

## SPATIAL DISTRIBUTION OF TOURIST RESOURCES IN DRINA NATIONAL PARK

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### **Abstract**

#### **Spatial distribution of tourist resources in Drina national park**

The natural features of the protected areas offer such attractions that in many countries became the framework of tourism and recreation development. Tourism in protected areas promotes nature and contributes to raising the level of knowledge and ecological awareness and is important for the economy and employment of the local population. The aim of this paper is identification and valorisation of tourism resources in the Drina National Park. The most important economic activity in the Drina National Park, which should be developed and improved in the next period is tourism, as the main driver of development. Therefore the focus of this work is on proposals for the improvement of existing and finding new tourist facilities in Drina National park, in order to enrich the tourist offer. For this reason, the possibilities of building educational, cycling and hiking trails as well as adequate promotion and protection of the cultural and historical heritage that would be self-sustainable were analyzed, enabling the use of such facilities and sites as new resources for the development of tourism. This paper describes the concept of protection and management goals, as well as the advantages and disadvantages that need to be improved in the future and which reduce the competitiveness of the Drina National Park.

#### **Key Words**

Drina National Park, tourism, tourism resources, tourist offer

## 1. Introduction

The Drina National Park is located in the eastern part of Bosnia and Herzegovina, in the middle course of the Drina River, which belongs to the territory of the municipality of Srebrenica and covers an area of 6.315.32 hectares. Protection of the area was carried out on the basis of the Law on Drina National Park and the Study for the designation of protected area – NP “Drina”, which was adopted by the Republic of Srpska National Assembly during 2017. The basis of the protected area is the mountainous parts of Javor to which belongs the attractive peaks of Sušica (Kacer 1926). The special natural values of Sušica are two spatial units: the lower parts along the accumulation of Lake Perućac and the gorge-canyon valley of the Drina River above 1000 meters (Pedological characteristics and Classification of Soils, Šipad IRC 1981-1984). In this part the Drina River is the natural border between Bosnia and Herzegovina and the Republic of Serbia. Drina National Park spreads from 43°56' 07" to 44°02' 14" north geographical width and from 19°10' 49" to 19°25' 06" east geographical lengths. The length of the whole Drina National Park is 19 km, and width 11 km. There are several settlements in the Drina National Park: Luka, Podravanje, Radoševići, Klotjevac, Urisići, Međe, Osatica and Sulice (Study for the designation of protected area – NP „Drina”).

This protected area can be reached by regional roads from Srebrenica, Sarajevo, Vlasenica and Milići. From the town of Srebrenica it takes the regional road R-453 which leads through the Zeleni Jadar and Skelani, while from the direction of Sarajevo, Vlasenica and Milići it takes the regional road R-452. Access to this protected area is also possible from the Žepa and Luka settlements (Srebrenica Municipality Development Strategy, 2018-2022). The basic values of this National Park are habitats of endemic and relict plant species, above all Pančić’s Spruce and the ravine-canyon valley of the Drina River and its tributaries. In order to preserve the recorded special values in Drina National Park was introduced a three-tier protection regime.

Tab. 1: Protection zones in Drina National Park.

Protection zones	Surface (ha)	Protection mode	Attractive tourist areas /localities
I degree of protection	860	It is designated for parts of NPs that are characterized by native, modified or slightly modified ecosystems of outstanding scientific and practical importance.	Bijele vode Attractive part of the Drina River Canyon Klotjevačka gorge
II degree of protection	2440	It is designated for parts of NPs with partially altered ecosystems of great scientific and practical importance.	The coastal part of Lake Perućac The southern part of the NP
III degree of protection	3014	It is designated for parts of the NPs in which the naturalness and diversity of species and habitats are significant and preserved. These areas are important for considering all the total value of the area that should serve for scientific, educational and recreational activities, an area with natural, cultural, tourist and recreational values that emphasizes the development of visitor infrastructure in accordance with environmental standards.	Pančić’s Spruce Nature Reserve

Source: Authors, based on: Study for the designation of protected area – NP „Drina”, 2015.

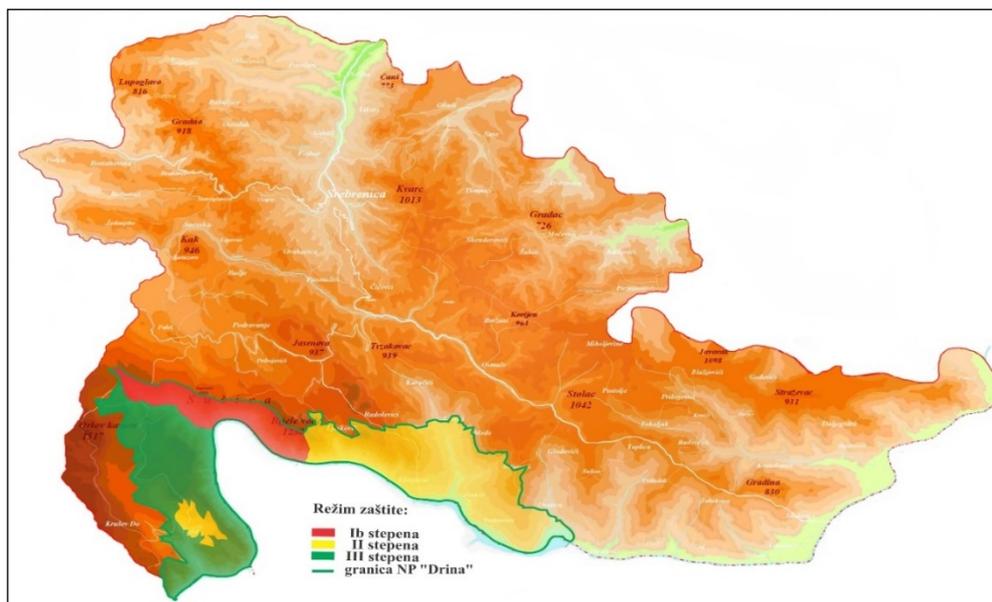


Fig. 1: Geographical location of the Drina National Park in the municipality of Srebrenica.

Source: Authors 2019.

## 2. Research methodology

The paper presents the theoretical and practical research of cultural and tourist development potentials in National Park Drina, the possibility of their use in the development of tourism industry and the linkage to regional tourism flows. Research methodology required field and cabinet work. In collecting data, a significant contribution was given by associations and informal groups from Srebrenica which are engaged in research and protection of the natural and historical heritage of the municipality of Srebrenica. Field surveys, apart from identifying space, include direct conversations with representatives of tourism organizations responsible for promoting tourism resources and developing tourism. In addition to professional literature, planning documents, maps and sketches of terrain were used in the work, which were handled by contemporary geographic methods. The analysis is supplemented by data from strategic documents in which the guidelines for economic development of this area are given.

## 3. Spatial distribution of tourist resources in the Drina national park

The tourist resources of the Drina National Park, which are significant for the future tourism development of this part of the Srebrenica municipality, are represented by the following sites: Bijele vode, the Canyon and Gorge of the Drina River, the hydroaccumulation of Lake Peručac with the Drina River Coastal Zone and the Pančić's Spruce Nature Reserve.

### 3.1. Bijele vode

Bijele vode are located on the southeastern slopes of Sušica (1238 meters) above the high surface of Krušev Do. They cover the first protection zone in Drina National

Park. It's an area of preserved natural origin, highlighting vast meadows and pastures with fragrant grasses. Meadows species are surrounded by diverse forest communities: black hornbeam, ash, oak, spruce, fir and pine which are accompanied by numerous floral groups (forest strawberries, blueberries, wild raspberries) and different types of fungi (rump, mussel, redfish, spruce, oak, fox).



Fig. 2: Top of Sušica mountain (left) and Bijele vode (right).

Source: Authors, August, 2018.

### 3.2. Canyon of Drina River

The canyon of the Drina River stretches over the southern slopes of Sušica and belongs to the first protection zone in the Drina National Park. It's the most attractive tourist destination on the border area of Bosnia and Herzegovina and Serbia, between the Sušica and Tara mountains, where it is 1100 meters deep and has a minimum width at the bottom up to 100 meters (Sušica Special Hunting Area, Hunting Grounds, 2005-2015). The canyon valley is characterized by steep slopes overgrown with vegetation. According to researchers and numerous scientists, it's one of the easiest accessible nature reserves, which has a positive impact on visitors who are enabled a relatively quick introduction to wildlife, both on land and in water (Chamber of Commerce Archive of the Tuzla Region, 1986). Significant monuments of nature are the trees of the thousand, reaching up to 20 meters in height (Pedological Characteristics and Classification of Soils, 1981-1984). A tourist trip along the canyon of Drina River from the settlement Klotijevac to Višegrad, is a special kind of experience of this area. The canyon valley of the Drina River, the rocky outcrops, as well as the living world, give a special attraction and give visitors a pleasant experience and an unforgettable trip through the canyon (Nezirović 2006). The degree of tourism capacity building is an essential element of tourist valorisation for the use of natural resources, this has a negative impact on the overall tourist valorisation of this valuable tourist resource.

### 3.3. Drina River Gorge

The Drina River Gorge is unique and one of the most significant river valleys in the Dinaric belt. Bearing in mind that the Drina River is a border river in this part, the left part of the gorgeous valley belongs to Bosnia and Herzegovina, ie the municipality of Srebrenica. The Drina River Gorge extends upstream from the Rađenovići to the Klotijevac (both settlements belong to the municipality of Srebrenica towards Višegrad, which is why it's known in the literature as the Klotijevac Gorge. This gorge is 800 meters deep and belongs to the group of canyon gorges. It's very attractive to tourists in the picturesque setting of the mountain landscape and has a high degree

of conservation. Tourist value of Klotijevac Gorge is given by: rocky steep sides, lush vegetation, artificial hydroaccumulation of Lake Perućac. In the gorge are mapped a lot of sources of drinking water, cave openings, several small settlements, the medieval fortress Klotijevac, numerous cottages and easy traffic through water (Nezirović 2018).

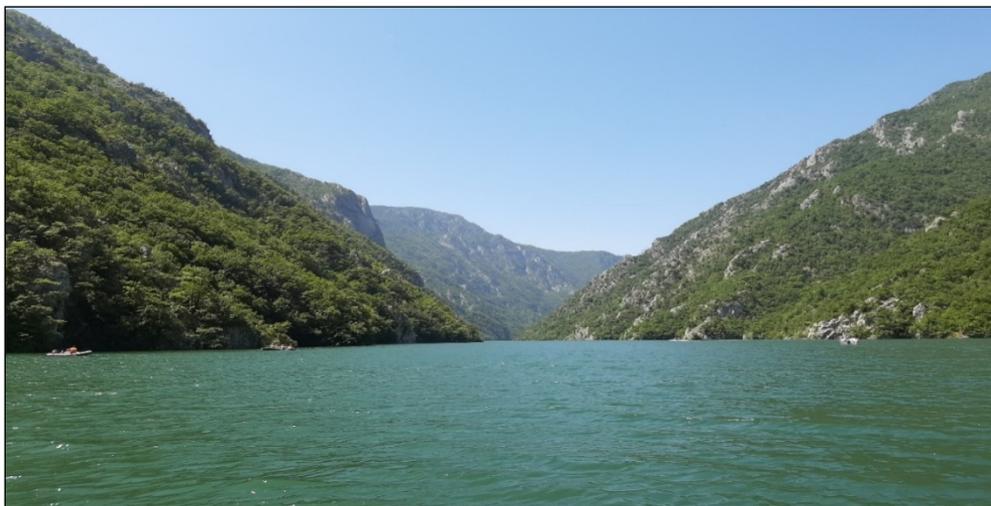


Fig. 3: Tourist trip through the Drina River Canyon.

Source: Authors, July, 2019.

### 3.4. Perućac lake

Lake Perućac is the second Drina lake, created by the construction of the Bajina Bašta hydropower plant in 1961. It has an area of 12.6 km<sup>2</sup>. Perućac lake is 56 km long and 70 m deep (Spatial Plan, Srebrenica, 1981). It's located in the second protection zone of the Drina National Park. It has a favorable geographical location and traffic accessibility. It's a complex hydrographic object. Lake water is used for electricity generation, fishing and water sports. From the tourist-geographical point of view, Perućac lake is one of the most beautiful river reservoirs of the Drina River. Due to its attractive and ambient properties of exceptional beauty in the ambience, the Drina National Park has significant potential for various recreational activities such as picnicking, camping and fishing.

In addition to the function of recreation and swimming tourism, the lake is favorable for the development of water sports and offers excellent opportunities: sailing, boating and water skiing.

There are convenient sites for camping and various activities such as educational activities, sporting activities and boat trips through the Drina River Canyon. The predispositions for the development of camping tourism are ideal in the area of settlements: Klotijevac, Prohići and Rađenovići, which are located directly by the lake Perućac and provide very favorable conditions for the construction of bungalows. This area is suitable for camping and development of youth tourism. In addition, the offer of this type of tourism should include a boat ride through the Drina River Canyon, which would represent an opportunity to relax and enjoy the beauty of the area.

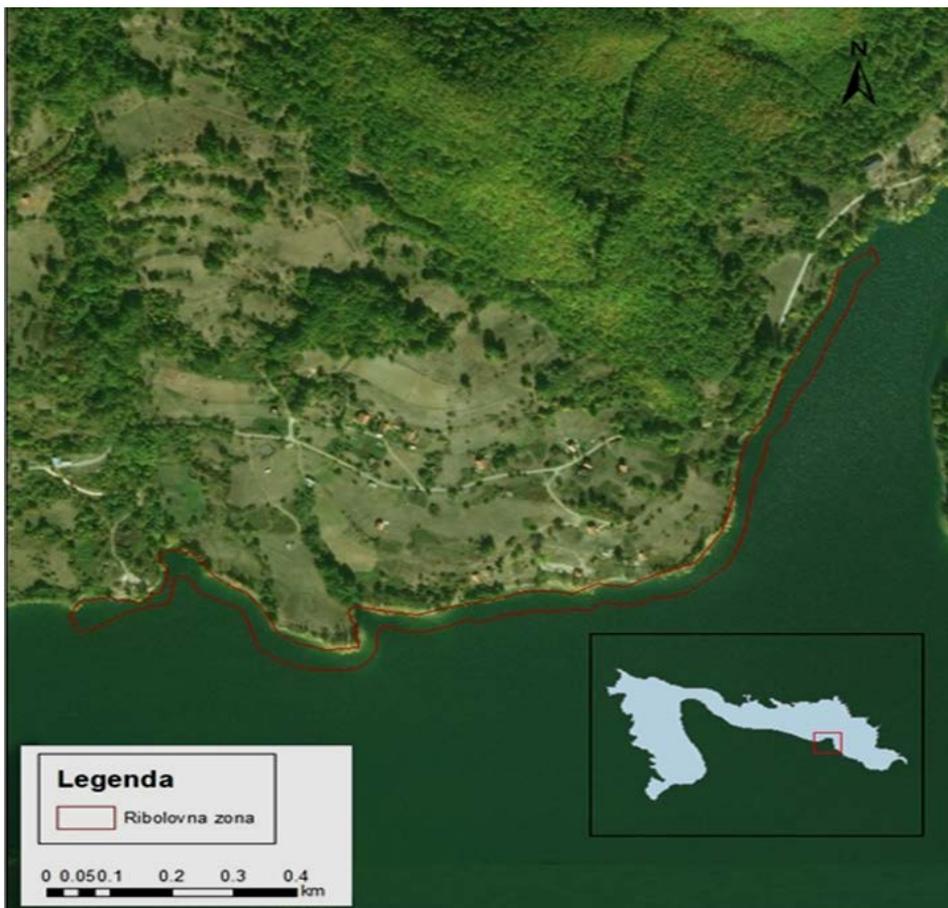


Fig. 3: Fishing zone in Drina National Park.  
Source: Authors 2019.



Fig. 4: Perućac Lake.  
Source: Authors July, 2019.



Fig. 5: Camping grounds on the coastal part of Lake Peručac in Klotjjevac settlement.

Source: Authors July, 2015.

### 3.5. Pančić's Spruce Nature Reserve

Pančić's Spruce is considered to be the most beautiful conifer in Europe. The presence of Pančić's Spruce (*Picea omorika*), which is an endemic and tertiary relict species, contributes to the exceptional value of the area. At one time this species were widespread in Europe, and today their area is limited to the area around the middle course of the Drina River, on the slopes of mount Sušica in Bosnia and Herzegovina and Mount of Tara in the Republic of Serbia.

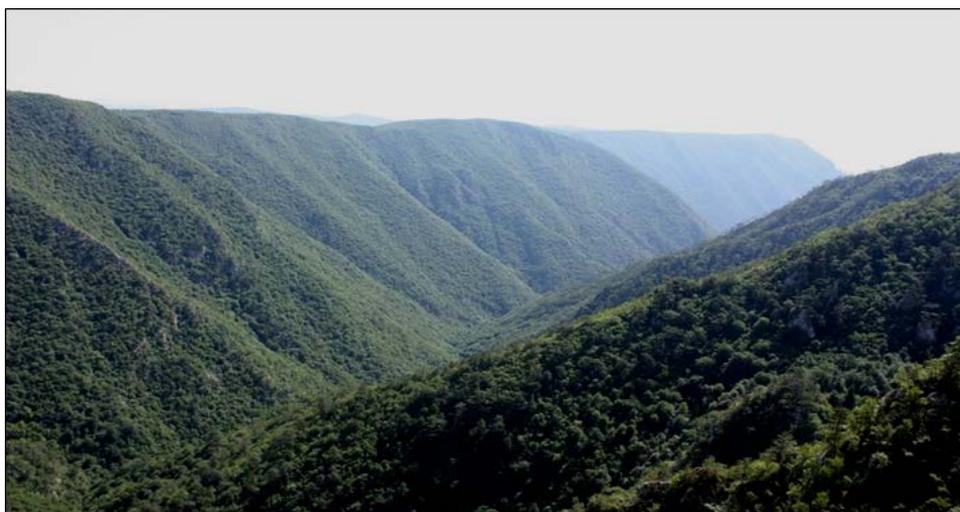


Fig. 6. The habitat of the Pančić's Spruce in the Canyon of Crni Potok.

Source: Study for the designation of protected area – NP „Drina“, 2015.

Pančić's Spruce develops on Triassic limestones in the drainage area of the Drina River, belonging to the municipality of Srebrenica, at the following locations: Šarena Bukva, Borovac 1.024 m., above the settlement Luka, in the Crni potok Canyon Strugovi, Brestovik, Borov do, Shallow, Meštavni do, Krušev do, Gradina and Crvena stijene. From the aspect of flora and vegetation protection, it represents a refugial habitat (Pedological interpreters). The tourist importance of this resource is very high. In addition to being a unique example of an endemic species growing in this part of Bosnia and Herzegovina and located in its original natural environment, according to researchers, this is the most beautiful part of the nature reserve (Nezirović 2018).

#### 4. Results and discussions

##### 4.1. Suggestions for improving existing and finding new tourist facilities in order to enrich the tourist offer of the Drina National Park

The identified tourism resources in the Drina National Park are diverse and unique in their beauty. For the development of tourism in this area, a material basis based on tourism capacities and quality employee structure is required. Although the tourist motifs of the Drina National Park are attractive to visitors, they still do not have facilities that would allow a longer stay in these areas. Therefore, it is necessary to develop a development strategy for all types of tourism, for which there are conditions.

Analyzing the geographical features of the Drina National Park, the authors of this paper believe that the current tourist offer can be enriched with new amenities such as mountain hiking, walking, mountain biking and zipline ski lifting, as well as different types of visitors' education.

##### 4.2 Hiking as a form of tourist offer in the Drina National Park

Generally hiking trails have a significant place in the overall tourist offer of National Parks. In the third zone of protection, according to the authors, there are conditions for a hiking trail on the course Banjevi (360 m) - Krušev Do (1 110 m) - Luka (1 151 m). It should be emphasized that the marked trail would pass through hard-to-reach parts of the Drina National Park with higher climbs and descents. According to the criteria, it would be considered a group of difficult hiking trails, which lead through demanding parts of the terrain, where the mountaineer must help with his hands for safety.

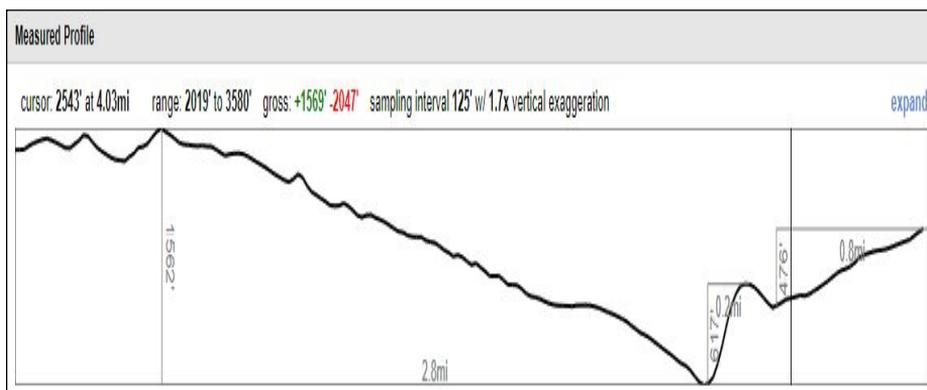


Fig. 7: Proposal for a potential hiking trail Banjevi-Krušev Do-Luka.  
Source: Authors 2019.

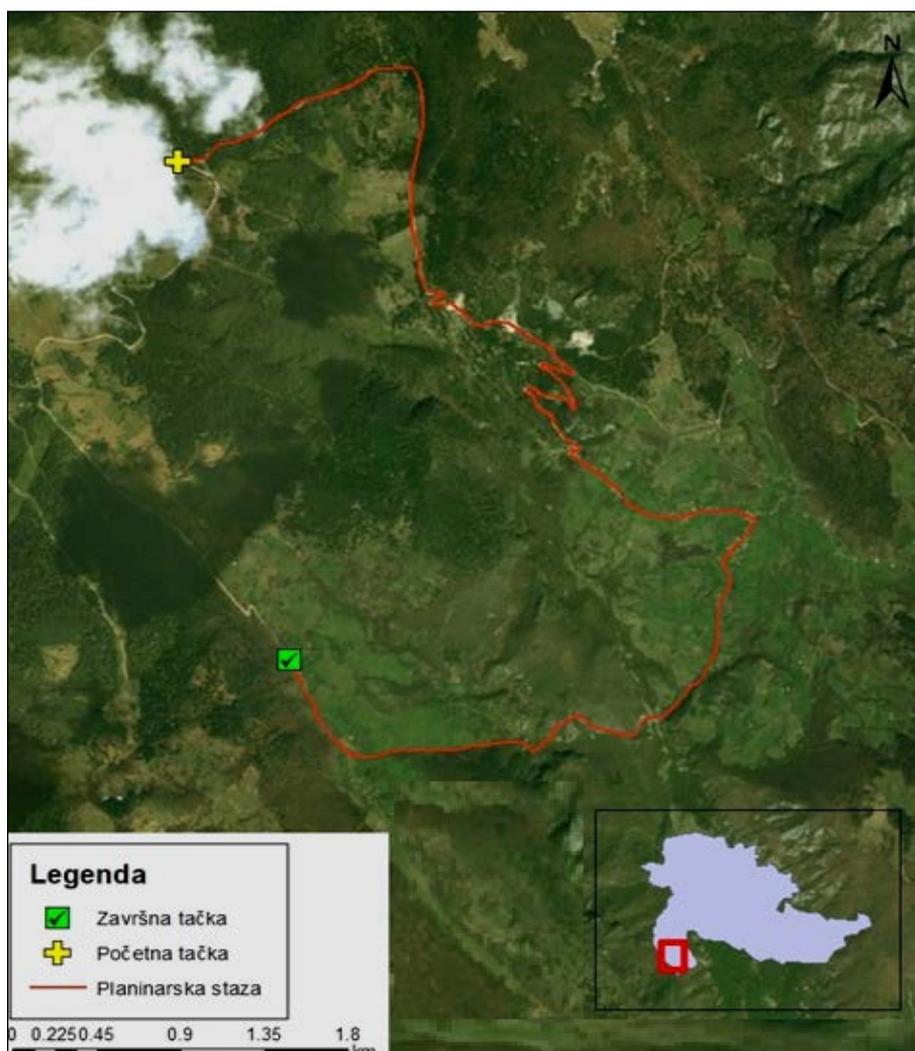


Fig. 8: Proposal for a potential hiking trail Banjevi-Krušev Do-Luka.

Source: Authors 2019.

Of course, there should be secures on the course of the track, such as cables, pegs, metal steps or carved into the rock, etc. Hiking enthusiasts on this trail should have physical fitness and proper mountaineering equipment. It is also recommended that you have an expert guide.

Another form of hiking in the Drina National Park is a walk that can be organized for visitors who want to acquire, directly or indirectly, knowledge about the natural and cultural-historical heritage and the values for which the area is protected. A great way for indirect education is the hiking trails that you need to adapt to visitors who want to spend part of their vacation in this area with walking and hiking.

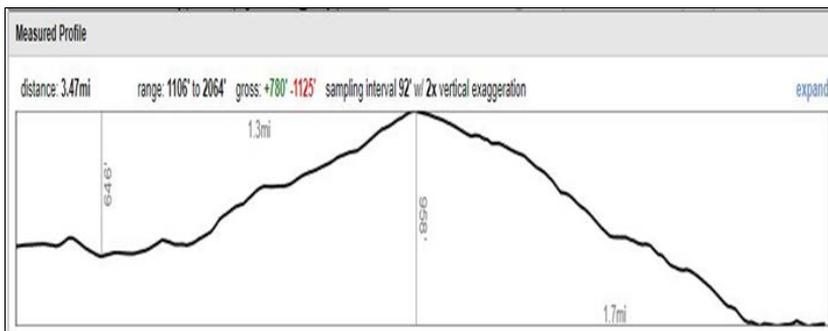


Fig. 9: Proposal for a potential footpath Urisci - Klotjevac – Ostrika.  
Source: Authors 2019.

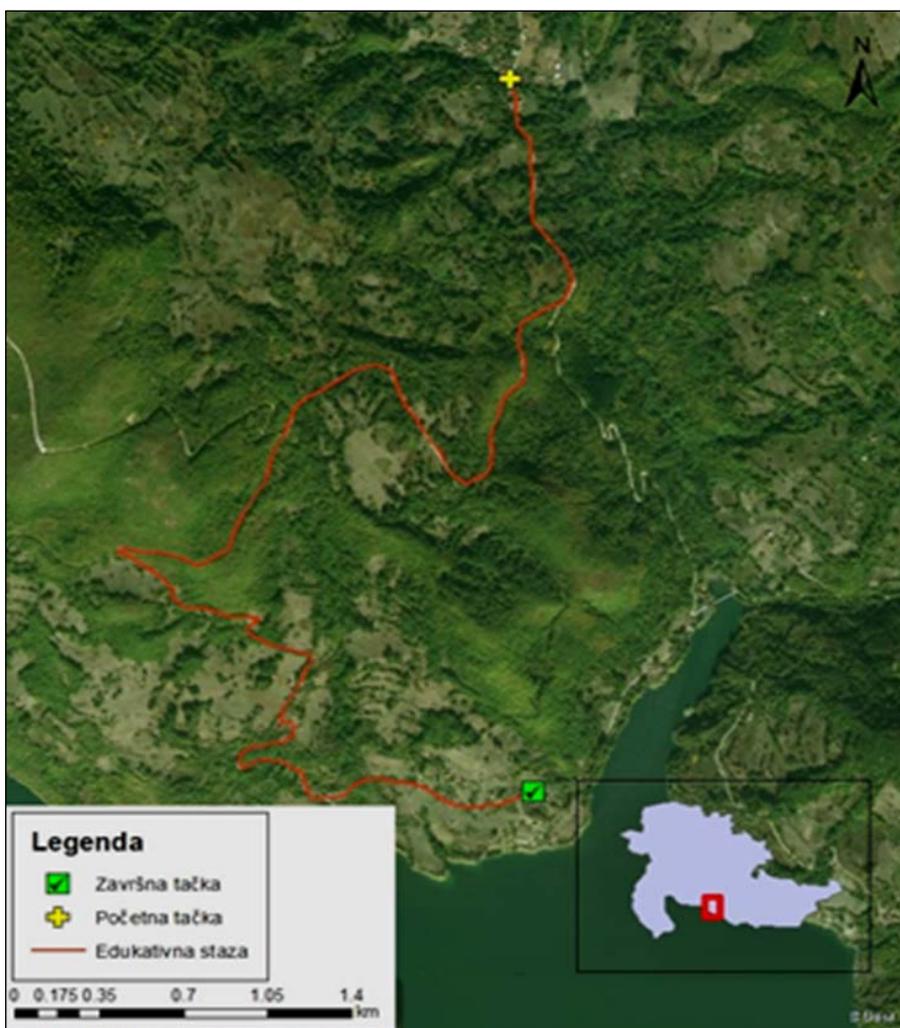


Fig. 10: Proposal for a potential footpath Urisci - Klotjevac – Ostrika.  
Source: Authors 2019.

According to the analysis of the area and the opinion of the author of this work, the walking path can start from the village Urisići, towards the settlement Rađenovići and the coastal part of Perućac Lake to the beach Oštrika. The trail would slowly descend to 460 meters, where visitors can get to know the medieval fortresses Đurđevac and Klotjevac located on the steep sides above Lake Perućac. In addition to the aforementioned hiking trail, tourist signage should be erected with detailed information on the flora and fauna of the Drina National Park and cultural and historical sites. It should be emphasized here that the walking path should allow crossing without major physical effort for all age groups, and individual sections should be accessible even for people with reduced mobility. Hiking on this section will give visitors a true experience of nature and its enchanting landscapes, as well as an immediate insight into the richness of the flora and fauna of terrestrial habitats. Dynamic relief with pronounced peaks and ridges, dense deciduous and conifer forests, numerous springs and streams, and scenic landscapes will make hiking this trail an unforgettable experience.

#### 4.3. Mountain biking

One of the activities for visitors to the Drina National Park may be mountain biking. Cycling is very present today and the formation of cycle paths would have a positive impact on the locals of the area. Cyclists are offered numerous opportunities to conquer the southern part of the Drina National Park. The authors of this paper propose the establishment of a cycle path from the village Zeleni Jadar towards Karačići - Radoševići - Ljeskovik to - Rađenovići or Perućac Lake.

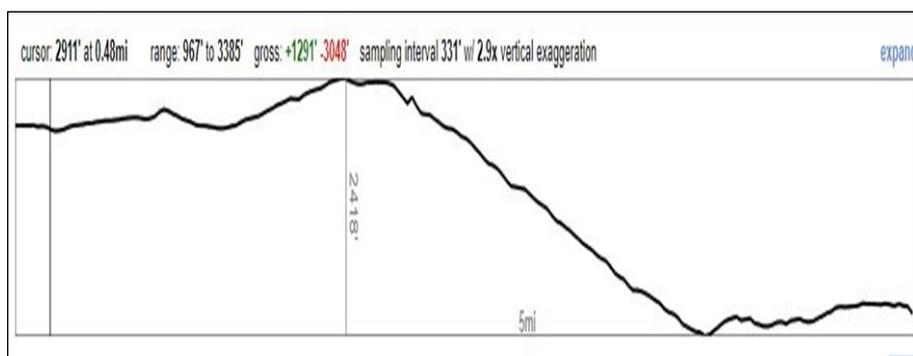


Fig. 11: Proposal for a potential bike path Jadar (740 m)-Karačići (750 m)-Radoševići (700 m)-Ljeskovik (900 m)-Rađenovići (400m).

Source: Authors 2019.

When evaluating bicycle lanes, there are different criteria, and one of the models is a weight table according to which the weight rating is determined on a scale of 1 to 10. The parameters to be evaluated are: the difficulty of the track, the required fitness and the recommendation for drivers. In addition to these parameters, the complexity of the track is also influenced by: bike weight, rider weight, accessory weight, weather conditions, etc. The total score obtained by the sum of the parameter estimates is divided by the number of elements (in this case 6) and the complexity of the track is determined by the weight rating. Valuation is purely subjective.

For lovers of excitement and adrenaline, this trail can enjoy the beauty of the nature of the Drina National Park provided by meadows with numerous fragrant grasses,

clearings and dynamic relief that will make the ride more attractive. This trail would be on existing communications of various purposes (gravel roads, forest roads and hiking trails), and would be intended for recreational mountain biking enthusiasts, as a training or competitive trail.

Tab. 2: Mountain bike weight.

Weigth rating	Lenght (km)	Tire underlay	Rise (m)	Possible need for technique	Fitness required	Recommended for drivers	Total
1 2	to 20 km	Mostly asphalt and gravel	0-250 m	Unnecessarily	Nothing special	Beginners	Leisurely
3 4	20-40 km	Any	250-500 m	Minimal	Driving once a week	Recreational hobby	A little fitness
5 6	30-70 km	Any	500-1000 m	Secondary	Driving a couple times a week	Affirmative	Golden middle
7 8	>70 km	Any	1000-1500 m	Enviously	Active training	Sport	Difficult trails
9 10	>90 km	Any	>1500 m	Exquisitely	Active training	Experienced and self-aware	Epic ride

Source: Internet 1.

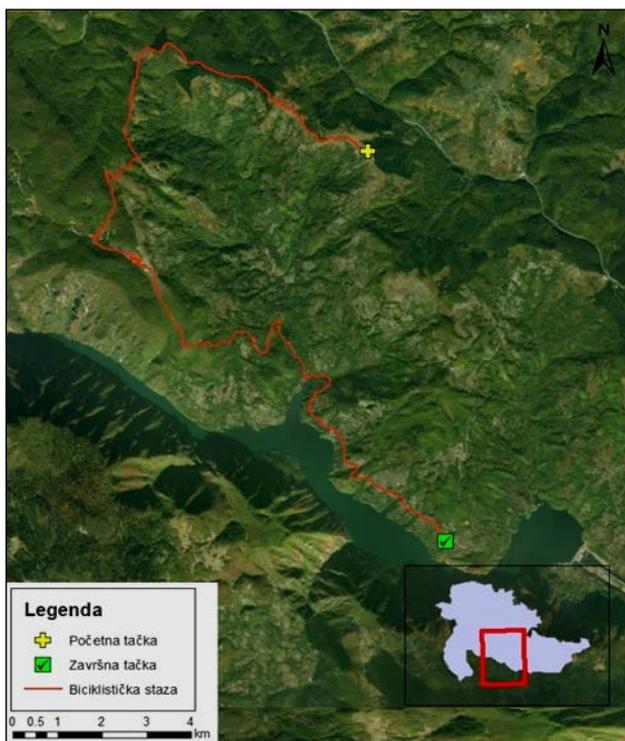


Fig. 12: Proposal for a potential bike path Jadar-Karačići-Radoševići-Ljeskovik-Rađenovići.

Source: Authors 2019.

Tab. 3: Evaluation of the Zeleni Jadar-Karačiči-Radoševići-Ljeskovik-Radenovići Cycle Trail.

Lenght (km)	Tire underlay	Rise (m)	Possible need for technique	Fitness required	Recommended for drivers	TOTAL
2	3	5	3	6	6	4,16 (Easy track, satisfactory fitness level)

Source: Adapted by the author according to the: Internet 2

#### 4.4. Zipline

Another sport activity for the lovers of excitement and adrenaline, which can be activated in the Drina National Park is the zip line. The envisaged zipline of the Luka would serve as a complementary activity to already existing activities in the Drina National Park. The length of this zip line is estimated at 750 meters with an initial altitude of 900 m, and the final 760 m, representing a height difference of 160 m. Establishing zip line would also provide an element of adrenaline for visitors to the park. Adrenaline addicts and fans of extreme activities in the natural environment recognize this form of entertainment as one of the more affordable ways to meet their needs in the area.

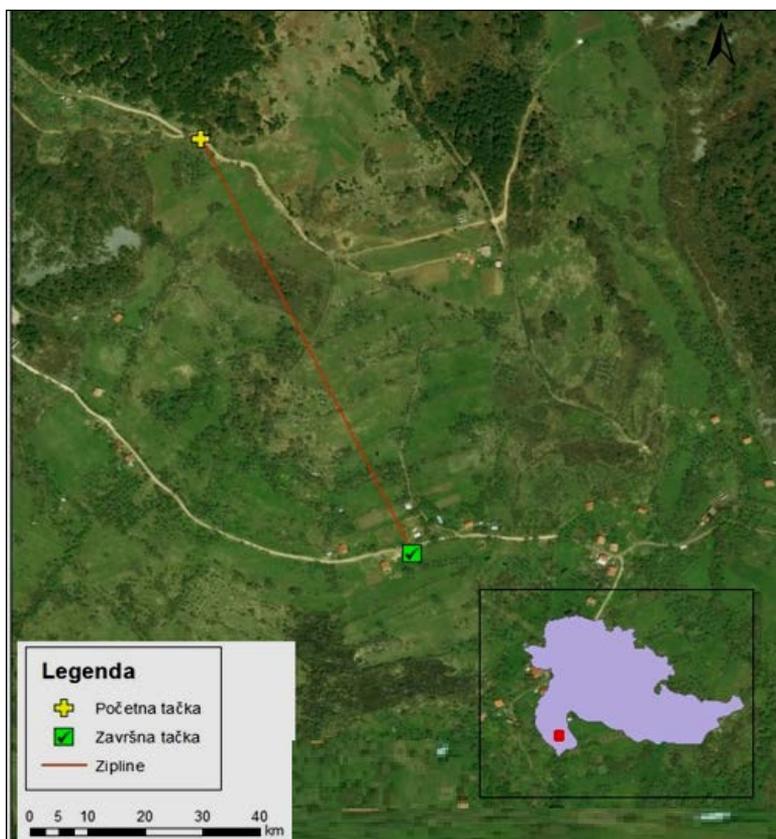


Fig. 13: Proposal to form Zip line „Luka“.

Source: Authors 2019.

#### **4. Conclusion**

The most significant economic activity in the Drina National Park that should be developed and improved in the next period is tourism, as a basis for development. The primary objective is that this area, which has been preserved in the past and which has great natural value, should continue to maintain its value, as well as to improve its protection. The tourist resources of the Drina National Park, which are significant for the future tourism development of this part of the Srebrenica municipality, are represented by the following sites: Bijele vode, the Canyon and Gorge of the Drina River, the hydroaccumulation of Lake Perućac with the Drina River Coastal Zone and the Pančić's Spruce Nature Reserve. Although the area has a rich natural and cultural heritage, the further development of this activity requires a material basis based on tourism capacities and quality employee structure. The identified tourism resources in the Drina National Park are diverse and unique in their beauty.

The tourist motifs of the Drina National Park are attractive to visitors, but they still do not have facilities that would allow a longer stay in these areas. Therefore, it is necessary to develop a development strategy for all types of tourism, for which there are conditions. Analyzing the geographical features of the Drina National Park, the authors of this paper believe that the current tourist offer can be enriched with new amenities such as mountain hiking, walking, mountain biking and zipline ski lifting, as well as different types of visitors' education. Considering the available resources, their structure, and the status of the Drina National Park area and protection zone, the concept of sustainable development is the only acceptable one. Following the guidelines given in this developmental situation, the logical sequence of activities is to apply the following management activity, which is to find an effective and efficient organizational mechanism for the successful implementation of the projected not only development goals and strategies, but also the operationalization of them.

#### **References**

- Agencija za statistiku Bosne i Hercegovine, 2014: Rezultati popisa stanovništva, domaćinstava i stanova u Bosni i Hercegovini 2013. godine.
- Arhiva opštine Srebrenica, 2018: Odjeljenje za društvene djelatnosti.
- Arhiva opštine Srebrenica, 2017: Odjeljenje za društvene djelatnosti.
- Arhiva privredne komore Tuzlanske regije, 1986: Tuzla.
- Enciklopedija Jugoslavije, 1983: Separat SR Bosna i Hercegovina, Jugoslovenski Leksikografski Zavod, Zagreb.
- Nezirović S, 2008: Turistički potencijali Srebrenice, monografija, Opština Srebrenica, Srebrenica.
- Nezirović, S. 2012: Prirodno-geografske i društveno-geografske determinante turističko-geografskog razvoja sjeveroistočne Bosne, doktorska disertacija obranjena 27.11.2012. godine, Prirodno-matematički fakultet, Sarajevo.
- Nezirović S, 2018: Turistički resursi regije Sjeveroistočna Bosna, univerzitetska naučna monografija, PMF, Univerzitet u Sarajevu, Sarajevo.
- Pedološki tumači 1981-1984: Šipad IRC, Sarajevo, str. 1 - 20.
- Posebno lovište Sušica, Lovnaosnova, 2005-2015: Srebrenica.
- Republički zavod za zaštitu kulturno-historijskog i prirodnog naslijeđa, 2015: Studija za proglašenje Nacionalnog parka Drina, Banja Luka.

Općine Srebrenica, 2018: Služba za urbanizam i stambeno-komunalne poslove, Srebrenica.

Općine Srebrenica, 2019: Služba za informisanje, kabinet načelnika općine Srebrenica.

Opština Srebrenica, 2017: Strategija razvoja opštine Srebrenica, 2018-2022, nacrt.

## **SPATIAL DISTRIBUTION OF TOURIST RESOURCES IN NATIONAL PARK DRINA**

### ***Summary***

The Drina National Park is located in the eastern part of Bosnia and Herzegovina, in the middle course of the Drina River, which belongs to the territory of the municipality of Srebrenica. Main values of the Drina National Park are habitats of endemic and relict plant species, primarily Pančićeva omorika, and gorge and canyon valley of the Drina River and its tributaries. In some places, the gorge and canyon valley of the Drina River has canyon-like features with steep, vertical sides. The remarkable value of the area is contributed to also by the presence of Pančićeva omorika (*Picea omorika*), which is an endemic and tertiary relict species. There are three protection zones. A total of 80 percent of the National Park belongs to the second and third zones, where the population is situated and where they are engaged in agriculture, livestock farming, tourism and this is the area that will continue to be available to the people living and working here.

The most important economic activity in the Drina National Park, which should be developed and improved in the next period is tourism, as the main driver of development. The tourist resources of the Drina National Park, which are significant for the future tourism development of this part of the Srebrenica municipality, are represented by the following sites: Bijele vode, the Canyon and Gorge of the Drina River, the hydroaccumulation of Lake Peručac with the Drina River Coastal Zone and the Pančić's Spruce Nature Reserve. The identified tourism resources in the Drina National Park are diverse and unique in their beauty. Although the tourist motifs of the Drina National Park are attractive to visitors, they still do not have facilities that would allow a longer stay in these areas. Therefore, it is necessary to develop a development strategy for all types of tourism, for which there are conditions.

Analyzing the geographical features of the Drina National Park, we believe that the current tourist offer can be enriched with new amenities such as mountain hiking, walking, mountain biking and zipline ski lifting, as well as different types of visitors' education. Although the area has a rich natural and cultural heritage, the further development of this activity requires a material basis based on tourism capacities and quality employee structure.

Considering the available resources, their structure, and the status of the Drina National Park area and protection zone, the concept of sustainable development is the only acceptable one. Following the guidelines given in this developmental situation, the logical sequence of activities is to apply the following management activity, which is to find an effective and efficient organizational mechanism for the successful implementation of the projected not only development goals and strategies, but also the operationalization of them.