

## IDENTIFICATION AND VALORISATION OF HYDROGRAPHICAL TOURISTIC ATTRACTIVENESS OF THE CENTRAL BOSNIA CANTON

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Water despite the fact that the existential needs of the people, has a very large role in the creation of the tourist offer. In close connection with the tourist movement is also its transport role but in tourism is important as an integral part of the landscape, and as a resource on which it is based recreational activities tourists such as swimming, diving, sailing, boating, water skiing, fishing, kayaking, rafting, etc.. Hydrographical touristic motive of the Central Bosnia Canton could have great importance in the tourist offer of this region, and the aim of paper is exactly the identification and evaluation of hydrographical touristic motives and presenting the possibility of their inclusion in the tourist offer of Canton.

***Keywords: hydrographical touristic attractions, Central Bosnia Canton, identification, valorization***

### INTRODUCTIONS

In hydrographic tourist motives and attractions, we count rivers and other streams, sources, lakes, as well as other hydrographic objects. River attractions are also recognized through the presence of springs, falls, cascades and rapids in riverbeds and through the appearance of riverbed's sides and river valley, what attracts numbers of tourists. Beside the aesthetic experience, streams give an opportunity for recreational tourism development; such are fishing, swimming, rafting and so. Attractiveness of hydrographic tourist motives is more valued in nature due to possibility of tourist offer diversity. Water sports give a possibility of active rest what is new trend in tourism today. Sources, which can be thermal, mineral and thermo-mineral, have increasing affirmation in tourism, and they are used for conduct of health and recreational tourism. Since ancient times spas have been built for that purpose, with healing as their primary function. Lakes, as well, represent important tourist attraction as lovely landscape element. Their attractiveness is affected by the vicinity of large cities, and it is recognized both in aesthetic and curiosity elements. The proximity of outbound areas has a great role in tourist valorisation of hydrographic tourist motives. The Central Bosnia Canton is situated in the central part of Bosnia and Herzegovina, what is said by its name (Fig. 1). It consists of 12 municipalities: Travnik, Novi Travnik, Vitez, Jajce, Donji Vakuf, Gornji Vakuf, Bugojno, Dobretići, Busovača, Fojnica, Kiseljak and Kreševo, mutually traffic well connected. The proximity of Sarajevo as a capital city, but also as a leading tourist destination in our country, Sarajevo's airport and proximity of roads, and especially highway on the Vc corridor, together with all natural and anthropogenic tourist motives it has a lot, all these are favourable predispositions for tourism development of the Central Bosnia Canton.

Beside basic geographical methods, in preparing this paper a method of tourist

valorisation has been used as well as the cartographic method of using GIS software program and database.

## GEOGRAPHICAL POSITION OF THE CENTRAL BOSNIA CANTON

The Central Bosnia Canton takes an area of 3.189 km<sup>2</sup> and it adjoins the Zenica-Doboj Canton, the Sarajevo Canton, the Hercegovina-Neretva Canton, the Canton number 10, as well as smaller Bosnian-Herzegovinian entity, the Republika Srpska.

Geological structure of the Central Bosnia Canton is made of formations of various geological ages. Upper Perm is aloof in the area of Komar and in Vranica massif, as phyllite, argiloschistes, quartzite, quartz sandstones, quartz conglomerates and breccia. Transient layers of Perm and Triass are mainly found between Donji Vakuf and Travnik. Quartz-dioriteigneous rocks are situated in some larger masses on Vranica and near Jajce, while limestones and dolomites of Triassic age are spread on area of Jajce, Novi Travnik and Bugojno. Verfenic layers are made of uniform and monotonous series of clastic layers, respectively marls, claystones, quartz sandstones, conglomerates, marl or banked limestones. They are situated in the area of Komar-Jajce, Kreševo-Tarčin. Formations dating from Upper Cretaceous are spread in the area between Blažuj and Kiseljak, and are made usually of clastites and flysch. The Canton is extremely hilly-mountain area made of valley – ravine parts of the Lašva, Vrbas and Fojnica rivers, as well as mountain area up to 2.110 m altitude.

Around 5% of the Canton's territory covers an area from 200 to 500 m altitude. As of hilly-mountain area, that is 500 – 1000 m altitude, it covers more than a half Canton's territory, which is 55.3% (Tab. 1).

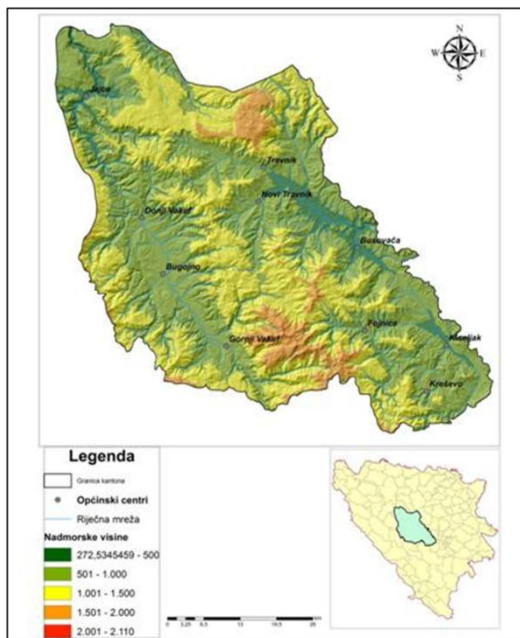


Fig. 1. The position of the Central Bosnia Canton

Tab. 1. Altitude structure of the Central Bosnia Canton

No.	Altitude structure (m)	Area (km <sup>2</sup> )	%
1.	200 - 500	155	4,9
2.	500 - 1000	1.765	55,3
3.	1000 - 1500	1.046	32,8
4.	1500 - 2000	218	6,8
5.	Preko 2000	5	0,2
	Total	3.189	100

Mountain morphostructures consist of Vlašić – with the highest peak Paljenik on 1.992 m altitude, Komar (Kamenjak 1.510 m), Bitovnja (1.700 m), Vranica (2.110 m), Radovan (1.446 m), Galica (1.627 m), Kruščica (1.650 m), Raduša (1.510 m), Volujak (1.210 m). Morphologically diverse and differentiation valleys are formed by the rivers of Vrbas, Lašva, Fojnica and Ugar.

The Canton is under the influence of continental climate. Summers are relatively warm. The warmest month is July with average temperature of 18.3 °C in valleys. Average January temperatures are negative and they amount from -2 to -3 °C. Temperature oscillations on annual level amount approximately 20°C. Oscillations significantly differ according to altitude, so the mountain parts have much more oscillations on annual level. Average annual air temperatures in valleys amount approximately 8.8 °C with highly expressed seasons. Average annual precipitation quantity amounts between 800 and 1000 mm, and it is equally distributed throughout a year. Number of days with snow coverage increases going from north to south, and is in connection with altitude on which greatly depends duration of snow coverage. Hydrographically, the whole Central Bosnia Canton belongs to the Black Sea watershed. On lower taxonomic range, the area is divided on watersheds of the Vrbas and Bosna Rivers. All waterflows in the Canton have relatively narrow river valleys. Hydrographic net is very well developed and this area has larger water abundance (about 21 l/s km<sup>2</sup>) than the average one in Bosnia and Herzegovina in the Sava basin (18 l/s km<sup>2</sup>), but significantly smaller than the average one in the Adriatic Sea watershed (35 l/s km<sup>2</sup>).

In terms of pedogeography, in the Canton's territory automorphic soils cover the largest area. These are: dystric cambisol, ranker, terra rossa and calcocambisol, lithosol and in reduced amount, rendzina, and calcomelanosol. In eastern part of the Canton, there dominate hydromorphic alluvial and alluvial-delluvial gley soils.

The Canton comes into the space of Euro-Siberian sub-zone. There are mostly beech and beech-fir woods, as well as moderate moisture woods with willows and poplars. Dark conifer woods spread on higher altitudes. By the Vrbas River valley, Mediterranean influences infiltrate from south, what as a result has appearance of hornbeam and hop-hornbeam.

According to the last Census on population, households and housing units in Bosnia and Herzegovina, this Canton has 254. 686 inhabitants. The number of inhabitants in the territory of the Central Bosnia Canton has significantly decreased in compare to the Census from 1991, and besides, a new municipality of Dobretići has been defined in the Canton. All municipalities of the Canton record decrease population number. The largest decrease is recorded by the municipalities of Donji Vakuf, with number of inhabitants almost half decreased, then Jajce and Travnik. According to the Census 2013, the Canton has an average population density of 80 people/km<sup>2</sup>, what is under the average population density in Federation of Bosnia and Herzegovina (90 people/km<sup>2</sup>).

Traffic-geographical position of the Canton is very favourable. This Canton represents an important crossing of Bosnian and Herzegovinian, as well as European roads. The Canton's traffic net is very well developed. Net of highways has length of approximately 173 km, while length of regional ways counts 337 km. The important road direction (northwest-southeast) is presented with the road: Bihać-Travnik-Sarajevo-Goražde and direction northeast-southwest: Tuzla-Zenica-Travnik-Bugojno-Mostar-Ploče, that is Neum, and from Bugojno to Livno-Split direction. Developed road net has a great significance for the economy development in general, and especially for tourism development, because accessibility to the Canton increases its tourist value.

## IDENTIFICATION OF HYDROGRAPHICAL TOURISTIC ATTRACTIVENESS OF CENTRAL BOSNIA CANTON

Mineral and thermal underground waters in the Central Bosnia Canton take significant place. Characteristic are hypothermal waters like the one in Fojnička Banja (spa), then alkaline and ground-alkaline water Kiseljak in town of Kiseljak. Due to its physical and chemical attributes, these waters represent good base for healing and rehabilitation, means for spa tourism development. Appearance of thermomineral waters is mainly linked with tectonic fault fractures. Fault lines indicate on conclusion on juvenile genesis of thermomineral waters (Spahić, 2013.) Thermomineral waters in this area belong to height belt of 400 to 600 m, and that is Kiseljak on 475 m and Fojnica on 587 m. Thermal waters in the area of Fojnica appear in the zone of Palaeozoic schists and Mesozoic limestones throughout geotectonic unit of Vranica, and sources appear in the village of Banja on a distance of 1 km north from Fojnica. By field research in which belong geological bores, established was capacity of 150 l/s, with maximum water radioactivity of 67 MJ. Thermal waters have atmospheric origin and they descend to Silurian-Devonian aquifer layer where they are heated. Due to high pressure in aquifer along the fault, thermal waters accent on sources. (Miošić et al., 2010.)

**Tab. 2. Temperature and hydrochemical type of balneological mineral waters the Central Bosnia Canton**

LOCALITY	WATER TEMPERATURE (°C)	HYDROCHEMICAL WATER TYPE
Kiseljak - Kiseljak	12,2	Hydrocarbonate - sulphate - calcium - sodium
Fojnica	28,9	Hydrocarbonate - calcium - magnesium

*Source: Spahić, M. Temimović, E. (2014)*

The Fojnica Reumal Spa represents one of the most equipped specialized facility for physical medicine and movement system rehabilitation in Bosnia and Herzegovina, with adequate usage of natural healing thermomineralradioactive water. Thermal water in Fojnica belongs to slightly mineral waters of hydrocarbonate-sulphate-calcite-sodium type, while counting gaseous it is nitrogenic, on radioactivity, it is radonic, and on temperature it is hypothermal. In this water, there are rare microelements: lithium, strontium and rubidium. These elements are in balneology terms very important for complex water influence on human health.

Banja Kiseljak (spa) is situated in homonymous settlement on the hill in the valley between the rivers Kreševska and Lepenica. There are written documents on salubrity of mineral water which rises in Kiseljak dating back to XIV century. Mineral water from Kiseljak was exported abroad under the name of „Johannes Brumen“ yet in 1870. In this spa, patients were successfully treated with paraffin therapy, thanks to combination of mineral water and medicinal mud from Klokot. Water which was used for this therapy, was, according to its physical-chemical characteristics, mineral with 3203 mg/l, carbonate, alkaline ground, alkaline, sulphatic, slightly bitter hypothermal with temperature of 12°C. CO<sub>2</sub> share in its content is 4.80 mg/l, and it also has 6 g of Glaubertsalt. It rises on four sources. Banja Kiseljak is not used in present due to disorder in accommodation and therapeutic capacities, while mineral water in Kiseljak is used only for bottling. As we can see from the enclosed table (Tab. 3), data is missing for Kiseljak, because the spa is not used

any more due to devastation during the last war. One can notice slight oscillations in the Reumal of Fojnica. Tourist traffic increase had been recorded until 2008, but after that, it was going down all until 2012. In period 2012-2013, the number of visitors was significantly increased.

Formation of the Blue water (Plava voda) zone in Travnik is predisposed with tectonic, that is hypsometric relationship between Perm-Triassic clastics and metamorphites with Triassic and Jurassic carbonates. Along the tectonic zone with stretching direction north-south, the water flow is performed to the source area. Beside water origination on the Plava voda source, during the time of high waters, the water originates also on temporary source Hendek, which is situated on higher altitude comparing to the Plavavoda, and sometimes it dries up. Average bounty of the Plava voda source is only possible to evaluate approximately, due to lack of certain monitoring series.

**Tab. 3. Tourist traffic in spa resorts in Central Bosnia Canton**

Spa	Number of beds	2005	2006	2007	2008	2009	2010	2011	2012	2013
Kiseljak	-	-	-	-	-	-	-	-	-	-
Reumal Fojnica	520	-	141.925	153.495	163.934	150.414	148.349	144.423	139.086	150.520

*Source: Spahić, M. Temimović, E. (2014)*

According to the Elaborate on protection of the Plava voda source (2013), average flows of this source gained by systematically monitoring in period 1984-1986 amount 1.97 m<sup>3</sup>/s, and in period 2009-2010 2,015 m<sup>3</sup>/s. Thinking of that, average bounty of approximately 2,0 m<sup>3</sup>/s can be considered.

Cultural landscape of the Plava voda in Travnik represents the national monument. In landscape tourist motives, we count also areas that were insignificantly transformed by human action. In the locality of Plava voda, Lutvo's, which is Rudolph's cafe is very important for tourist valorisation. This area once was abounded with mills, watermills and wooden pillars<sup>1</sup>.

Rivers belong to the most important hydrographic tourist motives. Beside the sport-recreational tourism development on rivers, they are adorned with curiosity hydrological appearances as well as aesthetic elements. In curiosity elements, there are counted: waterfalls, abysses, canyons, gorges and so. Sport fishing, rafting, kayak, canoe, canyoning, building of camps and so, are just a few examples of possible usage of rivers for sport and recreational purposes. In the territory of the Central Bosnia Canton there are numerous natural values which, on the base of preliminary categorization within the Spatial Plan on Bosnia and Herzegovina, are extracted as area of special importance and content with singularly phenomenon of natural heritage: regional parks Fojnica – Fojnička River, Gornji Vrbas, Pliva, Srednji Vrbas and Vesela.

<sup>1</sup> Komisija/Povjerenstvo za očuvanje nacionalnih spomenika; 2013.

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As of larger flows in the territory of this Canton, we count the followings: Vrbas, Pliva, Lašva, Lepenica and Fojnička River. All watercourses in the Canton represent the most emphasized characteristic of the landscape of river valleys. Speaking of that, special attraction is presented with the river Pliva lower flow with its bed formed in tuff, and with series of lakes of which the largest and the most significant one is highly upstream, situated close upstream from the Canton's border. The waterfall, as well, with its height of 18.0 m is close to the border, on the mouth into the Vrbas. Beside these larger flows, as respectable destinations for practicing and development of fishing tourism, recognizable are also watercourses of Ugar, Bile, Jasenice and Kozice.

Cutting in composite valley, the Vrbas River breaks through limestone rocks and in that way it forms a canyon, which is situated between Jajce in the south, and Banja Luka in the north. The length of the canyon is 31 km, what is suitable for adventure sports. On the base of recording and categorization in the Central Bosnia Canton area, the Upper and Lower Vrbas are stood out as area of special importance and as contents of unrepeatabe phenomenon of the natural heritage. That is why they have been put into the category of protected landscape.



Fig. 2 Fojnička river

It was announced as a protected landscape in order to preserve aesthetic characteristics, what indeed was a success, because built areas represent the III category objects. The basis for standing out and for protection of the Middle Vrbas area lies in canyon relief phenomenon of the Vrbas River gorge and the Ugar River canyon. The Vrbas narrow canyon, with its expressive geological and geomorphological phenomenon could represent also a base for establishing of geopark, that is an area with expressive geological and geomorphological heritage with dominant educational function. Except sport fishing, manifestation-like tourist motives too, help tourist attractions, what is the case with the manifestation „The Summer on the Vrbas“.

The Pliva River is the left tributary of the Vrbas River. The length of the Pliva counts 33 km, and a catchment area is 768 km<sup>2</sup>. The Pliva originates in the base of Pljeva karst

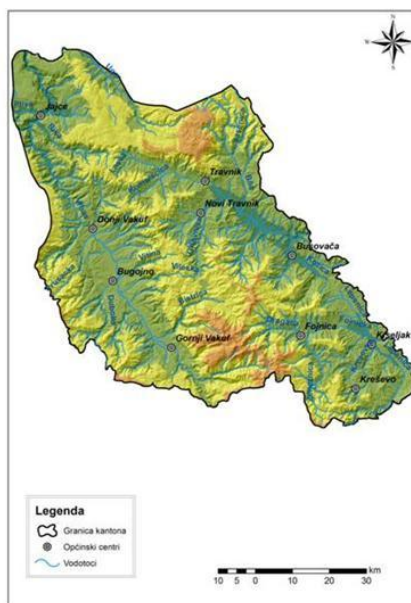


Fig. 3 The river network as tourist attractions the Central Bosnia Canton

plateau. The river's mouth is situated at an altitude on 350 m in Jajce, where it builds famous 22 m high waterfall. The Pliva's bed and waterfall itself have been formed on the tuff. Beside the waterfall, in the Central Bosnia Canton, the Pliva forms also two lakes: the Veliko (Large) and the Malo (Small) Pliva lakes. On the base of recording and preliminary categorization, the nature monument „The Pliva's waterfall“ stands out as a territory of specific importance and unique natural heritage phenomenon. This phenomenon enriches Jajce's tourist offer, and thus Middle Bosnia tourist offer. The Pliva's bed and waterfall are cut in the tuff's deposits, what makes them being special phenomenon. Due to large amount of erosive material in case of unfavourable climate conditions, it comes to tuff degradation and much expressed erosive appearances in the Pliva's bed and the waterfall area. Thickness of tuff deposits in the Pliva's mouth is about 70 m. The depth of bed, which is cut into tuff, is about 43 m. With its aesthetic and curiosity, the waterfalls attract many tourists. In the year of 1888, a viewpoint was built on the waterfall, enlightened by reflectors. The waterfall's light exposure represent special attractiveness in night hours.

The Lašva is the left tributary of the Bosna River and it makes the main point of water flows in Travnik area. The Lašva's length amounts 52 km. Its source is situated beneath the slopes of the Mountain Vlašić and it originates by confluence of the Karaulska and Komarska Lašva. The catchment area amounts 948m<sup>2</sup> and it receives water from smaller tributaries such are: Hendek and Šumeća, Bila Grlonica, Prala, Lupnica, Kruščica, Vranička Rijeka and Kozica.

The Ugar River springs beneath the Mountain Vlašić slopes. Its valley is composite with series of canyon narrowings which are very attractive for tourist purposes. In its flow, the Ugar forms also a smaller waterfall, while on its tributary Ugrić there are three waterfalls. On Pljačkovac, the right Ugar's tributary, there are two waterfalls. The height of waterfall is 18-20 m, and its width is 2-4 m. Except aesthetic and curiosity importance, the Ugar gives all suitability for the fishing development, especially trout fishing.

The Fojnica River source headband is on northeast and eastern slopes of Vranica, Pogorelica and Bitovnja. The total flow length counts 45.5 km. More important tributaries in the Canton's territory are Lepenica and Kreševska, from the right side, and Milava from the left side. Framework of the whole river net is the Fojnica River with its tributary Željeznica. The Fojnica River is extremely rich in fish fund, mostly salmonid types of fish like brown trout, grayling and salmon. Beside these, in Fojnica there are European bullhead, brown barbel, barbell, common minnow, spined loach, chub, schneider and others. With respect to said, in this river it is possible to develop sport – recreational tourism, and especially fishing. On the base of recording and preliminary categorization, protected landscape „Fojnica – Fojnička rijeka“ stands out as a territory of great importance and as a content of unique natural heritage phenomenon. According to IUCN categorization, this area should belong to the V and VI category, means it is protected landscape characterized on its natural beauty devoted to conservation and recreation. In other words, this should be protected area for the resource management, means sustainable usage of natural ecosystem. In a small percentage, the Fojnica waters are gold bearing.

Lakes are very important hydrographic tourist motive and they represent attractive landscape element. In the Central Bosnia Canton area significant lakes are Prokoško, then Veliko and Malo Lake on the Pliva in Jajce.

In the Fojnica municipality area several natural waters can be identified, of which the most important is Prokoško Lake. It is situated on southeast side of Vranica, below of the highest top, Nadkrstac (2.110 m) at an altitude of 1.485 m, and it belongs to the group of the

highest mountain lakes in Bosnia and Herzegovina (Spahić, 2001.)

The lake is endangered because of decrease in water flow due to impoundment of source and eutrophication thanks to influx of organic matter from katuns (small cottages). The largest number of cattlemen cottages and seasonal housing units is situated on southwest lake catchment area. This side is significantly rich in flows, and a large amount of waste material goes by them to the lake. In this way it comes to intensive lake eutrophication, especially its southwest side.

**Tab. 4. Dimensions of Prokoško Lake**

Lake area	48.330,0 m <sup>2</sup>
Length of the lake	426,0 m
Maximum lake width	191,3 m
Medium width of lakes	133,4 m
Coastline length	1.060,0 m
The coefficient of indentation coast	1,4
The volume of the lake	276.214,7 m <sup>3</sup>
Maximum depth of lake	13,0 m
Average depth of lake	5,7 m

*Source: Spahić M. (2001)*

By negative tendency of antropogenetion, that is by artificial restocking salmonid type of fish, biological diversity was completely disturbed by elimination of some of living organisms from the lake water into surrounding the near lake pools. Endangerous aqua biological balance has the greatest impact on Raizer's Triton. Tendency of constantly arrival of organic waste materials has also negative influenced the Triton (Spahić, Temimović, Jahić, 2015). In the space of Prokoško Lake there are 105 types of plants. Of that number, 61 are rare, 36 are vulnerable, then 5 not enough researched, and 3 are on the border of extinction. Woods that surround the Prokoško Lake represent habits for various types of games. Access way is quite hard, but in spite of it, a great attendance has been recorded to this nature monument.

Activities conducted in this area, in a framework of excursion tourism are as follows: walks, recreation, enjoyment in horse and bicycle paths, and mountaineering up to the tops of Vranica, photography and enjoyment in domestic gastronomy. Besides, it is possible to pick up forest fruits; such are strawberries, berries and blueberries.

Taking in account that the Prokoško Lake area is announced as nature monument, development of sustainable tourism is necessary in order to decrease antropopressing on this natural value.



**Fig. 4 Prokoško lake**



Pliva lakes, that are the Veliko and the Malo Lake, belong to the Pliva's hydrographic system. They are situated in a distance of 4 km from Jajce. Malo Lake has an area of 0.2 km<sup>2</sup> and maximum depth of the lake is 24 m, while the area of Veliko Lake is 1.2 km<sup>2</sup> with maximum depth of 36 m. The lakes are situated close to the highway Jajce-Bihać. Malo Lake is separated from Veliko Lake by narrow limestone beam. From aspect of visual quality and coherent assessment of the Pliva lakes, the area is defined as a whole which potentially is worth



**Fig. 5 Large Pliva lake**

attention and it makes a basis for tourism or excursion area exploitation. Besides, lake is a potential for the development of recreational, sports, ecological and seasonal swimming tourism. Special attractions of the Plivska lakes are mills. Mill complex, known as „Mlinčići“ (mills) is a special attraction and it is built on tuff steps between the Pliva's Veliko and Malo lakes. The Pliva's lake, first of all as hydro-energetic object, by building hotel capacities, once became also known as jaunt site and a space for maintaining numerous competitions in sports on calm waters. According to the measurements of the water temperature, summer temperatures of the surface layer amount up to 18.6 °C. Though the water temperature is slightly lower than an optimal one needed for development of swimming tourism, great number of swimmers are recorded in these lakes.

## VALORISATION OF HYDROGRAPHICAL TOURISTIC MOTIVES THE CENTRAL BOSNIA CANTON

Tourist valorisation means establishment or assessment of values on tourist attractions, and are related to their appearance, objects and space they have, and beside other characteristics, property for being attractive (interesting) for tourists and that through them tourists can satisfy their tourist, especially their cultural or recreational need. By tourist attractions, we consider all natural and anthropogenic values that have unique content and as such, they represent basic incentive for tourists' arrival. That motive property to attract tourists is called attractive attribute.

Tourist attributes can be recreational, curiosity one, aesthetical and landmarks' attribute. Recreational attribute is a motive property to act, over certain agenses, mostly on fysiological functions, while curiosity and aesthetical attributes mostly act on psychic functions, imagination, opinion, and so (Jovičić, 1989). Valorisation of natural-geographic tourist potentials is performed on the base of categories, like attractiveness of evaluating area, awareness on potentials, familiarity with potentials out the location, vicinity of other tourist attractions, traffic availability, ambient, and geographical position. Evaluation of these parameters for certain tourist potential determines the quality and importance of tourism potential.

Evaluation is done by scale from 1 to 5, with the following values:

1. Insufficient quality, not for tourist presentation

2. Quality satisfies the local tourist importance
3. Good quality, regional importance
4. Very good quality, has wider significance
5. International tourist significance

Tourist valorisation of the most important hydrographic motives has been shown in the table 5. Evaluated were sources, among which thermomineral with health resorts built on them, and important rivers and lakes. According to the executed tourist valorisation, of all hydro-geographic tourist motives in the Central Bosnia Canton, the greatest international value goes to the „Reumal“ spa in Fojnica due to its high value of evaluated parameters, and due to attendance of tourists from many countries. Talking about river flows, the Pliva River has the greatest value, while the Ugar has the smallest one. The Pliva's higher mark has been influenced by attractive and aesthetic elements, as well as characteristics of the river valley. There is a waterfall on the Pliva, and so a canyon, what have aesthetic value. Besides, the river is rich in fish fund which is a resource for development of sport-recreational tourism that is fishing.

**Tab. 5. Valorisation of hydrographical touristic motives the Central Bosnia Canton**

The parameters of evaluation	River Vrbas	River Pliva	River Ugar	Fojnička river	Spa „Kiseljak“ Kiseljak	Spa „Reumal“ Fojnica	Sources Plava voda	Prokoško lake	Lakes on Pliva
Attractiveness	4	4	3	3	3	5	4	3	4
Informed	3	3	2	3	4	5	4	3	3
Well-known location	3	3	2	3	3	5	3	4	4
Close to other attractiveness	4	5	3	3	4	5	5	2	4
Traffic availability	5	5	5	5	5	5	5	3	4
Environment	3	4	4	4	4	5	5	5	4
Touristic - geographic position	4	4	4	4	4	5	5	4	3
<b>Overall rating</b>	<b>3,71</b>	<b>4</b>	<b>3,29</b>	<b>3,57</b>	<b>3,86</b>	<b>5</b>	<b>4,43</b>	<b>3,43</b>	<b>3,71</b>

Valorised lakes in the Central Bosnia Canton are natural. The Plivsko Lake has a bit higher tourist value, because it has greater possibilities for recreational tourism development, especially swimming and fishing. Besides, The Plivska lakes have better traffic availability, as well as vicinity of other tourist attractions. The lakes on the Pliva are natural, but they have been changed for the needs of hydropower. Wider regional significance goes to the Pliva River, the Plavavoda source, while other hydrographical motives have a good quality that is regional importance.

The Middle Bosnia Canton has many potentials for tourism development, however, except the attractiveness, for tourism development, other elements of tourist offer are also

necessary. Trends in tourism request destination by the model 6A. This model has elements like attractions, access, comfort, available arrangement and activities.

Hydrographic tourist motives generally have only attractive element of the model stated above. For the complete development of tourist activity, first it is necessary to build tourist infrastructure. One of them is building, that is reconstruction of the „Dalmacija“ hotel, close to Kiseljak, which had recorded a huge number of visitors before devastation. With the hotel's restoration, the Canton's tourist traffic will be increased. Building bicycle and walking paths will bring to completion of the offer on natural-geographical and in this case hydrographic tourist motives. Beside the infrastructure, it is necessary to design a thematic route in the Canton's level by which large number of activities will be included.

In the Central Bosnia Canton, it is necessary to interconnect tourist offer on attractions of all municipalities. However, it is necessary to pay greater attention to propaganda on tourist motives on the Canton's level. By organizing manifestations, this will have, among others, an impact on attendance to hydrographic tourist motives and will bring to enrichment of the offer.

## CONCLUSION

The Central Bosnia Canton has very suitable tourist-geographical position. Traffic availability and a rich natural heritage represent very important precondition for the tourism development in this Canton. This area has developed river net, what represents a motive for tourist travels. Hydrographic tourist motives of this Canton are sources, rivers, and lakes.

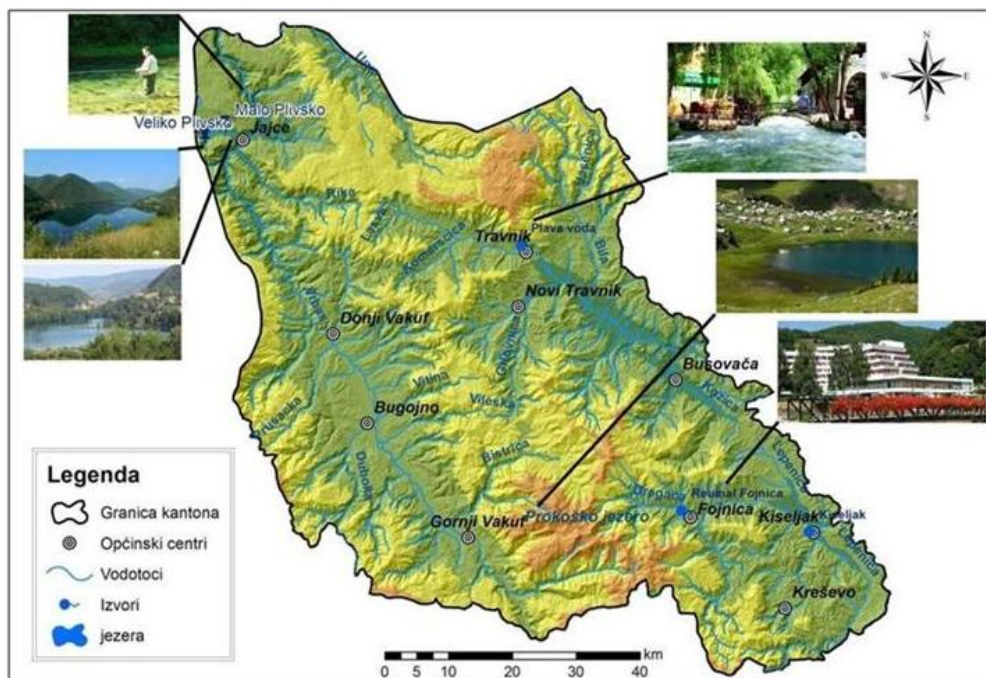


Fig. 6 The synthesis tourist map hydrographical tourist motives the Central Bosnia Canton

Thermomineral sources since ancient times have been used for medical purposes, this Canton is recognizable on. The most significant spa is the „Reumal“, evaluated by tourist valorisation as attraction of international significance. Unfortunately, in the vicinity of mineral source in Kiseljak, there are only few accommodation capacities, and those are three smaller hotels, while the „Dalmacija“ hotel was devastated during the last war. In present, this water is only used for bottling.

The Vrbas and the Pliva form canyon-like valleys, which are attractive for their aesthetic elements, such are waterfall, enrichment in fish fund, sport activities and so. Except fishing, there is a possibility of recreational tourism development. Concerning high value of tourist valorisation parameters, the Pliva has wider regional significance.

In the Canton, there are some more important lakes as well, and these are the Prokoško Lake on the Vranica Mountain, and the Veliko and Malo lakes on the Pliva. Prokoško Lake has a regional importance, according to tourist valorisation. However, this lake is subject to eutrophication due to antropogenization of surrounding area and due to inflow of large amount of waste material. In difference to the Prokoško Lake, the Veliko and Malo lakes have gained a new appearance, tourist more acceptable.

According to conducted geographic and tourist valorisation, the greatest tourist value in the Canton area goes to the „Reumal“ spa in Fojnica, with approximate mark 5, that means the international significance, while the lakes on the Pliva with average mark of 3.71 have regional importance.

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