Use of Natural Tourism Potentials for Sustainable Development in the Special Nature Reserve "Koviliskopetrovaradinski rit" Vojvodina (Northern Serbia)

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Abstract: This paper presents the results of the research through the analysis of a significant number of data regarding activities aimed at improving the sustainable tourism development in the area of the Special Nature Reserve "Koviljsko-petrovaradinski rit", in which tourism is carried out. Consideration of the current situation and the model of protection can provide positive suggestions through contributions of future plan strategies for protection of this area, towards the significant improvement of tourism development. The aim of area protection is to constitute new ones or implement current protection measures of the area through proper monitoring in order to accomplish positive ecological, social, and economic long-term results. This is also the basic postulate of the sustainable tourism development of this special nature reserve.

Key words: Tourism, area protection, sustainable tourism development, Vojvodina, Danube.

1. INTRODUCTION

Special Nature Reserve (SNR) "Koviljsko-Petrovaradinski rit" is one of the 135 protected nature reserves in the Autonomous Province of Vojvodina [1]. Within the protected area of this special nature reserve, there are various biocenosis in which endemic plant and animal species are inhabited, a sensitive aquatic ecosystem, parts important for the sustaining of the ecosystem in which the ecological objectives are priorities in monitoring systems, protection, and preservation of a unique area, and many other reasons. Because of this, the Special Nature Reserve "Koviljsko-petrovaradinski rit" represents a significant tourism potential. In addition to the socio-economic and catalyst function, tourism could have a major influence on the development and sustainability of this nature reserve. Properly planned tourism development can contribute to economic, socio-cultural and, equally important, ecological benefits of the destination [2]. It is the concept of sustainable tourism development that is based on this principle [3].

The topic of the research in this paper is the relationship between tourism and the ecosystem in this special nature reserve. A link between these two sides should be sustainable tourism development. After the conducted research, the task is to present data which will contribute to the establishment of scientific conclusions regarding the implementation of sustainable tourism development and the use of natural tourism potentials in the SNR "Koviljsko-petrovaradinski rit".

The subject of the research in this paper is the protected area within which certain forms of positive and negative anthropogenic effects on certain elements of the ecosystem are being carried out, which make this area exceptionally unique in the world. In addition to that, the research is related to the existing and potential forms of tourism activities that use natural resources of this area, but in a sustainable manner, without the elements of environmental and ecosystem degradation [4].

The concept of protection of the SNR "Koviljsko-petrovaradinski rit" presents the guarantee of preservation of areas through its use, both by the local community and for the needs of tourism [5]. In this way, a positive response is given to sustainable tourism development. Proper management can be a good

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example of the organization of protection monitoring in other protected areas of Vojvodina and the region.

2. LITERATURE REVIEW

Previous research has made a significant contribution to the definition of certain tourism activities that aimed at the use of basic resources from the environment. The use of these resources has usually modified the area, adjusting it to the needs of tourism [6]. Over time, resources have been significantly wasted, and the activities have influenced the degradation of ecosystems [7]. Numerous world organizations, institutions, and societies have been involved in the systems of area protection as the consequences of degradation have become larger.

International Union for the Conservation of Nature (IUCN) describes a protected natural resource as a space that covers a protected area of natural importance, within which various activities including tourism ones, are being performed [8], and it is protected for the reason of preventing exploitation and possible degradation [9]. Alongside world practice, the Republic of Serbia passed the laws that are significant for nature protection [10] and numerous regulations that define individual measures and elements of area protection. The Special Nature Reserve "Koviljsko-petrovaradinski rit" has been established with The Decree on Designation of Special Nature Reserve "Koviljsko-petrovaradinski rit" [11]. The Special Nature Reserve "Koviljsko-petrovaradinski rit" Management Plan 2012-2021 [12] regulated the way of management and protection measures of this reserve. The authors Štetić, Cvijanović, and Šimičević [13] and Stojanović [3] have explored some of the influences of tourism activities in this area, contributing to sustainable tourism development. Author Mrkša, 2008 [14], gave scientific contribution and protection regime to the research of levels of tourism effect of this special nature reserve's area considering basic potentials of the area and the represented species of plants and animals. Fennell [15,16], gave significant suggestions and concepts of the development of world ecotourism whose models of activities can be implemented in this nature reserve. Ecotourism and its forms that are based on the preservation and improvement of the elements of the ecosystem are significant for sustainable tourism development in the Special Nature Reserve "Koviljsko-petrovaradinski rit". Its proper implementation will secure the socio-cultural, economic, and ecological benefits [17], for the tourist destination [18].

3. METHODS AND DATA

This special nature reserve is located in the southeastern part of Bačka and the northeastern part of Srem, more precisely in the northeastern foothills of the mountain of Fruška Gora. It spreads on the left and right banks of the Danube's mean, from 1.230 to 1.250 km and it covers Danube's vast bottomland. As it occupies a mooring area along the settlements of Petrovaradin and Kovilj, it was named after them. The reservation coordinates are 45°11'34" of the north latitude (NL) and 20°02'10" of the east longitude (EL). The area of the reserve covers an area of 4,840 ha and covers the territory of the municipalities of Novi Sad (Kovilj, Kać, and Petrovaradin), Indjija (Čortanovci and Beška), Sremski Karlovci and Titel [19].

From the above, it can be concluded that the area of the reserve has a very favorable geographical position, due to the adjacency of the main center of administration of Belgrade, the city of Novi Sad, the adjacency of important roads and potentially important dispersive zones.

SNR "Koviljsko-petrovaradinski rit" is settled in the lowest geomorphologic complex of the alluvial plain, on the left bank of the Danube. The reserve is in certain places up to 5 km long [20]. The current of the Danube has a plain character, characterized by slow flow and mild descent. The branches of the river pervade the moor, which is the result of flooding. For the same reason, there are also numerous holms, covered with various and rare vegetation. In addition to small river islands, in terms of the landscape, as well as higher ground and depressions in lower parts. Some parts of the reserve have an altitude from 72 to 76 m [14].

SNR "Koviljsko-petrovaradinski rit" has the tepid climate, with distinctively continental climatic characteristics. According to the data from the weather station in Rimski Šančevi, the average annual air temperature, in multi-annual average, is approximately 11°C. The coldest month is January with -0,7°C, and the hottest is July with 21.4°C. The month with the biggest precipitation is June, and the driest is January. The average annual rainfall is 608 mm. The dominating winds in this area are blowing from the southeast, i.e. the Košava southeastern wind with the average speed from 2.0 to 6.5 m/s. It mainly occurs in the winter and spring and brings dry and cold weather. In addition to Košava, there are the northwestern and western winds, while others occur significantly less often [19].

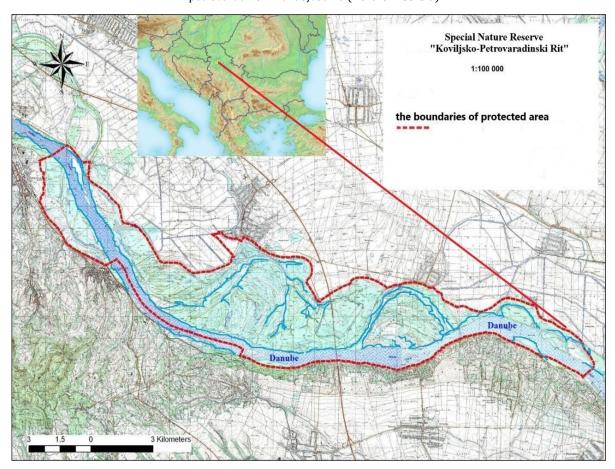


Figure 1. Management Plan of Special Nature Reserve "Koviljsko-petrovardinski rit" Source: [12], authors modified

The area of SNR "Koviljsko-petrovaradinski rit" reserve is protected by Article 29 of Law on Nature Protection [10], as the First Category – a protected area of international, national, and exceptional importance and Article 17 of the same Amendments Act due to its rarities and specific characteristics of wetlands and characteristic representatives of flora and fauna. According to the IUCN system of international protection, it is classified in IV category – Habitat and species management area [21], i.e. the area of land that is controlled by active protection measures, in order to preserve the habitats and provide conditions for subsistence of certain species [12,22].

SNR "Koviljsko-petrovaradinski rit" is spacious wetlands along the Danube, with a total area of 5,896 ha [23]. It is located within the alluvial plain of the Danube, 25.6 km long. It covers three separated spatial units [24]:

- The moor of Petrovaradin, located on the Srem side of the river (1.411 ha);
- The moor of Kovilj, which is on the left bank of the Danube (3.430 ha);
- The Island of Krčedin and the moor area of Gardinovci village (1.050 ha).

In the I degree protection regime there is 375.77 ha (approximately 6% of the total surface of protected area) [13], in the II degree protection regime there is 1.738 ha (29%), and in the III degree protection regime there is 3.784 ha (65%). The Public Enterprise "Vojvodinašume" [24] was designated for managing the Special Nature Reserve "Koviljsko-petrovaradinski rit". The reserve represents the biggest preserved complex of moors along the Danube in Serbia, which is located in the wetlands with its entire surface, and it is directly affected by the water level. The protection of natural values dates back to 1970 when a part of the forests of black and white poplar, white willow and pine in Kovilj Moor was declared as Scientific Research Reserve "Kozjak" (43.6 ha). Initiative for the establishment of integrative protection of Kovilj and Petrovaradin Marshes was provided by the Provincial Institute for Nature Protection in 1971, while the protection was established in 1998, in an area of 4.840 ha. After the revision of natural values in 2010, the borders were expanded to the Island of Krčedin and a part of the moor area of Gardinovci village [25]. SNR "Koviljsko-petrovaradinski rit" is, according to the current laws, under the

protection as a natural site of exceptional significance, and is classified in the I protection category as a Special Nature Reserve [11].

International significance protection is attained by the following statuses:

- IBA (Important Bird Areas) a significant bird area Kovilj Moor, with the surface of 9.594 ha, and Petrovaradin Moor 5.500 ha [24];
- IPA (Important Plant Areas) a significant botanical area was singled out for 2004-2005 as an internationally significant botanical area, with a surface of 4.844 ha [26];
- ICDPR area along the Danube River (International Commission for the Protection of the Danube River), SNR "Koviljsko-petrovaradinski rit" was included in the list of protected areas dependent on water and significant for the Danube Basin in 2004;
- The network of protected areas on the Danube (Danube Network Protected Areas) was included in the Danube Network Protected Areas as one of the five protected areas in Serbia. The Network also includes SNR "Gornje Podunavlje", SNR "Karadjordjevo", SNR "Deliblatska Peščara", and National Park "Djerdap", as well as protected areas along the Danube River in other countries, that are bigger than 1.000 ha [24];
- Ramsar site promulgated 27.03.2012 [12]. Ramsar convention on wetlands and their resources [27]. Wetlands represent areas with rare, valuable, and very fragile ecosystems [28];
- A potential Natura 2000 area [26];
- DNPA area (Dartmoor National Park Authority);
- EMERALD area 4.841 ha [25].

Depending on the relief and water regime a diverse living world was developed. There were identified 39 priority types of habitats for protection at the national and international level. There are 29 habitats that are functionally unstable and vulnerable to degradation. There are 6 rare habitats that are slowly regenerating, as well as 2 separate habitats of Common oak and Narrow-leafed ash, and the forests of Field elm (*Ulmus campestris*). There are registered seven priority NATURA 2000 habitats.

The abundance of flora is reflected in the presence of 443 taxa of higher plants, 19 of which strictly protected [25].

Among species that are significant for the protection of aquatic habitats, the following should be distinguished: *Numphar luteum* – The yellow water lily, *Nymphaea alba* – European white water lily, *Trapa natans agg.* – The water caltrop, *Utricularia australis* – The bladderwort. There are also species significant for semi-aquatic and muddy habitats: *Acorus calamus* – Calamus, *Marsilea quadrifolia* – Water clover (the Island of Krčedin is the place of the biggest and most numerous populations of this species in Serbia), *Equisetum fluviatile* – Water horsetail, *Iris sibirica* – Siberian iris, *Crataegus nigra* – Hungarian hawthorn, etc. [12].

The abundance of fauna is reflected in the presence of 42 protected and strictly protected species of insects, such as Hoverfly (*Epistrophe melanostoma*), and *Neoascia interrupta*. There are also 26 species of fish, of which four are strictly protected. Those are Balkan loach (*Cobitis elongata*), European weatherfish (*Misgurnus fossilis*), Balon's ruffe (*Gymnocephalus baloni*), and European bitterling (*Rhodeus sericeus amarus*). There are 7 types of reptiles, among which the most significant and endangered European pond turtle (*Emys orbicularis*), Aesculapian snake (*Zamenis longissimus*), and Dice snake (*Natrix tessellata*) [12].

Of the 11 species of amphibians, the significant representatives are as follows: Northern crested newt (*Triturus cristatus*) and Smooth Newt (*Lissotriton vulgaris*). Of the 206 species of birds from this area, there are some endangered species that should be distinguished, such as The black kite (*Milvus migrans*), Ferruginous duck (*Aythya nyroca*), Black stork (*Ciconia nigra*), and White-tailed eagle (*Haliaeetus albicilla*) [29,30]. Thereafter, there is a significant presence of 26 species of mammals, including European otter (*Lutra lutra*), and Wildcat (*Felis silvestris*) [25]. Starlet (*Acipenser ruthenus*), Pike (*Esox lucius*), Carp (*Cyprinus carpio*), and Zander (*Sander lucioperca*) are the fish species that are present on the Preliminary List of Species for the IUCN Red List of Vertebrates of Serbia. This list of species of vertebrates is the basis for work on the Red List, i.e. the Red Book of Vertebrates of Serbia, for which there are protection measures already being taken, and for which there are the measures of protection and preservation that should be taken.



Figure 2. Grey heron (*Ardea cinerea*), Special Nature Reserve "Koviljsko-petrovaradinski rit" Source: Igor Trišić, 2018

4. GOALS OF MANAGEMENT AND SUSTAINABLE TOURISM DEVELOPMENT

The Danube River is an ecological corridor of international importance which is an integral part of the Pan-European ecological network. The Danube enables communication among protected sites that are located along its banks and tributaries. The preservation of the corridor's passage is a priority for a long-term subsistence of European's biodiversity [12].

The general concept of protection, development, and management of this area should be based on:

- preservation of wetlands as a unique area [31];
- protection of all natural values, especially relief units;
- protection of unique swamp ecosystems that are characteristic to alluvial river areas;
- protection of diverse species;
- protection of significant species at national and international level;
- cooperation among all participants in the system of protection and management [32];
- sustainable use of spatial resources [33].

The protection of this significant area must implement the basic objectives in order to preserve a unique and unaltered biological system. Natural characteristics must be retained so that the activities that can partly or completely change the conditions of the life of flora and fauna can be limited by implementing measures [34]. Also, the protection of the area must be based on the postulates of improving the existing conditions through various interventions in the area, which should be applied in order to reduce certain adverse effects that are already present. The protection measures must also prevent the activities that change hydrographic characteristics of this reserve, which is one of the most important protection measures. Sustainable development also includes active involvement of the local population in all elements of protection of this area, and in its planning, because that involvement has been extremely minimal until now. The local population tends to use this protected area for several reasons. Some of those reasons are the use of resources for feeding domestic animals, the devastation of the terrain through planned removing of rotten and old vegetation, recreational use of the area, hunting or fishing, and other activities. Sustainable tourism development can greatly improve the socio-cultural, economic and ecological benefits of this region by including this area in tourism offer [12].

5. RESULTS AND DISCUSSION

A preserved natural area is gradually becoming a rare resource in modern society, so the interest of tourists for these destinations is an increase. Such a destination is also the SNR "Koviljskopertrovaradinski rit" [35]. According to the Management Plan of this reserve, the development of tourism and excursions in the reserve's area, in accordance to the natural potentials and the basic postulates of protection, should be based on the following:

- to propagate and indicate to the natural values of a smaller and bigger area of Kovilj-Petrovaradin marshes and its educational and pedagogical significance, as well as extraordinary landscape values that enable the experiencing of nature
- to encourage the promotion of sports fishing and hunting, water sports as forms of active recreational activities and the development of catering and cuisine based on local fish, game, or national cuisine specialties;
- to set up tourist-accommodation, catering, and other objects that are significant for the development of tourist activities, excursions and recreation (parking, camping, etc.) outside of the protected area.
- to align the architecture with the moor environment (reed houses, stilt houses, etc.), [12].

By analyzing all values and potentials of a protected natural site it can be stated that there are exceptional possibilities for the development of eco-tourism, which should be emphasized. Models for such development can be seen in Ramsar sites and protected wetlands from the region and world, such as Danube Delta and the protected wetlands of Africa or South America which are included in the UNESCO list. Eco-tourism can also include "Birdwatching" or observation of birds in its content, which lovers are organized in special clubs in European countries [15]. It is certain that the existence of these societies and organizations can help protect and improve the SNR "Koviljsko-petrovaradinski rit". Ecotourism can include this area in the most significant European destinations with its basic natural motives and elements of intact and healthy nature [13].

According to the analysis of all listed values, the tourism management in the area of this reserve should be based on 6 basic principles of sustainable development:

- 1. to use the space in tourism with minimal effects on the environment and local community;
- 2. to increase awareness of the sustainability of natural and cultural systems of area development, as well as including the local community and visitors in solving the issues affecting those systems [6];
 - 3. to emphasize the significance of preservation and management of a protected area;
- 4. timely and long-term involvement of the local community in decision-making processes that determine the type and extent of tourism that should be implemented [36];
- 5. to direct economic benefits to the local community. They should complement other revenues generated through regular jobs (agriculture, hunting, and fishing, etc.), [37];
- 6. providing possibilities to the local community to help them participate in the limited use of resources from a protected area [16].

For the planning of sustainable tourism development and its application, it is necessary to synthesize all the relevant values, the level of the use of resources, and to define critical points within which negative effects on a destination are implemented. As a suitable model for this comparison, we can use SWOT analysis of strengths, weaknesses, opportunities, and threats (Table 1).

Table 1. SWOT analysis of sustainable tourism in SNR "Koviljsko-petrovaradinski rit"

Strengths	Weaknesses
 status of a protected natural area; 	 lack of eco-hotels;
 the existence of legislation; 	 poorly constructed visitor centers;
 established communication; 	 minimal educational activities;
wetlands;	 lack of ancillary and supporting
 rich flora and fauna that is significant 	facilities (toilets, garbage-disposal
for scientific research;	facilities);
 existing endangered plant and animal 	 lack of important codes of ethics for
species (Red List IUCN);	users;

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- adjacency of Novi Sad and Belgrade;
- navigability of the Danube and adjacency of the Sava River;
- hydrographical potentials;
- favorable climate.

- insufficient revitalization of forests;
- lack of eco-trails.

Opportunities and possibilities

- the inclusion of ecotourism of this area in the tourist offer of Serbia;
- rich ethnic-social values of the people in this region;
- branded products (wine Bermet, the Mangalica products, local and national cuisine);
- a blend of social and natural aspect;
- strong dispersive zones of ecotourists (Central Serbia, Hungary, Romania, Croatia, etc.);
- the existence of ethno-villages and settlements;
- sustainable use of resources;
- ecological, economic, and sociocultural benefits.

Threats

- inadequate role of the local community in the system of management and protection;
- the lack of consequences;
- the absence of good economic effects of tourism for the local community;
- insufficient investments in park maintenance;
- existing endangered plant and animal species (Red List IUCN);
- poaching;
- the devastation of forest ecosystems;
- adjacency of agricultural land and potential contamination and poisoning of the representatives of fauna;
- unsustainable use of resources;
- different forms of pollution.

Source: Prepared by authors

By analyzing the data in Table 1, it can be concluded that the main potentials for the development of sustainable tourism are exactly the following values: the status of a protected natural area, the existence of legal regulations, developed communication, rich flora and fauna that is significant for scientific research, present endangered plant and animal species, specific wetlands, the adjacency of Novi Sad and Belgrade, navigability of the Danube and the vicinity of Sava, hydrographical potentials, and favorable climate.

The values grouped in the column "chances", and possibilities should be analyzed as partially used potentials of this reserve. Among the most significant potentials, there are: inclusion of eco-tourism of this area in the tourist offer of Serbia and the region, rich ethnic-social values of the people in this region (the intersection of Srem and Bačka) where, in addition to the Serbs, there are significant social values of the Hungarians, Romanians, and Slovaks who inhabit this part of Vojvodina. As significant weaknesses and threats, the following characteristics should be included: lack of eco-hotels, poorly constructed visitor centers, minimal educational activities, lack of ancillary and supporting facilities (toilets, garbage-disposal facilities), lack of important codes of ethics for users, insufficient revitalization of forests, lack of eco-trails, inadequate role of the local community in the system of management and protection, the lack of consequences, absence of good economic effects of tourism, insufficient investments in park maintenance, existing endangered plant and animal species (IUCN Red List), poaching, devastation of forest ecosystems, adjacency of agricultural land and potential contamination and poisoning of the representatives of fauna, unsustainable use of resources and different forms of pollution.

By analyzing the data, it can be concluded that the Special Nature Reserve "Koviljsko-petrovaradinski rit" possesses ecological, biological, scientific-research, sports-recreational, tourist, historical, educational, cultural, and social significance. Tourism development must be an integral part of the management plan of this area because aquatic ecosystems are the most vulnerable to all changes and impacts [3]. This contributes to the economic, socio-cultural, and ecological prosperity [2] because those non-tourism areas can become significant sightseeing destinations [38]. By analyzing all significant resources of this protected area, it can be concluded that SNR "Koviljsko-petrovaradinski rit" creates the

possibilities for the improvement of the existing forms of tourism and the development of new ones, such as eco-tourism, birdwatching, scientific-research, sightseeing, excursion, ethnic, nautical, cultural, hunting, fishing, and religious tourism. For the mentioned activities, it is necessary to increase the reception capacities, visitor centers, guiding experts, and proper supporting infrastructure and hiking trails. Wastewater regulation, construction, treating flora and fauna, as well as the measures for improvement of the current conditions are the concepts that should be especially emphasized. Special attention should be directed towards, as it was mentioned beforehand, the inclusion of the local community in all systems of management and protection of this natural site. The conceptual approach of sustainable development provided by the (UNWTO) regarding the reduction of the negative effects of tourism on tourists and domestic population should be applied in this area [6]. For the same reason, the positive effects on tourists, the local community, and the destination, are recommended. That can be achieved through education, the modernization of current infrastructure, and benefits for the local community [37], as well as the complete development of the area as a tourist destination [22].

6. CONCLUSIONS

Protected natural area SNR "Koviljsko-petrovaradinski rit" has an exceptional geographical and tourism position, favorable climate, and most importantly, hydrography as the basic potential with diverse plant and animal species. Some representatives of flora and fauna are so rare that they inhabit only these areas in the Republic of Serbia. The Danube River, in this part of its flow, is characterized by its slow and winding currents, great accumulative power, and the tendency to create moors and meanders which enables the creation of wetlands that are significant to flora and fauna. This moor is a subject of UNESCO's interests for its unique oasis of the living world. The convention of protected wetlands – Ramsar List has been signed by over 118 countries, including our country. The area of the Special Nature Reserve is also protected by other international measures and conventions of area protection. Therefore, the area of the reserve includes areas under international protection: Important Bird Areas – IBA, Important Plant Areas – IPA, Prime Butterfly Areas – PBA, and others.

SNR "Koviljsko-petrovaradinski rit" is under the protection as a natural site of exceptional significance, and is classified in the I protection category as a Special Nature Reserve. There were identified 39 priority types of habitats for protection at the national and international level. There are 29 habitats that are functionally unstable and vulnerable to degradation. The abundance of flora is reflected in the presence of 443 taxa of higher plants, 19 of which strictly protected. The abundance of fauna is reflected in the presence of 42 protected and strictly protected species of insects, 26 species of fish, of which four are strictly protected, 206 species of birds and 26 species of mammals.

The main threats which were stated are: land devastation, agricultural land treated with chemicals that reach the protected areas through air, land and water, poaching, presence of domestic animals, reduction of autochthonous species, frequent and high threats to flora and fauna, drying of wetland, soil erosion, tourist activities with consequences to environment, and many other stresses. Each of the mentioned leaves consequences in ecosystems. With proper and fast action, these effects can be minimized, or completely eliminated. One of the main instruments for protection is the legal framework. The protection of the area in the Republic of Serbia and the Autonomous Province of Vojvodina is regulated by The Law on Nature Protection [10] (Official Gazette of Republic of Serbia, No. 36/2009, 88/2010, 91/2010 – corr., and 14/2016).

We can conclud that the main potentials for the development of sustainable tourism are exactly the following values: the status of a protected natural area, the existence of legal regulations, developed communication, rich flora and fauna that is significant for scientific research, present endangered plant and animal species, specific wetlands, the adjacency of Novi Sad and Belgrade, navigability of the Danube and the vicinity of Sava, hydrographical potentials, and favorable climate. Among the most significant potentials, there are: inclusion of eco-tourism of this area in the tourist offer of Serbia and the region, rich ethnic-social values of the people in this region (the intersection of Srem and Bačka) where, in addition to the Serbs, there are significant social values of the Hungarians, Romanians, and Slovaks who inhabit this part of Vojvodina. Sustainable development also includes active involvement of the local population in all elements of protection of this area, and in its planning, because that involvement has been extremely minimal until now. By analyzing the presented data, it can be concluded that the role of the local

community and tourists in the systems of management and improvement of the protection of this area is under-represented.

All collected and presented data in this paper on this special reserve, showes that all entities of the use of an area have the opportunity to participate in the prevention of the environmental degradation, as well as the ability to improve the sustainable tourism development through the use of natural tourist potentials. These entities are the state, the local community as the most important subject, the representatives of direct monitoring and protection, as well as the main users of the area, among which are tourists. According to that, the protection of this significant area must implement the basic objectives in order to preserve a unique and unaltered biological system. Natural characteristics must be retained so that the activities that can partly or completely change the conditions of the life of flora and fauna can be limited by implementing measures.

REFERENCES

- 1.Environmental Protection Programme for the territory of AP Vojvodina 2016-2025. ("Official Gazette of AP Vojvodina", No. 10/2016).
- 2.Butzmann, E. & Job, H. (2017). Developing a typology of sustainable protected area tourism products. *Journal of Sustainable Tourism*, 25(12), 1736-1755. doi:10.1080/09669582.2016.1206110
- 3.Stojanović, V., Lazić, L., & Dunjić, J. (2018). Nature Protection and Sustainable Tourism Interaction in Selected Ramsar Sites in Vojvodina (Northern Serbia). *Geographica Pannonica*, 22(3), 201–207. doi:10.5937/gp22-16637
- 4.Newsome, D., Moore, S. A. & Dowling, R. K. (2013). *Natural Area Tourism Ecology, Impacts and Management, 2nd edition.* Toronto: Channel View Publications.
- 5.Vinueza, L., Post, A., Guarderas, P., Smith, F., & Idrovo, F. (2014). Ecosystem-based management for rocky shores of the Galapagos Islands. In J. Denkinger, & V. Luis (Eds.), The Galapagos Marine Reserve, a Dynamic Social–ecological System, New York: Springer, 81-107. doi:10.1007/978-3-319-02769-2
- 6.Holden, A. (2016). Environment and tourism, 3th edition. London & New York: Routledge.
- 7.Štetić, S. & Trišić, I. (2018). Impact of tourism on water resources. *Conference Proceeding of Fourteenth Regional Conference EnE18, Nature Protection-Nature-Responsive development*, pp. 100-105. Retrieved from http://ambassadors-env.com/wp-content/uploads/Zbornik-radova-EnE18-final1.pdf
- 8.Trišić, I. & Kostić, M. (2018). Značaj zaštićenih prirodnih područja za razvoj turističke destinacije [The Importance of Protected Natural Areas for the Development of Tourism Destination]. *Book of Proceedings, Hotelplan 2018, 7th International Congress, Belgrade, pp. 414-424.*
- 9.Mulongoy, K. J. & Chape, S. (2004). *Protected Areas and Biodiversity, An Overview of Key Issues*. Nairobi: United Nations Environment Programme (UNEP).
- 10.The Law on Nature Protection (Official Gazette of Republic of Serbia No 36/2009, 88/2010, 91/2010 corr., and 14/2016). Retrieved from https://www.pregovarackagrupa27.gov.rs/wp-content/uploads/2021/06/LAW-ON-NATURE-PROTECTION-2016.pdf
- 11. The Decree on Designation of Special Nature Reserve "Koviljsko-Petrovaradinski rit", (Official Gazette of Republic of Serbia No 44/2011).
 - Retrieved from https://rsis.ramsar.org/RISapp/files/RISrep/RS2028RIS.pdf
- 12.Special Nature Reserve "Koviljsko-petrovaradinski rit" Management Plan 2012-2021, 2012. Novi Sad: Vojvodina Šume.
- 13. Štetić, S., Cvijanović, D., & Šimičević, D. (2014). *Posebni oblici turizma Dunavskog regiona Srbije, monografija* [Specific Forms of Tourism in the Danube Region of Serbia, monograph]. Belgrade: The Institute of Agricultural Economics.
- 14.Mrkša, M. (2008). Turistička valorizacija specijalnih rezervata prirode Vojvodine [The Tourism Valorization of Special Nature Reserves of Vojvodina]. Belgrade: The Serbian Geographical Society.
- 15.Fennell, D. A. (2015a). Tourism and the Precautionary Principle in Theory and Practice. In: Hall, C. M., Gössling, S. & Scott, D. (eds.), *The Routledge Handbook of Tourism and Sustainability*, (pp. 67-77), London & New York: Routledge, Taylor & Francis Group.
- 16.Fennell, D. A. (2015b). Ecotourism. London & New York: Routledge.
- 17.Mowforth, M. & Munt, I. (2016). *Tourism and Sustainability: Development, Globalisation and New Tourism in the Third World, 4th edition*. London and New York: Taylor & Francis Group.
- 18.Mitchell, B. (2019). Resource and Environmental Management, 3th edition. Oxford: University Press.
- 19.Lazić, L., Pavić, D., Stojanović, V., Tomić, P., Romelić, J., Pivac, T., Košić, K., Besermenji, S., & Kicošev, S. (2008). *Protected Natural Resources and Ecotourism in Vojvodina*. University of Novi Sad, Faculty of Sciences, Department for Geography, Tourism and Hotel Management.
- 20.Igić, D. D., Ćuk, M. R., Vilotić, D. M., Šijačić, M. T., Stanković, D. M., Vukov, D. M., Ilić, M. M., & Igić, R. (2016). Analysis of Forest Vegetation in Koviljski Rit: Comparison of Habitats With Varying Degrees of Anthropogenic Influence. *Matica Srpska Journal for Natural Sciences*, 131, 133-143. doi:10.2298/ZMSPN1631133I

- 21. International Union for Conservation of Nature annual report 2017, (2018). Gland, Switzerland: IUCN. Retrieved from https://portals.iucn.org/library/node/47617
- 22. Vujović, S., Cvijanović, D., & Štetić, S. (2012). *Destinacijski koncept razvoja turizma* [Destination Concept of Tourism Development]. Belgrade: The Institute of Agricultural Economics.
- 23.Ramsar Site: 2028 Koviljsko-Petrovaradinski Rit (2012). Ramsar Information Sheet, March 2012. Retrieved from https://rsis.ramsar.org/RISapp/files/48374972/documents/RS2028 lit170130.pdf
- 24.The Protect Study of Special Nature Reserve "Koviljsko-petrovaradinski rit", (2010). Republic of Serbia, The Autonomous Province of Vojvodina, Novi Sad: Institute of Nature Conservation of Vojvodina Province.
- 25. Puzović, S., Panjković, B., Tucakov, M., Stojnić, N., Sabadoš, K., Stojanović, T., Vig, L., Marić, B., Tešić, O., Kiš, A., Galamboš, L., Pil, N., Kicošev, V., Stojšić, V., Timotić, D., Perić, R., Bošnjak, T., Delić, J., Dobretić, V., & Stanišić, J. (2015). *Natural heritage management in Vojvodina*. Novi Sad: Institute for Nature Conservation of Vojvodina Province.
- 26. Filipović, D. & Petrović, Lj. (2015). The Significance of the Danube Ecological Corridor in the Proceedings of Implementing Ecological Networks in Serbia. *Bulletin of the Serbian Geographical Society*, XCV, 2, 109-124. doi:10.2298/GSGD1502109F
- 27.Metcalfe, C. D., Nagabhatla, N., & Fitzgerald, S. K. (2018). Multifunctional Wetlands: Pollution Abatement by Natural and Constructed Wetlands. In N. Nagabhatla, & C. D., Metcalfe (Eds.), *Multifunctional Wetlands Pollution Abatement and Other Ecological Services from Natural and Constructed Wetlands* (pp. 1-14). New York: Springer. doi:10.1007/978-3-319-67416-2
- 28.Mitsch, W. J. & Gosselink, J. G. (2015). Wetlands, 5th edition. New Jersey: Wiley.
- 29.Korsman, J. C., Schipper, A. M., Lenders, H. J. R., Foppen, R. P. B., Hendriks, A. J. (2012). Modelling the Impact of Toxic and Disturbance Stress on White-tailed Eagle (*Haliaeetus albicilla*) Populations. *Ecotoxicology*, 21, 27–36. doi:10.1007/s10646-011-0760-8
- 30.BirdLife International. (2016). *Haliaeetus albicilla*. The IUCN Red List of threatened species 2016: e.T22695137A93491570. doi:10.2305/IUCN.UK.2016-3.RLTS.T22695137A93491570.en
- 31.Ali, A., & Frew, A. J. (2013). *Information and Communication Technologies for Sustainable Tourism*. London and New York: Taylor & Francis Group.
- 32.Cochrane, J. (2017). Tourism Resilience in UK National Parks. In Butler, R. W. (Ed.), *Tourism and Resilience* (pp. 121-136). Wallingford, Oxfordshire, UK: CABI. https://doi.org/10.1079/9781780648330.0121
- 33.Kim, H., Lee, S., Uysal, M., Kim, J., & Ahn, K. (2015). Nature-based tourism: Motivation and subjective well-being. *Journal of Travel & Tourism Marketing*, 32(1), 576-596. doi:10.1080/10548408.2014.997958
- 34.Jansen, J. (2009). Sustainable Development and Protected Landscapes: The Case of The Netherlands. International Journal of Sustainable Development & World Ecology, 16(1), 37-47. doi:10.1080/13504500902757981
- 35. Štetić, S., & Šimičević, D. (2015). *Tourism geography*. Belgrade: The College of Tourism.
- 36.Weaver, D., & Lawton, L. (2014). *Tourism Management, 5th edition*. Milton: John Wiley & Sons. Retrieved from https://www.chintravel.com.mm/wp-content/uploads/2021/06/Tourism-Management-Fifth-Edition-2.pdf
- 37.Bushell, R., & Bricker, K. (2017). Tourism in Protected Areas: Developing Meaningful Standards. *Tourism and Hospitality Research*, 17(1), 106-120. doi:10.1177/1467358416636173
- 38.Carr, A., Ruhanen, L., & Whitford, M. (2016). Indigenous peoples and tourism: the challenges and opportunities for sustainable tourism. *Journal of Sustainable Tourism*, 24(8-9), 1067-1079. doi:10.1080/09669582.2016.1206112



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