Environment of Ukraine (Analysis of the areas of the nature reserve fund of Ukraine, 2021), in the ranking of administrative-territorial units by the size of NRF territories (as a percentage of their total area), Odesa Oblast takes as much as 19th place, and according to the change of the actual areas of the territories of the NRF - 9th place. In our opinion, for the Odesa region, with its potential, these are extremely low positions. And this emphasizes that the region's capabilities in this area are not being used to their full extent.

Further, taking into account the geographical features, as well as taking into account the world trends regarding the development of the "blue economy", which, as we wrote above, has coastal areas as its object, we consider it appropriate to divide the districts of the Odesa region for analysis: to consider separately the situation in the seaside (Odesa, Bilhorod-Dnistrovsky and Izmail) and in non-coastal (Bolhrad, Rozdilnian, Bereziv and Podil) districts. And in order to reveal in more detail the differences in the development of the territories and objects of the NRF in the section of the districts of the Odesa region, we calculated the percentage of nature reserves and provision of nature conservation lands for the local population for seaside and non-seaside areas (Table 3).

<table>
<thead>
<tr>
<th>Regions</th>
<th>Area of the territory of administrative units, ha</th>
<th>The actual area of the NRF territory, ha</th>
<th>Number of NRF objects, units</th>
<th>Percentage of protected areas, %</th>
<th>Population, thousands of people</th>
<th>Population density, people/km²</th>
<th>Provision of the territories of the NRF, ha/thousand people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ukraine</td>
<td>650354960</td>
<td>4105522</td>
<td>8633</td>
<td>6.80</td>
<td>41588.4</td>
<td>69</td>
<td>98.72</td>
</tr>
<tr>
<td>Odesa region</td>
<td>3331300</td>
<td>154390</td>
<td>125</td>
<td>4.63</td>
<td>2370,134</td>
<td>71</td>
<td>65.14</td>
</tr>
<tr>
<td>Seaside areas of Odesa region</td>
<td>1225102</td>
<td>116115</td>
<td>67</td>
<td>9.48</td>
<td>1779,583</td>
<td>145</td>
<td>65.25</td>
</tr>
<tr>
<td>Non-coastal areas of Odesa region</td>
<td>2106198</td>
<td>38274</td>
<td>58</td>
<td>1.82</td>
<td>590,551</td>
<td>28</td>
<td>64.81</td>
</tr>
</tbody>
</table>

Source: built by the author on materials (Analysis of the areas of the nature reserve fund of Ukraine, 2021; List of territories and objects of the nature reserve fund, 2023; Passport of Odesa region, 2022)
As we can see, there is significant differentiation in the territorial distribution of NRF objects. Thus, the actual area of the NRF territories in the coastal areas is three times larger than in the coastal areas. And in terms of the percentage of protected areas, seaside areas are 5 times ahead of non-seaside ones.

It should be noted that, according to scientifically based recommendations, the level of conservation should be at least 10% in the steppe zone, which includes almost the entire territory of the region (Yavorskaya et al., 2015). It can be seen from the table that the level of protection in coastal areas is high (9.48%), and in non-coastal areas it is low (1.82%). And along with the average level of protection in the region (4.63%), which is almost 1.5 times less than the average Ukrainian indicator (6.80%), it is necessary to note the need for further development of the network of protected areas and objects in Odesa Region.

At the same time, in our opinion, the seaside and non-coastal areas should have different targets for the development of the NRF. So, for example, in coastal areas, it is expedient to develop more multifunctional areas of NRF, with the possibility of recreation, and in non-coastal areas - mainly purely protected areas, as well as areas for reservation for future. And in the last case, it is very important to maintain a balance in the issue of allocating territories for bequests, to select for this the territories that are valuable from the point of view of ecologists (Shershun & Mykytn, 2023).

It should be noted that in the coastal areas, which have a territory almost twice as small, and the population density is 5 times greater than the non-coastal areas, the provision of the population with the territories of the NRF is almost the same as in the non-coastal areas and in general in the region (about 65 ha/ths. people), but almost 1.5 times less than the national average (almost 99 ha/thousand people).

At the same time, such an indicator as the provision of the population by the territories of the NRF should be considered, in our opinion, from two sides. On the one hand, it is a general indicator that reflects, so to speak, the "background" natural conditions of existence of the local population (general state of the environment, cleanliness of air, water, climate changes, etc.). On the other hand, it can be considered through the prism of the possibility to directly use this provision, that is, to visit these territories for a certain purpose (for example, recreational, educational, etc.), both by the local population and by tourists. And for this, it is necessary to separate those territories where recreation is allowed.

In general, 11 existing categories of territories and objects of the NRF, according to the degree of accessibility of recreation, can be divided into those where recreation is: prohibited (nature reserves, sanctuaries, natural monuments, protected tracts); limited (biosphere reserves, botanical gardens, zoological parks); is targeted (national natural parks, regional landscape parks, dendrological parks, parks-monuments of horticultural art).

In the Odesa region, the structure of the territories and objects of the NRF according to the degree of accessibility of recreation as of January 1, 2023, it looks like this: 27% of territories and objects - recreation is prohibited; 29% - recreation is limited (allowed in appropriate zones); 44% - recreation is targeted (that is, it is specified in the purpose and/or tasks of the operation of the NRF facility). At the same time, most of the oblast's facilities where recreation is possible are located in seaside areas (Table 4). Therefore, coastal areas are generally more attractive for tourism and, in particular, are more promising for the development of recreation in the territories of the NRF.

<table>
<thead>
<tr>
<th>№</th>
<th>Name of the PZF object</th>
<th>The total area of the territory of the NRF facility, ha</th>
<th>Area of the NRF facility in the seaside areas, ha</th>
<th>Area of the NRF facility in the non-coastal areas, ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Danube Biosphere Reserve</td>
<td>51547,90</td>
<td>51547,90</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>National Natural Park &quot;Tuzlovsky Lyman&quot;</td>
<td>27865,00</td>
<td>27865,00</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Nizhny Dniester National Natural Park</td>
<td>21311,10</td>
<td>21311,10</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Regional landscape park &quot;Tiligulskyi&quot;</td>
<td>13954,00</td>
<td>6977,00</td>
<td>6977,00</td>
</tr>
<tr>
<td>5</td>
<td>Kuialnytskyi National Nature Park</td>
<td>10800,89</td>
<td>8391,24</td>
<td>2409,65</td>
</tr>
</tbody>
</table>
At the same time, a reasoned way of sustainable development of recreation and tourism in the territories of NRF could contribute to nature protection by obtaining income, part of which could be used for nature protection works. After all, the existing international approaches to the active development of the field of recreational and ecosystem services encourage stakeholders in the field of nature reserve fund to look for opportunities to join these trends (Khumarova et al., 2020). As of today, protected areas and objects are considered exclusively from the point of view of a conservative approach, as nature conservation areas, but ecological and economic transformations in society require the formation of innovative approaches to the development of objects of the nature-protected fund of Ukraine, which will take into account the needs local population, local communities, the interests of representatives of the private sector of the economy, who intend to join the global trends in the development of ecosystem services, including tourism and recreational and health vectors (Nikolaychuk, 2020). At the same time, it is clear that without proper arrangement in the territories of the protected fund or adjacent territories of social and infrastructure facilities, such types of recreation may attract too narrow a circle of people, therefore they will not be economically attractive for subjects of economic relations (Nikolaychuk & Khumarova, 2019). So, the issue of development of recreation and tourism in the PNA is difficult, complex, entailing many issues of related areas of the economy. Therefore, it needs further careful research, since it is the recreational areas that can be accepted as a territorial natural asset of the protected fund.

And this is especially relevant now and will be in great demand in the post-war period, since it is impossible to overestimate the recreational role of the PNA - as a spiritual refuge, a source of restoration and strengthening of health. Caring for a healthy, educated nation and a quality environment is an important requirement for the transformation from a resource economy to a knowledge economy (Nikolaychuk, 2019). Therefore, the urgent tasks of today are: the increase of PNA - these "repositories of nature", the effective realization of their recreational potential, as well as ensuring the most fair and effective management of them.

**Conclusions and perspectives of further research.** So, from our analysis of the state and existing directions of development of the territories and objects of the NRF of Ukraine, Odesa region and its districts, the following conclusions can be drawn.

Currently, it is recognized at the highest level in the world that the role of PNA with the transition to sustainable development is fundamental and key. These global trends have been recognized by Ukraine and approved in national legislation among the most important priorities of long-term state policy.

At the same time, in Ukraine as a whole, a general state tendency to increase the area of

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Reserve &quot;Savran Forest&quot;</td>
<td>8397,00</td>
<td>-</td>
<td>8397,00</td>
</tr>
<tr>
<td>7</td>
<td>Reserve tract &quot;Dniester floodplains&quot;</td>
<td>7620,00</td>
<td>7620,00</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>&quot;Tarutyn Steppe&quot; Order</td>
<td>5200,00</td>
<td>-</td>
<td>5200,00</td>
</tr>
<tr>
<td>9</td>
<td>Customer &quot;Lesnychivka&quot;</td>
<td>3176,00</td>
<td>-</td>
<td>3176,00</td>
</tr>
<tr>
<td>10</td>
<td>Reserve tract &quot;Kishevo&quot;</td>
<td>2844,00</td>
<td>-</td>
<td>2844,00</td>
</tr>
<tr>
<td>11</td>
<td>Kartal Lake Customer Service</td>
<td>2141,20</td>
<td>2141,20</td>
<td>-</td>
</tr>
</tbody>
</table>

**A total of 11 largest objects of NRF**

<table>
<thead>
<tr>
<th></th>
<th>ha</th>
<th>154857,09</th>
<th>125853,44</th>
<th>29003,65</th>
</tr>
</thead>
<tbody>
<tr>
<td>% (to the total area of PNA of the region)</td>
<td>88</td>
<td>72</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

**Among them are objects where recreation is possible**

<table>
<thead>
<tr>
<th></th>
<th>ha</th>
<th>73930,99</th>
<th>64544,34</th>
<th>9386,65</th>
</tr>
</thead>
<tbody>
<tr>
<td>% (to the total area of PNA of the region)</td>
<td>42</td>
<td>37</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

**All over the region**

<table>
<thead>
<tr>
<th></th>
<th>ha</th>
<th>175476,34</th>
<th>144615,56</th>
<th>30860,78</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: built by the author on materials (List of territories and objects of the nature reserve fund, 2023)
protected areas can be observed. But the rate of development of the territories of the nature reserve fund in the country lags behind the benchmarks declared in the program documents. In addition, there are certain contradictions of time guidelines in the relevant legislative acts.

To date, the reform of the nature-protected sphere of Ukraine is being actively discussed, the purpose of which is to ensure the preservation and reproduction of living nature through the implementation of effective management, effective protection services and the development of recreational capacity of nature-protected territories. At the same time, the rather stormy reaction of the environmental community to the publication of information on the reform of the NRF of Ukraine only emphasizes the importance and relevance of the issues of the development of the nature-protected sphere.

As for Odesa region, it should be noted that in the ranking of administrative territorial units by the size of the territories of the NRF (as a percentage of their total area), it takes as much as 19th place, and according to the change of the actual areas of the territories of the NRF - 9th place. In our opinion, for the Odesa region, with its potential, these are extremely low positions. And this emphasizes that the region's capabilities in this area are not being used to their full extent.

The analysis of the indicators of the state of the nature-reserved area of the region showed that the main increase in the area of NRF (almost half of the total increase over 12 years) in the region took place in the last 2 years. In our opinion, this can be connected with the approval of the Odesa Oblast Development Strategy for the period 2021-2027, adopted in 2020. At the same time, the overall growth of the territories of the NRF of the region occurred mainly due to the increase in territories of national significance (+13%). This is quite important, since it is precisely such territories that can later acquire international status and become part of the international network of territories of special environmental importance.

At the same time, in the Odesa region, there is significant differentiation in the territorial distribution of NRF objects. Thus, the actual area of the NRF territories in the coastal areas is three times larger than in the non-coastal areas. And in terms of the percentage of protected areas, seaside areas are 5 times ahead of non-seaside ones.

In addition, it can be stated that the level of preservation of the region does not meet the scientifically based recommendations regarding the percentage of protected areas for the steppe zone (10%). Thus, the level of protection is high (9.48%) in the coastal areas, and very low (1.82%) in the non-coastal areas. And along with the average level of conservation in the region (4.63%), which is almost 1.5 times less than the average Ukrainian indicator (6.80%), it is necessary to note the need for further development of the network of protected areas and objects in Odesa region.

It should also be noted that in the coastal areas, which have a territory almost twice as small, and the population density is 5 times greater than the coastal areas, the provision of the population with the territories of the NRF here is almost the same as in the non-coastal areas and in general in the region (about 65 ha/thousand people), but almost 1.5 times less than the national average (almost 99 ha/thousand people).

At the same time, seaside areas are generally more attractive for tourism and, in particular, are more promising for the development of recreation in the territories of the NRF. Thus, most of the objects of the region, on the territories of which recreation is possible, are located precisely in the seaside areas. And in general, it should be noted that the issue of development of recreation and tourism in the PNA is complex, complex, entailing many issues of related areas of the economy. Therefore, it needs further careful research, since it is the recreational areas that can be accepted as a territorial natural asset of the protected fund.

At the same time, coastal and non-coastal areas should have different target orientations for the development of NRF. So, for example, in coastal areas, it is expedient to develop more multifunctional areas of NRF, with the possibility of recreation, and in non-coastal areas - mainly purely protected areas, as well as areas for reservation for future.

Therefore, despite the fact that over the past decades, appropriate steps have been taken in the direction of the development of PNA in Ukraine, in the post-war period, the work must be continued and strengthened, relying on the attraction of investments for the restoration of the lost and development of the existing potential, including recreational, expansion network of PNA to the necessary scales established by law.

To ensure the sustainable long-term functioning of NRF objects, it is necessary to take a number of measures and comply with certain requirements regarding: expansion of the network of existing territories and NRF objects; scientific substantiation of the creation of new NRF objects; development of recreational capacity of PNA; informing the local population about the value of NRF objects, etc.
Accordingly, measures to optimize the nature reserve fund of the region should be carried out in the above directions, so further similar studies remain relevant.

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