



Strategy for development of cycling and ecotourism in Ruse region with perspective of the ecosystem services used

The project Fostering enhanced ecotourism planning along the Eurovelo cycle route network in the Danube region is financed by Danube Transnational program 2014-2020

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Bulgarian Association for Alternative Tourism
Sofia, 2020

Project Fostering enhanced ecotourism planning along the
Eurovelo cycle route network in the Danube region
<http://www.interreg-danube.eu/approved-projects/ecovelotour>

Danube Transnational Program 2014-2020

The project is funded by the European Regional Development Fund and the budget of Bulgaria.

Contents

- 1 Introduction p. 4
- 2 Legal environment for development of cycling tourism routes in Bulgaria p. 4
- 3 Local environment for tourism development in Ruse District p. 5
- 4 Current status of cycling tourism conditions p. 10
- 5 Evaluation and potential for development p. 19
6. Regional cycling route Rivers of time p. 22
7. Ecosystem services along the cycling route in Ruse district p. 25
- 8 PES schemes as a method for funding a regional cycling route in Ruse District p. 33
- 9 Strategic development of cycling tourism in Ruse District p. 37

1 Introduction

Sustainable tourism is considered to be a main concept for development for the first two decades of XXI century. Nevertheless, the methodology for research and policy implementations are complicated and barely efficient resulting in overtourism in overcrowded destinations. Meanwhile the concept of ecosystem services is circulating the scientific domain, with a new perspective building on what was thought to be renewable resources. The objective of the scientific method is to calculate the financial value of the resources given the fact that they are not provided by natural processes as usual. This is important implication for sustainable tourism as it provides methodological foundation for evaluation of the impact of tourism on natural resources, which enables planning of measures to mitigate risks for the environment.

The current document is part of the activities under the project EcoVeloTour - Fostering enhanced ecotourism planning along the Eurovelo cycle route network in the Danube region. The objective of the project is to implement the concept for ecosystem services for cycling tourism development in 6 countries – Germany, Hungary, Slovakia, Serbia, Romania and Bulgaria. The concept is implemented at NUTS III territorial level and in Bulgaria the region selected is Ruse District. The current document is based on the Guidelines for ESS-based ecotourism strategy, elaborated by the University for Nature Sciences in Vienna – BOKU scientific partners in EcoVeloTour. The current document's objective is to combine information about the conditions for cycling tourism in Ruse District, to focus on the ecological and economical needs when planning a regional cycling route, and to propose guidelines for coordinated measures by the stakeholders for development of cycling tourism as an ecotourism product. The recommendations in the document can be used for elaboration of planning documents like territorial cooperation, District strategies, Municipal development plans and Protected areas management plans.

2 Legal environment for development of cycling tourism routes in Bulgaria

Currently, the overloaded road systems imply continuous changes of the legislation in attempt to follow the new needs. There is a process for an update in the design of road infrastructure to accommodate the growing number of cyclists. Nevertheless, there is ambiguity about what are the criteria for a rural road to accommodate a cycling route.

The Tourism Law adopted in 2013 defines that a cycling route is considered to be a tourist attraction, but nothing more. There is no definition about what a cycling route is and no criteria or procedure about how a route could be established. The Roads Traffic Law regulates rules about riding a bicycle on public roads. This Law also defines the technical requirements for a bicycle to be used for cycling (art. 79) as well as the condition to wear reflecting clothes when cycling out of a settlement (art. 80.1). The cyclist can ride a bicycle on the roadbed in a position as most to the right as possible, or on the road shoulder if it is suitable for cycling and this is not an obstacle for other road users (art. 15.1; 15.2; 18.1; 80.2). When a designated infrastructure for cycling is available, e.g. bike lane, only those should be used by cyclists for cycling.

In 2015 the Roads Law is updated with the following regulation that defines the construction of bicycle lanes on State Roads between settlements:

“Within the construction of new road and reconstruction of existing roads, excluding the highways and high-speed roads, bicycle lanes may be included on both sides of the road. Within reconstruction of existing roads, cycling lanes are positioned on a consolidated road shoulder. Within construction of new roads bicycle lanes

are positioned as part of the road. Cycling lanes are separated from the roadbed with curbstone or safety enclosure.” (art. 5.6a, Roads Law) Ordinance #1 from Ministry of Regional Development about organization of the road traffic regulates that areas for cycling on State roads can be defined in the plans for traffic organization between settlements (art. 6.2). These plans define the construction of new and reconstruction of existing roads. Another ordinance from 2018 about road engineering regulates a threshold for number of cyclists above which a separated bicycle lane is compulsory when reconstructing a road. The threshold is different in relation to the average daily numbers of motorized vehicles (table 1).

3 Local environment for tourism development in Ruse District

3.1 Territory and administrative structure

Table 1 Conditions for compulsory construction of bicycle/pedestrian lane

Number of motorized vehicles	Number of pedestrians	Number of cyclists	Number of cyclists and pedestrians combined
(number/24h)	(number/peak hour)	(брой/върхов час)	(number/peak hour)
>1500	60	90	75
1500-2000	20	30	25

Cycling routes can also use municipal and forestry roads. These roads have local functions including those connecting tourist attractions. According to the Forests Law, art. 147.7 regulates that “bicycle access to forest areas is free except for the cases, when this access is restricted by another law”. An informal code for signposting of these forestry routes is adopted by mountain biking organizations. There is not an official regulation for signposting of cycling routes. The ordinance for road signalization with traffic signs states explicitly the signs available and there is not any designated sign for cycling routes. The elaboration of a standard for signposting of cycling routes suitable for cyclists and its incorporation in the legislation is a key to successful cycling tourism development. The revision of legislative framework shows that there are existing regulations that enable cyclists to cycle on public roads. Nevertheless, there are not enough practically efficient measures to ensure safely travelling by bicycle and cyclists are still considered as an obstacle for the traffic, not part of it.

This strategy addresses the cycling routes in the territory of Rousse region - one of the 28 districts in Bulgaria, covering an area of 2 803 km² and with a population of 247 875 people (according to rapid census data 2011). There are a total of 8 municipalities in Rousse - Byala, Borovo, Tsenovo, Dve Mogili, Ivanovo, Vetovo, Slivo pole and Ruse. Its northern border is also the state border along the Danube river.

3.2 Climate

The climate of the Rousse region is temperate-continental. The summer is dry and hot, with typical summer droughts and insufficient rainfall, which in some places lead to severe erosion (eg Municipality of Ivanovo). The strong north-east winds are characteristic of the winter season. Autumn and spring are short-lived. Despite the cold winter, due to the low altitude, spring comes early but is colder than autumn.

The sharp contrast between winter and summer conditions, typical of the region's climate, is of a markedly continental type. The average annual temperature is around 12 ° C, the average July temperature is 20-22 ° C with a tendency to rise, and the average January temperature is from 0 to -3 ° C. Frequent phenomena are also temperature inversions, frosts, ice. Mists along the Danube River are a typical seasonal phenomenon. The average annual rainfall is 550-650 mm (slightly above the national average) and in the coastal lowlands is below 500 mm. The average annual number of days with precipitation is 138.9 days. The snow cover is about 14 cm thick and the average annual number of days with snow cover is 48.4.

Climatic conditions play a relatively unfavorable role, limiting outdoor tourism activities to several months during the year.

3.3 Socio-economic development

The administrative center of the district and the municipal center - the city of Rousse, the fifth largest city in Bulgaria with a population of approximately 143,000 people, is also the main bicycle hub in the region, a generator of events, projects and cycling culture, the main tourist destination for this part of the country and an important milestone along the route of the international cycle corridor Eurovelo 6, following the Danube river.

The other 7 municipalities are considered as rural areas in the European Union's programme documents. Rural areas in Bulgaria are characterized by poor economic, social and cultural development, an aging population, a low standard of living, poor infrastructure and the resulting negatives. Various cycle routes pass through them, such as Eurovel 6 - the route with the greatest potential for positive impact on the region's economy, passing through 6 municipalities in the district - Tsenovo, Borovo, Dve Mogili, Ivanovo, Ruse and Slivo Pole. The provision of tourist services in these municipalities is still very scarce - guest houses are rare, there are almost no dining places, and licensed guides are available as a service only in the district center.

The potential of the district for cycling tourism development is also indicated by the presence of significant natural resources, protected territories and Natura 2000 sites. The Rousse Lom Nature Park lays within the districts of the municipalities of Ivanovo and Vetovo and is one of the 11 nature parks in Bulgaria. The landscapes it offers, as well as the cultural attractions there, are a prerequisite for the development of many bicycle routes and their practical economic effect. The Kalimok - Brushlen Protected Area along the Danube River also lays within two municipalities - Slivo Pole and Tutrakan, and it is a wonderful area for bicycle exploration and tourism, where projects for the development of cycling routes have already been carried out. The Stalpishte Protected Area in the Ivanovo Municipality also offers good cycling opportunities being situated in attractive hilly landscape near the Danube River. Under the EU Birds Directive and the Habitats Directive 13 sites have been declared and protected through the Natura 2000 network, where with the highest potential for the development of cycling tourism are Yantra, Batin, Ribaritsi-Mechka, Lomovete and Complex Kalimok. On the territory of Rousse are located the Ivanovo Rock Churches - one of the 7 sites in Bulgaria on the UNESCO list of tangible world cultural heritage. This is the most visited tourist attraction here. Other sites of cultural and historical heritage that attract tourists and are located on attractive cycle routes are the Medieval town of Cherven (Ivanovo municipality), the Basarbovsky rock monastery (Rousse municipality), the Nisovo rock monasteries (Ivanovo municipality), the Kolyu Ficheto bridge (Byala municipality), the wine cellars in Nisovo and the village of Mechka (Ivanovo municipality). Of course, there is to mention the cities of Ruse and Byala with their many cultural monuments, museums and urban architecture.

This rich palette of tourism opportunities remains relatively unknown to local and foreign tourists, largely due to the lack of a recognizable local brand and distinctive thematic tourism products. The area has well-developed transport links, and the close distance between the different sites of tourist interest allows the creation of thematic tours.

The city of Rousse is designated as the seat of the Danube Tourist Region, according to a national

concept for the tourist zoning of Bulgaria. The DTR covers 11 districts and 67 municipalities, including the whole region of Ruse. The large territorial scope and geographical remoteness of the municipalities falling within the area is a great challenge. On the other hand, the Danube area in Bulgaria falls within the scope of the Danube Strategy, which places strong emphasis on the convergence between the Danube countries and regions through the development of a common tourism brand and products. The Organization for Management of the Danube Tourist Region (OUDTR) was established as a voluntary association under the Law on Tourism, registered in the National Tourist Register. Its management is related to carrying out activities in three main directions: the creation of regional tourism products; implementation of regional marketing and advertising; coordination and management of tourism at regional level. Currently, OMDTR has six members from Rouse District: Rouse Municipality, Slivo Pole Municipality, Rouse District Administration, Association of Hotel and Restaurant Owners in Rouse, Association Prista Tourist Society and Angel Kanchev University of Rouse. Among the goals of OMDTR are, of course, ecotourism and forms of sustainable tourism, as well as supporting cooperation between stakeholders, the formation of regional tourism products and more.

3.4 Potential for tourism development in municipalities in Ruse District

The municipality of Tsenovo also has a diverse landscape, cultural and natural sites as a potential for the development of ecotourism. The Euro Velo 6 cycle route passes through the municipality along the Danube River and the Yantra River. In the village of Krivina are the archeological remains of a Roman castle “Jatrus”. The Danube coast of Tsenovo Municipality is low and much of its length has dams and drainage systems in place: Vardim – Nov Grad and Batin - Krivina, with potential for restoration and function as cycle routes as well. Interesting relief formations are found – a cave near Beltsov village, karst

formations, picturesque meanders and rivers lakes along the Yantra river are interesting for tourists. Two Natura 2000 protected areas for the conservation of wild flora and fauna have been registered on the territory of Tsenovo Municipality - BG 0000233 Studena Reka (in the territory of Tsenovo Municipality (Karamanovo and Novgrad) and Veliko Tarnovo District) and BG 0000611 “Yantra River” (in the territories of Borovo, Byala and Tsenovo municipalities in Rouse District, as well as through municipalities from Veliko Turnovo and Gabrovo districts). The total area of the Protected Area “Studena reka” is 13 900 hectares where a herb species is protected, individuals found north of Karamanovo village. The species is critically endangered with high conservation status in Bulgaria. The total area of the protected area “Yantra River” is 5301 hectares. The subject of conservation are: natural habitats; protected mammals; amphibians and reptiles, etc. Object of monitoring by RIEW-Ruse in 2010 are terrestrial turtles, Tatar wild cabbage in the territory of the village of Nov grad, the protected area near the village of Beltsov, etc. On the territory of Tsenovo municipality 28 cultural and historical sites have been discovered, including prehistoric, ancient, Roman and medieval – all scattered in the lands around all nine villages within the municipality. Much of the archaeological sites have not been explored, no excavations and restoration works have been carried out and their future development and restoration is forthcoming. The village of Novgrad is the only settlement in Bulgaria whose center has a preserved monument of Lenin in full size. In 1968, the longest rope bridge in Northern Bulgaria over the Yantra River was built, connecting Nov Grad and Belyanovo village. This bridge is for pedestrians only and its length is 105 m. There is also an iron bridge east of the village of Tsenovo and it is 85 m long and 3 m wide. Borovo Municipality’s territory consists a section on the Danube River. The picturesque bank of the river near Batin village offers great opportunities for ecotourism, and the village offers great views of Batin Island. An overgrown and frequently flooded road connects Batin village with Mechka village and represents a potential for a direct connection along the Danube River in the section Nov Grad - Rouse via the Euro Velo 6. A Thracian tomb was discovered on the

land of Borovo in the early 1990s. The church “St. Ivan Rilski” in the village of Brestovitsa has been declared a cultural monument of national importance. Of interest to the local community are the churches in the villages of Exarch Yosif, Gorno Ablanovo and Batin, built in the mid-19th century. The local government is developing an idea to restore the headquarters of the Russian army during the Russian-Turkish War in the village of Brestovitsa. Borovo municipality is also developing a project for exhibiting a replica of the Borovo silver Thracian treasure from the 4th century BC.

There is only one place for accommodation in the municipality - Brestovitsa hut with 60 seats, two halls and a kitchen block. A problem for the development of tourism is human capacity, lack of tourist infrastructure and separate tourist services.

The Belite Brezi Tourist Association is the local tourist organization. Borovo Municipality is actively working on a municipal tourism development program.

Byala municipality is in the western part of Rousse district. It is crossed by the Yantra River where the picturesque landscape is formed by its low and high meandering banks. There are two protected areas under the EU Habitats Directive and NATURA 2000 network - Belenska Gora Protected Area and Yantra River Protected Area. On the territory of Byala municipality and within the territory of the village of Polsko Kosovo there is the Protected Site “Natural Site of the *Salvia scabiosifolia*” - the only registered on the Balkan Peninsula rare species of perennial herb also found in the Crimea Peninsula, included in the European list of rare and endangered plants of rare category. Interesting are the red deer population in Belenska Gora, which is taken care by The Hunting and Fishermen’s Society-Falcon Association, Byala municipality. Among the cultural monuments stands the Kolyu Ficheto Bridge, which is a symbol of the town of Byala, as well as the town’s clock tower. There are numerous military monuments in the town of Byala and in most of the villages in the municipality. The city has a hotel, a motel and two restaurants, as well as a railway connection.

Dve Mogili Municipality is characterized by a clean environment and a great potential for the development of active forms of tourism.

The main attraction is the Orlova Chuka Cave. Together with the members of Tourist association „Prista“, Ruse, mainly with the help of speleologists, regional and national cave men’s fairs are held with visitors from all over the country. Among the cultural sights the medieval monastery “St. Marina” in the village of Karan Varbovka stands out. A curious scientific discovery of a new plant was made near the village of Ostritsa in 2010 and Protected area for *Bupleurum uechtritizianum* was established near Ostritsa village. The plant was discovered by Stoyan Stoyanov. Another place of local significance is the House Museum and Monument to Philip Totyu - a fighter for national liberation. There are several guest houses in the municipality, and Orlova Chuka hut also welcomes guests.

The municipality of Ivanovo has a unique diversity of natural and cultural landmarks - over 190. On the territory of the municipality along the river Rusenski lom is situated the Rusenski Lom Nature Park - home to many protected plants and animals. The Lomovete Nature Conservation Complex was established in the park, with a Nature Conservation Center and a Center for Biodiversity Research, Training, Simulation and Analysis. The site is managed by the Nature Park Directorate and also functions as a visitors center. The park has suitable infrastructure for the development of hiking, the main eco-routes are marked, bird watching places and wildlife have been established. Hidden in the picturesque landscape above the river banks are medieval rock monasteries - only part of the niches are accessible for tourists to visit, where preserved murals and habitats can be seen. The only active rock monastery is in the village of Basarbovo. An ornithologically important place for bird watching is the Ribarnytsi - Mechka village. In the municipality of Ivanovo is located the architectural and archeological reserve “Medieval town of Cherven”. The proximity to the city of Ruse and the numerous leisure opportunities along the local rivers and along the Danube coast have made the municipality a popular destination for weekend tourism.

The municipality of Ruse and the city of Ruse are the center of the cultural life of the district as well as of tourism. There are many cultural and historical monuments from different eras in the town of Rousse - The Income Building,



the House-Museum of the City Life, the Roman Fortress “Sexaginta Prista”, the archeological reserve “Basarbovski Rock Monastery”, the Pantheon, the Regional History Museum, and the Eco-Museum. The municipality of Rousse also has a well-developed cultural events calendar, some of which take place at or near tourist sites. These include the March Music Days, the Rousse Tourism Fair, the Rousse National Jazz Festival, the Rousse Carnival, local fish festivals, wine festival, attractive restorations of historical events and more. The town of Rousse has good conditions for accommodation, both in the city and in the suburban territories as well. It is also an important port of the Danube, which adds to its good transport links. The international bicycle route Euro Velo 6 passes through the municipality of Ruse and the city of Ruse.

The municipality of Vetovo has a rich historical heritage, which is still unknown to the general public. Remains of the Paleolithic and ancient times and of medieval settlements, ancient fortress remains and Thracian mounds were found near the towns of Vetovo, Senovo and Dryanovets, including a rock formation with 21 rock cells and a church with preserved drawings. Protected areas within the territory of the municipality and within the boundaries of Rousse Lom Nature Park are the Beli Lom Nature Reserve and the Ribarnitsite Nature Landmark near the town of Vetovo.

The municipality of Slivo pole also has archeological monuments interesting for exploration and tourist interpretation - Thracian mounds in Babovo and Kosharna villages, the ancient Roman city of Apiaria in Ryahovo village, traces of the Eneolithic era. An iconic landmark, part of which is within the territory of the municipality is Kalimok - Brushlen Protected Area. It has high potential for the development of ecotourism with its rich biodiversity of 230 bird species (58% of the birds in Bulgaria), reptiles, amphibians and mammals, rare, endangered species.

4 Current status of cycling tourism conditions

4.1 Transport network

Available road infrastructure is crucial for development and use of bicycle routes. The intersections of the first-class roads Ruse - Byala and Ruse - Razgrad are a few and they are not used for bicycle purposes. For a very short distances some cycling routes take the secondary roads of Ruse - Tutrakan and Ruse - Kubrat, where cycling must be cautious. Mostly poorly used third-class or municipal roads are used for cycle routes. Even the third-class road Ruse - Basarbovo - Ivanovo - Dve Mogili - Borovo is a busy one. It is parallel to the road Ruse - Byala and is used as a bypass for traffic in the event of an accident and traffic closure between Ruse and Byala. This happens between 5 and 10 times a year. This road is also used mainly by foreign tourists traveling along the Eurovelo 6. The road sections between Rousse and some neighborhoods or with neighboring villages, including - Rousse - Sredna Kula - Basarbovo, Rousse - Nikolovo, Ruse - Marten are also busy. They are driven by many motor vehicles as well as by many cyclists who go to work, to the market, to school.

Availability of railway transportation and multiple stations is a convenience as cyclists can take the train to the starting point of a route, terminate a route as needed, or reach the routes from settlements situated far away. There are two main railways - Rousse-Razgrad and Ruse-Gorna Oryahovitsa. Convenient access to the cycle routes where express trains stop can be made in Ivanovo, Dve Mogili, Borovo, Byala, Vetovo stations. Passenger trains can be used by the Dolapite, Bozhichen, Koshov, Sturmen, Obraztsov Chiflik, Chervena Voda, Krivnya and other stations. The problem with taking a bicycle in a train is it is suitable mainly for very small groups - up to 4 people. It's not impossible for larger groups, but it has always created chaos and tension with other travelers and BDZ employees.

4.2 Characteristics of existing routes

The existing bike routes in Rousse region are not numerous. In practice, there are numerous bicycle transport links, using calm asphalt roads between different settlements. The „Byala - Stulpishte“ cycle route follows the Yantra River from the town of Byala in the north direction along its right bank and is 84 km long. It was marked in 2006-2007 by the Ruse travel club “Biala Zvezda”*. The most famous cycling route is Eurovelo 6, which is not yet a fixed route approved by the ECF - European Cycling Federation. Eurovelo 6 exists as a planned itinerary, is offered by various publishers and guides (e.g. Bikeline) and can be found on different maps. Hundreds of cyclists and tourists pass along this route every year, despite there is no road marking for cyclists. A map of the regional cycling routes was published by Velo-Rousse Association in 2015, where the most secure and convenient itinerary is presented, which is also the way many tourists go. Other organizations have worked on the elaboration of this route or sections of it - Opora Association, Brod Association, Regional Development Agency and Business Center - Vidin, the Danube Ultra Initiative and others. The main obstacle to the final construction of the route is the legal framework, which does not regulate the marking of non-urban cycle routes. Another obstacle is the poor awareness and interest of the authorities in the municipalities along the route.

Following a series of meetings with local authorities and stakeholders in all 8 municipalities in the territory of the Rousse region, a concept of a prime cycling network was proposed to cover all major transport links between settlements to serve as a backbone of bicycle routes in the district. A concept for a secondary bicycle network was also proposed to provide more transport links, bicycle friendly roads, some of which connect the settlements with interesting tourist sites or are just suitable for walking and sports. These two bicycle networks overlap and give one picture of all the bicycle links and corridors in the area, which are transport links between different settlements and tourist sites. They are selected on the basis of criteria, including: poorly

loaded roadway with vehicles, suitable road surface, accessibility for cyclists, attractiveness of the landscape, etc.

In addition to these three types of routes - Eurovelo 6, primary and secondary cycling networks, which are presented in the above mentioned map, 10 thematic cycle routes of different length, duration, difficulty and specificity of the terrain, intercity or railway connection, logical beginning and end, and last but not least - a specific topic that gives the name of the route have been created. They are also virtual, on the spot they do not have markings or signposting, except for a small number of signs in the area of Obratsov Chiflik, the chalets Zdravets and Minzuhar. Due to the intensive vegetation of some of these routes, especially along the local rivers, where dirt roads are used, the map is not 100% up to date and has not been changed or updated.

All routes described can be viewed online here:
<http://map.velo-ruse.eu/>

The printed version of the map, which was printed in 5,000 copies, is still available and distributed through the Ruse TIC, members of Velo-Ruse, hotels and information spaces. The map is also available in all municipalities - partners for its development. The exceptions in Ruse district are the municipalities of Byala and Ivanovo, which did not want to attend even the initial introduction meeting and showed a total lack of interest in cycling issues. The map was also printed and positioned as an information board with a wooden structure with a roof at the following locations: the center of the village of Nisovo, Zdravets chalet in the area of Chiflik, the lower parking of the Orlova Chuka cave, the parking of the Ivanovo Rock Churches, parking lot under the medieval town of Cherven.

An interesting fact is that the municipality of Ruse recognizes the map with the bicycle routes and uses its printed version on the back of the tourist map of the city of Ruse, which is distributed free of charge and in large circulation by the Rousse tourist information centre. It is also distributed in the accommodation facilities in the city, as well as during all the tourist exhibitions at which the municipality of Ruse participates with its own booth.

The thematic routes are described in brief below with their current status as of 2019.

* <http://bialazvezda.com/velomarshrut-byala-stalpishte>



4.3 Thematic bike routes developed by Velo-Ruse Association

4.3.1. Lipnik

Length: about 25 km, one day trip
 Possible extension of the route: about 14 km
 Level of difficulty: Medium
 Terrain: mostly on asphalt roads with mild slopes, small stretch of dirt road
 Start / end: the center of Ruse

The route exits the city of Ruse along the cycle path along Lipnik Boulevard, reaching the village of Nikolovo, where it enters the Lipnik Forest

Park. After a nice ride along the alleys, the route turns back along the dyke and takes the north shore of the main lake “Nikolovo”, then along “Chiflikoto” lake and after the pumping station at the beginning of the asphalt road takes a sharp left with a short climb to the hut “Zdrave”. Through the closed railway crossing, the villa zone “Kaseva Cheshma” returns to Ruse. Extension of the route is possible if from Lipnik Forest Park one continues to the village of Chervena Voda, then - along the road Kubrat - Ruse 5 km (attention for heavy traffic) to Obratsov Chiflik and from there - asphalt to the hut Zdrave. Together with the extension, the entire route is on asphalt roads. The road from Ruse to the village of Nikolovo, though only a municipal road, is busy at certain times of the day. The road from the closed rail crossing by the villa zone Kaseva Cheshma to Ruse is a calm road.

4.3.2. The Nature around Nisovo

Length: about 32 km, one day trip
Extension is possible: between 4th and 22nd km
Level of difficulty: Medium
Terrain: mainly on asphalt roads, possible extension by a macadam road and dirt roads
Start / end: Nisovo village

The route follows small asphalt low traffic roads. From Nisovo the route starts with a steep climb towards the village of Svalenik along the Bataklija - a huge forest, where some wild animals can be seen. From Svalenik the route continues with the ascent to the road Katselovo - Nisovo and again returns to Nisovo. Interesting places that can be visited along the road are the rock churches about 2 km southeast of the village of Svalenik in the direction of Kostandenets village or the rock formation "White wall" northwest of Svalenik about 4 km along the macadam road. In the village of Nisovo one can see the visitor information center of the Rousse Lom Nature Park, the Nisovo Rock Monastery - 5 km down the road from the village against the stream of Mali Lom River, as well as taste local wines in the Nisovo winery in the center of the village. The route is suitable for people staying in the village.

4.3.3. Byala Forest Park

Length: about 15 km, one day trip
Level of difficulty: Easy
Terrain: asphalt and agricultural roads without serious climbs
Start / End: Byala Railway Station - Byala Forest Park

Byala train station can be reached by train. From there the road takes to Lukoil on the main road Ruse - Veliko Turnovo, but continues along agricultural roads near the Yantra River, bypassing the ascent that the main road makes. After reaching the Kolyo Ficheto Bridge, you enter the town of Byala, pass the museum of the Russian-Turkish War and take the road to the Forest Park. There are no more than 5 km along a pleasant unpaved road from the end of the city to the final destination. At the end of the road there

is a nice restaurant in the woods, and from there are many paths and small paths waiting to be explored. Take care when crossing the main road Ruse - Veliko Tarnovo! When visiting the Kolyo Ficheto Bridge, one has to use twice the busy roundabout to the main bridge over Yantra.

4.3.4. Yantra and Danube

Length: about 83 km, two-day or three-day trip (currently bikeable are about 45 km to the village of Batin before Rousse), and tents should also be provided for overnight
Level of difficulty: Medium
Terrain: asphalt and agricultural roads with several climbs up to a maximum of 100 m
Start / end: Byala railway station - Rousse

The route takes the railway station Byala or the town of Byala. There are two ways to get to Tsenovo: the main one - on the main road to Tsenovo, and the detour, but more picturesque - along the Kolyo Ficheto Bridge, the villages of Sturmen and Dolna Studena, with this option cycling is closer to the Yantra River. After Tsenovo, take the asphalt road to the villages of Beltsov and Belyanovo, while the macadam road along the Yantra can be taken again to Beltsov (picturesque, but there may be partial vegetation overgrowth). In the village of Belyanovo there is a suitable place for overnight with tents near the suspension bridge (the place is used for tents for almost all water kayak trips along the Yantra). In the center of the village there is a shop and a fountain. The route continues on the next day to Krivina, and from there to Batin the cycle route goes along the Danube river. Above the village of Batin, just above the river, there is also a suitable place for tents and close to a fountain. However, after Batin village the route still has non bikeable places (it is envisaged to clean up this section with a small project listed in the regional tourism strategy, but there is no deadline). The section Stalpishte - Mechka village - Pirgovo village along the road is pleasant and peaceful, then at the 9th kilometer (turning point for buses) the intersection of the main road Ruse - Byala and railway station the route must be followed with great caution! The road can be safely passed at an abandoned railway underpass where for about

200 meters the bike has to be pushed. Ruse is reached via a calm asphalt road parallel to the main road.

4.3.5. Rusenski Lom – canyons and medieval cultural centres – option 1

Length: about 41 km, one day trip
Level of difficulty: medium to heavy
Terrain: asphalt and agricultural roads with several climbs up to a maximum of 100 m
Start / end: Rouse - Ivanovo railway station

The route starts from the town of Ruse in the direction of the village of Basarbovo along the river Rusenski Lom through the Sredna Kula and Dolapite neighbourhoods. After passing the Basarbovo Rock Monastery, it continues by abandoned fish farms, after which the road turns into a dirt road and reaches the village of Krasen. After that, only the dirt road and the path along arable fields reach the next village of Bozhichen, but from there to the Ivanovo Rock Churches

the road along the river is very overgrown and it is better to follow the asphalt road from the village of Ivanovo to the Rock churches (from Bozhichen there is a short dirt road that crosses the highway). From there, a descend follows to the Rock Churches on the “official path”. After visiting the churches, return to the Ivanovo railway station on the asphalt. The dirt roads in this stretch of the Ruse Lom River are also overgrown, but cleaned regularly - one to two times a year, as the Danube Triathlon runs in June and the Canyon Creek Ultramarathon in November.

4.3.6. Rusenski Lom – canyons and medieval cultural centres – option 2

Length: about 80 km, two days trip
Level of difficulty: medium to heavy
Terrain: on asphalt and agricultural roads with several climbs up to a maximum of 100 m
Start / end: Rouse - Dve Mogili railway station



This route refines the previous one, as a suitable place to stay is both the Guest House Kladenets in the village of Ivanovo and one of the guest houses or hotels in the village of Koshov, 6 km away from Ivanovo in the direction of Cherven. After the village of Koshov the road enters the valley of Cherni Lom and may be overgrown in places, but is generally bikeable. After about 8 km you reach the medieval town of Cherven - one of the best preserved fortresses from the time of the Second Bulgarian State. From here up the Cherni Lom river valley is difficult and very overgrown. The route continues along the asphalt road to Dve Mogili, before taking the small asphalt road to the left towards Orlova Chuka cave. By the cave there is a marked path / dirt road about 2 km to the village of Pepelina. After that, another 6 km, mainly ascent to Dve Mogili. A direct reach to Dve Mogili without a visit to Orlova Chuka cave is also possible. This route avoids the stretch of the Ivanovo Rock Churches to Koshov along the left bank of the river, as half of it is non bikeable. Some time after the development of the route and thanks to a series of clean-ups, there is now an option to reach from the Ivanovo Rock Churches to the Gramovets rock formation, located on the left bank of the Cherni Lom River, from where the dirt roads lead to Koshov village.

4.3.7. Picturesque paths along Cherni Lom and Beli Lom rivers

Length: about 117 km, three days trip
Level of difficulty: Medium
Terrain: asphalt and agricultural roads with several climbs up to a maximum of 100 m
Start / end: Ruse

Here again, the route to the Ivanovo Rock Churches follows the described option in route 5 with a possible overnight stay in the village of Bozhichen or in Ivanovo. Then cross the Rusenski Lom river at the parking of the Rock churches and continue along a picturesque dirt road along a number of other rock churches, passing the Smesite - the place of confluence of Beli and Cherni Lom rivers to Nisovo, the distance from the parking at the Rock churches to Nisovo is about 14 km. There is an opportunity to visit the Nisovo Rock Monastery along the

Mali Lom valley (10 km total to and back), the winery as well as the visitor center of the nature park. There is also an option for overnight stay in Nisovo. From here the route continues on the asphalt road, which ascends to the hunting lodge "Batakliya", but when reaching the woodland of the same name, it starts on its right side by a dirt road, which after a while takes the asphalt from the village of Svalenik to Pisanets. There are also guest houses in the village of Pisanets as well as a small museum exhibit. The next day, it continues along the dirt road along Beli Lom, but after about 4 km the route exits the valley as it becomes too overgrown, and along a side canyon on the left and through the field goes onto a panoramic macadam road to the town of Vetovo. From Vetovo, asphalt roads through the villages of Semerdzhievo and Chervena Voda reach back to Ruse.

4.3.8. „St. Marina“ and „St. Petka“ Monasteries

Length: about 72 km, two days trip
Level of difficulty: Medium
Terrain: mostly on asphalt and macadam roads without steep climbs
Start / End: Dve Mogili Railway Station - Byala Railway Station

This route starts from Dve Mogili railway station and there are two options for reaching the first destination - the picturesque village of Shirokovo - by the old dirt road, which goes directly to Shirokovo (not recommended for wet weather) or on the asphalt road to Pepelina and Ostritsa villages. It continues in the direction of the village of Katselovo, but on the fork to the village of Karan Varbovka it takes the right towards the village and the monastery "St. Marina". From there it continues to the villages of Pomen and Baniska, past the "Baniska" dam and the village of Koprivets. The route continues to the Koprivets Monastery "St. Petka", the village of Dryanovets and the Byala Forest Park, where it joins Route 3. Through the town of Byala and the Kolyo Ficheto Bridge, it goes to the Byala Railway Station. Addition: The road from the village of Shirokovo directly to Baniska along the valley of the Baniski Lom river is also very picturesque, with foun-

tains and minimum car traffic. This route is also suitable for people living in Byala, Borovo or Dve mogili municipality.

4.3.9. Orthodox chapels in Polomie

Length: about 123 km, two or three days trip

Level of difficulty: Medium

Terrain: mainly on asphalt and dirt roads with some climbs up to 100 m

Start / end: Ruse - Borovo railway station

This route overlaps routes 7 and 8 to some extent,

building on and integrating them into the common theme of touring Orthodox monasteries throughout the region, including the Basarbovsky, Ivanovo and Nisovsky rock monasteries. Following route 7 to the village of Nisovo, this route continues along the asphalt road to the village of Katselovo. From here in direction of Karan Varbovka, the monastery “St. Marina “, Koprivets and the monastery” St. Petka ”continues through the village of Pet Kladentsi to the railway station of the town of Borovo. Opportunities for overnight stay are in the villages of Bozichen, Nisovo, Ostritsa (5 km detour) and Pet Kladentsi.



4.3.10. „Kalimok-Brashlen“ Protected Area

Length: about 97 km, two days trip

Level of difficulty: Medium

Terrain: mainly on asphalt and agricultural roads without serious climbs

Start / end: Rousse

After the roundabout at the Danube Bridge, the route goes to the town of Marten, following the main road (there is an old pedestrian and bicycle lane parallel to the road, reaching the KTM property, which lane is now overgrown, but with the good will of the regional administration, it can be cleared and used) and continues on the inland road to Sandrovo village. From here to the village of Ryahovo there is unclarity about use of the Danube dike, so the route partly crosses dirt roads between the Danube and the main road Ruse - Silistra. In the village of Ryahovo there is a wonderful fish restaurant on the river bank. Then continue along an asphalt road along the dike to Kalimok - Brushlen Protected Area. Many birds can be observed here. Approaching the village of Brushlen, the route leaves the Danube valley and heads south to the village. There is a newly built accommodation facility here. After passing through the villages of Golyamo and Malko Vranovo, the town of Slivo pole, a narrow road leads again to the Danube dike and then again to Sandrovo, Marten and Ruse. The route is not popular, an option for a round trip route with start and end - the city of Ruse is being sought, while avoiding the main road Ruse – Silistra as much as possible. The dikes along the Danube around Ryahovo are in some places asphalted and ideal for cycling, but in some sections they are non bikeable and cross country roads.

4.4 Tourist services along the cycling routes

The provision of tourist services along the routes is unfortunately quite low. There are usually 1-2 places for accommodation in the villages along the rivers, as well as in the municipal centers of

Dve Mogili and Ivanovo. In most other villages in the region guest houses are missing. In the municipal districts of Vetovo, Slivo pole and Borovo, accommodation facilities are not present. There is considerable diversity of hotel accommodation in the cities of Ruse and Byala. One hotel is located in the villages of Koshov, Nisovo and Mechka (all three fall into the municipality of Ivanovo). Accommodation in tourist huts is possible in only a few places, most of them in the vicinity of Rouse - Prista chalet - located in the western park of Prista, Alpinist chalet - near Basarbovo village. Zdravets and Minzuhar chalets are under renovation and are expected to start offering accommodation by the end of 2020. There is a single operating hut in the Polomie region away from the regional center of Rouse and this is the hut Orlova chuka, which is managed by the municipality of Dve Mogili and where only overnight accommodation can be made upon request. An interesting accommodation is the complex in the village of Brushlen, Slivo pole municipality, built in a former school, which is run by the mayor of the village and where an overnight stay can also be made upon request.

There are also few dining places outside the district center. There are small Grill and Sandwich establishments in the municipal centers, but there are grocery stores in all of them. Restaurants can be found in Byala and Dve Mogili. In the villages of Polomie region, part of the guest houses offer food only to customers who stay there. There are places where you can enjoy food along the bike ride like in the villages of Nisovo and Koshov, as well as in the wine complex above the village of Mechka. There are no dining places in the villages outside Polomie region. Some of the routes offer visits to wineries and wine tasting. The most famous places are in the village of Nisovo and near the village of Mechka, as well as in the town of Rouse.

Route guidance services are offered in a very limited range as almost all certified guides reside in the city of Ruse. The tourist associations „Prista“ and „Academic“, as well as the Ruse travel club Byala Zvezda, can provide such services through their members, who actively ride bicycles on the routes, but professional services of a guide with a bicycle are offered by few people.



4.5 Events

There are various regular events that use some of the cycling routes and are essential for their promotion as well as for the annual maintenance of the routes. There is a trend for increasing the number of events. Here are some of the more popular ones:

- Bicycle rides organized by the Velo-Ruse Association. These rides are intended to both promote a specific route around the city of Ruse, consolidate and unite the cycling community, but also communicate to local authorities on the need for construction of bike lanes, the maintenance of some major bicycle routes and the development of cycling culture. These rides are almost annual and are in several directions - Rousse-Nikolovo village-Obraztsov Chiflik-Zdravets hut-Kaseva Cheshma area, Ruse-Sredna Kula - Basarbovski Monastery and others.
- Cross country bike rides and events organized by „Academic“ Tourist Association in Polomie region. „Academic“ team organizes and develops routes in the villages of Tabachka, Cherven and Koshov.
- The Canyon Creek Ultra-Marathon - a very successful initiative that has been organized for the past three years and is constantly gaining fans and sponsors. For 2019, there were nearly 500 participants from across the country. The marathon has 4 running categories and one cycling category which starts from the Basarbovo Monastery and traverses almost the entire territory of Ruse Lom Nature Park. The event takes place in November, with the preparation and cleaning of the routes about a month and a half before the event.
- The Free-Danube Natural Triathlon was held once during the summer of 2019 as a joint initiative of „Prista“ tourist association and WWF Bulgaria on the occasion of the International Danube Day – June 29. An essential part of the triathlon is about 45 km cycling along the route from Ruse through the villages of Basarbovo, Krasen, Bozhichen and Mechka to the resort area of Stulpishte, from where the participants continue back to Ruse with a kayak along the Danube. The first event was attended by about 70 people and the initiative will develop in the future and in 2020 the same route may be used

or upgraded.

- The Danube Ultra is a unique sporting event that is gaining more and more fans and media attention. It takes place in the summer and is a speed cycling of the whole Danube cycle route in Bulgaria by highly trained participants. In the second day of the event the cycling marathon passes through the Rousse region, and in Rousse there is always a planned rest for the participants and support from various local organizations, as well as by the municipality of Rousse.
- Club rides or sporadic rides of small groups are organized by „Prista“ Tourist Association activists and also occur frequently, where influential leaders have gathered between 5 and 25 participants for rides of 1-4 days trips.

5 Evaluation and potential for development

5.1 Challenges in tourism supply

In general the routes are not difficult for experienced cyclists. The slopes are on average up to 100 meters high as this is the height between fields and river valleys. In longer routes with accumulation of ascents and descents, the total displacement can reach 300-350 meters. Where there are steep sections, they are always short. Most routes are in the open with no shade by trees. Some sections are an exception, but in general, when the weather is sunny, care should be taken for high temperatures. In hot days in June and July may be inappropriate for some people to ride a bike.

A problem is that drinking water is rarely available along the routes. There are few roadside fountains in the area. The karst springs in Polomie region are very small and increasingly difficult to find. Some smaller villages do not have shops, such as Nisovo and Pepelina, so each cyclist has to be prepared with a reasonable amount of liquids for the chosen cycle route.

There may be tall grass, nettle, thorns and other prickly bushes along the dirt roads in the summer, so it is good to have appropriate clothing. There are also mosquitoes in the warm months, so repellent is always needed as it also helps to avoid ticks. There are few pools in the area where one can cool down - in Rousse, the village of Krasen, Dve Mogili. The river Rusenski Lom is unsuitable for bathing because of its strong current and muddy shores.

The bicycle routes described here take the maximum advantage of road infrastructure in the Ruse Lom Nature Park and in Polomie region as a whole. There are many sections picturesque and attractive, but completely impassable even for pedestrians. These are briefly the following sections:

- Ivanovo Rock Churches to the Gramovets Monastery (in direction to Koshov) along the left bank of Rusenski Lom;

- The Goliam Nisovski Monastery next to the landmark Bialata stena - a 4 km section along the Mali Lom river between the villages of Nisovo and Svalenik;

- Nisovo – Pisanets village, a section along the Beli Lom River, about 15 km along the river, which is situated into the Batakia Hunting Reserve and is thus not suitable for tourists;

- along Beli Lom River 4 km after the village of Pisanets in direction to Vetovo fish farms the trail ends;

- after the village of Cherven along the river Cherni Lom to the village of Tabachka and from the village of Tabachka to the village of Pepelina it is also impossible to ride a bicycle. There is a pedestrian route from Cherven through Tabachka (past the Vodnata Cave) and continuing to Orlova Chuka, which is marked by the Academic Tourist Association. This section follows the higher parts beyond the river valley, but is not suitable for cycling.



5.2 Challenges in tourism demand

Due to lack of data, it is not possible to clearly indicate the usability of bicycle routes in the Rousse region. According to general observations, the most popular route is the one on the Eurovelo 6. The road sections used by cyclists, however, are such that usually these tourists stay only once in the territory of the region and in the city of Ruse, where there is diversity of hotel accommodation. Most of the hotels interviewed say they accommodate small groups of 1 to 4 people on wheels. Those tourists are mostly foreigners and they rarely cycle off the route to visit any of the tourist sites like Ivanovo Rock Churches, Cherven Fortress or Basarbovo Monastery.

There are also sporadic visits of organized groups from Romania, mainly from the bicycle clubs of Giurgiu town, who practice cycling tourism in the vicinity of Rousse without staying overnight. Romanian tourists are the number one to visit tourist destinations in Bulgaria in recent years, compared to tourists from other countries. There is high potential for development of this market especially in the Rousse region. A large number of Romanians traveling to Bulgaria go through Rousse, and many seek opportunities for short one day trips or weekend adventures. This requires more advertising of the cycle routes, as well as bicycle signposting, and last but not least - regular maintenance of the attractive offroad routes in the wild.

The internal market lacks a critical mass of active and ambitious people who regularly go around the area, have multiple initiatives and have a sufficiently large core of cyclists to maintain and develop the area in a proper level. The population is mostly aging and thus little interested in tourism and adventures.

5.3 Summary of challenges and potential for development

There are many problems with the usability of cycling routes, but for the purposes of this strategy, the following are highlighted:

- The area around Ruse and along the Danube River competes with many other cycling routes in the country - in the Rhodopes, Strandja, Bulgarka Park, the Iron Curtain and many more.
- Signposting for cycling routes is missing, though some exceptions exist;
- Poor provision of accommodation and meals;
- The main tourist season for adventures is the summer and often the temperature is too high for outdoor activities. It is hot and humid along the rivers, and at certain times there are many mosquitoes;
- The attractive cycling routes in Polomie region, where the landscapes have a real tourist and adventure value and where the main point of interest are located - the Ivanovo Rock Churches, the medieval town of Cherven, the Orlova Chuka cave and others, are often too overgrown and non-bikeable. There is nowhere to find real up-to-date information online for the current conditions of these routes.

It is difficult to come up with a general solution for the complete development of bicycle routes, their timely maintenance and advertising. It is necessary that local authorities and institutions understand and have the will to develop the routes so they exist, be in good condition, cleaned, and tourist information is provided. The economic impact these routes can have on the area and on local communities needs to be emphasized. Such meetings with local authorities were held by members of the Velo-Rousse Association, but the situation is dynamic and people in institutions often change after local elections. The current strategy needs to be adopted by all stakeholders, its aspects embedded in the regional tourism strategy, as well as in the municipal development plans, outline particular measures that are feasible in time and cannot be stopped by one or other municipality due to lack of funding or lack of institutional or political will. It is necessary to work at all levels to increase the cycling culture of the population, to enhance the understanding that safe and attractive routes must be developed, and to form a community of activists at all levels so that the routes are in good condition and visible on the cycling map of Bulgaria and Europe.

6. Regional cycling route Rivers of time

6.1 Defining a main cycling route as a tourist product

The evaluation of the cycle routes in the Rousse region and the 10 thematic routes developed by the Velo-Ruse Association are the basis for the proposal for a circular cycle route of about 185 km. The purpose of the route is to combine the natural and cultural sights in a single tourist route under a brand, which bears the characteristics of the area in a recognizable and distinctive product. The proposal is inspired by the presence of several rivers in the Rousse region - each with its own landscapes, sections accessible for cyclists and with already developed or potential for development sites and services. The Danube, Yantra and Rusenski Lom rivers have previously been the subject of development with a project called "Rivers of Time". The same brand name will be used for the cycling route in this strategy. Building on an already discussed concept, the cycle route "Rivers of time" combines the efforts of local communities and stakeholders in a specific product that can be promoted for the purposes of local and foreign cycling tourists.

The River of Time cycling route starts from Rouse. Being the center of the district and the main point for easy transport access, both from the country and from abroad by water, air, road and rail, Ruse is a natural starting point. In the eastern direction the route passes through the villages of Basarbovo and Ivanovo to the town of Dve Mogili. Here the route uses the established Euro Velo 6. Through the village of Gorno Ablanovo, Batin and Krivina the route reaches Tsenovo village. In this first section the theme is the Danube River, which runs closest to Rouse. Cyclists can make a slight detour from the village of Batin or the village of Krivina in the direction of the Danube to access local sights, views of the river or to dining and accommodation places. After

Tsenovo village, the route continues along the Yantra River through Dolna Studena and Botrov villages to the town of Byala. Here, tourists also have opportunities for detour along the river. From Byala the route continues through Borovo, Chilnov, Peplina and Cherven to Nisovo. The chosen route is determined by the low slopes along the rivers. The village of Nisovo is a key point in the region, as one of the main settlements on the territory of Rouse Lom Nature Park. Nisovo has accommodation places and important landmarks nearby. The cycling route continues in the most picturesque and challenging stretch, where tourists are closest to the preserved natural and valuable natural environment in the immediate vicinity of the right bank of the Rusenski Lom river. Through the village of Shtraklevo the route reaches the town of Ruse.

6.2 Defining spatial planning zones

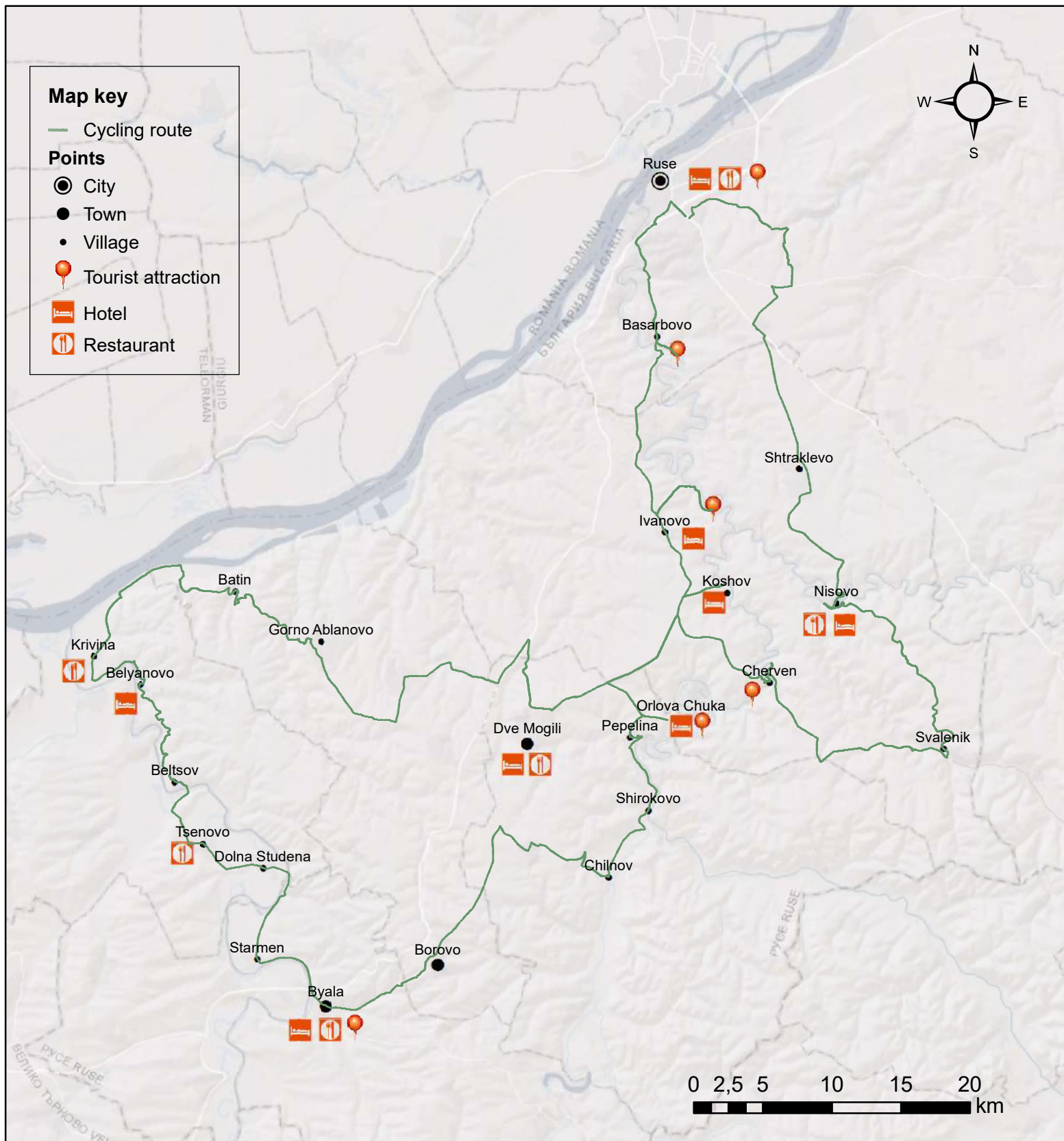
Spatial planning of the River of Time cycling route can successfully benefit from the Greenways concept by combining cycling with hiking, horse riding and other sustainable tourism in areas where this is possible and desirable. This requires several methods:

- Identification of sections with necessary elements of the infrastructure with different qualities. The natural, agricultural or urban environments are clearly distinguished along the cycle route. The delineation of the sections and the way they will be used will predetermine future efforts for adequate pavement, marking and maintenance of the route.
- Zoning. The designation of zones is most necessary in sections where the route passes through natural habitats and protected areas. Zoning guarantees the protection of available resources by defining access and responsibility of users and the manager of the area concerned.
- Layering of territory functions. Cycling is just one of many types of tourist use on every greenway. Defining these types in advance will allow the identification of possible conflicts and prioritization of use in the respective sections.

Function layering will outline the diversity of use and allow for succession of responsibilities as well as connectivity and continuity of route. The different layers will allow the identification of important points of intersection of tourist flows,

and thus their careful redistribution and providing accurate amenities for each type of tourism. Thus, facilities serving different functions could be well placed and well managed, with their design (materials, colors, shapes) fitting in the

Box 1 Regional cycling route Rivers of Time





landscape as best as possible.

Implementation of these planning methods guarantees the most favorable and fair use of the territory can be determined. Most of the route will, of course, remain for free use. For restricted areas, such as detours to access landmarks, valuable natural areas, etc. access may be limited in time (such as the breeding season of valuable species), charges may be imposed, restrictions on the types of users (eg facilities for children or people with disabilities), or a combination of restrictions.

6.3 Defining a development plan for the route

Although the River of Time bicycle route uses existing asphalt, field and dirt roads, careful consideration is needed for the future use of the territory. Spatial planning of this eco-tourism cycling route is needed since the Danube area is within the Pan-European Ecological Corridor. First of all, the development of the route has to be taken into account through all forthcoming planning processes on the territory. The adoption of the concept of this tourist product by the municipalities in the Rousse district is key. One of the first steps is its inclusion in the municipal and regional development strategies, as well as tourism development strategies with their periodic updating. A next phase review of urban planning procedures of the municipalities is necessary to include the cycling route in all relevant spatial development and landscape planning documents. Very important among them are the municipal development plans, where the availability of a bicycle route must be taken into account. It is necessary for the experts involved in planning to study the traffic levels of the municipal and national road network along which the bicycle route passes. Based on certain target tourist flows, the need for investment in particular road sections can be assessed so as to ensure the safety of cyclists with appropriate infrastructure. Particular attention should be paid to the cycling route within the settlements. It is especially challenging to arrange safe cycling infrastructure at the entrances and exits of Byala, Dve Mogili, Basarbovo and of course

Ruse. The choice of routes to cross the “Rivers of Time” is based on an assessment of the bike routes in the Rouse region so that it can be used in the current state and type of infrastructure. In addition to the safety of cyclists, planning experts must ensure that entry and exit points are bike friendly, with clear, recognizable and visible markings. Taking into account all the factors in the course of planning and on the basis of regulatory requirements, the route may undergo changes in some sections, where different roads or streets might be used. In the process of spatial planning a compromise between stakeholders with the involvement of local communities must be ensured via implementation of legislation and the principles of sustainable planning and design. It is good practice for the cycle route to have its own master plan that reflects the location and spatial dimensions of the infrastructure in place, as well as the natural and man-made landscapes, the zoning of different functional zones depending on land use, and the regimes of different activities. In places where the bicycle route passes through agriculture fields, seasonal farming activities, hunting activities need to be taken into account, providing appropriate route marking and maintenance. In the vicinity of protected areas, as well as when crossing the route on the territory of the Rouse Lom Nature Park, the Master Plan must take into account the possible adverse impact of cycling tourism and appropriate information and control mechanisms to prevent it. An important condition for a successful eco-tourism product is compliance achieved with the framework of international and national standards for the protection and development of ecosystem services. In this regard, no compromise can be made with the potential adverse impact of a planned stream of bicycle tourists, which may contribute to the concern of protected animal species, trampling or erosion of valuable habitats, or habitat fragmentation. Thus, the Master Plan guarantees the acceptance of the route by different stakeholders and is a tool for the sustainable management of the cycle route.

7. Ecosystem services along the cycling route in Ruse district

Making justified decisions on the spatial planning of the cycling route requires a scientific approach to the management and conservation of biodiversity and the environment, territorial policies on land use, use of local resources, agriculture and more. The identification of specific ecosystem services related to the development of cycling and ecotourism is based on both data from approved networks of protected areas, but it is also necessary to step on data on the definition and mapping of ecosystem services related to specific ecosystem types in the area.

7.1 Definition of ecosystem services

Ecosystem services are all the benefits that people derive from nature. The term was used by the United Nations in 2004, when for 4 consecutive years 1300 scientists produced a Millennium Ecosystem Assessment . As a result of their studies, ecosystem services are divided into 4 categories:

Material services - refer to the products obtained from ecosystems and directly used in production or for personal consumption by humans. Among them, food and drinking water are vital. Provision of fuels and raw materials, e.g. wood from forest ecosystems are also important material services.

Regulatory services - related to the capacity of ecosystems to regulate important natural processes and life-sustaining systems through biogeochemical and biosphere cycles. Regulatory services are a direct or indirect impact on human well-being, such as climate change regulation, water and erosion, water treatment, regulation of natural disasters, pollination, and more.

Support services - create the conditions necessary to provide all other ecosystem services. They differ from them in that their effect on humans is indirect or very slow. Such services are, for example, water and nutrient cycles, soil formation,

which directly affects production. of food, etc. Cultural services - are the intangible benefits that people derive from ecosystems in the form of enjoyment of beautiful nature, cultural and material heritage. They also include intellectual and spiritual inspiration, a sense of belonging to a particular place, the pleasure of recreational activities and all opportunities for active tourism close to nature, including forms of ecotourism.

7.2 Ecosystem services under protection within the regional cycling route

There are 6 NATURA 2000 sites in the Rousse Region - 4 of them are habitats directive areas and 2 birds directive areas (Table 2). The

conservation of the areas and their habitats of flora and fauna are directly related to the rivers flowing through the area - the Yantra River, the Polomie region rivers and the Danube River. The zones include both river beds and adjacent shores, as well as settlements with a transport network between them, which is the basis for the development of cycling tourism. All activities of economic life in the zones are reported and categorized in the form of each zone, indicating whether they have a positive or negative impact, whether it is low, medium or high, etc. The following is an inexhaustive sample of the types of activities that may have an impact on species or habitats as a result of using the cycling route, reconstruction of the route, as well as adverse user behavior (Table 3). The sample represents activity codes with their description as listed in the standard Natura 2000 area form.

Table 2 List of protected areas from NATURA 2000 network in Ruse District along the cycling route or in its vicinity

Settlement	Protected area code	Name of protected area	Type of protected area
Batin	BG0000232	Batin	Protected under the Habitats Directive
Batin	BG0002024	Mechka Fisheries	Protected under the Birds Directive
Byala	BG0000231	Byala forest	Protected under the Habitats Directive
Byala, Ostrov, Starmen	BG0000610	Yantra River	Protected under the Habitats Directive
Ostritsa, Chilnov, Shirokovo, Katselovo, Nisovo, Krasen, Bozhichen, Basarbovo, Ivanovo, Ruse	BG0002025	Lom Rivers	Protected under the Birds Directive
Ostritsa, Chilnov, Shirokovo, Katselovo, Nisovo, Krasen, Bozhichen, Basarbovo, Ivanovo, Ruse	BG0000608	Lom Rivers	Protected under the Habitats Directive

Table 3 List of threads from cycling tourism in protected areas NATURA 2000

D01	Roads, Trails and railroads
D01.01	Trails, pists, cycling lanes
D01.02	Roads
D01.05	Bridges
D01.06	Tunnels
D03.01.02	Piers / tourism ports or recreational piers
D05	Better access to the river
E04	Constructions, buildings within the landscape
E06.01	Destruction of buildings and man-built constructions
E06.02	Restoration and rennovation of buildings
F03.02	catching and moving animals (terrestrial)
F03.02.01	Collection of animals (insects, reptiles, amphibians)
F04.02	Collection (mushrooms, lichens, berries, etc.)
F05.06	Removal for collection

The purpose of the sample is to serve to specify the possible negative impact of the development of cycling and ecotourism in and near the Natura 2000 sites in the Rouse Region. The existence of activities with a potential negative impact is at the heart of the demand for appropriate financial reimbursement following an assessment of the ecosystem services relevant to the area. The extent of the available or expected impact must also be evaluated and depends, in particular, on the popularity of cycling tourism in the area, the tourist flows it generates, and its seasonal distribution.

It is practically well known that constant tourist flow does not cause significant disturbance to the populations, even during the breeding season. However, sporadic, fragmented visits can have extremely adverse effects to a degree of abandonment of the baby animals and birds, leaving the habitat, etc. In all cases, the impact assessment of tourism activities in protected areas must be carried out professionally and with the assistance

of the competent environmental authorities. In sensitive natural habitats, the recommendations of biodiversity specialists are leading for the planning of tourist activities.

Generally, the types of ecosystems along a bicycle route are forest, aquatic, agricultural and grassland (Table 4). Their exact typology, according to scientific nomenclature, is the subject of a number of projects and activities for mapping and assessing the status of ecosystems and their services, using biodiversity data. In the period 2015 - 2017, for the territory of the country outside the NATURA 2000 ecological network, an initial database was created in the reference time-frame of the 2015-2016 field seasons through seven projects that performed the mapping and evaluation of nine major ecosystem types under the BG03 Biodiversity and Ecosystem Services Program, funded by the EEA Financial Mechanism. A large number of scientists from BAS institutes, various universities and specialists from state institutions (MOEW, MAFW) and

non-governmental organizations participated in these projects. Kliment Ohridski. Successful ecosystem management, as part of human well-being policies, plans and projects (UNEP, 2014), however, requires the identification of long-term ecosystem development trends. Assessment and

mapping of ecosystems and ecosystem services is an important prerequisite for establishing a baseline for assessing changes in the state of ecosystems and the ecosystem services they provide over time.

Table 4 Ecosystems and ecosystem services

Type	Description	Geographic distribution	Users	Providers
Forests - material ecosystem services				
Food	Wild fruits, mushrooms, herbs, game	All Forests in the territory	Local population, enterprises for collection and processing of non-timber forest products, foreign tourists, hunters, hunting associations, local visitors	State Forest Enterprises and owners of private woods
Materials	Wood	Forests for logging	Logging companies, furniture manufacturing companies, etc.	State Forest Enterprises and owners of private woods
Materials	Aromatic and medical products	All Forests in the territory	The population of the municipalities, pickers of aromatic and medicinal plants, tourists	State Forest Enterprises and owners of private woods
Energy	Firewood	Plantations managed for the production of firewood	The population of the municipalities, pellets producers	State Forest Enterprises and owners of private woods
Forests - Regulating and supporting services				
Regulation of flows - water, air and solids	Regulation of runoff, microclimate, erosion protection	All forests - especially those with protective ecological functions	Farmers and stockbreeders, the population of the municipalities, water supply and sewerage companies	State Forest Enterprises and owners of private woods

Maintenance of physical, chemical and biological conditions - quality of water, soil, air	Water purification, maintenance of soils, climate and air quality, carbon capture	All forests, especially those with protective and ecological functions	Farmers and stockbreeders, the population of the municipalities, tourists and tourist companies, water companies	State Forest Enterprises and owners of private woods
Regulation of the biotic environment, life cycle maintenance, biodiversity, pest and disease control	Pollination, seed dispersion, population maintenance, biological control mechanisms	All forests, especially forests of high natural value	Farmers and stockbreeders, logging and woodworking enterprises	State Forest Enterprises and owners of private woods
Forests - cultural ecosystem services				
Physical and empirical interactions	Ecotourism: observations of (forest) birds, mountaineering, hiking; cycling tourism recreation	Eco paths; bicycle routes, forests, especially with recreational functions, and of high natural value	Tourists; the population of 5 municipalities; sports clubs; tourist clubs; Velo-Ruse Association	State Forest Enterprises and owners of private woods
Information and knowledge	Scientific: dendrology, conservation biology; Educational: subject of programs and literature on forestry and wildlife	All forests, especially those of high natural value	Scientific and ecological institutions in the region and the country; Educational institutions and institutions of forestry and ecology in the region and the country	State Forest Enterprises and owners of private woods
Water - material ecosystem services				
Food	Fish and river products	Danube, Yantra, rivers in Polomieto, wetlands and micro-dams	Fishermen, tourists	Hunting and fishing associations

Water supply	Water for drinking and household purposes; water for agricultural purposes	Danube, Yantra, rivers in Polomieto, wetlands, reservoirs; karst wells; micro-dams	Water supply and sewerage companies the population of the 5 municipalities and farmers	Owners of forests and lands
Water supply	Water for production needs	Danube, Yantra, rivers in Polomieto, wetlands, reservoirs; karst wells; micro-dams	Enterprises from the mining, food, chemical, etc. industries, fish-ponds	Owners of forests and lands
Water for energy purposes	Small hydropower plants	Yantra river	Small hydropower plants operators	Owners of forests and lands
Waters - Regulating and supporting services				
Flow regulation: water, air and solids	Outflow regulation; of the microclimate; erosion protection	Wetlands	Farmers and stockbreeders; the population of the 5 municipalities; Plumbing companies	Owners of forests and lands
Maintenance of physical, chemical and biological conditions: water and air quality	Natural filtration and water purification; humidity, precipitation	Rivers and their tributaries; wetlands;	Population, farmers; Water supply and sewerage companies; food enterprises, tourist companies	Owners of forests and lands
Regulation of the biotic environment: maintenance of the life cycle, biodiversity; pest and disease control	Pollination, seed dispersion, population maintenance; Mechanisms of biological control	Rivers and their tributaries; wetlands;	Farmers and stockbreeders;	Owners of forests and lands
Waters - cultural services				
Information and knowledge	Scientific: biodiversity, wetland hydrology; Educational: subject of programs and literature on forestry and wildlife	Rivers and their tributaries; wetlands;	Scientific and ecological institutions in the region and the country; Educational institutions in the region and the country;	State Forest Enterprises and owners of forests

Physical and empirical interactions	Ecotourism: observation of (water-loving) birds, water sports, sport fishing. Hiking, cycling, balneo-adventure and hunting tourism	Rivers and their tributaries; wetlands;	Tourists; the population of the 5 municipalities; sports clubs; fishermen	Owners of forests and lands
Agricultural and grassland - material ecosystem services				
Food	Meat and dairy products, honey and copper products; Game related to lawns and open areas	Agricultural and lawn areas on the territory	Local consumers of food products, wineries, food enterprises, bakery production, beekeepers, bakery production enterprises, livestock breeders	Crop producers; farmers of agricultural and grasslands
Food	Meat and dairy products, honey and copper products; Game related to lawns and open areas	Pastures and meadows; areas with fodder crops	Food businesses, visitors; hunters	Livestock breeders, beekeepers; farmers of agricultural and grasslands;
Materials	Aromatic and medicinal plants, wool and animal skins	Grassy habitats	Collectors of aromatic and medicinal plants; redemption points;	Collectors of aromatic and medicinal plants; redemption points;

Ecosystem services include all the benefits that humanity derives from nature. It provides very effective, cheap and sustainable solutions to human needs. In most cases, however, people do not realize the role of natural resources and ecosystem services, or imagine that they can benefit from them continuously. A good example of the value of the resources provided by nature is the assessment of ecosystem services made for the purposes of the Rusenski Lom Conservation Plan (Table 5).

Investments in sustainable use of natural resources, as well as in their conservation the long term, is usually left in the background in most district and municipal development programs or is vaguely considered insufficiently. A good opportunity for local communities to gain knowledge and manage their resources is the formation of PES schemes.

Table 5 Assessment of ecosystem services, Rusenski Lom Nature park Management plan

Ecosystem services according to the Common international classification					
Type	Subtype	Group	Description	Annual amount in euro	Benefit assessment method and information source
Cultural	Physical and intellectual interactions with bioms, ecosystems, landscapes and seascapes	Physical and empiric interactions	Ecotourism	67 200	Market Value method based on interviews with local entrepreneurs, municipalities, etc.
Regulating and supporting	Regulation of water flows	Water flows	Floods prevention	7 500	Method of costs avoidance based on pilot recovery
	Maintenance of physical, chemical and biological processes	Conditions in water environments	Purification of waters	15 340	Market Value method based on average price in EU for recycling of sewage waters and nitrogen extraction
		Athmospheric composition and climate regulation	Carbon detention from forests and wetlands	2 321 570	Market Value method and method for calculation of spared emissions through alternative expenditure
Material	Food	Biomass	Wild fruits	250	Market Values method based on market price at the moment of evaluation
			Game	230 000	
	Materials	Biomass	Wood and wooden material	80 000	
			Fodder (hay and fresh straw)	66 000	

8 PES schemes as a method for funding a regional cycling route in Ruse District

The assessment of the status of ecosystems provides information on their ability to provide services to humanity over the long term. This knowledge is important in order to document existing losses and / or degradation of ecosystems and their services and subsequently to assess the impact on socio-economic conditions. It then outlines ways for the sustainable development of ecosystems so that they continue to support the “delivery” of designated ecosystem services. Ecosystem assessment also provides information for decision-making in sectoral policies, notably territorial planning, nature conservation, agriculture, forestry, climate change mitigation, air pollution reduction and more. The Millennium Ecosystem Assessment, 2005 has shown that human activity has changed most of Earth’s ecosystems, with the greatest impact on freshwater ecosystems, thereby jeopardizing Earth’s ability to provide resources and services for future generations. The Millennium Assessment has provided evidence that our planet’s environment has been severely degraded over the last 50 years. It also showed that without changing the mindset and political will to make the necessary changes at local, regional, national and global levels, changing the observed negative trends would be impossible. A proper understanding of the role of the environment and its contribution to the economic and social well-being of humans is crucial for making competent management decisions on issues related to the sustainable use of natural resources.

In the concept for the development of a bicycle route in the Rousse region, it is necessary to maintain the focus on freshwater ecosystems. By providing a variety of landscapes and favorable relief along the banks of rivers and river terraces, the freshwater ecosystems in the Rousse Region are in fact a backbone for the development of

ecotourism. At the same time, degradation and significant adverse impacts on freshwater ecosystems are the result of water use, water pollution as a result of human activity, use of fishery resources, etc. Therefore, the establishment of financial mechanisms for maintaining important environmental characteristics of the cycling route must necessarily involve institutions protecting the resources as well as businesses directly related to the consumption of environmental services.

Successful organization of a PES scheme requires identification of the threats and problems of the ecosystems targeted. Typically, threats are related to the status and impacts of particular habitats. Purposeful interventions in the management of the territories and the resources they provide are solutions to conservation problems. Through their precise definition, community work with users and ecosystem service providers is directed. Users are usually specific businesses consuming resources, including tourism businesses related to the development of the cycle route as an eco-tourism product. Ecosystem service providers are responsible owners or bodies and businesses responsible for protecting the environment and managing resources. In the Rousse District, in relation to freshwater and forest ecosystems, the Basin Directorate - Danube Region, RIEW - Rousse with the Directorate of Rousse, Rousenski Lom Nature Park, Forestry Directorates „Byala“ and „Danube“ are responsible, as well as the owners of lands and forests.

Of course, creating a commitment of local stakeholders to an eco-tourism product through the formation of a PES scheme must identify meaningful environmental values that drive emotional attachment for the local communities.

8.1 Potential for use of environmental threats for the formation of a PES scheme in the Rousse Region along the cycling route

8.1.1 Invasive species

Invasive plant and animal species have been registered in the Rousse Region, including in protected areas and protected zones. The introduction of species of alien flora and fauna inevitably damages the local biodiversity. Due to the lack of natural enemies, invasive species occupy the ecological niches of native species, competing more successfully for resources and, accordingly, breeding more effectively. However, unlike native species, invaders have an adverse impact on ecosystem ecological services. In some cases, they adapt so successfully that they are no longer just a curious find, but a real threat to crops and livestock, as well as having a detrimental effect on human health (allergies, etc.). With all this, they are causing economically measurable damage to the economy. The following animals and insects are found in the area:

- Raccoon dog
- muskrat
- Red-eared slider
- Chinese mussel
- Chinese salmon fish
- American rosehip cancer
- Black bottom catfish
- Chinese ladybugs and more.

The invasive plants registered in the Rousse Region are:

- acacia
- amorpha
- tree of heaven (ailanthus)
- grey willow
- paulownia
- american ash and others.

All these species are not protected by law, they are not subject to hunting or gathering, and therefore they reproduce and adapt freely. Removing them from the local ecosystems needs funding, as well as targeted activities organized by the respective control bodies and the Directorate of Roussenski Lom Nature Park. In some cases, the removal of invasive plant species in the immediate vicinity of the cycling route will affect the landscape. More interesting for organization of a successful PES scheme are the species that are in direct competition with emblematic local species of interest for tourist observation, for scientific and educational purposes, etc., which are appreciated by the local communities and

tourists as well, and which are emotionally recognized.

8.1.2 Quality of water resources

It is important for ecotourism to maintain good water quality in tourist sites, as well as to conserve natural river ecosystems with characteristic landscapes for visitation and recreational purposes. Among the identified threats to water quality are:

- pollution by industrial and domestic wastewater
- water pollution with solid waste
- Stacking of river sections of rivers in the Polomyie region by branches, solid waste, etc. during high water levels

Stacking of rivers with waste and branches is an annual problem for the local tourist clubs and the directorate of Roussenski Lom Nature Park. Providing funds for cleaning through partnerships with local businesses as well as volunteer activities is a constant concern to ensure access and a safe and pleasant experience for tourists.

8.2 Potential for development of PES schemes with emblematic species subject to conservation in Ruse Region

Among the species protected in the protected zones and protected areas are several animal and plant species that carry emotional charge, are of scientific interest and can be observed by tourists. Building a PES scheme for the conservation of these species is a natural driver for engagement, both from businesses and local communities, and from tourists. Among the types of such interest are:

- egyptian vulture
- black stork
- european ground squirrel
- reindeer
- golden eagle
- owl

The bird species list also includes many water species, mainly migratory, as well as attractive birds associated with rivers such as the anglerfish



and the bee-eater. Even interesting invertebrates species can be identified, although creating tourist interest for them requires focused efforts. Carpathian scorpion may be mentioned as such, among beetles – the deer antler, дъбов сечко, and among butterflies - swallow tail butterfly, small black apollo and others. Of particular zoogeographical value is the Mediterranean thin-toed gecko - the only representative of the geckos in Bulgaria and occurring on the territory of the Rusenski Lom Nature Park. The extent to which all these species are suitable for observation by bicycle tourists along the cycle route should be subject to additional planning with biodiversity specialists. Avoidance of adverse impacts during the breeding season should be taken into account, as well as the tolerance of the species towards human presence must be concerned. A good example of such species included in the PES scheme in the Rusenski Lom PP is the ground squirrel, with several conditions fulfilled:

- the habitat of the ground squirrel is accessible to tourists , along the tourist route it can be easily observed
- The ground squirrel tolerates the human presence
- the habitat allows tourist infrastructure to be built nearby - fence, information boards, etc.

It is appropriate for the development of ecotourism in the area to explore similar opportunities for other species. For example, there is a small group of red deer kept in the farm of the Danube State Forestry Agency.

8.3 Services for cyclists as part of a PES scheme

In the context of developing a bicycle route based on the concept of ecosystem services, cyclists are “buyers” of ecosystem services. Whether local, self-organized, or organized by clubs and tour operators, bicycle tourists use all kinds of ecosystem services. Among the conditions of direct importance for the formation of a successful PES scheme are:

- availability of diverse landscapes with terrain suitable for cycling
- Preserved and diverse ecosystems
- availability of local communities and

businesses sustainably consuming local resources

- availability of opportunities for provision of tourist services
- opportunities for cyclists to access natural and cultural sites.

Using all these opportunities, the tourism business can successfully develop a bicycle tourism product and has an interest in contributing to the conservation of resources.

In order to determine the level of impact and economic assessment, it is necessary to examine:

- the available flow of bicycle tourists - in Rouse Region as a result of the activity of tourist clubs and a bicycle association, a tourist interest in bicycle routes was created. Many of them are included in the proposal for an eco-friendly cycling route. The study of available flows will give a direct idea of the economic share of cycling tourism, of determining the volume of tourist interest from local and foreign tourists. Initial data will enable realistic determination of the target or expected growth of tourists on the cycle route, including the capacity of sensitive protected areas and protected zones;
- preferred and busy sections with bicycle tourists - the data will give an idea of where to direct efforts to promote the route, information activities, the need for tourist infrastructure (safety measures, fountains, shelters or accommodation);
- workloads of conservation importance - biodiversity experts will directly benefit from this data to recommend adequate conservation measures;
- the time for visits by bicycle tourists (weekly, seasonal) - such data is also relevant for determining appropriate measures for the conservation of sensitive natural areas and species, including measures to restrict access at time and place, monetary restrictions on access, information measures and others;
- places to visit coinciding with other types of tourism - other businesses and users who have a direct common interest and benefits from joint participation in the PES scheme will be clearly identified.

Cycling tourism in the Rouse Region is underdeveloped despite its potential. Therefore, the planning of the choice of cycle route requires data. At the same time, the successful incor-

poration of the cycling services offered by the community into a new PES scheme must be well aligned with the interests of “sellers” and other stakeholders as “buyers” of ecosystem services.

9 Strategic development of cycling tourism in Ruse District

9.1 Research needs

Bicycle tourism in Ruse District is underdeveloped despite its potential. Therefore, pre-planning the choice of cycling route needs data. To determine the degree of impact and economic assessment of the effect of the development of cycling tourism it is necessary to study the following:

- the available flow of bicycle tourists - in Ruse District as a result of the activity of tourist clubs and a bicycle association, a tourist interest in bicycle routes has been created. Many of them are included in the proposal for the regional eco-



tourism cycling route. The study of the available flows will give an idea of the economic share of cycling tourism, the determination of the volume of tourist interest by local and foreign tourists. The initial data will make it possible to realistically determine the target or expected growth of tourists on the cycling route, including the carrying capacity of sensitive protected areas and protected areas;

- preferred and busy sections with cycling tourists - the data will give an idea of where to focus efforts to promote the route, for information activities, the need for tourist infrastructure (safety, fountains, shelters);
- tourist load in important conservation sites - these data will be directly used by biodiversity conservation specialists to recommend adequate conservation measures;
- weekly, seasonal, annual flows of cyclists - such data is also important in determining appropriate measures to protect sensitive natural areas and species, including measures to restrict access in time and place, monetary restrictions on access, information measures and etc.;
- places of interest visited by other types of tourists - other businesses and users who have a direct common interest and benefits from joint participation in a PES scheme will be clearly distinguished.

9.2 Goals and activities

The development of cycling tourism is characterized by many aspects for which various public institutions, non-governmental organizations and local businesses are responsible. Therefore, planning requires a holistic approach and coordinated action by the competent institutions and stakeholders. The following general strategic objective is proposed:

Based on a study of the demand and use of the potential of the local environment, the development of cycling tourism should be a priority in planning to create appropriate conditions for cycling on bicycle routes in a way that leads to maintaining and improving the quality of ecosystem services in Ruse District.

The following sub-objectives are proposed for the overall strategic objective:

1. Construction of quality cycling infra-

structure

2. Promotion of cycling tourism;
 3. Data collection on demand for cycling tourism;
 4. Assessment of the impact of tourism activities on ecosystems and development of a mechanism for neutralization of negative impact to the quality of ecosystem services.
- A set of activities is proposed for each sub-objective and for each activity a term, stage of development, competent partners, methods of financing and expected benefits are indicated.

Specific objective 1 Construction of quality cycling infrastructure

Activity 1.1 Construction of cycling infrastructure at key locations on EuroVelo 6

Description: There is a need to ensure safety on the international bicycle route EuroVelo 6, by improving the pavement of the route, improvement of difficult or impassable sections: Batin - Stulpishte - Pirgovo - West Park Prista - Ruse - Ruse Marten - Sandrovo village - Ryahovo village - Brashlen village

Period: 2023-2025

Stage: Preliminary studies and conceptual routes
Partners: Rouse District, Municipalities along the Danube River - Tsenovo, Borovo, Ivanovo, Rouse, Slivo Pole, Non-Governmental Organizations: Velo-Rouse, TD Prista, STPD Academic, Club Byala Zvezda and others.

Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria; own funds; financial mechanisms of the European Green Pact

Benefits: Safe tourist infrastructure on Euro-Velo 6 / Danube Ultra; Increasing cycling tourist flow of local and foreign cyclists

Activity 1.1a: Construction of bicycle infrastructure on the route of "Euro Velo 6" / "Danube Ultra" through Ruse District - part Ryahovo-Brushlen

Description: Construction of bicycle infrastructure, restoration of pavements, construction of accompanying tourist infrastructure for access to the protected area Kalimok-Brushlen, promotion activities, etc. for the section Village of Ryahovo - Village of Brashlen

Period: 2023-2025

Stage: Developed detailed project proposal
(Preliminary design for investment project for
construction of tourist infrastructure)

Partners: Municipality of Slivo Pole, Non-Gov-
ernmental Organizations (Velo-Ruse)

Financing: EU financial instruments - OPRD,
CBC Romania-Bulgaria; own funds; financial
mechanisms of the European Green Pact

Benefits: Providing safe infrastructure for cycling
tourism; increasing the tourist flow of local and
foreign tourists; increase the revenues of small
and medium-sized businesses along the route.

Activity 1.1b: Construction of a safe bicycle and
pedestrian crossing on the road I-5 Ruse-Byala

Description: The Euro-Velo 6 bicycle route
crosses the first-class I-5 road, which requires the
construction of a suitable safe infrastructure due
to the exceptional traffic on the road.

Period: 2025-2026

Stage: Preliminary studies and conceptual routes

Partners: Ruse Municipality

Financing: EU financial instruments - OPRD,
CBC Romania-Bulgaria; own funds; financial
mechanisms of the European Green Pact

Benefits: Providing safe infrastructure for cycling
tourism; increasing the tourist flow of local and
foreign tourists; increase the revenues of small
and medium-sized businesses along the route.

Activity 1.2: Construction of bicycle infrastruc-
ture towards local recreation areas in the Munic-
ipality of Ruse - direction Ruse - Nikolovo village
(Lipnik Forest Park)

Description: Construction of a safe, physically
separated bicycle path from the town of Ruse to
the village of Nikolovo, where the Lipnik Forest
Park (Teketo) is located

Period: 2023-2025

Stage: A detailed project study is developed
commissioned by the Municipality of Ruse, by
decision of the Municipal Council of Rouse, in
accordance with the Master Plan of the Muni-
cipality of Rouse

Partners: Ruse Municipality, NGOs (Velo-Ruse)

Financing: EU financial instruments - OPRD,
CBC Romania-Bulgaria; own funds; financial
mechanisms of the European Green Pact

Benefits: Providing safe infrastructure for cycling

tourism; increasing the tourist flow of local and
foreign tourists; increase the revenues of small
and medium-sized businesses along the route.

Activity 1.3: Construction of bicycle infrastruc-
ture to local recreation areas in the Municipality
of Ruse - direction Ruse - Prista Park

Description: Construction of a safe, physically
separated bicycle path from the city of Ruse to
the suburban park Prista

Period: 2023-2025

Stage: Preliminary studies and conceptual routes

Partners: Ruse Municipality, NGOs (Velo-Ruse)

Financing: EU financial instruments - OPRD,
CBC Romania-Bulgaria; own funds; financial
mechanisms of the European Green Pact

Benefits: Providing safe infrastructure for cycling
tourism; increasing the tourist flow of local and
foreign tourists; increase the revenues of small
and medium-sized businesses along the route.

Activity 1.4: Construction of bicycle infrastruc-
ture to local recreation areas - direction Rusenski
Lom: Ruse - Rusenski Lom Nature Park

Description: Construction of safe bicycle infra-
structure along the Rusenski Lom River direc-
tion - Ruse - Sredna Kula - Dolapite- Basarbovo
village - Krasen village - Bozhichen village - Ko-
shov / Nisovo village - Cherven village - Tabach-
ka village - the village of Pepelina - the town of
Dve Mogili. There is a detailed bicycle route for
a project under the INTERREG program, docu-
ments for which are available in the Ruse District
Administration.

Period: 2023-2026

Stage: A detailed project proposal is developed
(Preliminary design for investment project for
construction of tourist infrastructure), proposal
for plot plans, agreed with the Municipality of
Rouse, Ivanovo Municipality, Dve Mogili Mu-
nicipality, Rusenski Lom National Park

Partners: Municipality of Rouse, Ivanovo Mu-
nicipality, Dve Mogili Municipality, Rusenski
Lom National Park, NGOs (Velo-Ruse)

Financing: EU financial instruments - OPRD,
CBC Romania-Bulgaria; own funds; financial
mechanisms of the European Green Pact

Benefits: Providing safe infrastructure for cycling

tourism; increasing the tourist flow of local and foreign tourists; increase the revenues of small and medium-sized businesses along the route.

Activity 1.5: Construction of bicycle infrastructure to local recreation areas in Byala Municipality and Tsenovo Municipality - directions: Byala - Belenska Gora Forest Park and Byala - Yantra River valley

Description: Construction of safe bicycle infrastructure in the vicinity of the town of Byala. The part along the Yantra River can be used as an extension of the international bicycle route Euro Velo 6.

Period 2025-2027

Stage: Preliminary studies and conceptual routes

Partners: Byala and Tsenovo Municipalities

Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria; own funds; financial mechanisms of the European Green Pact

Benefits: Providing safe infrastructure for cycling tourism; increasing the tourist flow of local and foreign tourists; increase the revenues of small and medium-sized businesses along the route.

Activity 1.6: Construction of a bicycle lane for the route town of Byala - Belenska Gora Forest Park and necessary road markings for the bicycle lane

Description: Utilization of the favorable opportunities for development of bicycle tourism in the Municipality of Byala, incl. construction of bicycle lanes to connect the town with Belenska Gora Forest Park and development of a bicycle route along the Yantra River

Period: 2023-2025 r.

Stage: Concept phase

Partners: Byala municipality

Financing: Municipal budget, Rural Development Program 2021-2027 and national funding programs.

Benefits: Creating new opportunities for leisure and outdoor sports for residents and guests of Byala.

Activity 1.7: Restoration of abandoned and asphalted of existing dirt roads on the dikes of the Danube, which will ensure safe bicycle traffic and provide views towards the river

Description: The sections with dikes are of tourist

interest in connection with the development of the trans-European route Euro Velo 6 due to the proximity to the Danube River. River dikes in the sections with roads built on them can be an alternative for cyclists in comparison with roads from the national road network.

Period: 2025-2030

Stage: Conceptual phase, presentation to institutions

Partners: MRD, MOEW, Irrigation Systems Company, Bulgarian Alternative Tourism Association, etc.

Financing: state budget, EU financial mechanisms

Benefits: Providing a safe alternative to busy roads from the national road network; increasing the attractiveness of the section of Euro Bicycle 6 in Ruse district; providing an opportunity for adequate maintenance of the facilities and access for a wide group of users

Activity 1.8: Feasibility study and detailed description of the needs for signposting and marking of the whole route

Description: It is necessary to adopt a uniform standard for marking the Euro Velo 6 bicycle route inside and outside the settlements along it. This is a pilot project in connection with the establishment of good practice and needs approval as a regulatory standard. The study will identify the specific needs and locations of the marking, including recommendations to traffic management plans to improve the safety of passing cyclists in the short term.

Period: 2021-2024

Stage: Conceptual phase, conducted communication with institutions and study of the applicability of the guidelines of the European Cyclists' Federation with the available legal and regulatory prerequisites for marking bicycle routes on municipal and national road network.

Partners: Municipalities in Ruse district, Bulgarian Association for Alternative Tourism, local cycling organizations and clubs, RIA, Regional directorate of the Ministry of the Interior and others.

Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria; own funds; financial mechanisms of the European Green Pact

Benefits: Supports planning and design process-

es; evaluation of the physical marking of Euro Velo 6 in Ruse district.

Activity 1.9: Marking of the route according to a national standard - in the powers of the respective road owner

Description: This is a pilot project in connection with the establishment of good practice and approval of a regulatory standard. Laying of vertical and horizontal markings, including for exit from settlements, detours of the bicycle route on secondary or dirt roads, where applicable; maintaining the visual identification along the whole bicycle route in Ruse region.

Period: 2021-2024

Stage: Conceptual phase

Partners: Municipalities in Ruse district, Bulgarian Association for Alternative Tourism, local cycling organizations and clubs, RIA, Regional directorate of the Ministry of the Interior and others.

Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria; own funds; financial mechanisms of the European Green Pact

Benefits: Increasing the visibility of the route and the physical orientation of the tourists; Increasing the recognition of road sections for their use both for tourist purposes and for bicycle transport by the local population.

Activity 1.10: Improving the conditions for cyclists' access to tourist attractions, incl. infrastructure, parking lots, places for rest

Description: Infrastructure, which must be included in projects for construction, repair, rehabilitation of transport infrastructure for access to existing tourist sites. This includes the provision of parking conditions for bicycles with guarded and unguarded bicycle racks, charging stations for electric bicycles, ramps and passages for cyclists where applicable, etc.

Period: current

Stage: To be included as an element in projects for tourist transport infrastructure

Partners: The municipalities of Ruse district, local tourist companies, municipal enterprises and management of tourist sites, NGOs, etc.

Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria; own funds; financial mechanisms of the European Green Pact

Benefits: Providing an opportunity for cyclists to fully access the tourist attractions in Ruse District, through a safe, secure and comfortable infrastructure.

Specific objective 2 Promotion of cycling tourism

Activity 2.1: Promotion of the Eurovelo 6 cycling route

Description: Presentation of cycling routes in the presentation materials of the municipalities.

Period: in progress

Stage: a map is printed

Partners: bicycle clubs and organizations, tourist companies, etc.

Financing: Municipal Tourism Development Program, business organizations

Benefits: sustainability of the tourism product in the region

Activity 2.2: Promotion of bicycle tourism in Ruse district

Description: Development of thematic routes, mapping, organization of bicycle tours, festivals, competitions, etc.

Срок: 2023-2030

Stage: conceptual phase

Partners: municipalities in Ruse district, local tourist companies, municipal enterprises and management of tourist sites, NGOs, etc.

Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria; municipal budget

Benefits: Recognition of the route as of local and international importance; increasing number of visits; increasing the demand for tourist services and increase revenues.

Activity 2.3: Maintenance, development and promotion of the Danube Ultra marathon route passing through Dve Mogili Municipality - 732 km. along the Danube to the Black Sea

Description: Dve Mogili Municipality is a partner in the implementation of the cycling route Danube-Ultra 732 km along the Danube to the Black Sea

Period: annually
 Stage: participation in the project and providing conditions for its implementation
 Partners: Dve Mogili Municipality
 Financing: municipal budget
 Benefits: advertising of Dve Mogili municipality regionally and nationwide

flows and their seasonal distribution.
 Period: 2023-2027
 Stage: conceptual phase
 Partners: scientific organizations with the assistance of the competent bodies for environmental protection
 Financing: EU financial instruments - OPRD, CBC Romania-Bulgaria
 Benefits: identifying the needs for activities aimed at preserving and improving the quality of ecosystem services

Specific objective 3 Gather information on the demand for cycling tourism

Activity 3.1: Surveying the demand for cycling through automated bicycle traffic monitoring systems, surveys
 Description: Identification of key places for cyclists with significant bicycle traffic. Installation of bicycle counters – devices for automated counting of passing cyclists.
 Period: 2020 - 2021
 Stage: in progress
 Partners: Bulgarian Association for Alternative Tourism, Velo-Ruse Association
 Financing: activity under the project EcoVelo-Tour, supported by Interreg, Danube Transnational Programme
 Benefits: Bicycle traffic monitoring; ability to monitor the effect before and after the introduction of infrastructure measures and promotion activities.

Activity 4.2 Establishment of a payment scheme for ecosystem services based on significant community ecological values
 Description: Identification of threats and problems of target ecosystems and targeted intervention in their management. Establish a partnership between business, non-governmental organizations and public administration.
 Period: 2023-2027
 Stage: A similar scheme has been developed for Rusenski Lom National Park, but it is necessary to resume and expand its operation.
 Partners: local business, environmental organizations, environmental authorities
 Financing: income from tourist activities
 Benefits: providing funds and carrying out targeted activities to neutralize the negative impact of tourist activities on the environment

Specific objective 4 Assessment of the impact of tourism activities on ecosystems and development of a mechanism to neutralize negative impact to the quality of ecosystem services

Activity 4.1 Assessment of the activities with existing or potential negative impact on the ecosystems through which bicycle routes pass in Ruse district
 Description: The existence of activities with a negative impact is the basis of the search for appropriate financial compensation. The degree of available or expected impact depends on the popularity of cycling tourism, the size of tourist

