

STRATEGY OF ECO-CYCLING TOURISM DEVELOPMENT

Project:

Fostering enhanced ecotourism planning along the Eurovelo cycle route network in
the Danube region, EcoVeloTour DTP-055-2.2

Financed by: Interreg Danube Transnational Programme

Subotica, 2020

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1. INTRODUCTION

1.1. Information on the goal of the project, its mission and strategic directions

Western European countries have developed their own national and regional strategies for the development of bicycle tourism, in which learning about nature and biodiversity has unavoidable importance. They also have eco-tourism strategies, but these are not unified. There is no comprehensive cyclo strategy in Serbia; therefore, the microregional strategy of this project is an important factor in the development of eco-cycling tourism. Cycling tourism is not recognized like type of tourism and is classified into other types of tourism, which means that it is out of focus. We use "Eco-cycling tourism" term because these two types of tourism are integrated in this way, and our stakeholders understand that. The trend of discovering neighbouring, similar and insufficiently known regions will be increasing compared to distant destinations, longer vacations and mass tourism, Statistics of visits to our region, but its indication is not important in this phase. It is a chance for small micro-regions to increase interest in their own destination and natural beauties, while eco-cycling tourism is an indispensable part of tourist valorisation – especially in times of crisis and insecurity. A micro-region that is easy to reach, which is interesting, return is ensured even though public transport does not work, there is no dependence on many parameters that could slow down the exchange of passengers and goods: it has a chance for penetration. The public transport has difficulties There is no train-Belgrade-Budapest, which has been passing through Subotica, for three years, the railway is under reconstruction, as are most local railways. This means that it is not possible to cross the border by train, line bus 2 times a day, maybe. But because of that, a border crossing will be built especially for cyclists in Kelebija. Eco-cycling tourism could be recognised as a type of tourism that takes a leading role in the micro-region.

The European Parliament passed a resolution involving a thoughtful approach to bicycle transport on roads, which is a serious incentive for cycling tourism.

European Parliament resolution of 27 September 2011 on European road safety 2011–2020 (2010/2355 (INI)) says: “It is strongly recommended that the competent authorities introduce speed limits of 30 km/h in residential areas and on all single-lane roads in urban areas that do not have a separate lane for cyclists, in order to protect vulnerable road users more effectively.”

“The Commission and the Member States are called upon to support cycling and walking as their mean of transport and an integral part of all transport systems.”

The project Fostering enhanced ecotourism planning along the Eurovelo cycle route network in the Danube region, EcoVeloTour DTP-055-2.2 aims to highlight the possibilities and importance of eco-cycling tourism in each micro-region of the project partners, its perspectives and positive impact on regional development.

1.2. Methodology of the strategy

The project partners have developed guides that serve as a useful theoretical basis and recommendations in the strategy development for the micro-region. These are the documents:

- Ecotourism planning, Guidelines for ESS-based ecotourism strategy;
- Ecotourism planning, Guidelines for sustainable bicycle tourism.

The methodology of the strategy relies on the tools used in writing professional papers, namely: collection and analysis of secondary data, information, literature, collection and selection of relevant information from secondary sources, conclusion, definition of essential terms related to bicycle- and ecotourism. SWOT analysis is used as a managerial tool for strategic planning. The normative method is also applied: observation, comparison, analysis and synthesis, derivation of conclusions by induction and deduction, as a method of problem solving. Valorisation table is used for tourist valorisation of selected points in the micro-region on defined local tours.

Definitions:

Bicycle tourism is a type of tourism, in which various types of bicycles as a means of transport are used for further or closer trips focusing on rest, recreation or adventure experience. Cyclo tourists usually choose topics that interest them and accordingly the routes of their travels.

Ecotourism means trips in small groups (up to 25 people) visiting the nature, taking into account the sustainability of the destination's resources, focusing on health, relaxation, learning about biodiversity and local culture. It is a holiday in harmony with nature with a minimum of negative influence on it. These trips can take place in protected natural assets, but also in rural landscapes.

Thematic tourism is a trip for rest, experience and exercise of various activities, guided by the inherent, specific interests of an individual or group. Bicycle and ecotourism have the characteristics of thematic tourism.

Tourist route is a physical section of a road, a marked and tangible path.

Tourist tour: A tour is a type of pre-planned movement/trip, which includes visits to numerous places in a row, especially in an organised group with a guide.

Sustainable tourism: Exploitation of resources through their tourist valorisation in such a way that they can be regenerated in the shortest possible time, the return of what has been taken away from the environment.

Landscape is a terrain, scenery, which has its own characteristics and evokes a special visual experience, the atmosphere of a unique story. It is especially important for the experience of nature for cyclo- and eco-tourists.

Landscape ecology, among other things, it studies natural influences (fires, floods, strong winds, eruptions, earthquakes) and the influence of human activities on the survival of landscape biodiversity.

Sports tourism is described as a specific type of tourism that involves the participation of tourists in sports activities such as competitions, recreation, stay in sports facilities, attendance at sporting events (Univerzitet Singidumum, Skripta Sportski turizam, 2017).

Recreation: Tourist trips motivated by physical activities to preserve health, active vacation.

“Recreation is a physical activity, with the use of time, in a non-profit way, and in many ways it is a therapeutic refreshment for body and mind.” In this case it is, otherwise it is leisure.

Tourist valorisation is the process of assessing the value of a facility, natural and cultural resource, phenomenon or region in meeting tourist needs with economic benefit, and whether it has tourist attractiveness.

1.3. About cycling and recreation in general and the possibilities of their tourist valorisation

Cycling is a very popular form of recreation and a useful means of transportation in the world. The construction of the bike itself has not fundamentally changed, but modern materials, design and details have turned the bicycle even into a status symbol. Recreation at short distances makes the bicycle very useful due to the stay in nature on fresh air. With the construction of bicycle paths in many countries, the bicycle has become a means of transportation to which special attention is paid. It is used by postmen, couriers, even police and military services. Switzerland has had police bicycles since 1905 and today Sri Lanka and Finland have military bicycle units. Due to heavy traffic jams in cities, the bicycle has become especially popular, so many cities have introduced a system of “replacement bicycle”, bike sharing, bicycle parkings in public places where bikes can

be rented and returned to another destination. The same system applies to electric bicycles. In Paris, there are as many as 20,000 bicycles at replacement stations; while in the first place worldwide is the city of Hangzhou in China with 60,000 bicycles at such stations. It is estimated that there are over a billion bicycles in the world, twice as many as cars. Cycling has been an Olympic sport since 1868. Recreation by bicycle is extremely widespread among all age groups, either in the city, in nature, on the outskirts or in protected natural areas, to the extent that cycling connects regions, countries and even continents.

The advantages of cycling are:

- One arrives faster than by cars in crowded cities, as proven by a research of Citroen (it is important in our region that the bicycle routes pass through the center of Subotica and other settlements);
- It saves the resources of the planet and reduces CO₂ emissions, reduces pollution;
- Cycling improves people's cardio system, regenerative sleep, the fight against stress;
- It encourages better metabolism in the body, more oxygen is delivered to the body, thus achieving a youthful appearance;
- It stimulates the work of the intestines and brain, prevents bloating, stimulates the activity of immune cells and defeats diseases, prolongs life and burns excess fat, eliminates fatigue;
- It has positive effects on bringing people together and their communication, it connects people;
- It increases work efficiency and concentration, positive mood, gives a feeling of freedom while riding.

It can be concluded that the bicycle is an environmentally and economically viable means of transport, suitable for recreation. It ranks among the 50 best inventions of mankind. Cycling is at the same time: a sports discipline, a means of mass transport, a form of recreation in natural and cultural landscapes, a means of achieving better health and fitness.

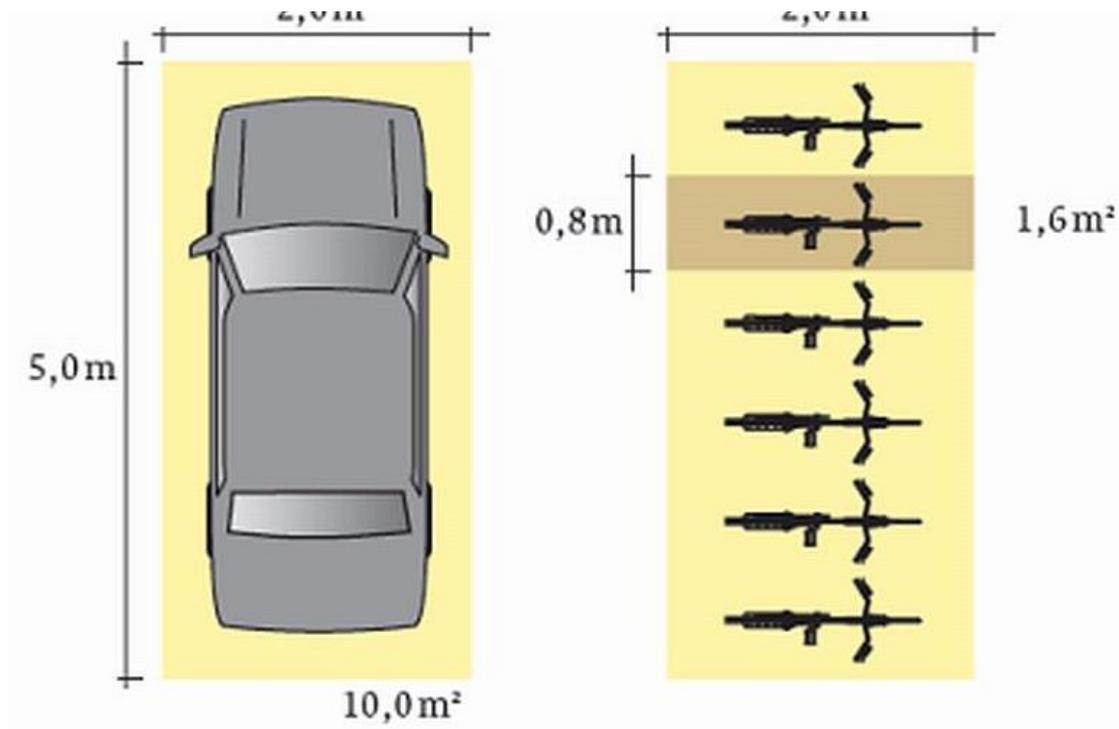


Figure 1. A comparison of parking spaces for cars and bicycles speaks in favour of these claims. Source: The Central MeetBike project; specialised German publications for cycling transport

The most common categories of bicycle models used for recreation are:

- Road;
- Urban;
- BMX;
- Mountainbike;
- Cyclocross;
- Fitness;
- Electric bike (for flat terrain);
- Downhill/Enduro bikes;
- Cruiser (new retro design);
- Fixed speed and the like.

The option of various models is important for cycling tourism, all types are in use, the types that are most common in our country are listed. Some models are imported from abroad.

Cycling as a recreation belongs to the active soft form of sports tourism. People who engage in this type of recreation have a high awareness of today's environmental problems, care about their health and are very open to learning about new landscapes and regions. The trend of growing awareness about preserving health through recreation and about ecology as an indispensable factor of development in the world has contributed to ever-growing number of recreationists – active sport tourists. Cycling, recreational running, brisk walking, hiking, orienteering, in addition to other types of recreational sport, are gaining more and more supporters. If specific types of tourism with thematic character, such as ecotourism, are added to this trend, it emerges a need for an integrated approach to such a niche of visitors, individualisation of the services offered, in order to satisfy their special requirements. Although it does not belong to classic mass tourism for summer holidays, there is still a very significant growth of thematic tourism worldwide. The stratification of tourist valorisation of cycling and ecotourism comes to the fore, the connecting point of which is nature, access to the beauties of the landscape in a harmonious and sustainable way. An eco-tourist who is at the same time a recreational cyclist (or vice versa) comes to his destination by bicycle and visits local attractions; or arrives by car at the destination, carrying his bicycle; if he does not bring it, he rents a bike at the destination and uses it for touring.

GREEN GLOBE 21 (standard for ecotourism) mentions 3 groups of benefits of ecotourism: for society (locally and as a whole), for business and for visitors. The benefits of tourist valorisation for society are: better environment, sustainable development, investments and more jobs in local. The benefits for business are: a better environment, cost savings, better competitiveness and global marketing. Benefits for visitors are: better environment, provision of standards and supply from “green” companies. These benefits also apply to cycling as recreational tourism, where safety and security on the road and destination should be added in the first place. Tourist valorisation of the mentioned trends and existing resources of bicycle and ecotourism is necessary, possible and desirable due to their comprehensive benefits.

Tourist valorisation for bicycle and ecotourism is attractiveness, tourist attraction, potential of economic activity of the environment and space, landscape and protected natural assets of the micro-region. Tourist valorisation provides the value of a space for planned activities and types of tourism. It is not constant, but depends on the time of assessment and the subjectivity of the

assessor. To make a space, object or natural asset subject to tourist valorisation, it must possess the properties of attractiveness – rarity, curiosity, aesthetic value for the experience, so that these values can satisfy the tourist needs. The process of tourist valorisation provides information on how suitable the space is for the planned type of tourism, what it lacks, what still needs to be built, according to which standards, what is its sustainability and economic benefit for the local population. Tourist valorisation of microregional space for eco-cycling tourism includes the assessment of: geographical position, aesthetic natural units of the ambient, equipment of the space to meet the needs of potential tourists, safety and security of selected local tours and facilities. Bicycle and ecotourism have the potential to merge with other types of tourism and tourist products.

1.4. Tradition and interesting historical facts about cycling in the micro-region

Cycling has a long history in the micro-region, dating back to the time when penny-farthing was ridden, and later on, when the bicycle became more and more popular as a means of transportation, recreation and even competition. Back in 1880, a great lover of the ancient spirit of the Olympic Games, Lajos Vermes, an athlete, competitor and pedagogue, organised sports competitions in Palić, called the Palić Olympics. The number of competitive sports was constantly growing, as well as the popularity of the Palić Olympics in the wider region. The number of visitors reached tens of thousands from the wider region. It was noted that, among other disciplines (walking, running, boxing, wrestling, fencing, athletic disciplines) cycling competitions were also organised. In 1884, Mr. Vermes built a 225 m long elliptical competition track from his own funds, and then in 1891 a circular asphalted bicycle-athletics track. At that time, only London and Leipzig had such a track. Part of the asphalt trail is still visible today in Vermes Park, in Palić, where competitions used to be held. The innovative spirit of this supporter of sports, physical culture and visionaries is reflected in various activities in which the bicycle was involved. He was among the first to purchase a penny-farthing from abroad, and then he designed a two-seater with joints. He used a bicycle with a dynamo to get electricity, and organised the first meeting under electric lighting. Nature as a companion of physical culture was the inspiration to organise bicycle tours from Palić to Novi Sad, Bosanski Šamac, and even to Rijeka. Using Lake Palić, which often got

frozen in winter, he devised the discipline of ice skating on a bicycle. The sandy ground on which the northern part of the city of Subotica and Palić lies served him to organise bicycle competitions on sand. Beside other competitive disciplines, he often won bicycle competitions as well. In 2008, after 120 years, the spirit of Vermeš' Palić Olympics was renewed through a series of various competitions and reminders of this great personality of sports history.

Another great cyclist and aircraft designer is Ivan Sarić from Subotica. In 1891, he began to be actively involved in cycling, i.e. in riding a penny-farthing. Subotica was then part of the Austro-Hungarian Empire, which was a favourable circumstance because Ivan Sarić participated in international competitions with great success. At the international race in Pécs in 1886 he won the second place, he was the first at the Hungarian championship in the 10 km race in 1897 and 1898, and he won first place in the 25 km race in Vienna in 1899. In 1900 he again won first place in the 100 km race in Budapest and five second places in other disciplines. He was the first in Novi Sad on 100 km and in Belgrade on 25 km and one kilometer. At that time, he was the champion of 3 countries. He is especially known for his pioneering steps in the construction of airplanes, which he made himself and flew with it right after the Wright brothers. In his hometown of Subotica, he dedicated his life to sports and aviation. The monument to Ivan Sarić stands in the city centre not far from the Town Hall. A replica of his plane and the original wicker seat are in the Aviation Museum in Belgrade.

Following the tradition of these great cyclists, the cycling club Spartak from Subotica has participated in many domestic and international competitions in road riding for many years, achieving excellent results, especially in the categories of starters, cadets and juniors. Excellent competitive cyclists grew from these categories in men's and women's competition.

The tradition of cycling can also be seen in the use of bicycles for local transport. For decades, this means of transport has played a great role in overcoming the distance inside the town, but also in the settlements on its outskirts, which is still visible today. At the beginning of the 20th century, there were no specially built bicycle paths and all paved or dirt, urban or rural roads were used to overcome the distance. The bicycle was also used to transport smaller items, but especially for going to work, to orchards and vineyards for work. Only with the formation of various sports associations did the bicycle become popular as sports equipment, a means of maintaining health

by going on trips, and an expression of lifestyle. In 1888, a bicycle factory was founded as a joint stock company called *Partizan DP bicycle factory for the production of bicycles, bicycle parts and other metal products, wholesale and retail trade*. It operated until 2006. Beside bicycles, it also produced mopeds under license, of which the Solex and Pony express are known. The most famous bicycles were Pony and BMX, a hallmark of the generation from the 1980s. The factory exported its bicycles that were very high quality and they lasted for generations.



Figure 2. Logo of the bicycle factory Partizan in Subotica
Source: <http://www.gradsubotica.co.rs/suboticki-motocikl-partizan-m-50/>

2. The role of bicycle and ecotourism in the development of the micro-region

2.1. Eco dimension and cycling dimension

Eco dimension

Although ecotourism relies on a very specific marketing niche, it has an average annual growth of 5% worldwide. Not every trip led by beautiful nature makes ecotourism. Ecotourism, in addition to enjoying nature and activities in nature, brings benefits in increasing the income of the local community. Eco-tourists hire a local guide for, say, bird watching, stay in local accommodation, buy from local producers, use the services of local companies, know the code of conduct in nature and adhere to it, have an awareness of environmental protection. A framework will be established by creating a code of conduct on the rest place and extending it to other areas over time. For micro-destination, it is important to show the rarities of biodiversity in order for the eco-tourist to satisfy his curiosity and desire for knowledge. The micro-destination must determine what is optimal, how many visitors that micro-location can handle a day, weekly, monthly or in various periods, so that there are no negative impacts on nature. It is necessary to determine precisely:

- what is the target group expected at the site;
- which messages are transmitted by eco-tourists on the site;
- where is the place where they communicate with visitors;
- what communication with visitors should look like;
- what activities should be undertaken before visitors come to the site, during their stay and after their stay at the site.

All these preparatory activities are closely related to the geographic information system of micro-destination – GIS, the managers of protected natural assets, and appropriate tourist signals. Ecotourism planning has strict rules, starting from the development of eco-loggias (accommodation facilities directly in nature) to “green hotels”, planned trails, resource conservation mechanism, marketing, resource management. Eco-tourists usually consist of smaller groups, which are educated in nature, enjoy it, observe it, but also recreate in it by walking or cycling. There are points of connection with bicycle tourism, recreation and adventure tourism.

Cycling dimension

The cycling dimension of a destination has a beneficial local impact:

- Bicycle tourism can attract new visitors who stay longer and spend more than the average tourist in the destination;
- Bicycle tourism supports the local economy, trade and enterprises in rural areas;
- It has a minimal negative impact on the environment; this type of tourism supports sustainability and can help reduce traffic congestion;
- Existing and often insufficiently used facilities are used, roads between fields, in forests, on meadows, quiet paths in nature, embankments, unused railways, the local population is encouraged to ride bicycles more often and use forgotten paths.

Cyclo-visitor vacations range from staying in a destination for just one night, to multiple nights where cycling is the purpose of the vacation, touring the destination and staying in different places. Bicycle tourism can be a subcategory within a broader tourist arrangement or route. Daily bike tours, with own or rented bikes, involve going from the accommodation to another place in nature or in an urban area. Excursion cycling includes riding on weekends, during holidays, during the day, rides that are longer than 3 hours, take place in free time as recreation. Day trips are extremely common during the holidays. Cyclo-tourists spend an average of 50 euros per day, if the stay in the destination for one day, up to 434 euros for a stay of up to 7 days, according to a survey published by the EU Parliament. In the last 20 years, cycling has evolved from an experiment of urban transport system in big cities to developed international routes, connecting various parts of the European continent.

The division of the way cyclo-tourists use bicycles, from the aspect of tourism, is segmented into several groups (According to the time and need of use):

- daily, for short distances (going to work, shopping, visits, transporting items);
- sports, competition;
- recreational sports as a lifestyle;
- for longer trips that take more days or weeks;
- for tours, for shorter visits, tours of about 25 km in one day;
- family, for excursions;
- mountain, for uneven terrain;

- only on vacation, as an additional recreational activity,
- tourist, using a combination of different models of bicycles, for planned types of travel.

Observing the eco and cyclo dimension of a destination, it is clear that these are compatible spheres, types of tourism that support, permeate, develop and make an unavoidable opportunity for rural development of a destination. The needs and expectations of these visitors are very similar: they are looking for well-marked, built and safe trails, good interpretations of the site through signs, information that is accessible and simple. Cyclo and eco-visitors have a high awareness of nature conservation, of minimal impact on its resources, of sustainable development and of the use of natural resources. Their motives are similar: travelling in nature, getting to know the local nature, culture, through observation, recreation, contacts with the domestic population.

2.2 A snapshot of the current situation

The micro-region is characterised by the beginning of the development of eco-cyclo tourism as a tourist product. There are many areas to develop and synchronize:

- The network of bicycle paths is not complete; the infrastructure is unconnected, outdated;
- Additional bicycle furniture (parking spaces, rest areas) is not developed for all locations;
- Bicycle repair services are reduced to a small number of shops; storage and renting are just in their infancy;
- There is no integration between local communities and national authorities in joint financing of cycling infrastructure;
- Providers of catering and tourist services do not cooperate enough for eco-cycle types of tourism;
- Public transport operators do not show sufficient interest to adapt their services to the specific needs of cyclists;
- There are no statistical data, nor primary research on cycling tourists at microregional level, which would enable decision-making based on facts and the development of strategy;
- Clubs and associations are most often the initiators of information, development and connections with potential foreign visitors;
- Receptive travel agencies do not have permanent eco-cyclo arrangements.

Connecting with bicycle paths and EuroVelo routes is difficult due to the mentioned problems.

The Cycling Federation of Vojvodina acts as an umbrella organisation, which organises cycling tours of up to 10 days, but it is primarily focused on competitive cycling. The Cycling Federation of Serbia is exclusively focused on competitive cycling.

There are cycling clubs in the micro-regions of Vojvodina, such as the Cycling Club Spartak Subotica, which primarily deal with the popularisation of competitive cycling among young people and the organisation of training and competitions.

At the level of the Republic of Serbia, there is a large number of cycling clubs and associations with different directions from competitive through recreational to adventurous cycling, which is a good sign that the potentials of cycling and its interaction with other types of tourism have been recognised. The Serbian Recreational Cycling Federation promotes mountain recreational tourism.

Concerning the tradition of cycling in the micro-region, the locals use the bicycle as a means of transportation, for going to work, shopping, visits and short trips. One of the traditional manifestations of a recreational character, which has been alive for more than 40 years, is the programme organised for the First of May called *By bike in nature - Trim*, formerly *Trimbi*. The route leads from Subotica, through meadows and field roads along Lake Palić, i.e. through the nature park, leading to the destination in the tourist part of Lake Palić. Checkpoints are marked on the route and each participant receives a sign that he/she has passed the checkpoint, so that the number on the card can participate in the prize draw. Prizes are bicycles, of course.

**BICIKLOM U PRIRODU
KERÉKPÁRRAL A TERMÉSZETBEN**



TRIM

POKROVITELJ

A VÉDNÖK

BP CYCLE d. o. o.
Subotica

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Ha kerékpárt akar vásárolni vegye a BP CYCLE d.o.o. gyártmányát, mert kényelmes és kitartó.

**1 KONTROLE 2
ELLENŐRZŐ ÁLLOMÁSOK**

3

01 MAY 2009

SUBOTICA,
1. MAJ 1993.

Nº 001981

Ime i prezime:
Név és vezetéknév:
Godine starosti:
Életkora:
Adresa stanovanja:
Pontos címe:
Mesto stanovanja:
Lakhelye:

Nº 01981

UČEŠĆE U TRIMU NA BICIKLIMA OMOGUĆILI SU VAM: OSSR »PARTIZAN« SUBOTICA

- Pokrovitelj RO »PALIĆ - LUDOŠ«
- Organizator Savez za sportsku rekreaciju
- Staza je dugačka 11 km
- Vozite prema datoj skici trase na kuponu koja će biti obeležena zastavicama
- Da provedete stazu imate na raspoloženju jedan sat vremena
- Overe sve tri kontrolne stanice mora se imati na kuponu
- Servisna služba je besplatna na startu i kontrolnim stanicama
- Prva pomoć za učesnike trima organizovana je na startu i kontrolnim stanicama

UČESNICIMA TRIMA ŽELIMO PRIJATNU VOŽNJU

A KERÉKPÁRVERSENYEN VALÓ RÉSZVÉTELT BIZTOSÍTOTTÁK: OSSR „PARTIZÁN“ SUBOTICA

- Védnök: RO »PALIĆ - LUDAS«
- Szervező: REKREÁCIÓT SPORT SZÖVETSÉG
- Az út 11 kilométer hosszú
- A szelvényen feltüntetett jegyzet szerint vezetni, amely zászlókkal lesz megjelölve
- A versenyzőknek 1 óra alatt kell megtenni az utat
- A szelvényeken a három ellenőrző állomás hitelesítésének rajta kell hogy legyen
- A szervíz-szolgáltatás a startnál és az ellenőrző állomásoknál is ingyenes
- A trim résztvevői a startnál és az ellenőrző állomásoknál szükség esetén elsősegélyben részesülhetnek
- MINDEN VERSENYZŐNEK ILLETVE RÉSZTVEVŐNEK KELLEMES KERÉKPÁROZÁST KÍVÁNUNK!

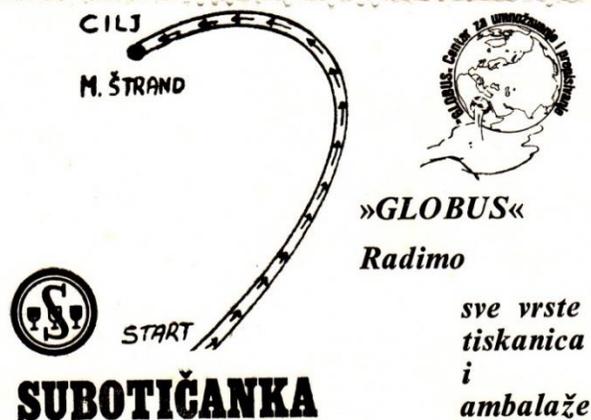


Figure 3. Trimbi card - front and back side

A survey on the condition of bicycle paths in the Subotica-Palić micro-region was made in 2009 by the Center for Regional Research within the CEKOR project “Railways and bicycle paths for sustainable traffic in Subotica”. The strategy found the unconnectedness of bicycle paths into a meaningful network and revealed the problems with high road banks. Alternative bike paths have been developed along railroads on railway land, and summer roads are often used. Since then, at the main intersections in the city, the sidewalks have been lowered due to the passage of people with special needs in wheelchairs, which are also used by cyclists. The bicycle paths towards Kelebija, Palić and Hajdukovo have been completed, the EuroVelo signalisation has been set up along some paths in the city and in Palić. There are still no modern bicycle paths along the roads, there are no marked lines for cyclists, there is no protection from noise and from the danger of cars. A private entrepreneurial initiative has set up several points for renting bicycles and e-bikes in the town and in Palić, which has contributed to the popularisation of cycling for tourists.

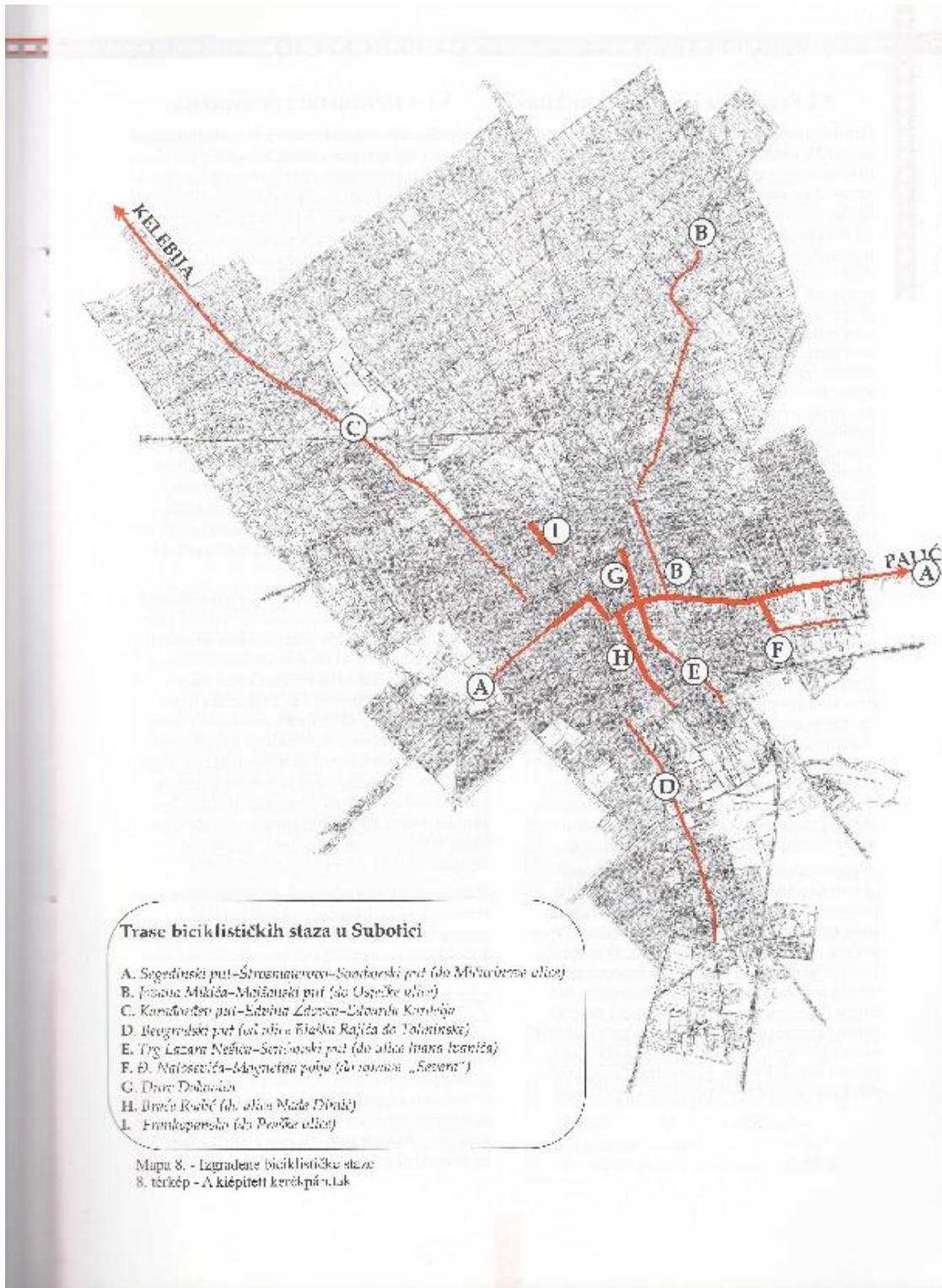


Figure 4. Routes of bicycle paths in Subotica, 2009, Cekor – constructed

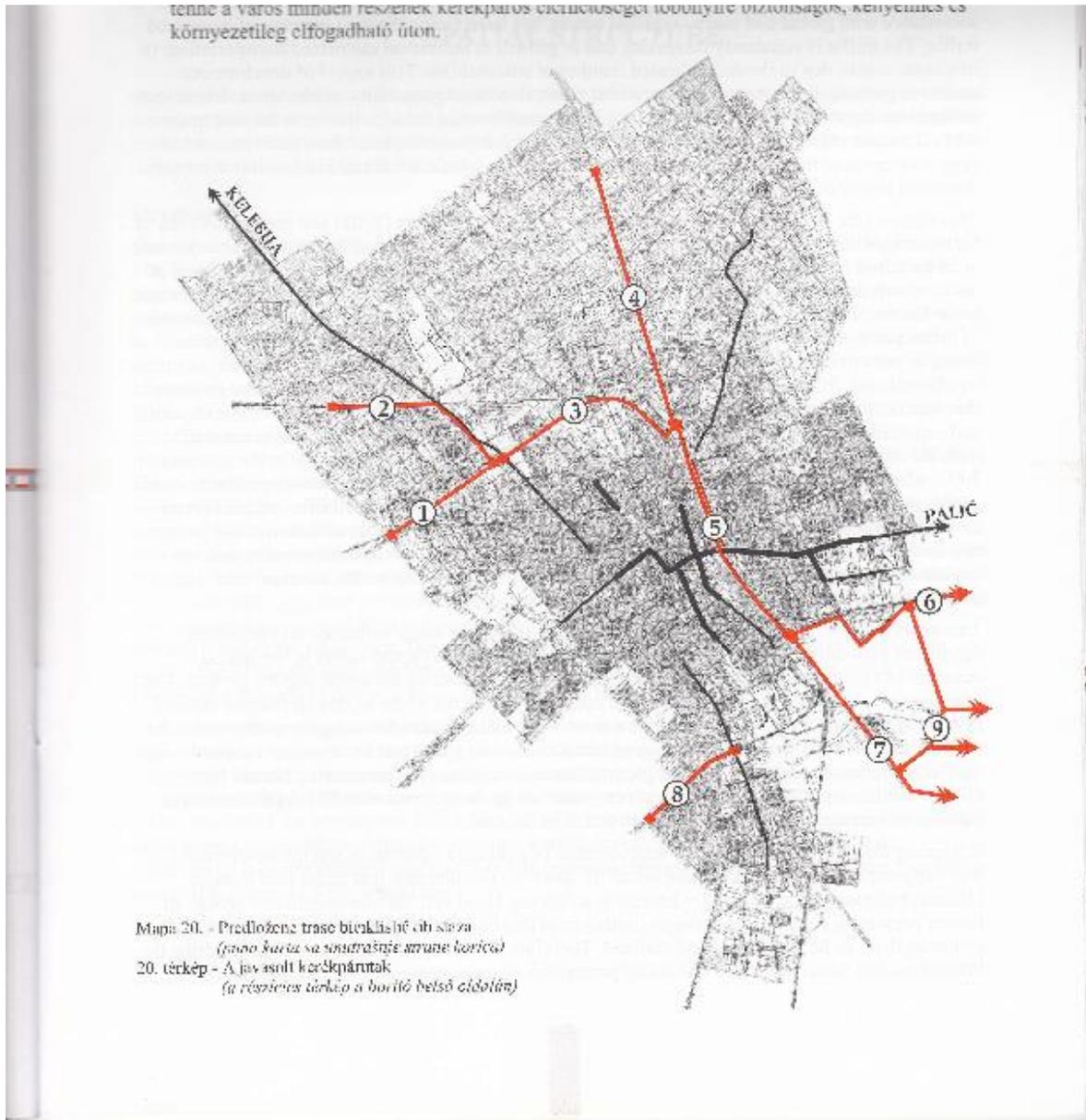


Figure 5. Routes of bicycle paths in Subotica, 2009, Cekor – proposed

In addition to the tradition of cycling, the micro-region has 4 protected natural assets and various landscapes with interesting characteristics, whose manager is the public company “Palić-Ludaš”. All protected natural assets are under a certain level of protection, therefore it is necessary to take into account the number of visitors and the period of the year when natural processes are least affected.

a) Due to its importance, the first among protected natural assets is Lake Ludaš with the first level of protection according to the Ramsar Convention, with bird habitats and being the most important corridor of migrating birds. According to the criteria of the Ramsar Convention, Lake Ludaš was inscribed on the list of wetlands of international importance in 1977. The lake as a whole became protected in 1982 as an integral part of the Palić-Ludas Regional Park. In 1994, Lake Ludaš was declared a Special Nature Reserve and classified in the first category as an asset of exceptional importance. The decree of the Government of the Republic of Serbia defines the regimes, protection zones and protection measures, and the natural asset is entrusted to the care of the public company “Palić-Ludaš”. Due to the first level of protection of this lake, no construction is allowed in the protection zone around the lake, neither for rest areas, so the location of the pilot project rest area is on a plot where construction is allowed and from which biodiversity can be observed. Due to its geographical position, the lake can be visited from two directions, from the direction of the settlement of Palić through the village of Šupljak, and from the direction of the settlement of Bački Vinogradi through the village of Hajdukovo. It is an aeolian lake, which has water (lake-pond), swamp, meadow, saline and steppe habitats. Biodiversity is rich, having significant, rare, vulnerable and endangered plant species. Closer to the shores of Lake Ludaš, there are plants that are typical for marsh-wetland ecosystems: reeds, broad-leaved rushes, sedges, marsh irises. The dominant community of the wetland ecosystem is represented by reeds, which mosaically cover the water mirror. The coast can be bypassed by summer and dirt roads, which also have an educational trail. The fauna is rich; there are internationally protected species such as pond turtles and frogs. A special rarity of Lake Ludaš is the otter (*Lutra lutra*). Ornithofauna with 238 registered species and about 90 species of nesting birds is a fundamental feature of Lake Ludaš. This lake with its landscapes of meadows, forests, scattered farms, has all the resources necessary for the development of eco-cycle tourism.

b) Another significant protected natural asset is Lake Palić, not far from the town of Subotica, which is connected with a special bike path from the city centre to the centre of Palić, and further towards the village of Hajdukovo. The lake has a tradition of tourism for over 165 years. It is known for its Art Nouveau architecture, Baroque Great Park and the English Park in the centre of the tourist section, north of the lake. The lake is divided into 4 sectors. In the third sector, there are

bird islands, which are also migration points. The largest island is called Swan because the first nest of this species in Vojvodina was found there. Today, there is a mixed colony of herons and cormorants on the island. The second, horseshoe-shaped island is called Duck, after the many waterfowls that nest there. The third is the island of Gull, and the fourth is called Magpie, on which a significant colony of great white herons is located today. The first inhabitants of the bird islands were common gulls. In just a few years, one of the largest bird colonies of the Pannonian Plain was formed. 207 species of birds have been registered in the area of Lake Palić, of which 101 species are nesting here.

For cyclo-tourists the most favourable time period for visits during the year is from mid-May to mid-October. The vegetation around Lake Palić is marshy and saline, it was naturally steppe, and the saline depressions were covered with salt marshes. The remains of the former vegetation cover are present only along the shore of the lake. Around the lake there are cultivated areas, which extend all the way to the shore, except for the northern and northeastern part of the lake, where tourist and sports facilities are located.

c) Subotica sands stretch from the border with Hungary, the village of Kelebija, on the northern outskirts of the town of Subotica. It is another protected natural asset. A peculiar feature of the Subotica sands is the presence of a specific mosaic of habitats in which sands and steppe clearings intertwine with acacia and pine plantations, planted oak forests, smaller oases of indigenous white and grey poplar forests, as well as primaeval peat ecosystems. Accordingly, there is a great diversity of natural ecosystems. The largest areas of the sands are covered by aeolian sands represented by yellow, whitish-yellow and cross-stratified sands accumulated mainly during the Pleistocene. In the sands, there are summer and dirt roads that are suitable for walking and passing by off-road bicycles. Subotica sands have the character of a forest-steppe. It is home to many rare species such as mole rats, hedgehogs, moles, voles, martens and various species of mice. In the interior of the Subotica sands, some farms with mostly elderly households have remained, where they produce only for their own needs. Agricultural production is represented here, primarily viticulture, fruit and vegetable growing. The preserved farmsteads have a kind of ethno motifs that are part of the tourist offer of the Subotica sands, as well as of the villages on the outskirts. In this area, there are parts under the first, second and third level of protection. The first level of protection

does not accept visitors and it is intended for scientific research, while the second and third level of protection is accessible for tourists.

e) The area of the Selevenj pusta is located in the north of Vojvodina, where dwarf irises in bloom cover the sand during April. It covers the eastern rim of the Subotica-Horgoš sands at the contact with the loess terrace of Bačka. The diversity of habitats and vegetation in a small area are the basic characteristics of the Selevenj pusta. It has an exceptional floristic wealth with a significant number of the most endangered species of flora in Serbia and Europe. In 1997, the Government of the Republic of Serbia declared the Selevenj pusta a Special Nature Reserve. Low grass vegetation on the habitats of sand, steppe, saline and meadow character, preserved in the form of spatially colored oases, bears in each of them the features of typical Pannonian wastelands. Among the rarities, the Pannonian endemics stand out: the Schwarzenberg buckthorn (*Plantago schwarzenbergiana*), the saline thistle (*Cirsium brachycephalum*) and the Borhaš rattle (*Rhinanthus borbasii*). From the group of Pannonian subendemic plants in the vegetation of this natural asset there are the pink Pannonian yarrow (*Achillea asplenifolia*) and wild carnation (*Dianthus pontederiae*). Ornithofauna with a total of 120 bird species, 68 of which belong to nesting birds, is a significant component of the living communities of the reserve. Wetland birds, such as grebes, waders and snipes, appear only during wetter years.

Conservation of the biodiversity of Lake Ludaš with the support of KfW Bank

Lake Ludaš, as well as Lake Palić, received investment support from KfW Bank for the conservation of biodiversity because they have a special status. Negotiations with KfW Bank started in the period 2014-2015 between the local self-government of Subotica, PC Palić-Ludaš and Park Palić Ltd. After the study on improving the ecological status of Lakes Ludaš and Palić, before concluding the contract with KfW Bank, it was necessary to meet the preconditions for starting the investments. Namely, KfW Bank recorded the situation and activities in several self-governments in Serbia at the same time, necessary for the improvement of the ecological status, for what they were offering non-refundable funds. The working group at municipal level, with the active involvement of all relevant institutions and interdisciplinary experts, managed to prepare strategic plans and offer a set of activities that would improve the ecology status of the two lakes.

After the completion of that process, the City Administration made decisions by which the strategies were adopted in the form of an *Action Plan for the Improvement and Preservation of the Biodiversity of Lakes Palić and Ludaš*. The plan offers solutions to the problems identified. KfW Bank has sent its experts on a mission, a visit to the local government of the City of Subotica and they visited both lakes. The main goal of the KfW mission was to inspect the entire rehabilitation project of Lakes Palić and Ludaš, before approving the support. The local self-government of Subotica received non-refundable funds although other municipalities from Serbia had also applied, because here the necessary strategic documents and decisions were already made. The strategy lists several measures: construction of the Palić-Subotica pressure line, increasing the efficiency of the wastewater treatment plant and construction of the sewerage network in Palić, but it was also necessary to finance all other measures for the rehabilitation of Lakes Palić and Ludaš (protection zone for Palić and Ludaš, solution for wastewater treatment in the villages of Hajdukovo and Šupljak, remedial fishing etc.). The task of domestic experts was to explain why the proposed measures were important and to prove that the measures were sustainable in the long run, in order to assure the strategy to be accepted by the bank. After all harmonisations, the bank made a decision to choose The Strategy for Preserving the Biodiversity of Lakes Palić and Ludaš, and a grant of 6.5 million euros was received for all activities within the strategy. The contracts were concluded between the Government of the Republic of Serbia, the Government of Germany, the Ministry of Ecology of Serbia, PC Palić-Ludaš and the local self-government of Subotica.

The preconditions that had to be met before starting the investment were:

- Snapshot of the condition of the plots around Lakes Ludaš and Palić, cadastral surveys;
- Re-parcelling of the plots around the lake for the construction of a protection belt around the Lakes Ludaš and Palić and the development of a new detailed regulation plan;
- Expropriation of land, proclamation of public interest on the parts of the plots where the protection zone will be built, it is a legal process, which has been done, and a buffer zone is being created on the expropriated part and the public interest has been declared;
- Surveying the inhabitants of Palić about their willingness to connect to the future sewerage network in the settlement because only one third of the households were connected to the sewerage network.

It was very important to build a sewerage network inside the settlement of Palić, to connect the same network with the pressure line to the treatment plant and to redirect the wastewater from the exhaust canal Palić-Ludaš to the city treatment plant. Thus, the wastewater from the settlement of Palić will no longer be drained through the exhaust canal directly into Lake Ludaš. Due to these wastewaters, silt deposits were created in the northern part of Lake Ludaš. These activities required a longer process and time, but a parallel term plan was made, so that in 2017, investment activities began. Inhabitants of Palić have responded positively to the action of PC Vodovod i kanalizacija to connect their houses to the sewerage network that will be built. In autumn 2019, the construction of the sewerage network as well as of the pressure line were started in order to direct the wastewater to the city treatment plant. This investment prevents further pollution of Lake Ludaš from the exhaust canal. This is a major step forward in preserving the biodiversity of this internationally important wetland.

The establishment of the protection zone refers to the coastal multifunctional belt of greenery of indigenous plants, but also the prohibition of all construction activities, economic activities and tourism in the parts of the first level of protection around the lakes. Lake contaminants need to be removed within 3-5 years. The steps were presented at the meeting “Protection of biodiversity of Lakes Ludaš and Palić” by a consultant, hydrologist Michell Rohmann in cooperation with GIZ, Germany:

"The first step is to further improve the operation of the treatment plant, the second step is to connect about 1,000 more households from Palić to the sewerage network, the third step is to connect that sewerage network with the city treatment plant, the fourth step would be to create green protection belts for saving water quality from the negative effects of agriculture, so that fertilizer, manure and pesticides do not affect the lake, and the fifth step would be to reduce the number of the invasive species of Prussian carp, which currently makes up to 93 percent of the fish stock in Lake Palić. We must first remove the wastewater and then nature will heal itself. Through the project, we will speed up the process of self-healing a bit."

The buffer zone – protection zone around Lake Ludaš is extremely important because it prevents the negative effects of agriculture, human economic activities and disturbance of the living world by tourists. This does not mean that there will be no possibility of ecotourism-educational-research

activities around the lake, but on the contrary, these activities will be located in designated places, trails and rest areas. The expropriated land for the protection zone will become state property and the manager of the natural resource PC Palić-Ludaš will monitor the protection zone, as well as the nature reserve, as before. The public company Palić-Ludaš has adopted a Management plan of the special nature reserve Lake Ludaš 2020-2029, which prescribes continuous formation of protection zones under indigenous species, as well as connection of existing and forming new ecological corridors between separate parts of the reserve, which supports long-term sustainability that KfW Bank has insisted on. The rims of Lake Ludaš outside the protection zone are attractive for bio-agricultural production, as well as for eco-cyclo-recreational tourism (sport fishing). The organisation of the area of the special reserve Lake Ludaš, according to the map of the Institute for Nature Protection of Serbia (picture 2) is presented in the Management plan of the special nature reserve Lake Ludaš 2020-2029.

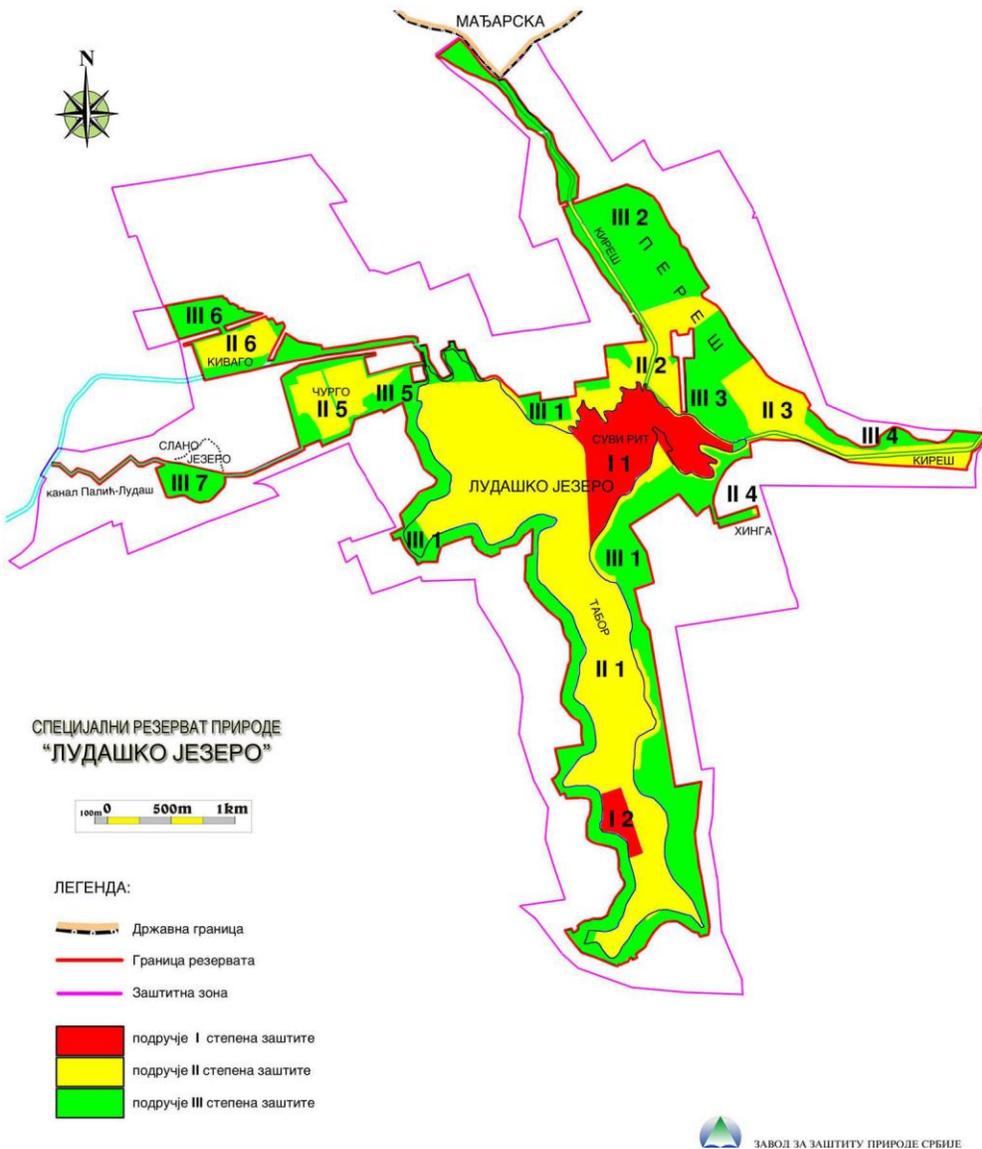


Figure 6. Organisation of the Special Reserve Lake Ludaš
 Source: Management plan of the special nature reserve Lake Ludaš 2020-2029, Institute for Nature Protection of Serbia

2.2.1. SWOT analysis

SWOT analysis is a common tool of strategic planning and nowadays it is used in all documents aimed at defining the elements that will give a strategic direction. It includes 4 matrices, and the elements that can influence the strategic direction are entered into them. These matrices are:

- strengths;
- weaknesses;
- opportunities;
- threats and dangers.

The elements in matrices were classified during a workshop with participation of stakeholders and experts, and each element in the matrices was studied separately and evaluations were given by consensus, to get quantification, after discussion. Quantification was developed by experts for cluster research purposes.

Some elements can be classified into two matrices, but the aspect of thinking is important. Each element is evaluated in terms of its importance and its impact on the strategic direction, with numbers from one to five, where number five is the strongest influence. Then the percentages and the total scores are calculated. Grades are from one to five (there could have been other grades), and by conforming mapping the set of grades from 0 to 25 multiplied by 4, we get a set from 0 to 100 (%). Based on this quantification, although starting from a subjective assessment of several independent evaluators, very exact percentages are obtained, which indicate by matrices how to strategically position the tourist product and which elements of the matrix to consider for the action plan. Quantification was done based on the methodology set by the cluster. The matrix of threats and dangers is beyond the influence of the subject, but the subject must prepare for possible excessive situations and a complete change in business, adapt to the new conditions.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> – Good geographical position (near EuroVelo route) – Excellent transport connections with both Western and Eastern Europe (halfway the flow of the Danube) – Settlements to visit for cyclists - small distance between populated places – Flat terrain for cyclists – Existing bicycle paths as tours (e.g. Kelebija-Subotica-Ásotthalom) – Local roads with small car traffic, adequate for bicycle tourism – Partially built bike paths – 4 protected natural assets – Unique biodiversity and landscapes – Indigenoussness of fauna and flora – Close to nature – Awareness of nature protection among local population – Multinationality of the population, rich and diverse customs – Offer of other types of tourism – Tradition of cycling, production of bicycles – Using partner network innovations – Using the aspect of preserving health by cycling – Public bicycle transport system that exists in Subotica - Bicycle rental to ride around town – public bycle share system. 	<ul style="list-style-type: none"> – Lack of infrastructure, slow realisation of further construction of bicycle paths – Unused existing cycling tours – Lack of service infrastructure from the aspect of bicycle tourism – Road signs, info signs insufficient for cyclists, lack of maps – Lack of trained staff in tourism, insufficient knowledge of foreign languages – Insufficient range of interdisciplinary professions – Uninformed population on the periphery – Insufficient integration and cooperation of the region – Lack of local and regional information for tourists on tourist services – Lack or small number of thematic routes in the region – Lack of events for a large number of cyclists, lack of event calendar for potential cyclists – Lack of cultural respect between car drivers and cyclists, within the population – Weak cooperation between institutions and associations, which are in charge of the development of cycling – Lack of school education and formation of awareness about traffic culture – Lack of bicycle tourism culture – Lack of services for cyclists (service, rental) – There is no sense of cooperation between neighbouring regions like the ones that has been already achieved in advanced tourist regions – Negative attitude of car drivers towards cyclists and lack of driving culture

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> – Education for a healthy lifestyle, increasing awareness of nature protection and cycling, from childhood – Increased interest in forms of recreation that require good physical fitness, for eco-tourism and active tourism – Special tourist attractions (bird watching, photo safaris, shores and cycling areas) – Use of existing ecological trails – Potential to connect with other tourist attractions – Making cyclists know the local rural population, their culture and customs – Getting to know the protected natural assets, the entertainment and sports potentials in them – Entering the world tourist market with new products – Growth of tourist visits to the region – Inclusion of rural accommodation capacities in bicycle tourism – Serbia is considered a relatively cheap tourist destination – Undiscovered territory for western cyclo tourists – Awareness of local events for tourists – Connecting with neighbouring regions and creating a regional bike tour – Education of local tourist guides – Using new information and communication technologies in popularising bicycle tourism – Building a sustainable ecosystem with the inclusion of tourism – Chance of obtaining project financing from the EU 	<ul style="list-style-type: none"> – Loss of biodiversity – Slow implementation of environmental law in real life – The level of public safety is not high enough for parking bicycles, storing bicycles on bicycle paths – Health services are not at a sufficient level – The region is quite far for cycling from the emitting developed countries – There are no mountainous areas that would be attractive for that particular type of tourist – Lack of constant maintenance of bike paths, rest areas and infrastructure – Economic sustainability (infrastructure, rest areas, information sources) – The services sector does not see opportunities in cycling tourism, so the development of background infrastructure does not follow the needs – Climate change threats (flood, drought, high temperatures, earthquake) – Negative impact on tour planning in spring and summer, large amounts of precipitation, which cannot be predicted – Epidemiological situation – Closing borders – In crisis situations, lack or decline of the tourist offer – Low population mobility – Systems of rules relating to cycling different by regions – Lack of connections between the public transport system and cycling (no integration, for example transport of bicycles by train)

<ul style="list-style-type: none"> - Availability of strategies, policies of countries, regions, settlements, which have developed cyclo cultures - Integration of public transport with cycling (train, bus, air and water transport) - Cyclo friendly rules in public transport - Increasing demand for quality bikes and equipment, bike rental 	<ul style="list-style-type: none"> - There are no funds allocated for the development of newer cycling infrastructure - Increased attachment to motor transport, leisure bike paths are devastating, their availability is reducing
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SWOT QUANTIFICATION, ANALYTICS, STRENGTHS

DESCRIPTION OF STRENGTHS Elements	Significance	Impact	Significance average	Impact average	Calculation
1. Good geographical position (near EuroVelo route)	5,5,4,5,5,4	4,5,4,4,5,4	4,7	4,3	$4,7 \times 4,3 \times 4 = 80,84\%$
2. Excellent transport connections with both Western and Eastern Europe (halfway the flow of the Danube)	5,5,4,5,5,4	5,5,3,4,5,5	4,7	4,5	$4,7 \times 4,5 \times 4 = 84,60$
3. Settlements to visit for cyclists - small distance between populated places	5,5,4,3,4,4	5,5,4,2,4,3	4,2	3,8	$4,2 \times 3,8 \times 4 = 63,84\%$
4. Flat terrain for cyclists	5,5,3,2,4,5	5,5,2,2,3,4	4,0	3,5	$4,0 \times 3,5 \times 4 = 56\%$
5. Existing bicycle paths as tours (e.g. Kelebija-Subotica-Ásotthalom)	5,5,5,3,5,3	5,5,4,4,4,4	4,3	4,3	$4,3 \times 4,3 \times 4 = 73,96\%$
6. Local roads with small car traffic, adequate for bicycle tourism	5,5,4,3,4,3	5,5,3,4,4,4	4,0	4,2	$4,0 \times 4,2 \times 4 = 67,20\%$
7. Partially built bike paths	5,4,3,4,5,3	5,5,3,4,4,3	4,0	4,0	$4,0 \times 4,0 \times 4 = 64\%$
8. 4 protected natural assets	5,5,3,3, 5,4	4,5,3,2,4,4	4,2	3,7	$4,2 \times 3,7 \times 4 = 62,16\%$
9. Unique biodiversity and landscapes	4,4,4,2,5,3	4,3,3,2,4,3	3,7	3,2	$3,7 \times 3,2 \times 4 = 47,36\%$
10. Indigenousness of fauna and flora	4,4,4,2,4,3	4,3,3,2,4,3	3,5	3,2	$3,5 \times 3,2 \times 4 = 44,80\%$
11. Close to nature	5,4,4,4,4,4	4,4,3,3,4,2	4,2	3,3	$4,2 \times 3,3 \times 4 = 55,44\%$

12. Awareness of nature protection among local population	5,5,3,2,4,4	4,5,3,3,3,3	3,8	3,5	3,8x3,5x4=53,20%
13. Multinationality of the population, rich and diverse customs	4,4,4,2,4,3	4,3,5,2,4,3	3,5	3,5	3,5x3,5x4=49%
14. Offer of other types of tourism	5,5,4,5,4,3	4,4,4,4,4,4	4,3	4,0	4,3x4,0x4=68,80
15. Tradition of cycling, production of bicycles	4,5,3,2,3,3	4,3,3,2,3,4	2,8	3,2	2,8x3,2x4=35,84%
16. Using partner network innovations	5,4,5,3,4,3	4,4,4,3,4,3	4,0	3,7	4,0x3,7x4=59,20%
17. Using the aspect of preserving health by cycling	5,5,4,3,4,4	5,5,4,3,3,4	4,2	4,0	4,2x4,0x4=67,20%
18. Public bicycle transport system that exists in Subotica	4,5,4,4,4,3	4,4,3,3,3,5	4,0	3,7	4,0x3,7x4=59,20%

SWOT QUANTIFICATION, ANALYTICS, WEAKNESSES

DESCRIPTION OF WEAKNESSES Elements	Significance	Impact	Significance average	Impact average	Calculation ¹
1. Lack of infrastructure, slow realisation of further construction of bicycle paths	5,5,5,5,5,5,	5,5,4,4,5,5	5	4,7	5x4,7x4 =94% Weakness is good 6%
2. Unused existing cycling tours	4,5,3,2,4,4,	4,5,3,3,4,4	3,7	3,8	3,7x3,8x4=56,24% Weakness is good 43,76%
3. Lack of service infrastructure from the aspect of bicycle tourism	5,5,4,5,4,2,	4,5,5,4,4,3	4,2	4,2	4,2x4,2x4=70,56 Weakness is good 29,44%
4. Road signs, info signs insufficient for cyclists, lack of maps	5,4,4,4,5,3,	4,5,3,4,4,5	4,2	4,2	4,2x4,2x4=70,56 Weakness is good 29,44%
5. Lack of trained staff in tourism, insufficient knowledge of foreign languages	4,4,4,3,4,3,	4,3,3,4,4,3	3,7	3,5	3,7x3,5x4=51,8% Weakness is good 48,2%

¹ P.S.: the first calculated percent has a negative impact, the remaining percent has an impact that is not negative.

6. Insufficient range of interdisciplinary professions	5,4,3,2,5,3,	4,4,3,2,3,5	3,7	3,5	3,7x3,5x4=51,8% Weakness is good 48,2%
7. Uninformed population on the periphery	4,4,3,2,4,3,	5,4,3,3,4,2	3,3	3,5	3,3x3,5x4=46,2% Weakness is good 53,8%
8. Insufficient integration and cooperation of the region	4,5,4,3,5,3,	5,5,3,3,3,5	4,0	4,0	4,0x4,0x4=64% Weakness is good 36%
9. Lack of local and regional information for tourists on tourist services	5,5,4,4,4,3,	5,5,5,3,4,5	4,2	4,5	4,2x4,5x4=75,6% Weakness is good 24,4%
10. Lack or small number of thematic routes in the region	5,4,4,3,4,3,	4,4,4,3,3,3	4,5	3,5	4,5x3,5x4=63% Weakness is good 37%
11. Lack of events for a large number of cyclists, lack of event calendar for potential cyclists	5,5,4,3,4,4,	5,5,4,4,3,5	4,2	4,3	4,2x4,3x4=72,24% Weakness is good 27,76%
12. Lack of cultural respect between car drivers and cyclists, within the population	5,5,3,2,5,4,	5,5,3,3,4,5	4,0	4,0	4,0x4,0x4=64% Weakness is good 36%
13. Weak cooperation between institutions and associations, which are in charge of the development of cycling	5,4,3,3,5,3,	4,5,4,3,4,3	3,8	3,8	3,8x3,8x4=57,76% Weakness is good 42,24%
14. Lack of school education and formation of awareness about traffic culture	5,5,3,2,4,5,	4,5,4,3,3,4	4,0	3,8	4x3,8x4=60,8% Weakness is good 39,2%
15. Lack of bicycle tourism culture	4,4,3,3,5,3,	4,4,3,3,4,3	3,7	3,5	3,7x3,5x4=51,8% Weakness is good 48,2%
16. Lack of services for cyclists (service, rental)	5,5,4,4,5,4,	5,5,4,4,4,4	4,5	4,3	4,5x4,3x4=77,4% Weakness is good 22,6%
17. Instead of cooperation, strengthening competition in relation to neighbouring regions	4,3,3,3,4,3,	4,3,4,4,4,3	3,3	3,7	3,3x3,7x4=48,84% Weakness is good 51,16%
18. Negative attitude of car drivers towards cyclists and lack of driving culture	5,5,4,3,4,3,	5,5,5,3,4,5	4,0	4,5	4x4,5x4=72% Weakness is good 28%

SWOT QUANTIFICATION, ANALYTICS, OPPORTUNITIES

DESCRIPTION OF OPPORTUNITIES Elements	Significance	Impact	Significance average	Impact average	Calculation
1. Education for a healthy lifestyle, increasing awareness of nature protection and cycling, from childhood	5,5,4,3,4,5	5,5,4,4,3,5	4,3	4,3	$4,3 \times 4,3 \times 4 = 73,96\%$
2. Increased interest in forms of recreation that require good physical fitness, for eco-tourism and active tourism	5,5,4,5,5,4	4,5,5,4,3,5	4,7	4,3	$4,7 \times 4,3 \times 4 = 80,84$
3. Special tourist attractions (bird watching, photo safaris, shores and cycling areas)	5,4,4,5,4,3	4,4,4,5,4,3	4,1	4,0	$4,1 \times 4,0 \times 4 = 65,6\%$
4. Use of existing ecological trails	5,5,4,4,5,2	5,5,4,4,4,2	4,1	4,0	$4,1 \times 4,0 \times 4 = 65,6\%$
5. Potential to connect with other tourist attractions	5,5,4,4,4,3	4,5,5,4,3,4	4,1	4,1	$4,1 \times 4,1 \times 4 = 67,24\%$
6. Making cyclists know the local rural population, their culture and customs	5,4,4,3,4,3	5,4,5,4,3,3	3,8	4,0	$3,8 \times 4,0 \times 4 = 60,8$
7. Getting to know the protected natural assets, the entertainment and sports potentials in them	5,5,4,3,5,5	5,5,4,4,4,4	4,5	4,3	$4,5 \times 4,3 \times 4 = 77,4\%$
8. Entering the world tourist market with new products	5,4,4,3,5,4	3,3,3,4,4,2	4,1	3,2	$4,1 \times 3,2 \times 4 = 52,48\%$
9. Growth of tourist visits to the region	5,5,4,5,5,3	3,5,4,4,5,4	4,5	4,2	$4,5 \times 4,2 \times 4 = 75,6$
10. Inclusion of rural accommodation capacities in bicycle tourism	5,4,4,3,5,4	4,5,4,3,4,4	4,2	4,0	$4,2 \times 4,0 \times 4 = 67,2\%$
11. Serbia is considered a relatively cheap tourist destination	4,5,4,3,5,5	4,4,5,4,3,5	4,3	4,2	$4,3 \times 4,2 \times 4 = 72,24\%$
12. Undiscovered territory for western cyclo tourists	4,5,4,3,3,3	5,5,5,4,3,3	3,7	4,2	$3,7 \times 4,2 \times 4 = 62,16\%$
13. Awareness of local events for tourists	5,4,3,3,4,5	4,4,4,4,4,4	4,0	4,0	$4,0 \times 4,0 \times 4 = 64\%$

14. Connecting with neighbouring regions and creating a regional bike tour	5,5,4,3,4,5	5,5,3,4,4,5	4,3	4,3	4,3x4,3x4=73,96%
15. Education of local tourist guides	5,4,4,5,5,5	3,4,4,4,3,5	4,7	3,8	4,7x3,8x4=71,44%
16. Using new information and communication technologies in popularising bicycle tourism	5,5,5,3,5,4	4,5,4,4,4,4	4,5	4,2	4,5x4,2x4=75,6%
17. Building a sustainable ecosystem with the inclusion of tourism	4,4,3,4,4,5	5,5,4,3,3,5	4,0	4,2	4,0x4,2x4=67,2%
18. Chance of obtaining project financing from the EU	5,5,4,4,3,3	5,5,3,4,4,3	4,0	4,0	4,0x4,0x4=64%
19. Availability of strategies, policies of countries, regions, settlements, which have developed cyclo cultures	4,3,5,4,3	4,4,4,4,3	3,2	3,2	3,2x3,2x4=46,96%
20. Integration of public transport with cycling (train, bus, air and water transport)	3,4,3,5,3	3,4,3,4,2	3,0	2,7	3,0x2,7x4=32,4%
21. Cyclo friendly rules in public transport	3,4,4,5,4	3,4,4,3,5	3,3	3,2	3,3x3,2x4=42,24%
22. Increasing demand for quality bikes and equipment, bike rental	3,3,3,4,3	3,4,4,3,2	2,7	2,7	2,7x2,7x4=29,16%

SWOT QUANTIFICATION, ANALYTICS, THREATS – DANGERS

DESCRIPTION OF THREATS AND DANGERS Elements	Significance	Impact	Significance average	Impact average	Calculation
1. Loss of biodiversity	5,5,3,4,5,3,	5,3,3,4,5,5	4,1	4,1	4,1x4,1x4=67,24% Threat is good 32,76%
2. Slow implementation of environmental law in real life	5,4,3,3,5,5,	5,4,3,2,3,4	4,1	3,5	4,1x3,5x4=57,40% Threat is good 42,60%
3. The level of public safety is not high enough for parking	5,5,3,5,5,5,	5,5,3,4,3,5	3,5	4,5	3,5x4,5x4=63% Threat is good 37%

bicycles, storing bicycles on bicycle paths					
4. Health services are not at a sufficient level	5,4,4,3,5,5	4,5,4,4,4,5	4,3	4,3	4,3x4,3x4=73,96% Threat is good 26,04%
5. The region is quite far for cycling from the emitting developed countries	4,4,4,4,4,4	4,4,4,4,3,3	4,0	3,6	4,0x3,6x4=57,60% Threat is good 42,40%
6. There are no mountainous areas that would be attractive for that particular type of tourist	5,4,3,3,3,3	4,4,3,3,3,3	3,5	3,3	3,5x3,3x4=46,20% Threat is good 53,80%
7. Lack of constant maintenance of bike paths, rest areas and infrastructure	3,5,4,3,5,5	4,3,4,3,4,4	4,0	3,6	4,0x3,6x4=57,60% Threat is good 42,40%
8. Economic sustainability (infrastructure, rest areas, information sources)	4,4,4,4,4,4	4,5,4,3,4,4	4,0	4,0	4,0x4,0x4=64% Threat is good 36%
9. The services sector does not see opportunities in cycling tourism, so the development of background infrastructure does not follow the needs	5,5,4,4,5,3	3,5,4,4,4,3	4,3	3,8	4,3x3,8x4=65,36% Threat is good 34,64%
10 Climate change threats (flood, drought, high temperatures, earthquake)	4,4,4,3,5,3,	4,4,4,3,5,5	3,8	4,2	3,8x4,2x4=63,84% Threat is good 36,16%
11. Negative impact on tour planning in spring and summer, large amounts of precipitation, which cannot be predicted	5,4,3,3,4,3	5,4,3,3,3,5	3,7	3,3	3,7x3,3x4=48,84% Threat is good 51,16%
12. Epidemiological situation	5,5,4,4,5,4	5,5,4,4,5,5	4,5	4,7	4,5x4,7x4=84,60% Threat is good 15,4%
13. Closing borders	5,4,5,4,5,3	5,4,5,4,4,5	4,3	4,5	4,3x4,5x4=77,40% Threat is good 22,6%
14. In crisis situations, lack or decline of the tourist offer	5,3,4,4,5,3	4,3,5,4,4,5	4,0	4,5	4,0x4,5x4=72% Threat is good 28%
15. Low population mobility	3,4,4,4,4,5	3,4,5,3,3,4	4,0	3,7	4x3,7x4=59,20% Threat is good 40,80%

16. Systems of rules relating to cycling different by regions	5,4,3,2,4,5	3,4,4,2,5,5	3,8	3,8	3,8x3,8x4=57,76% Threat is good 42,24%
17. Lack of connections between the public transport system and cycling (no integration, for example transport of bicycles by train)	4,4,3,4,5,4	4,4,3,4,5,5	4,0	4,2	4x4,2x4=67,20% Threat is good 32,8%
18. There are no funds allocated for the development of newer cycling infrastructure	4,4,3,3,5,5	4,4,4,3,4,5	4,0	4,0	4,0x4,0x4=64% Threat is good 36%
19. Increased attachment to motor transport, leisure bike paths are devastating, their availability is reducing	5,4,4,4,5,5	4,4,4,4,4,5	4,5	4,2	4,5x4,2x4=75,60% Threat is good 24,40%

SWOT ANALYSIS FINAL CALCULATION AND CONCLUSIONS

STRENGTHS: 73,96+80,84+65,60+65,60+67,24+60,80+77,40+52,48+75,60+67,20+72,24+62,16+64+73,96= 955,09:14=**68,51%**

WEAKNESSES: 94+56,24+70,56+70,56+51,8+51,8+46,2+64+75,6+63+72,24+64+57,76+60,8+51,8+77,4+48,84+72 =1148,6:18=**63,81%**
6+43,76+29,44+29,44+48,2+48,2+53,8+36+24,4+37+27,76+36+42,24+39,2+48,2+22,6+51,16+28=651:18=**36,19% weakness is good**

OPPORTUNITIES: 73,96+80,84+65,6+65,6+67,24+60,8+77,4+52,48+75,6+67,2+72,24+62,16+64+73,96+71,44+75,6+67,2+64+46,96+32,4+42,24+29,16= 1388,08:22=**63,09%**

THREATS: 67,24+57,4+63+73,96+57,6+46,2+57,6+64+65,36+63,84+48,84+84,6+77,4+72+59,2+57,76+67,2 +64+75,6=1210,64:19=**63,72%**
32,76+42,6+37+26,04+42,4+53,8+42,4+36+34,64+36,16+51,16+15,4+22,6+28+40,8+42,24+32,8+36+24,4=677,2:19=**35,64%**

TOTAL SCORE: 68,51+36,19+63,09+35,64=203,43:4=50,86%

SWOT	%	%
Strengths	68,51	

Weaknesses	63,81	36,19
Opportunities	63,09	
Threats	64,36	35,64
TOTAL SCORE	50,86%	

Conclusions

The SWOT analysis confirmed the snapshot of the current situation, that there are significant strengths for the development of eco-cycling tourism. The strengths in their elements show the highest percentage compared to other SWOT analysis matrices, which is an existing resource on which the development of local tours and international routes can be built. Weaknesses are identified to a lesser extent compared to strengths and opportunities, which shows that the identification of weaknesses is clear and can be overcome. Opportunities are at a slightly lower level than strengths and this shows that it is possible to turn them into strengths by continuous development of the elements. What is significant is that the threats and dangers are almost at the same level as the opportunities, with a slight difference. Namely, tourism as a sector is very sensitive and every negative event of local, regional or world importance has immediate negative implications for tourism, which reacts in a very short time, in a few days. It is not possible to influence threats and dangers, but it is the task of the management that will develop eco-cycling tourism to have a prepared scenario for excessive situations at any time, as well as a plan of alternative possibilities to make tourists feel safe, secure and cared for. The total score is 50,86%, and as such it provides data on the development potential of eco-cycling tourism, but in the light of crisis situations that do not have to negatively affect tourist visits. The target groups of eco-cycling tourists will take into consideration the problems of crisis situations and they will choose destinations from which they can return home relatively quickly and safely. This is an advantage of micro-destinations because they provide a greater degree of security for returning home, while not diminishing the desired and expected experience. In its matrices, the SWOT analysis provided a very precise sum of elements that should be taken into account in the action plan and strategic orientation of eco-cycling tourism, with special emphasis on the advantages of positioning a micro-destination in changed conditions.

2.3. The benefits of linking eco and bicycle tourism, stakeholders at microregional level

Stackholders who are important for eco-cycling tourism and who have experience in popularising these types of tourism are PC Palić-Ludaš for eco tourism, Riparia Association for eco tourism, mountaineering club Spartak for marking local trails for walking and cycling in the natural asset of Subotica sands and organising walking tours in the micro-region.

PC Palić-Ludaš is the manager of all protected natural assets in the micro-region. The Visitor Centre, a research station has been built on Lake Ludaš, which has accommodation capacities, a small laboratory and a conference hall. Nature schools, eco camps are organised here, there is an educational trail around the eastern part of the lake, biodiversity is monitored and birds are ringed. Third parties have to pay an environmental fee for using this natural asset, according to the Decision of the manager and the local self-government.

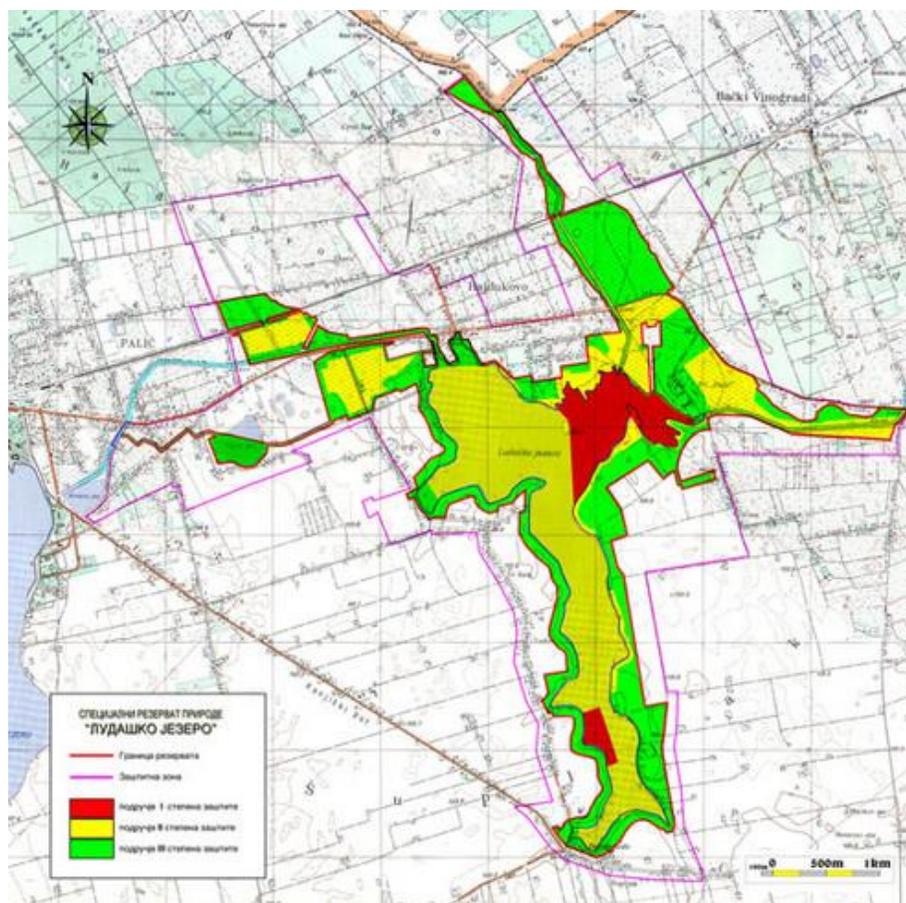


Figure 7. Lake Ludaš and the levels of protection.
 Source: <http://www.palic-ludas.rs/index/page/id/93/lg/sr>



Figure 8. Visitors Centre on Lake Ludaš

The RIPARIA Ecology Association was founded by experts of various profiles – ecologists, biologists, nature lovers – having 150 members, ten of which are accredited bird ringers. They are engaged in studying, observing nature “in situ”. In previous years, they organised bicycle tours around Lake Ludaš and Lake Palić. They made informative posters about biodiversity, not only for Lake Ludaš, but also for all protected natural assets. These posters will serve as a starting point for the creation of info boards on biodiversity at the rest area on Lake Ludaš.



Figure 9. Poster about the biodiversity of Lake Ludaš created by RIPARIA Association
 Source: <http://www.riparia.org.rs>

Mountaineering sports club Spartak has its own ecological recreational section that organises walks in protected natural assets, night walks, large and small health trails, especially in the area of Subotica sands. The health trails connect 4 protected natural assets in the micro-region. On the club's website, there are longer and shorter routes, which are marked, and an average hiking trail is about 15 km long. Marked trails are also suitable for off-road cycling. The club also has an orienteering section, but no cycling section. They plan to organise a tour of Lake Garda in Italy by bicycle. They plan their activities in conjunction with the Mountaineering Association of Vojvodina, which offers marked hiking trails in Vojvodina on its website. Some of these can also be used for bike tours.

Each of these stakeholders organises various activities in its segment of actions, but their common platform is closeness to nature, activities in nature and its conservation. Although cycling tourism does not appear as a special kind of recreation, by integrating the activities of the stakeholders, it is only a step from expanding their activities to bicycle tourism. The usefulness of better

connection of the stakeholders is evident, since both local and foreign cycling groups are attracted by the already developed eco and recreational tourist offers. Thus they achieve:

- impact on a larger number of people from similar target groups;
- expanding the offer of already existing activities, touring the trails by bike;
- popularisation of eco-cycling tourism among the local population;
- organising larger events if everyone is involved;
- linking information on stakeholder websites using a link;
- promotion of protected assets of the micro-region from several aspects;
- sustainable tourist valorisation of natural resources for this type of tourism.

It is recommended to connect these stakeholders in some activities that would enrich the eco-cycling offer, which is not complicated, since there is already a tradition in their work, activity profile; it is only necessary to achieve cooperation and joint scheduling of events that would have a common goal.

2.4. Eco-cycling resources, friendly businesses, necessary services at microregional level

Friendly businesses for eco-cycling tourists in the micro-region mean that every entrepreneur knows what to offer for this segment of tourists and influences the constant development of a safe system of reception for these tourists, which is a long-term job. In order for a destination to be eco-cyclo-friendly, it is necessary at first to change the attitude and try to think like a tourist. It is advisable to visit all local trails by bike, look for recommended species of biodiversity that can be observed, take photos, videos, visit accommodation, restaurants, shops, historical and cultural institutions and places where these tourists pass, record and get acquainted with the provided services (entrepreneurs and tourism managers.). It is necessary to understand how these visitors feel, what they see positively, what negatively, how much good information they have at their disposal, whether they feel welcome, how foresighted and informed the local population is. After this process, the entrepreneur who decides to provide services to eco-cycling tourists must follow some rules:

- Make visible the note: Cyclists welcome;

- Put signs on the roads about how cyclists can find a given location, with mileage and direction. (Entrepreneurs must take the initiative, because of their business). Cyclists who ride longer routes lose attention to inconspicuous markings along the way. It is best to display a map;
- It is obligatory to set up an appropriate and safe parking lot for cyclists, but also for cars, because there are eco-cycling tourists who come in their vehicle and then ride a bicycle in nature on local trails this influences the decision makers to consider parking space for cyclists on the bike paths;
- Set benches and tables for rest, trash cans, roofed shelter, if possible, wifi connection;
- Set up info boards with important web pages, information, telephone numbers;
- The most important thing is to maintain cleanliness and order.

If most friendly businesses follow the basic recommendations, sooner or later the destination itself will become eco-cycling friendly as well. This does not happen overnight, but step by step.

2.5. Special needs of cyclo- and eco-tourists, understanding the characteristics of the market, description of the target group

According to the way cyclists use their bicycles, they can be divided into:

- cross-country cyclists use mountain bikes for uneven terrain, usually;
- road cyclists use vintage bike because it is very popular in our country and they are used in the case of paved bike roads. Cyclists often do not mind cycling on (quiet) roads and prefer narrow, winding roads / paths. Most of all, bad asphalt and uneven surfaces are not liked by bikers;
- touring cyclists use trekking models;
- mountain descent cyclists use special bicycles, downhill bikers.

What the cyclo-tourist wants is an important question of every destination before the directions for strategic development are determined at all. Tourism and hospitality are suitable spheres of private business, but cooperation with the public sector is needed, as well as service standards for “bike friendly” tourism. What does not distinguish the cyclo-tourist from all other tourists is the satisfaction with the quality of services. Safety on all roads, the existence of bicycle paths, signalisation and specific services for cyclists (service, parking, bicycle rental etc.) are extremely important items. Cyclists prefer designed routes around a topic, such as gastronomy or specific landscapes. They also need a network of good public transport to support their movement. Local

tours, roads in nature should be maintained, marked, with the infrastructure of urban furniture and with green areas for resting. Nature tours – green roads are important for family cycling tourism, where children also participate. In addition to roads that are out of vehicle traffic, cyclo-tourists expect tours that offer a complete experience, safety of people and things, vacation in interesting places that must be visited. The inclusion of attractive places, towns, villages, access to historical and cultural monuments and attractions that are easy to reach are unavoidable points of the tour. A beautiful landscape is the most important attribute of a destination, it should be diverse. Uniform landscapes become boring. Weather, atmospheric amenities are an advantage. Routes can be designed as:

- riding from place A to place B, linear, with some content in place B;
- round trip, where departure and arrival is in the same place;
- rural routes where no more than 50 km are crossed daily, along rivers, on flat roads, Route from Sombor to Subotica is 80km and cyclists cross it in one day, but on the way there are many small villages, whose center is located along the road, and there are places to get accommodation or rest;
- urban short routes in different places;
- routes in protected natural assets;
- landscape routes on the outskirts of cities or between settlements.

The characteristics and expectations of the average cyclo-tourist are identified:

- They come from the upper middle class, they are educated and satisfied, mostly from the EU and the Nordic countries, where cycling and eco-tourism is in full swing and developed, there is already a culture of cycling and eco-tourism;
- Dedicated tours are usually made by men, they prefer circular routes;
- If the goal is to visit a wider region, with breaks during the ride, the difference in the number of male and female cyclists is reduced;
- If they go as a family, it is often a group of friends who also have children, they have the same interests and hang out together;
- Younger adult men are the most frequent guests; they go individually, in a group or as a club;
- They spend more than the average tourist per day;

- Cyclo-tourists especially highlight: the proximity of the route to settlements, cities - 27%; good special bicycle paths with no traffic - 33%; good transport in the city - 35%; short distances up to 50 km - 37%; ability to engage in other activities - 37%; easy straight routes and short distances to the service (up to 20 km) - 39%; scenic landscape, open landscape view - 44%; linear routes - 41%; circular routes - 43%. This research is important, in order to appeal to the Strategy, and have a constant influence on the decision makers in the city to build bike paths.

In order to meet the specific needs of cyclo tourists, a network of EuroVelo routes has been formed, through Europe, which connects the regions. The goal is to build trans-European bicycle paths in all countries that will be connected and that will meet the requirements of cyclo-tourists, a sustainable network that can be used by tourists on long distances, as well as the local population, people who travel every day. The EuroVelo network is coordinated and managed by the European Cycling Federation (ECF), which works to ensure that all routes offer high standards of design, signalling and promotion across Europe. The development of the network has involved a wide range of stakeholders so far and the unavoidable national levels of the countries through which the routes pass. The EuroVelo route map contains routes that already have built bicycle paths, but also some routes that have to be built.

Routes 6, 13 and 11 pass through the region of Vojvodina. These three routes meet in the area of Belgrade. Routes 13 and 11 meet near Horgoš, and routes 6 and 13 near Sombor in the Gornje Podunavlje. Route 6 continues along the Danube to Belgrade, where all three routes meet again, after Belgrade, continuing their trajectory.



Figure 10. EuroVelo routes.
Source: www.eurovelo.com

Micro-destinations have a chance to develop local tours of various thematic units for cyclo-tourists, which will build upon existing EuroVelo routes.

The main benefits of micro-destinations, which have formed their local tours, when connecting to EuroVelo routes 6, 11, 13 are:

- strengthening domestic cycling tourism and reducing CO₂ emissions, travelling by bicycle on longer distances;

- encouraging cross-border tourism with low environmental impact;
- encouraging local people to use a combination of public transport and bicycles to their destination;
- incentive to reduce the use of private cars, users of bicycle for local tours have almost no impact on CO₂ emissions;
- encouraging the form of slow travelling during vacations, getting to know the local culture, customs, traditional heritage of the local diversity of a region;
- encouraging the development of those micro-destinations that have landscape potentials and are not tourist destinations;
- reviving interest in protected natural assets and generating new experiences;
- encouraging the diversification of entrepreneurship in order to provide accommodation, gastronomy, attractions and various services;
- better quality of living standard of the local population.

The needs of eco-tourists refer to: quality local accommodation without noise (private accommodation close to nature, green hotel, eco loggia – which does not mean luxurious, but commonly comfortable); good and safe parking space; good internet; existence of canopies, rest areas, visitor centres on observation trails; interdisciplinary educated local guide; opportunity to get to know the local culture and tradition; purchase of local products; participation in educational workshops; the peculiarity of the whole landscape. Eco-tourists very often use bicycles as a means of transportation in nature and thus they become cyclo-tourists. Their primary motive is the study of nature, biodiversity and the beauty of the landscape, while the primary motive of cyclo-tourists is recreation while cycling in the natural environment; therefore both target groups are closely related and have similar characteristics.

The needs of eco- and cyclo-tourists are identical in many segments. Eco- and cyclo-visitors are environmentally conscious; they take care of their health and treat nature with respect and responsibility. Due to the sensitivity of eco-micro-destinations, they meet all the criteria of thematic, specifically oriented, non-mass tourism, and are subject to controlled management of visitors. Their needs provide the basis for the development of micro-business, an “eco-cycle

friendly” service scheme at local level as a strategic commitment. Cycling tourism is not competitive cycling, so the “slow” way of travelling corresponds with the activities of eco-tourism. As the issue of CO₂ emissions has become a global question, the reduction of this emission also affects the transport of tourists. Shorter breaks that use a bicycle as a means of transport are increasingly being supported. As an example, a German cyclo-tourist produces 66% less CO₂ per trip than a German tourist travelling by car to the same destination. Visitors can come to micro-destinations by car for eco-tourism activities (bird watching, photo safaris, biodiversity photography etc.), but they are encouraged to do so by bike, and not only to use bicycles when they arrive at the destination. Some estimates say that in England 2% of cyclo-tourists go on vacation by bicycle, which means a stay for more than a week, in Switzerland 7%, in Germany 30%, in Denmark 25%, in the Netherlands as much as 52%. This means a significant reduction in CO₂ emissions, just by this activity. Currently the railways are under reconstruction, so tourists can only reach the border by public transport.

2.6. What tourists can see, experience in the micro-region – biodiversity, interesting things, description of the local landscape

Subotica sands

The Subotica sands are located in the north of Bačka and represent the most southern part of the large sand plateau between the Danube and the Tisa rivers, the largest part of which lies in neighbouring Hungary. Considering that it is connected to the most continental part of Vojvodina, the sands are characterised by unique ecological conditions created by slightly undulating dune relief with mosaic arrangement of sandy and loess oases, as well as complex pedological creations determined by carbonate sands, and above all by the phreatic water regime. A peculiar feature of the Subotica sands is the presence of a specific mosaic of habitats in which sandy and steppe clearings intertwine with acacia and pine plantations, natural oak forests, smaller oases of indigenous white and grey poplar forests, as well as primaeval peat ecosystems. Accordingly, there is a great diversity of natural ecosystems. This especially refers to the high degree of diversity of plant communities of different types, especially those belonging to fragile ecosystems with about

20 isolated phytocenoses of marsh, swamp, meadow, sand, steppe and forest vegetation. The fauna of the sands also has its specifics and significance as a unique value or as a link in maintaining biological balance. The landscape of exceptional features of Subotica sands, thanks to the richness of ecosystem and species biodiversity, in addition to its scientific and ecological, it also has a great tourist significance.

The Subotica-Horgoš sands are in fact the southern rim of the sand plateau between the Danube and the Tisa, from the border of the Bačka loess plateau, i.e. north of Subotica, Palić and Horgoš towards the Hungarian border. It stretches from the railway to Szeged in the east to Tavankut in the west. The sands are cut along the line Čikerija-Tompa and it consists of two separate parts: the larger one extends between Kelebija and Horgoš, while the smaller one covers one part of the land in the vicinity of Tavankut and Čikerija. River regulation and large-scale industrial projects after the Second World War had drastically changed the image of the landscape, but the natural areas that remained untouched are of exceptional value in any case. There are two protected areas on the Subotica-Horgoš sands. The special nature reserve Selevenj pusta stretches between Bački Vinogradi and Horgoš, and the landscape of exceptional features of Subotica sands was formed north of Subotica, along the state border of Serbia and Hungary.

Open sand meadows (*Festucetum vaginatae Danubiale*) are characteristic pioneer associations of dry steppe habitats that form on the elevations of sand dunes. Their flora consists of plants that tolerate heat, drought and loose sandy substrate, which is rich in lime. From the aspect of nature protection, sand meadows are considered an autochthonous and endemic association of the Pannonian Plain with numerous endangered and protected plant and animal species. They are recognisable by their lush grass and many dicotyledonous and small annual plants. The most common species are *Festuca vaginata* and feathergrass (*Stipa borysthenica*). Large open sandy areas are characteristic, and some parts of the soil are covered with moss (*Tortura ruralis*) and lichens (e.g. *Cladonia magyarica*). The summer decoration of the sands is the sunflower (*Fumana procumbens*). The legally protected species of Subotica-Horgoš sands are dyer's alkanet (*Alkanna tinctoria*), *Sedum urvillei ssp. Hillebrandtii* and *Dianthus serotinus*. In autumn, *Colchicum arenarium* blooms, a real natural treasure of the sands, an endemic species of the Carpathian Basin. In the depressions between the dunes with high groundwater levels, there are hydrophilic species

like clustered clubrush (*Scirpoides holoschoenus*) and rosemary-leaved willow (*Salix rosmarinifolia*). Their small, unusual shrubs form a characteristic landscape of the Subotica sands. Over time, depending on the amount of accumulated humus, these communities gradually turn into closed sand meadows.

Closed sand meadows are formed on forest clearings and forest edges. The most beautiful meadows of this type are located in the Selevenj, Jasenovac and Daščar forests and on the surrounding sand dunes. The dominant and characteristic grasses of this association are *Festuca rupicola* and brush grass (*Chrysopogon gryllus*) which can even reach human height, and the hairy feathergrass (*Stipa capillata*). Other typical species of the sands are: *Astragalus* spp., *Centaurea* spp., *Silene* spp. The orchid family (*Orchidaceae*) is represented by several species, such as: *Ophrys sphegodes*, *Orchis morio*, *Orchis coriophora* and *Neotinea ustulata*. Exceptional natural values are *Astragalus dasyanthus*, *Iris humilis* ssp. *arenaria*, *Epipactis atrorubens*, *Adonis vernalis* and *Centaurea sadleriana*.

Thanks to the diverse steppe-meadow vegetation, a very rich animal world has developed on the sandy habitats. More than 40 species of odonata (mantises, grasshoppers, crickets and cicadas) live on dry steppe meadows between the Danube and the Tisa. The most famous representatives are the Pannonian grasshopper (*Acrida hungarica*) and the common mantis (*Mantis religiosa*). The fauna of butterflies in sandy habitats is extremely rich; more than 100 species have been recorded so far. Characteristic representatives of diurnal butterflies are: milkweed (*Hyles euphorbiae*), meadow brown (*Maniola lupina*), representatives of the families *Zygaenidae* and *Levatheridae*. Among the natural rarities that live on the Subotica-Horgoš sands are: the Danube clouded yellow (*Colias myrmidone*) and white-letter hairstreak (*Satyrrium w-album*). Both species are protected in the country, and they are also on the International Union for Conservation of Nature's Red List. Ant-lions (*Myrmeleon* spp.) make tiny cylindrical depressions on empty sandy parts and thus hunt tiny insects, mostly ants. A unique fauna of beetles has developed on the dry barren lands of the dune uplands: tiger beetle (*Cicindela* spp.), dung beetle (*Scarabeus* spp.), shear beetle (*Dorcadion* spp.), among which there are both endemic and subendemic species of the Pannonian region. The order of *Coleoptera* is especially rich. Typical representatives are the *Carabus cancellatus*, the green tiger beetle (*Cicindela campestris*) and their rare subspecies, typical only for the plain. In

these communities there live several species of ants (*Formicidae*), hairworms (*Cerambycidae*) and many other special insects. The grassy vegetation is home to a variety of spider fauna; among them the *Argiope lobata* species is particularly important. Fragments of sandy vegetation preserve a high diversity of insects, which means that there is a possibility of their renewal and revitalisation.

Oak forests and sandy steppe meadows form a mosaic image of the Subotica-Horgoš sands. The dominant species of these forest communities are pedunculate oak (*Quercus robur*), and the characteristic accompanying species are poplars (*Populus spp.*). The level of shrubs consists of white hawthorn (*Crataegus monogyna*), thorns (*Prunus spinosa*), viburnum (*Ligustrum vulgare*), European spindletree (*Euonymus europaeus*) and blueberry (*Rubus caesius*). Of the herbaceous plants, wig grasses (*Festuca spp.*) are widespread. Closed, dense oak forests with lilies of the valley grow in wet depression between dunes. There the dominant species is also pedunculate oak, and the accompanying trees and shrubby vegetation are also similar. A typical plant of these stands is the broad-leaved Solomon's-seal (*Polygonatum latifolium*) and the lesser celandine (*Ficaria verna*). A protected natural rarity that occurs in hybrid poplar plantations is the dark-red helleborine (*Epipactis atrorubens*).

Protected forest-steppe species such as striped saffron (*Crocus reticulatus*), saffron (*Bulbocodium versicolor*), branched St Bernard's-lily (*Anthericum ramosum*) and colorful iris (*Iris variegata*) appear on the edges of forests and clearings.

On dry dunes, there are sparse forests of grey poplar (*Populus x canascens*), aspen (*Populus tremula*), and in the depressions between dunes with high water levels there are smaller forests of white poplar (*Populus alba*). Sand forests provide good conditions for the development of rich wildlife. An exceptionally rich insect fauna has been recorded in the sand-steppe habitats of the Subotica-Horgoš sands. The insect world of oak forests is especially rich. The largest species of deer beetle (*Lucanus cervus*) lives there.

The world of vertebrates is also diverse: an amphibian, *Pelobates fuscus*, lives in the soft loose sandy soil, and a characteristic inhabitant of moist forests is the forest frog (*Rana dalmatina*). Lizards are inhabitants of drier and grassier habitats. Meadow lizard (*Lacerta agilis*), larger green lizard (*Lacerta viridis*) and steppe lizard (*Lacerta taurica*), rare species that are of special

importance for the fauna, appear in great number. The smooth snake (*Coronella austriaca*) is a species of snake characteristic of this area.

Sandy forest complexes are inhabited by a diverse bird world. The black stork (*Ciconia nigra*), a cautious and timid species, which, unlike the white stork, lives far from human settlements, has reappeared only a few years ago. Of the birds of prey, the hawk (*Accipiter gentilis*) and the sparrowhawk (*Accipiter nisus*) are present, which feed on smaller songbirds. In the canopy of tall oaks, the swallow falcon (*Falco subbuteo*) and the most common sand predator, the buzzard (*Buteo buteo*) nest. The night owl (*Strix aluco*) is characteristic of nocturnal predators. Green woodpecker (*Picus viridis*) lives at the edges of old forest stands, which can often be seen on the ground as it feeds on ants and their pupae. The great woodpecker (*Dendrocopos major*) and the black woodpecker (*Dryocopus martius*) make a new nesting hole every year, thus enabling other species of woodpeckers to reproduce successfully. These are *Upupa epops*, *Coracias garrulus*, *Sturnus vulgaris* and three species of tentacles: *Parus major*, *Parus caeruleus*, and *Parus ater* in pine forests. A typical inhabitant of oak forests is the short-toed treecreeper (*Certhia brachydactyla*), which builds nests in cracks in the bark of old oaks. In early spring, wood nuthatch (*Sitta europaea*) can be heard. Its nests are located in abandoned woodpecker holes. Four species of forest shrubs live in the thickets of bushy vegetation and in the ecotone of forest glades. The most common is the black-headed shrub (*Sylvia atricapilla*). The common shrub (*Sylvia communis*) lives in open habitats, while the *Sylvia curruca* has inhabited parks and gardens in recent decades. A special rarity of shrubby hawthorn is *Sylvia nisoria*, which often nests near the red-backed shrike (*Lanius collurio*). The common wood pigeon (*Columba palumbus*) also nests in such places. During the spring migration the forest snipe (*Scolopax ruticola*) and the Eurasian jay (*Garrulus glandarius*) feed on the forest litter.

The European squirrel (*Sciurus vulgaris*) and the hazel dormouse (*Muscardinus avellanarius*) can often be seen in oak and pine forests, as well as in larger gardens and city parks. Recently, its main enemy appeared in the region - the marten (*Martes martes*). A common predator is also the red fox (*Vulpes vulpes*), the badger (*Meles meles*) and after a long time, the common jackal (*Canis aureus*) has also appeared in this area. Organised hunting is carried out in the forests, and the most common

large game are roe deer (*Capreolus capreolus*), mouflon (*Ovis musimon*) and wild boar (*Sus scrofa*).

The most significant natural rarity of the Subotica-Horgoš sands in the south is the blind mole-rat (*Nannospalax montanosyrmiensis*), the single known population of which lives on the meadows of the border zone and near the Jasenovac forest.

Beside being an area of high biological value, the Subotica sands with its immediate surroundings also represents a specific cultural landscape in which two completely different wholes can be distinguished, according to the way of life in them. On one hand, it is a space of preserved nature, and on the other, the urbanised zone of Subotica and Palić. Rural settlements along the rims of sands are being developed according to plan, along historical and still active local roads. In the interior of the Subotica sands, some farms with mostly elderly households have remained, where they produce only for their own needs. Agricultural production is represented here, primarily viticulture, fruit and vegetable growing. The mentioned typical North Bačka villages and preserved farms have a kind of ethno motifs that are part of the tourist offer of Subotica sands. Also, nearby Palić and especially Subotica with numerous protected cultural assets, offer the possibility of completing the overall tourist offer of the protected area.

Lake Ludaš

Lake Ludaš is located 13 km east of Subotica. The surface and the shore of the lake differs depending on the water level. According to cadastral data the surface of the lake is 328,5 hectares. The lake itself has formed in a shallow depression with a length of 4,5 km, spreading from the north to the south. The northern part is 2,000 m wide, while the southern is only 200–300 m. The shallower northern coastal belt has turned into a swamp, while the steep loess sections give basic features to the southeastern parts. The differences between the northern and southern parts are also visible in the depth of the water: the deepest part of the riverbed is 2.25 m, but the average depth of Lake Ludaš does not exceed 1 m. Currently the bottom is covered with mud, the thickness of which in the northern part exceeds 1 m.

Lake Ludaš is a protected part of nature (Special Nature Reserve Lake Ludaš), and with the signing of the Ramsar Agreement in 1977, it has got the character of a swamp of international importance.

On February 2, 1971, in the Iranian city of Ramsar, the *Agreement on Wetlands of International Importance* was signed. Representatives of 18 countries were present at the conference, while today 169 countries ratified the agreement. Today, almost 2,300 wetlands on a total of 225,400,000 ha have been recorded on the Ramsar List. Today, there are a total of 10 Ramsar sites in Serbia.

The lake is characterised by plants that are typical for marsh-wetland ecosystems: reed, broadleaf rush, sedge, marsh iris. The dominant community of the wetland ecosystem is represented by reeds. The wider belt of reeds along the shore gives a distinctly mosaic look to the entire vegetation of the lake and is a fundamental feature of this natural asset. This mosaic arrangement of turf reeds is of special importance, as a nesting place for many rare bird species. In the depressions on the northeastern and northwestern shores of Lake Ludaš, only fragments of hygrophilous meadows and marshes have survived to this day, in which once many more rare and endangered species could find conditions for survival, which have now largely disappeared due to drainage of these depressions. One of the wild orchids, *Orchis laxiflora subsp. palustris*, grows on wet, slightly saline meadows. A strictly protected representative of the reptiles of Lake Ludaš is the pond turtle (*Emys orbicularis*). Their populations are endangered because with the disappearance of suitable places for reproduction their number is drastically reduced. During the migration between water habitats, a large number of pond turtles die on busy roads. Two species of snakes live in wet habitats: the grass snake (*Natrix natrix*), which is more common, while the dice snail (*Natrix tessellata*) is registered only by Lake Ludaš. These are reptiles of small dimensions; their length does not exceed 1–1.5 m. One can usually see them during reproduction, and they lay their eggs in loose soil. They change their skin in July every year, so their dry peeled snakeskin can be found on the shores of the lake. Neither of these two water snakes is dangerous to humans. The otter (*Lutra lutra*) population is one of the highest values of the reserve.

A total of 200 species of birds have been registered in water habitats, of which 90 are nesting species. The most famous species is wild goose (*Anser anser*), which has been nesting again in the area of the Ludaš reserve since 2007.

Of the ducklings, the most numerous species is the mallard (*Anas platyrhynchos*). The Savi's warbler (*Locustella luscinioides*), the reed warbler (*Acrocephalus scirpaceus*) and the great reed warbler (*Acrocephalus arundinaceus*) are singers of dense reeds.

In the past, red herons (*Ardea purpurea*), yellow herons (*Ardeola ralloides*) and black-crowned night-herons (*Nycticorax nycticorax*) formed large mixed colonies in the inaccessible reeds of Lake Ludaš. Today, their number has significantly decreased, but the population of the great white egret (*Egretta alba*) has increased sharply and today it is the most numerous heron type of the lake. Little bittern (*Ixobrychus minutus*) and great bittern (*Botaurus stellaris*) nest solitarily. Characteristic birds of the swampy parts of the marsh are moustached warbler (*Acarcephalus melanopogon*), little crane (*Porzana parva*) and bearded reedling (*Panurus biarmicus*). Western marsh harriers (*Circus aeruginosus*) are often seen above meadows and agricultural lands. This predator builds its nest in dense reed bushes. Natural lakes, swamps and ponds of northern Bačka play an important role in the migration and wintering of marsh birds. About 6000 spotted geese and the same number of wild ducks spend the winter on Lake Ludaš, and this reserve is today the most important wintering ground for marsh birds in the region of northern Vojvodina.

Lake Palić

Lake Palić is located 8 km east of Subotica. The lake has the shape of the letter V and covers an area of 5.7 km², while its length is 8 km. Similarly to Lake Ludaš, it is one of the shallow Pannonian stagnant waters. The average water depth is 1.9 m, the maximum is 3.5 m. The lake used to have an alkaline-salty character, water and mud had a healing effect, and that is why the Banja Palić health resort was founded in the northern part of the lake in the middle of the 19th century. Human activities (e.g. construction of a spa, reception of wastewater from Subotica) have led to the gradual transformation of the alkaline lake into a freshwater swamp. In the 1970s, as part of the “ecological action of the century”, they completely drained the water from the lake and removed the sludge deposits in order to improve the ecological status of the lake. During the rehabilitation, the basin of Lake Palić was divided by dams into four sectors, where the wastewater of Subotica, which arrived from the city treatment plant, was subsequently treated. Thus, water pollution continued, which led to the devastation of the lake water and the living communities associated with it. In order to resolve these problems, in 2009 the research on the condition of living communities and revitalisation planning of the lake began, which has included the

prevention of further water pollution, revitalisation of living communities of the lake, formation of protection belts, monitoring of water quality and of living communities etc.

Despite the poor ecological status of Lake Palić, this aquatic habitat is of exceptional importance, because it plays an important role in the migration of marsh birds. On the islands built of mud during the rehabilitation of the lake and in the parks on the north shore, an extremely rich bird world nests. In Serbia, the black-headed gull (*Larus melanocephalus*) nests only on the bird islands of Lake Palić, and there are also large colonies of large and small cormorants, and mixed colonies of herons. Grey heron, yellow heron, night heron, small white heron and red heron also nest in dense reeds. A large number of ducklings nest on bird islands and there is a colony of river gulls. During the 19th century, after the regulation of the great rivers of the Pannonian Plain, the level of surface and groundwater began to decline, and this had particularly pronounced negative effects on the plateau between the Danube and the Tisa. Gradually, the watercourses that filled the lake had dried up, and the increasingly rare excess water was no longer drained through Paul's paddle, but at the suggestion of the town in 1817, the Böge canal was dug, which carried excess water from Lake Palić to Lake Ludaš.

The water of Lake Palić was already used for swimming at the beginning of the 19th century. In 1840, the town determined the location of the spa, next to which they planted a park on 12 chains in 1842. After a few years, the first inn was built, where wooden bathtubs for bathing in hot water were set up. Until 1885, beside the warm bath, guests had at their disposal a cold bath with baskets, as well as a mud bath, which were abolished with the establishment of separate baths for women and men.

The English park was reconstructed in 1911, then on 18 hectares, in the Baroque style. Pedestrian paths and flower beds of regular, geometric shapes were also built then. After the Second World War, the area of the park was significantly reduced. Since only the flower beds were properly maintained, the western nettle (*Celtis occidentalis*) as an invasive species became more and more widespread in the forest part of the park. Thanks to the presence and forest structure of old oaks and other types of sand oak forests, in the park we can find numerous species characteristic of forest habitats. Beside the rich world of insects, the data confirm the presence of four protected species of bats, and among them is the Daubenton's bat (*Myotis daubentonii*) whose survival is

possible thanks to old, hollow trees near the water. So far, about 99 species of birds have been recorded in the park on a regular or occasional basis, of which 66 species also nest there. The high density of local populations stands out. Forest species are the most important: representatives of the woodpecker family and small songbirds. Of the nesting birds, the sparrowhawk, the green woodpecker, the forest owl, the long-beaked creeper, the woodpecker, and in the thickets of bushy vegetation thrushes and shrubs are significant. This area became protected in 1982 under the name Regional Park “Palić-Ludaš” in order to protect nature and preserve cultural heritage. The park is located in the northern part of Vojvodina, between the settlements of Subotica and Palić. In 1991, the route of the E-75 highway divided the regional park into two parts. Currently, this area belongs to the 3rd category of protection, according to the decision of the local self-government. The protected parts, whose total area covers 712 hectares, are bordered by a protection belt of a total of 869 hectares. The area of the lake itself is 5.7 square kilometers. In 1996, the Assembly of the Municipality of Subotica made a decision on the establishment of the Nature Park Palić, and the Public Company “Palić-Ludaš” with its seat in Palić was appointed to its manager.

This area is also recognised internationally, as it is part of the important bird habitat of Subotica Lakes and Wilderness (IBA – Important Bird Area No-002). Lake Palić is an important place for gathering, resting and feeding migratory birds, i.e. certain water birds spend the winter there. So far, 220 species of birds have been recorded on the lake and in its surroundings, and more than a hundred species also nest there.

From the aspect of bird species diversity of the Palić area, it is necessary to mention the Zoo, founded in 1949, which also serves as an arboretum and today occupies about 10 hectares. Here we find more than 270 species of trees and shrubs. Among them one can find real rarities, such as Lebanese cedar, redwood and European larch. More than 250 years old specimens of pedunculate oak (*Quercus robur*) are considered to be remnants of the original vegetation.

After several major fish deaths, a major ecological disaster took place in 1969 when they completely drained the water from the lake. In the period from 1971 to 1973, within the so called ecological action of the century, intensive work was done on removing sludge deposits from the dry riverbed. Part of the mud was pushed ashore with working machines, and in the western part they formed a chain of elongated islands. The expert supervision of revitalisation included two

biologists from Subotica, Dr Gyula Szöllősi and Dr Albert Zolnai, who consciously planned the formation of the islands in order to enrich the living world of the future lake. The basin of Lake Palić was divided into four sectors by dams during the rehabilitation. After water was returned, restocking of fish took place and the living world of the new aquatic ecosystem adapted to the conditions of the newly created artificial habitat very quickly. Life simply began to flourish, and even the greatest optimists did not expect that.

In the first years, the islands were without vegetation, while today they are covered by various stands of plant communities. Dense reeds and hornbeams protect the fragile cliffs from the erosive effects of the waves, while the islands themselves are dominated by dry reeds, weed communities, then forests of black sallow, white and grey willows, as well as forests of white poplar and field ash. With the appearance of woody vegetation, newcomers formed their nesting colonies, and the first among them were night herons. Night heron belongs to the heron family; it is a resident of floodplain forests along great rivers of the Vojvodina plain. It is called the night heron, because during the day it rests in the dense canopy of trees, and it starts hunting only at dusk and in the evening. Then their characteristic gak-gak-gak voices are heard, after which they got their name in Serbian. A nesting population of about one hundred pairs was formed on Lake Palić, which is stable, only the place of the colony may change depending on the condition and stage of low bushy vegetation of elder and grey willows.

The water quality of Lake Palić is adequate for foreign, non-native fish species that have successfully adapted to domestic conditions. These are silver carp and Chinese rascobola, which originate from the Far East. They make up 98% of the total mass of the fish population in Lake Palić. In the absence of predatory fish, they are only hunted by otters and wetland birds. The abundance of food has attracted large and small crows, which have been successfully nesting on the bird islands since 2010. Their white droppings are so strong that they dry out the trees on which their nesting colonies are built.

There are few aquatic habitats in Vojvodina with such a large number of nesting species of ducks as in Palić. Beside them, the lake is visited by a large number of spring and autumn passers-by, as well as migratory species that stay there during the winter.

Tufted duck are a special value of the lake because their nesting in the lowlands is a real rarity. Since 1985, they have been successfully nesting and raising their young here. The number of mallard ducks has greatly decreased in recent years, which is why it has been classified as an endangered species. The nesting populations of Lakes Palić and Ludaš are especially important for the preservation of the species.

The humpback swan has been nesting near the islands since 1984. Its beauty and grace make it very popular, and today we consider it for one of the symbols of Lake Palić. The locals, farmers who have stayed on their centuries-old estates, are very fond of swans; they feed them during the winter and take care of them if the lake is completely frozen. The number of breeding pairs varies, but since it is a strong and quite aggressive species, increasing its number is not desirable due to other ducklings that nest on the lake.

One of the most valuable bird species of Lake Palić is the black-headed gull. Bird islands require constant care and nurturing. In early spring, conservationists tour the islands in boats to assess the damage caused during the winter. Larger storms can create huge problems on unprotected parts of the islands; sometimes they can take away larger pieces of the coast, so their total area decreases from year to year. Beside erosion, the bird world, and most of all the colony of common and cephalopod seagulls threaten vegetation growth, since they need bare land and areas with low vegetation to build their nests. Spring cutting of reeds and cleaning from aggressive weed species is part of the activities of volunteers of the Riparia Association with the help and supervision of experts from the Provincial Institute for Nature Protection.

Bird islands, from the aspect of natural rarities, are the most valuable localities of the Palić complex. Fortunately, their protection is now part of the program activities of PC “Palić-Ludaš”, which is the manager of the protected natural asset.

Lake Kelebija

Lake Kelebija is located 7 km northeast of Subotica. This lake is of irregular, curvy shape, covering an area of 0.6 km², and its length is about 4 km. The average water depth is only 0.5 m, which means it is even shallower than the two most famous lakes in the Subotica region. Unlike saline lakes, it had a constant water level and was one of the freshwater marshes. In the 1960s, a canal

was dug, through which water was drained from the lake, and so the southern parts remained completely dry. Today, this ecosystem is slowly recovering, it is filled only with spring water, and since there are no industrial or communal plants nearby, it is the best preserved water habitat in northern Bačka. The water of Lake Kelebija is clean, transparent, of brownish colour, and it is difficult to heat due to the dense swamp vegetation. It contains few nutrients and has a mesotrophic character.

Meadow Čurgo in Hajdujkovo

In deep depressions that rarely dry out, saline-swamp vegetation is formed with characteristic macrophytes: softstem bulrush (*Schoenoplectus tabernaemontani*), sea clubrush (*Bolboschoenus maritimus*), Pannonic hollows (*Puccinellia limosa*) and creeping bent (*Agrostis stolonifera*), which give bumpy structure to these habitats. The Pannonian endemic short-headed thistle (*Cirsium brachycephalum*) also develops here. During autumn, the saline area acquires a bluish-purple colour due to the flowering of the Pannonian sea aster (*Tripolium pannonicum ssp. pannonicum*) and the saline flower (*Limonium gmelinii ssp. hungaricum*). Wet, aquatic areas are a breeding ground for amphibians, which visit these habitats in large numbers from early spring. After the melting of the ice, among the first species we record rapacious amphibians, small (*Lissotriton vulgaris*) and Danube mullet (*Triturus dobrogicus*), followed by representatives of tailless amphibians: forest frogs (*Rana dalmatina*), garlic toads (*Pelobates fuscus*), common toads (*Bufo bufo*), green toads (*Bufo viridis*), red-bellied toads (*Bombina bombina*) and tree frogs (*Hyla arborea*). Characteristic birds of moist, bumpy meadows are northern lapwing (*Vanellus vanellus*), common redshank (*Tringa totanus*), western yellow wagtail (*Motacilla flava*) and black-winged stilt (*Himantopus himantopus*), while common snipe (*Gallinago gallinago*) is visible during migration, but occasionally also as a rare nesting bird. One of the last pairs of white storks (*Ciconia ciconia*) in the north of Bačka nests on a pole next to the international road E-75.

Mammals bound to wetlands are Miller's water shrew (*Neomys anomalus*) and the otter (*Lutra lutra*), which is a strictly protected natural rarity. Muskrat (*Ondatra zibethicus*), which originates from North America, was once trapped for its valuable fur. In the coastal zone of ponds and swamps, where communities of tall sedges (*Magnocaricetalia*) develop, the weasel (*Mustela*

nivalis) lives, and harvest mouse (*Micromys minutus*) builds its ball-shaped nests there. Water voles (*Arvicola amphibius*) sometimes cause damage to agriculture. They like to nibble on carrot and primrose root, and if they find a row, only dry vegetable leaves remain in the gardens by morning.

Wet meadows in the drying phase, where the dominant grasses are moor-grass (*Molinia hungarica*), carpet bentgrass (*Agrostis stolonifera*) and various sedges (*Carex spp.*), make specific and valuable ecosystems of northern Bačka. These meadows are well decorated with plants of decorative flowers: superb pink (*Dianthus superbus*), marsh gentian (*Gentiana pneumonanthe*), Siberian iris (*Iris sibirica*) and bog orchid (*Orchis laxiflora ssp. palustris*). In these wet habitats with a colder microclimate, a relict community has developed, where even one mountain species, white hellebore (*Veratrum album*), is present. Of the protected natural values, blue iris (*Iris spuria*), marsh orchid (*Dactylorhiza incarnata*) and soldier orchid (*Orchis militaris*) are represented.

In the occasionally flooded depressions in the wider valley of the stream Kireš, forests with Pannonian ash (*Fraxinus angustifolia ssp. pannonica*) have developed. Today, beautifully preserved stands can be found in the border zone at the Jasenovac site. The layer of shrubs in these deciduous forests is formed by spindle (*Euonymus europaeus*), water elder (*Viburnum opulus*) and alder buckthorn (*Frangula alnus*). The relict stands of the grey willow (*Salix cinerea*) community are conspicuous by hemispherical ecomorphs.

The cold and humid microclimate of these habitats conditioned the survival of animals, relict species from the end of the glacial period. Insect fauna is especially rich; of butterflies, large copper (*Lycaena dispar rutila*) and scarce large blue (*Maculinea teleius*) are present, the presence of which in Serbia is recorded only in the habitats of northern Bačka. The scarce chaser (*Libellula fulva*) is a natural rarity associated with the brownish waters of peat bogs.

The remaining fragments of peat meadows, unlike insects, no longer provide conditions for the survival of vertebrates of larger body dimensions. That is the reason why special species do not have their representatives in this area. Of the birds, a small population of corncrake (*Crex crex*) lives on wet meadows, while until 1953, white-tailed eagle (*Haliaeetus albicilla*) and black stork (*Ciconia nigra*) had nested in the Jasenovac floodplain forests.

Selevenj pusta

The area of the Selevenj pusta is located in the north of Vojvodina, where dwarf irises in bloom cover the sand in April. It covers the eastern rim of the Subotica-Horgoš sands in contact with the loess plateau of Bačka. The diversity of habitats and vegetation in a small area is the basic characteristic of the Selevenj pusta. The exceptional floristic wealth with a significant number of the most endangered species of flora of Serbia and Europe, some of which are of global interest for the preservation of biodiversity, make the Selevenj pusta a unique botanical and ecological phenomenon. Therefore, in 1993, the Institute for Nature Protection of Serbia placed this specific area under protection. In 1997, the Government of the Republic of Serbia declared the Selevenj pusta a Special Nature Reserve, i.e. a natural asset of great importance in category 11, in an area of 677 ha with a protection zone of 1,173 ha. This natural asset is named after the Selevenj forest, as well as the dominant herbaceous plant cover. Low grass vegetation on the habitats of sand, steppe, saline and meadow character, preserved in the form of spatially coloured oases, bears in each of them the features of typical Pannonian puestas.

Kireš Stream

The most important watercourses in the region are Kireš, Čiker and Krivaja. The main role in the formation of the southern edges of the Subotica-Horgoš sands was played by the Kireš stream. Kireš is a small, almost insignificant tributary of the Tisa, which flows into the great river of the Vojvodina plain below the village of Adorjan. It used to be a powerful, important watercourse, which greatly influenced the formation of the present landscapes of the Subotica-Horgoš sands. Lake Ludaš, swamps and saline pastures of Kapetanski rit have certain features that were created thanks to the waters and deposits of Kireš. These landscapes represent a rich treasury of natural values of the Tisa valley with typical Pannonian characteristics and as such, even according to international criteria (Ramsar Convention, IBA area) are part of the world's natural heritage.

The source of Kireš is located tens of kilometers north of the Serbian-Hungarian state border. It is one of a small number of rivers that drain spring and atmospheric waters from the large Baja-Subotica sands. Today, the source of this stream is connected to the small lake Kunfehértó by a

canal. The name of the river itself probably comes from the Hungarian word *körös*, which in free translation would mean circle, round, circulation, because bypassing the sand dunes, the river flowed meandering, forming meanders and creating islands. Old military maps clearly tell of how it wandered through the sands, leaving behind wide bays and lakes that are still visible today, which in the meantime have healed or turned into peat meadows. It reaches the Serbian border northeast of Subotica at a place called Jasenovac. It flows a few kilometers along the border and then turns south, crosses the village of Hajdukovo and flows into Lake Ludaš, which it leaves near the village of Nosa. It touches the settlements of Bački Vinogradi and Male Pijace and descends to Kapetanski rit. It cuts through a large saline and flows into the Tisa near Adorjan.

According to old maps, the delta changed frequently and was closer to the village of Martonoš for a long time.

On its way, which is not longer than 40 km, it passes through five smaller settlements, and about fifteen bridges have been built over it. Until recently, it supplied two large fishponds, in Kelebia in Hungary and Kapetanski rit in the north of Bačka.

However, regardless of the fact that Kireš has lost its former role, it is still important today due to the connection of remote areas, in ensuring the unity of the living world of the entire space. Today, this is very important because by destroying natural habitats, populations are threatened by fragmentation and negative phenomena of longer isolation, leading to their degradation, i.e. disappearance.

Therefore, it is important to mention and emphasize the value of such ecological corridors that will continue to provide a rich and diverse living world of the Pannonian Plain.

Northern Banat

Northern Banat is lowland slightly sloping towards the Tisa, with the presence of a larger number of elevations (mounds). In ecological terms, it is a unique area in Serbia with typical steppe, saline and marsh habitats. The basic hydrological characteristics of northern Banat are conditioned by the river Tisa with the tributary Zlatica. The soil is dominated by salt marsh, chernozem carbonate and meadow black. These pastures represent an area without almost any human buildings and infrastructure; therefore it is a unique preserved Pannonian Plain landscape with diverse plant communities and specific flora and fauna. There are over 20 communities of fragile ecosystem

types. In the north of Banat, an IBA area, RS0081IBA was formed (significant area for birds). In addition, the area includes two internationally botanically important areas (IPA). From the end of spring and during the summer, the landscape is characterised by purple pillows of blossoming thyme and sage. Only here and there are striking golden-yellow sods of St. John's wort, a highly sought-after medicinal plant. Pannonian endemics also grow among the grasses, such as Schwarzenberg's plantain (*Plantago swarcenbergiana*), Sadler's knapweed and Pannonian carnation, and there is also the sticky catchfly (*Silene viscosa*), found in only a few localities in northern and central Banat – due to its limited area it is one of the most important protected plant species in the habitat of the great bustard (*Otis tarda*). In autumn, if there is enough rainfall in the pusta, thousands and thousands of purple autumn squills (*Prospero autumnale*) and yellow winter daffodils (*Sternbergia lutea*) blooms, which are perhaps the most beautiful plants in this area. There we also find protected parts of nature such as the Special Reserve Great Bustard Pastures and Great and Small Siget with a total area of 6,770 ha. The bird fauna includes about 200 recorded species. About 115 species belong to nesting birds. The basic value is the only remaining population of the great bustard (*Otis tarda*) in Serbia. In total, about 10-20 specimens are present. The last pair of eastern imperial eagles (*Aquila heliaca*) in Serbia nest on lonely trees. The uniqueness of this area is reflected in the fact that short-eared owls (*Asio flammeus*), Montagu's harriers (*Circus pygargus*) and stone-curlews (*Burchinus oediconemus*) nest here, which natural rarities are of international importance. The area is also important as a wintering ground for many species. The grey crane should be mentioned, whose flocks are increasing from year to year and the number of those who spend the winter there is close to 10,000 specimens.

2.7. Formation of local EcoVelo routes, maps, connections with EuroVelo routes

Three routes of the EURO VELO road pass through the micro-region, line 6 along the Danube - along the Hungarian-Serbian border; line 13 along the Serbian-Romanian border line; line 11 along the Tisa River. Subotica and its surroundings are located in the middle of the area, which is closed by these three routes, so that such EcoVelo local roads have been developed, which are directly connected to Euro Velo routes, so one can visit local ecological features and attractions with only small deviations from the route.

Each of the local roads, tours follows either the Euro Velo route, or returns to it by a small detour, so that tourists can easily continue the planned trip on a particular European cycling route.

All three local tours directly or with a bypass touch the **Rest Place**, which will be built within the Eco Velo Tour project, next to Lake Ludaš; it will be a great relaxing and refreshing place while cycling (self-service kitchen, toilet and bathroom, accommodation in the form of a camping place), suitable for direct bird watching, on the edge of Lake Ludaš, which is a protected Ramsar area.

1. Sand Route (of the sandy plateau)

Direction: from Sombor or border crossing Bácsalmás-Bajmok – Tavankut – Lake Kelebija – Stud Farm in Kelebija – Lake Majdan – Makova Sedica – Hunting Lodge – Jasenovac forest – Daščar forest – Stream Kireš– Lake Tresetište – Wonder Tower – Majkin Salaš farm – Stream Kireš – towards **Ludaš Rest Place** – Bački Vinogradi – Lófej (Horse’s head) – Selevenj forest – Turu Farm – Horgoš Kamaraš – border crossing Horgoš or towards south along the Tisa River.

The Sand Route is directly connected to the EuroVelo 13 cycle path and it is indirectly connected to the EuroVelo 6 route, so that two alternative starting points have been set up, and at the end of the route two recommended tours are provided, continuing north on EuroVelo 13, or south along EuroVelo 11 route.

Cycling tourists coming from the direction of EuroVelo 6 route can join the local tour EcoVelo from Sombor via Bajmok, which is called the Sand Route because it almost completely passes through the nature reserve on a sandy plateau, the northern outskirts of Subotica. Tourists arriving from the EuroVelo 13 route can join the tour at the Bácsalmás-Bajmok border crossing. A significant part of the road passes through agricultural sandy roads, which, in addition to a special experience for cyclists, can also be a difficulty. There is a compacted sand that has a layer of yellow earth underneath plateau, which is in use by population for decades.

After the Bácsalmás-Bajmok border crossing, tourists turn from the paved road and head towards Tavankut. South of the village, it is possible to relax on the shores of Lake Skenderevo. From here, touching Donji Tavankut and Ljutovo, they reach Lake Kelebija on an asphalt road, cycling along the outskirts of the town of Subotica. North of the lake there is the Kelebija Stud Farm, which is

also a great place for rest and accommodation for tourists. Leaving the farm, it is possible to see the lake of the sand quarry called Majdan, and after the Hunting Lodge in Makova Sedmica, the protected Jasenovac forest and Daščar forest follow. Tourists can get food and accommodation in the Hunting Lodge. So far, the road is partly sandy, partly paved. The Kireš Stream separates Hungary and Serbia for several kilometers, and this way, on sandy soil, tourists can admire the forest nature, and then relax on Lake Tresetište. A paved road follows to the Wonder Tower, which offers a view of the entire area, while on the farm Majkin Salaš tourists are welcome with dining and accommodation services, to which also leads a completely paved road. From here you can reach the resting place called **Ludaš Rest Place**, via Palić on the asphalt road, where you can find self-catering and tent accommodation. Starting from the rest area, through the village of Nosa, you come to Bački Vinogradi, partly by asphalt, partly by dirt road. From Bački Vinogradi, partly on a bicycle path, you can reach the protected natural areas of Lófej and Selevenj forest. Leaving behind the forest partly on paved, partly on dirt road, accommodation and food are provided near Horgoš on the Turu Farm, and after visiting the Horgoš Kamaraš nature reserve, the trip can be continued in two directions, north along EuroVelo route 13 through Horgoš border crossing towards Hungary and Romania; or the journey can be continued south on EuroVelo route 11 along the Tisa River.

The total length of the route is 93,9 km of which the paved road is 41,62 km, the constructed bicycle path is 7,23 km and dirt road is 45,05 km long.



1 – Border crossing Bácsalmás-Bajmok, 2 – Tavankut lake Skenderevo, 3 – Lake Kelebija, 4 – Stud Farm in Kelebija, 5 – Lake Majdan, 6 – Makova Sedica – Hunting Lodge, 7 – Jasenovac forest/Daščar forest, 8 – Stream Kireš, 9 – Lake Tresetište, 10 – Wonder Tower, 11 – Majkin Salaš farm, 12 – **Ludaš Rest Place**, 13 – Bački Vinogradi – Lófej (Horse's head), 14 – Selevenj forest, 15 – Turu Farm, 16 – Horgoš Kamaraš.

2. Route of Water

Direction: Border crossing Sombor or Tompa-Kelebija – Lake Kelebija – city centre of Subotica – Bunarić/Vodice/Szentkút – Lake Palić bypassing it to the north – Great Park in Palić – Small Lake Palić – Zvonko Bogdan Winery – Lake Slano – Canal Palić-Ludaš – Ludaš-Budžak – **Ludaš Rest Place** – school in Ludaš – Roka's Farm – Kireš Stream (Pereš – Nosa – Male Pijace) – Kapetanski rit fishpond – accumulation lake Velebit – Canal Palić-Tisa – River Tisa near Adorjan – Kanjiža – Tandari Farm – Martonoš-Tisa backwater – Horgoš border crossing.

The EcoVelo route is directly connected to the EuroVelo route 13, and indirectly to the EuroVelo route 6. In this case again, two alternative starting points were defined. Along the route, tourists can return directly to the EuroVelo 11 and EuroVelo 13 routes, parts of which run parallel to the waterway along the Tisa.

The Route of Water also passes around Subotica, just bypassing the town from the south. This route can be accessed from two directions, from the west in the direction of EuroVelo route 6 from Sombor, and from the north in the direction of EuroVelo route 13 from Hungary, through the border crossing Kelebija. The road is similar to the Sand Route, leading partly on asphalted, partly on dirt roads, but there are also parts where a bicycle path has already been built. The first stop is Lake Kelebija, which has beautiful natural values; tourists can relax while touring around the lake. From there, a bike path leads to the centre of Subotica, where it is worth stopping for a few hours, admiring the Art Nouveau style buildings, getting to know the city's multicultural traditions. Leaving the city centre, you can reach Bunarić/Vodice/Szentkút, which is a sanctuary for both Catholics and Orthodox, on the westernmost extension of Lake Palić, partly by asphalt road. From Vodice, it is possible to bypass Lake Palić by bicycle, in the first place is the bird observatory,

which is located near the second sector of the lake, then other natural values on the northern shore of the lake. From there, on a partially built road, tourists reach the Great Park in Palić, which is also a protected nature park. Next to the Great Park is the settlement of Palić itself, where accommodation and food options are available. Leaving Palić, it is worth visiting the Small Lake Palić and relaxing in one of the built rest places by the lake, observing the birds of the lake, then visiting the Zvonko Bogdan Winery, which in addition to excellent wines also offers a special architectural and aesthetic experience. Leaving the winery, tourists reach the remains of the former salt lake along the Palić-Ludaš canal, which is unfortunately a sad example of how industrialisation destroys natural values. Crossing the A1 Budapest–Belgrade highway, you reach Ludaš Row, where the EcoVelo route bypasses the lake from the west. The first stop is a part of the lake called Budžak, one of the most beautiful, original parts of the lake, and then tourists can settle down and dine at the **Rest Place** in Ludaš. From the Great Park in Palić to the **Rest Place**, cyclists can ride on an asphalt road; south of the rest area, cyclists can reach the school in Ludaš and the associated pier on the lake, from where you can start a boat ride on the lake. Continuing the journey on the eastern shore of the lake, the EcoVelo route touches Roka's Farm, which in addition to tourist reception, accommodation and food, is also a local history museum, where interested ones can see part of the past of the entire micro-region. An asphalt road leads from Roka's Farm through the settlement of Nosa, which touches the Pereš meadow, to the Kireš stream, and along the stream you can reach the settlement of Male Pijace by a dirt road, in the southern part of which there is the Kapetanski rit fishpond. Leaving the pond, you can see the accumulation lake Velebit, which has a significant living world of birds. After that, along the Tisa-Palić canal, the road reaches Adorjan near the Tisa River. In addition to being an international shipping route, the Tisa is of great importance in the natural geographical definition of the whole area. Here the local route EcoVelo connects with the route EuroVelo 11 and turns north, passing through the town of Kanjiža, then comes to the Tisa backwater in Martonoš and the nature reserve Horgoš-Kamaraš. The route leaves the area either north or east, joining the EuroVelo route 13. In the meantime, it is worth stopping in Kanjiža, which is also called the town of silence; or on the Tandari Farm near Martonoš where accommodation and food are offered.

The total length of the route is 106 km of which the paved road is 52,74 km, the constructed bicycle path is 3,36 km and dirt road is 50,17 km long.



1 – Border crossing Tompa-Kelebija, 2 – Lake Kelebija, 3 – city centre of Subotica, 4 – Bunarić/Vodice/Szentkút, 5 – bird watching lake Palić, 6 – Great Park in Palić, 7 – Small Lake Palić, 8 – Zvonko Bogdan Winery, 8 – Lake Slano – Canal Palić-Ludaš, 10 – Ludaš-Budžak, 11 – **Ludaš Rest Place**, 12 – school in Ludaš, 13 – Roka’s Farm, 14 – Kireš Stream, 15 – Kapetanski rit fishpond, 16 – accumulation lake Velebit, 17 – Canal Palić-Tisa, 18 – River Tisa near Adorjan, 19 – Kanjiža, 20 – Tandari Farm, 21 – Martonoš-Tisa backwater – Horgoš Kamaraš.

3. Adventure in Banat

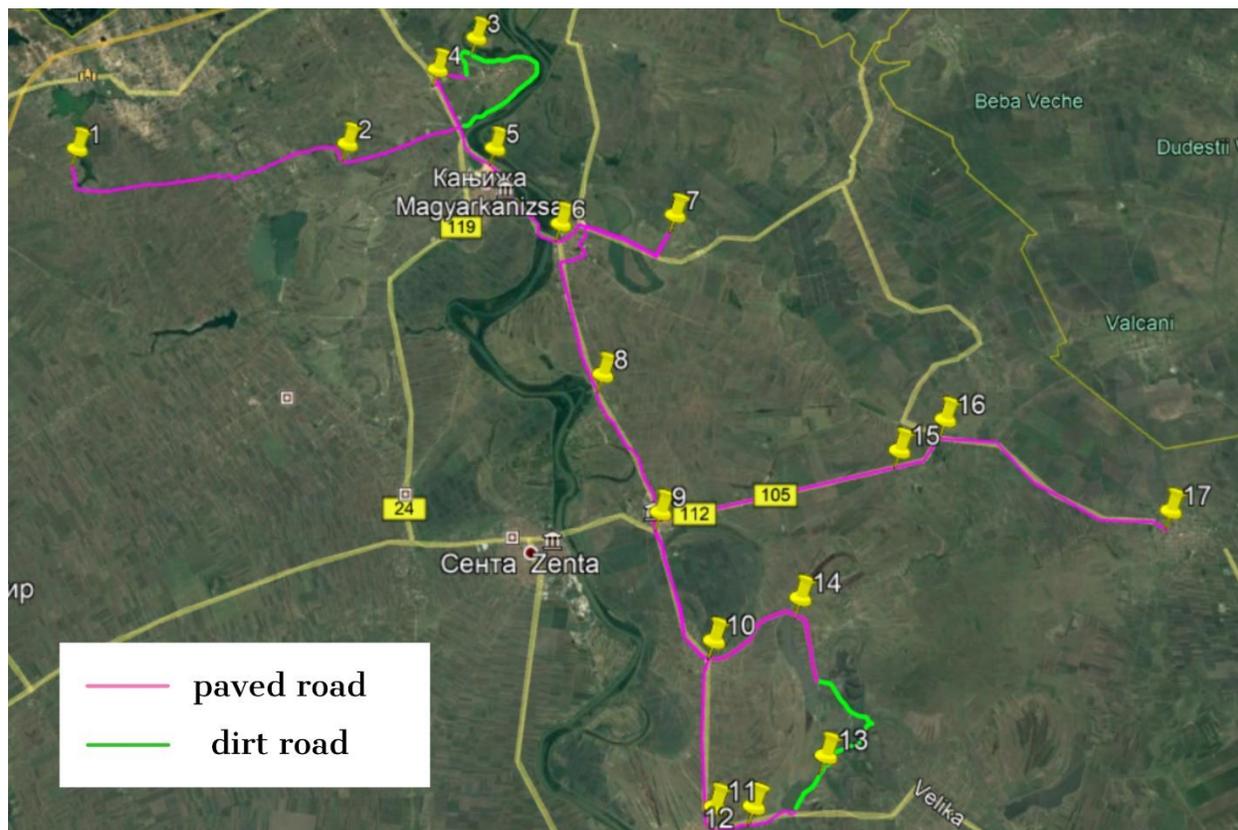
Direction: **Ludaš Rest Place** – Male Pijace – Mali Pesak –Martonoš-Tisa backwater –Tandari Farm – Kanjiža-Tisa River – Novi Kneževac – Filić – Sanad – Čoka – Ostojićevo – Padej – Banatske slatine – Zlatica Stream – Jazovo –Velika Droplja pastures – Mokrin – road to the west or east.

The Adventure in Banat begins in Bačka from the resting place called **Ludaš Rest Place**, which can be indirectly accessed from EuroVelo routes 6, 11 and 13. By turning off the road you can continue in both directions, to Euro Velo route 11 or 13 and continue to the north or south. The

EcoVelo route is almost completely paved, with the exception of a few shorter sections leading to certain points.

The **Rest Place** in Ludaš is a great starting point because it is ideal for gathering a group, with opportunities to relax, dine and observe the living world on the lake. From here, tourists head to the settlement of Mali Pesak through Male Pijace, and then they visit the Tisa backwater in Martonoš, which is a real paradise for birds. Food and accommodation are available at the Tandara Farm in Martonoš. Crossing the Tisa, touching Kanjiža and Novi Kneževac, the route continues in Banat. It is worth stopping in both towns, getting to know the Tisa and other sights of the settlements, as well as accommodation and dining there. After Novi Kneževac, it follows Filić, where the road leads past a fishpond in the Banat steppe, where one of the smaller observation posts of Velika Droplje is. After Filić, there comes a visit to the protected areas around Sanad, Čoka and Ostojićevo, which are representatives of the saline areas in Banat with many valuable plant and animal species. Accommodation and meals are available in Čoka. Arriving in Padej, there is additional admiration of the Banat salt marsh, touching the settlement of Jazovo along the Zlatica Stream, where tourists can visit the large nature reserve of Velika Droplja. This is called after great bustard, a bird with the largest body among free-living bird species, which has a high degree of protection and lives in a larger number only here in northern Banat. Leaving the reserve and reaching Mokrin, tourists can continue their journey to the east or west, arriving to the EuroVelo routes 11 and 13, and they can join one or the other route. In Mokrin there is accommodation and food for tired tourists.

The total length of the route is 126 km of which the paved road is 108,42 km and dirt road is 17,58 km long.



1 – Ludaš Rest Place, 2 – Mali Pesak, 3 – Martonoš-Tisa backwater, 4 – Tandari Farm, 5 – Kanjiža-Tisa River, 6 – Novi Kneževac, 7 – Filić, 8 – Sanad, 9 – Čoka, 10 – Ostojićevo, 11 – Padej, 12 – Banatske slatine, 13 – Zatica Stream, 14 – Jazovo, 15 – Velika Droplja pastures, 16 Crma Bara, 17 – Mokrin

2.7.1. Possible sustainability of the routes

Local eco-cycling routes and the possibility of their connection to the EuroVelo route is an advantage of the local tours in this micro-location. The attention and curiosity of the visitors is focused on experiencing the territory of local tours. They can make their longer trips more interesting by spending a day or two more in the micro-region than planned. This means that local tours are viable and sustainable. The sustainability of local tours will be met if there is interaction with small businesses that will provide the necessary services to eco-cyclo tourists. Visitors are

looking for complex elements of experiencing local identity, discovering the characteristics of the locality in contacts with the domicile population and nature. They combine learning with recreation and free time, the so-called “slow” way of recreation. If quality services of such a character are developed, that way of recreation can be satisfied, thus one element of the sustainability process is satisfied. The micro-region contains a variety of tangible, intangible and natural resources that can be offered. The presentation of these resources is an important factor of sustainability, because it is closely related to the cooperation of local stakeholders, small businesses and the attractiveness of the landscape. Creating the identity of a micro-location that is worth going to and spending some time there is a sign of potential sustainability of the route and that potential visitors have positive knowledge about the site. Sustainability means that several aspects are covered: ecological (biodiversity conservation), economic (necessary services), social (wellbeing, cultural wealth). When a micro-location is said to have excellent potentials that are not valorised yet, it is clear that there is no close connection with small businesses, local governments, public companies, associations and that there is no identification of ways to establish and maintain local tours. It is recommended that sustainability be put into the function of measuring the number of eco-cyclo visitors and their satisfaction with experiences and services. This way feedback can be provided about which aspect is lagging behind and how it should be better developed. The methods of these measurements can be different, from questionnaires, visitor satisfaction surveys at one resting point, to setting up visitor counters, number of preserved and newly opened service providers, to monitoring some part of the local tour as a case study. Sustainability has succeeded if the micro-location is transformed from an “eco-cyclo friendly” territory into an “eco-cyclo” destination.

A micro-region that wants to present itself as an eco-cyclo destination must meet the following criteria:

- information point for cyclists there must also be real signaling when the internet network is weak;
- accommodation for cyclists (cyclist hotel, cyclist camp, tourist farm);
- at least three marked bicycle paths;
- map or panoramic map of bicycle paths and classic paths;

- guides trained for bicycle tours;
- bicycle rental;
- bicycle repair services.

Eco-cyclo destinations have developed cooperation between local businesses, local governments, institutions, accommodation facilities, gastro and ethno offers, associations, information on social networks, websites, tourist guides, local people and, above all, they implement activities for the conservation of the landscape, biodiversity and overall of nature. Heterogeneity of the ecosystem, non-contamination of the landscape and accessible bicycle paths are the preconditions without which it is impossible to operate. Above this, there should be added good tour management and rules of conduct in crisis situations.

For the sustainability of local tours it is important to have the possibility of varying different directions of one tour. This allows visitors to choose their own route, depending on the assessment of how many interesting things they expect in the chosen direction. It can happen in practice that visitors choose a direction that did not show comprehensive potentials in tourist valorisation, but still came to life because of an object, part of the landscape or service.

In addition to the usual theoretically established sustainability factors, cycling tourism has one more element of changing the needs of tourists depending on their bicycle models, concerning new bicycle models and accessories. New trends and new expectations are emerging. Currently, the focus is on trekking bicycle models for long and strenuous journeys and e-bike models. The models of road bikes are more interesting for the male population who will gladly go through some competition sections as their sports heroes. There are no such routes in the micro-region.

For sustainability it is important to realise that the models of vintage bicycles are very common among visitors, which supports the slow way of recreation. Services, the activity of which should be sustainable, must be available to these target groups, and they must follow changes in trends. Cyclocross has become very popular in recent years, for riding through forests, meadows and uneven terrain. Sustainability of the route includes the provision of health services, quick response to visitors' injuries when they happen outside urban areas.

Shops offering accessories and fashion items for cyclists are involved in shaping the sustainability of the tours by selling brands and displaying a certain lifestyle, showing what is in for this target

group. Fashion is a possible marketing opportunity, because cyclists like good quality and useful equipment, but they can't buy it for a lower price.

Fashion novelties for cyclo-tourists transform into a lifestyle.

The sustainability of tours in the micro-location is based on the conclusions of the SWOT analysis, as well as the situational analysis of the connection between existing resources and their tourist valorisation.

Description	Important points	Attractions	Grades
Protected areas, preserved natural attractions, specifics of biodiversity of the micro-region	Availability of natural resources: bicycle paths, paved roads, dirt roads	Important natural attractions, tourism zones clearly defined, what tourists can see from biodiversity	0-does not exist 1-weak 2-in development 3-average 4-very good 5-exceptional
Low density of economic activity	Handicraft in settlements, on the outskirts of settlements	Number of interesting authentic crafts in the micro-region	Specification and number of crafts
Proof that tourism does not harm natural systems	Levels of protection, use of renewable sources	Examples of self-sustaining facilities with low impact on nature	Protection level I, II, III of natural assets; Examples of objects
Local population uses resources in a sustainable way	Are there devastated parts (landfills, impassable paths...)	Use of natural materials for construction and energy purposes (reed, straw, wood), traditional construction	Description, examples
Places for eco-cycle tourists	What infrastructure exists outdoors and indoors	Rest areas, canopies for observation, parking lots, trim trails, visitor centres	0-does not exist 1-weak 2-in development 3-average 4-very good 5-exceptional
Accommodation and gastronomic capacities in the micro-region	Specification of categories of different accommodation and gastronomic capacities	Special interesting facts within the accommodation capacities (sleeping on a corn pallet); traditional gastronomy	0-does not exist 1-weak 2-in development 3-average 4-very good 5-exceptional
The local population is friendly towards eco-cyclo tourists	What the local population knows about the history, attractions of the micro-region,	Planned meetings with the local population, socialising	How many local events are where it is possible for tourists to meet locals

	knowledge of a foreign language		
Signalisation – infrastructure	Info boards, signposts, maps; wifi networks	Infrastructure made of natural materials of interesting design	0-does not exist 1-weak 2-in development 3-average 4-very good 5-exceptional
Local eco-cycling tours	Information system available	Points of interest on local tours, specially marked	0-does not exist 1-weak 2-in development 3-average 4-very good 5-exceptional

Table 1. Tourist valorization of resources.

Tourist valorisation of resources for eco-cyclo tourism product is a signpost that, beside SWOT analysis, indicates in which direction the identified resources should be developed, how the development potential can be quantified by grades 1 to 5, and which identified potential resources have priority in the development process. The system will apply to motivate interest groups. The score of each identified resource is another piece of information for route management's decision-making about how to determine priorities in the action plan. Potential resources are a very broad category, starting from natural values, material values, intangible values, and in order to design a tourist product, it is necessary to separate from a large number of offered resources the ones that have some potential for a given tourist product. It happens that in many categories they discover some resources that have been neglected, unknown or misinterpreted as tourist potentials. When the SWOT analysis is performed, potential resources are identified, an action plan is developed, the implementation process provides feedback through measuring customer satisfaction about the question in which direction the development of resources for tourism purposes should be optimised. Surprises, what the user accepts and asks for in relation to pre-offered tourist contents, always exist and they are an important piece of information whether the valorisation of a potential resource has been correct, to what extent, what needs to be changed in a tourist product and how. Service providing is a very sensitive segment of the economy, and tourist services react to every major change starting from business conditions, political decisions or natural disasters. This means constant re-examination of tourist potentials, valorisation and adaptation to new conditions. A

quick reaction in adapting the tourist potentials to a given tourist product means the survival of the business, new bases of development elements, and turning negative influences into positive actions.

2.7.2 Human resources

Human resources represent the overall mental and physical potential of a company, area, sector or destination. Human resources management is the way in which the top management of a company manages its employees, staff, how it influences their knowledge, performance, development and training. The real potential of a company is its human resources and their knowledge and skills. In tourism, there is most often direct contact with visitors and it is a labour-intensive sector. Regardless of technical and technological progress, which accelerates the process of service providing, it is the person who produces the service and its quality.

Dedicated and widely educated human staff of service providers is a first-rate requirement for the development of eco-cyclo tourism. Eco-cycle tourism is largely practiced by visitors of the LOHAS type, which means “Lifestyle, Health and Sustainability”, which is a new middle-class lifestyle. These are responsible consumers who strive to contribute to the protection of the environment, they are focused on a healthy life, fun and happy experiences, where ecology and cycling are closely related, with comfort that does not go to the detriment of local resources. This target group provides opportunities for small, local businesses, as they are the most frequent buyers of organic and traditional products. They will gladly pay more if they know the way how the products are produced, as organic, bio or with a minimum of negative impact in the process. It is important that such businesses develop on the edges of protected natural assets. This will ensure the inclusion of human resources in the entire process of the value chain, from the production of the required products, the distribution of these products, the offer of accommodation facilities, gastronomy, services, to tourist guides and animation of tourists. Engaging human resources in a wide range of services is the driving force of microregional development. A declarative approach is not enough, but the first step is to organise trainings for service providers for this important target group. One aspect of the education of service providers can be the presentation of the ECO LABEL standard, which can be applied in all areas from products to the entire destination. It is a European comprehensive standard, which does not have to be certified, but is a good guide to

quality development. By meeting the requirements of the 90 standards (of which 29 are mandatory and 61 are desirable), new knowledge and technologies are slowly being introduced: renewable energy sources, visitors also participate in waste selection, economical use of water in bathrooms and showers, energy-efficient equipment, bioclimatic local architecture, organic products from local farms etc.

In order for human resources to respond to their role, it is necessary to have a “bundle of services” that will achieve a good balance between visitor satisfaction, economic interest and ecology. It is a strategic process. The local population on the edges of protected natural assets still has knowledge about nature and the landscape. In order to prevent this knowledge from losing, it is necessary to unite it, write it down and place it to tourists in all possible ways.

Important elements for the good functioning of human resources, which should meet the needs of eco-cyclo tourists, are:

- interdisciplinary educated, competent workforce;
- a good database of local knowledge and information available to all;
- a healthy, resourceful and dedicated workforce that love the work they do;
- use of new technologies in practice, good programs for booking accommodation;
- communicativeness, charm, patience, stability as personality traits;
- the possibility of hiring external associates, occasional-seasonal employment;
- basic knowledge of service management.

This type of tourism is ideal for young people because it requires enthusiasm, innovation, flexibility on the supply side. In the micro-region, all these attitudes have their stronghold, but there is no permanent organisation that would take care of continuous education. All actions are occasional, as part of a project, fragmented. The recommendation to stakeholders is certainly the development of a joint education plan on eco-cycling tourism as a development aspect. Types of training as non-formal education can be:

- professional seminars and lectures;
- professional practice and exchange of experiences;
- mentoring and individual counseling;

- learning foreign languages and working on a computer;
- business communication and change management;
- getting to know local tourist resources;
- story telling;
- management in crisis situations etc.

Trainings must include raising awareness about environmental responsibility and another element: environmentally responsible business. Environmental responsibility is related to awareness, ethics and behaviour according to certain rules. Ecologically responsible business includes the application of ecological knowledge: education about the environment, its characteristics, preservation and sustainable tourist valorisation. Possession of this knowledge will enable the determination of limits, borders to which eco-cycling tourism can be developed in a micro-region, a destination. These two elements enable the development of a code of conduct, a voluntary strategy, which prescribes how all users who go to nature should behave.

2.7.3 Synergy with other tourism products

The region has very few important and well-known tourist products, but the information about them is available on the Internet. By the way, Subotica is listed on the 42nd place of small destinations that should be visited according to the list of the American magazine.

The stratification of tourist products enables the connection of certain types of tourism. Eco-cycling tourism in the micro-region can be associated with already developed tourism products:

- city break, walk through the city and tour of certain buildings, primarily focusing on Art Nouveau style;
- wine routes and wineries;
- gastronomy, restaurants and cafés;
- rural tourism, farms.

Subotica and Palić are known for their Art Nouveau buildings, the Town Hall, the Reichl Palace, the Synagogue, the Water Tower in Palić, many villas and houses. The Tourist Organisation of Subotica offers information on several tourist products on its website <http://visitsubotica.rs/>: learn about the city, walking tour through the city, tastes of Subotica, souvenirs and handicrafts, famous people from Subotica, Palić – in the thematic section called Experience Subotica. In other thematic

units they inform about: what to do, what to see, surroundings, events, accommodation, congresses, info, and there is also information about other tourist products. For eco-cycling tourism, the thematic section called Surroundings is important, which contains information about Lake Palić, Lake Ludaš, Subotica sands and the forest in Kelebija. The thematic unit about what to do contains information about the wine route: wineries, wine shops, wine events and local wine sorts. Rural tourism, which closely corresponds to eco-cycling tourism, is also presented in this thematic unit and all facilities are described. Cycling is included in the subsection about sport and other sports activities, and in the thematic units about what to do with information on renting bicycles.

Eco-cycling tourism is not particularly represented on the site, since this tourist product has not been developed sufficiently.

The synergy with the mentioned tourist products speaks about the activities that the eco-cyclo visitor can practice at the destination as additional activities, apart from his/her basic motive.

Rural tourism is developed on the outskirts of the town; it has characteristics that are intertwined with eco-cycling tourism. What characterises rural tourism as an already developed tourist product is a combination of architectural and cultural tradition, accommodation located in close proximity to nature, local gastronomy of rural households, hosts give information about what is interesting in the locality, tell stories and anecdotes, often they lend their bicycles for riding in the area, they know the summer roads and will be happy to complete the stay with various facilities to make tourists comfortable. The set of other contents ranges from collecting and learning about herbs, planting, preparing dishes with homemade spices, going to nature to ring and study birds, creative workshops for craft skills, organising bike trips to the neighbouring villages or to other types of recreation (horseback riding, walking, various small sports). As an example of a successful offer of rural tourism on Lake Ludaš is Roka's Farm, an old preserved autochthonous farm from the 19th century, which also has an archeological collection from this locality. Cyclists who visit Lake Ludaš are pleasantly surprised by this oasis on the shore, with plenty of contents and a place to relax that offers a lot of knowledge and experiences.

What can complete the stay of eco-cyclo visitors are small water sports – surfing, sailing, rowing; fishing; tennis; beach volleyball, outdoor basketball, football; trim tracks; spa offer-pools, aqua

park under construction in Palić, thermal pool. Recreation certainly has a very strong connection with eco-cycling tourism, although sports clubs have not yet recognised this target group, in order to offer it special programs. That is why information is important, what can be practiced in addition to observing nature and cycling.

Since there are built bicycle paths on important directions in the town of Subotica, it is possible to reach all important facilities in the city and leave the bicycle in the holders provided for that. The city break program is very interesting for cyclists because in a short period of time they can visit all the important objects of Art Nouveau in Subotica, which have an interesting history with exceptional architecture. Art Nouveau objects are located on the European cultural route: Art Nouveau routes from Riga to Barcelona, so that there is not only a synergy with another tourist product, but also a connection with another route. If we add to that cyclists can come from Szeged to Subotica, they will have a unique experience of Art Nouveau style architecture in a small space. When they continue from the city towards the lake and the settlement of Palić, interesting Art Nouveau objects and hidden private villas from that period await them there. The bicycle as a means of transportation, for easy accessibility in the exploration of settlements and of the building styles through the epochs, gives an experience similar to walking in small places on the sea shores. Something unexpected is constantly being discovered, especially since the settlement is located in a belt of greenery.

The wineries on the wine route are easily accessible to cyclists; they are very different in style, as well as concerning the wines they produce, starting from the rural wine house of Čuvarđić, through the romantic Wine Palace, to the modern winery of the 21st century called Zvonko Bogdan with its exclusive interior.

Gastronomy as a tourist product has an exceptional offer of traditional, modern and exotic dishes and drinks, which eco-cyclo tourists can taste in a wide range. The range of dishes depicts traditional cuisine that developed under the mutual influences of different nations. There are well-known dishes that originate from Hungarian, Serbian, Bunjavac, Jewish, Turkish, Slovak, German, Austrian, Slavonian cuisines, and often only spices distinguish them because they permeate so much. The trend of healthy eating is also present here and eco-cyclo tourists can buy unique products, not only traditional, but also modern ones in stores of organic goods. In the settlement

of Hajdukovo, right next to Lake Ludaš, there is a factory for organic products of various assortments – Suncokret, which can be visited, as there is a paved road through the village leading to it. A visit to this producer is already a new tourist product, so called industrial heritage.

Eco-cycling tourism product has the potential of synergy with developed and less developed or completely undeveloped tourist products, such as geotourism. Which combination will be predominant, depends primarily on the interestingness of the offer and the satisfaction of the target group for which it is intended. This will be proven in practice.

2.8. Description of rest areas, pictograms and info boards on the selected local routes

The rest area is a pilot project. It was built of natural materials for eco and cycling tourists in the immediate vicinity of Lake Ludaš, on a plot on Ludaš Row, where the construction of such a facility is allowed. The designer met the conditions for environmental protection and the criteria for safe vacation of cyclists and eco-tourists who are allowed to observe the birds, without disturbing them. The building consists of a tower that is covered and from which birds can be observed through the openings. It is reached by a staircase, below which there is a toilet and a small kitchenette. The tower is connected by a canopy with an additional building, which is a workshop – bicycle repair service and an info desk. Under the canopy there is a place for leaving bicycles, for sitting and a fireplace for barbecue. The floor under the canopy is a brick floor. The roof of the buildings is covered with clay tiles, a traditional material of this region, and waterproofing has been done. The buildings are built of brick and wood. The tower of the resting place has a wooden floor. The bathroom is equipped with modern equipment and covered with ceramic tiles. The bird-watching openings on the tower are movable, so that the birds are less disturbed. The staircase leading to the tower is made of wood. The rest area can be reached on an asphalt road from the direction of Palić, or from the direction of Kanjiža. The possibility of internet connection and charging of mobile phones is also planned. The building is fenced and safe for visitors.

The rest area has enough space to set up information boards, which will include significant examples of biodiversity that the visitor can see on the site, with binoculars or the naked eyes, a map of local tours for cyclists, basic information and websites. The information will also be

displayed in the form of pictograms because it is a simple and understandable language for every visitor and it will clearly include sections of the house rules at the rest area.

Some examples of pictograms as a useful inspiration for nonverbal communication at the Rest Place:



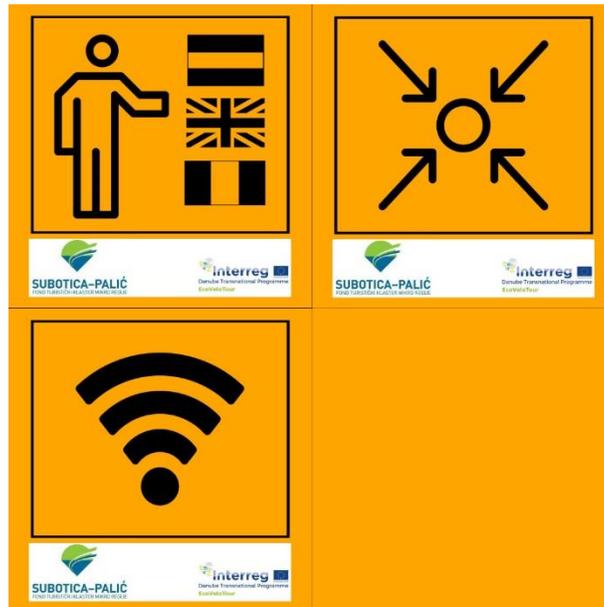


Figure 11. Example of an info board of protected area in Istria, specimens of biodiversity – Republic of Croatia.

The info boards at the rest area will show specimens of the biodiversity represented on the site, with photographs. Basic essential information with websites and phones will also be displayed.

3. Connecting the microregional local routes with the EuroVelo route node in Belgrade

EuroVelo bike route is a network of (currently) 16 long-distance bike routes that connect the whole of Europe. The project was initiated by the European Cycling Federation (ECF) in the mid-1990s, whose main goal is to promote cycling as a sustainable and healthy means of transport. The ECF manages the route certification process and only those routes can carry the official EuroVelo route label that go through that process and meet the defined standards.

Although primarily intended for cyclo-tourists, routes or their parts are also used by the local population in everyday movement, which in recent years is increasingly present throughout Europe, so it can be said that this aspect of cycling is becoming increasingly important beside cycling for sport and recreation.

The key objectives of the EuroVelo initiative are:

- Implementation of quality standards along all routes and harmonisation of these standards in accordance with the best results from practice;
- Promotion of the routes themselves to cyclists as well as to all relevant organisations and stakeholders;
- The already mentioned promotion of cycling as a sustainable and healthy means of transport.

The existing 16 routes are both in their entirety and on specific sections in different stages of development. After defining the track of each route, alternative routes and potential detour routes, each route goes through a kind of “state recording”, which includes the analysis of riding conditions by considering a large number of parameters from the surface on which cyclists ride, track width, separation from motorised roads, estimated traffic density in case there is no separate line and similar things. Then there are other facilities such as hotels, restaurants, tourist attractions of the locations, and finally the evaluation of parameters related to signalisation on the route and the availability of specific services needed for cyclo-tourists who ride these long-distance routes. Each route must meet the criteria of safety and comfort for riding, as well as attractiveness, and in the end it must be a continuous route, which is especially important in the context of the fact that these are routes connecting remote locations and should allow cyclo-tourists to always arrive from one to the other point on the route.

Therefore, this assessment is performed at the level of the entire route, which means that each specific section must meet the minimum standards, but it does not mean that the riding conditions on different sections will be of equal quality.

3.1. EuroVelo routes in Serbia

A total of three EuroVelo routes pass through Serbia:

- EuroVelo 6 (Atlantic - Black Sea) – starting from the shores of the Atlantic Ocean, this route follows the flow of the Loire, Seine and Rhine rivers and then after entering Germany it follows the Danube in practically its entire course. It connects 10 European countries, being 4,450 km long and it is one of the most popular EuroVelo routes.
- EuroVelo 11 (Eastern European route) – connects the far north of Norway with Athens, passing through 11 European countries. The entire route is 6,550 km long.
- EuroVelo 13 (Iron Curtain Trail) – follows the border of two blocks from the Cold War period. It is as long as 9,950 km and connects 20 countries, bearing in mind the fact that following the state borders it often crosses from one country to another.

EuroVelo 6 enters Serbia following the Danube River and its flow from Hungary. Immediately before entering Serbia, near the Hungarian town of Mohács, the route splits into two alternative trails on two sides of the river, one in Serbia and the other in Croatia. The two routes are merging again into one near Bačka Palanka. So, the route goes from Bački Breg towards Sombor and then returns to the river, passing Apatin and smaller places further to Bačka Palanka. The route goes along the northern, left bank of the Danube to Novi Sad, where it crosses the river, passes the Petrovaradin Fortress and continues further towards Sremski Karlovci and Belgrade. In Belgrade, it returns to the other side of the river again and follows the Danube, passing through Pančevo from larger cities. Not far from Banatska Palanka, the route is again divided into two trails – one branch goes to Bela Crkva and further to Romania, and the other, with the planned ferry crossing, leads to Veliko Gradište and further along the Đerdap gorge to Donji Milanovac and Kladovo. Then it continues through Negotin and crosses to Bulgaria.

EuroVelo 11 is still in the planning phase in Serbia. The route enters Serbia following the course of the Tisa River and passes through Novi Bečej, Zrenjanin and Pančevo, crossing the Danube

near Smederevo, continuing further to the south of Serbia. Following the flow of the Great Morava, it passes Jagodina and goes further to Niš and then through Leskovac and Vranje towards the border with Northern Macedonia.

EuroVelo 13 enters Serbia on the triple border of Serbia, Hungary and Croatia and continues to follow the state border with Hungary and Romania, crossing from one country to another and passing through Kikinda and Vršac. Similarly to EuroVelo route 6, before entering the Đerdap gorge, it forks on the "Serbian and Romanian trails and then rejoins near Negotin, where it continues through eastern Serbia across Zaječar, Knjaževac and Pirot to enter Bulgaria near Dimitrovgrad.

When considering the meeting places of these three routes in Serbia – EuroVelo 6 and EuroVelo 13 meet almost immediately after entering Serbia, on the triple border of Serbia, Croatia and Hungary, and then merge before entering the Đerdap gorge and follow the same route all the way to Negotin. The planned route of EuroVelo 11 and the route of EuroVelo 13 overlap in a small section from the entrance to Serbia to Novi Kneževac. EuroVelo 11 meets EuroVelo 6 near Pančevo, from where they partially or completely overlap in a short section to Smederevo.

3.2. Natural assets on the trail and near the EuroVelo routes in Serbia

On the trails of the EuroVelo routes through Serbia, there are various natural assets that may be of interest to cyclo-tourists. Probably the most important ones are two national parks (out of 5 in Serbia): Fruška gora National Park, in the immediate vicinity of which is the route of EuroVelo 6 and Đerdap National Park, through which the EuroVelo 6 and EuroVelo 13 routes pass.

For the sake of clarity, natural assets will be given following the trail of routes in Serbia, and it will be especially emphasised when two routes intersect or go in parallel near a natural asset.

EuroVelo 6

Practically at the very entrance to Serbia, on the left bank of the Danube, EuroVelo 6 route encounters the Special Nature Reserve “Gornje Podunavlje” which is in the immediate vicinity of the route. It is located on the triple border of Hungary, Croatia and Serbia and forms a unique ecological unit as a large marsh complex with the Hungarian National Park “Danube-Drava” and the Croatian Nature Park “Kopački rit”. It is one of the best-preserved marsh-swamp units on the

entire course of the Danube, which has spread into an endless network of tributaries and canals through the marsh floodplain forests and it is often called the European Amazon. It consists of two marshes, near Monoštor and Apatin, and it is inscribed on the UNESCO World List of Biosphere Reserves in 2017. The presence of numerous bird species is characteristic, where rare species stand out, such as the white-tailed eagle and the black stork. Also, the Upper Danube is inhabited by the largest population of European deer in the country. Concerning visits of tourists, the starting point is the Eco-centre Karapandža, which is located next to the weekend settlement of Kendija (Bezdan), on the bank of the Baja Canal where you can get more information and where all organised tourist activities start.

The Special Nature Reserve “Karadorđevo” is located near Bačka Palanka. This preserved marsh complex is mostly located in the flood zone of the Danube, and it has been placed under protection as a special nature reserve – a reserve for maintaining the fund of high game. Named Bukinski rit, it has been declared an area of international importance for birds (IBA).

The Special Nature Reserve “Bagremara” is located at the very entrance to Bačka Palanka from the direction of the previously mentioned Karadorđevo. It is a smaller area the significance of which lies in the fact that it is the only habitat of the winter aconite (*Eranthis hiemalis* (L.) Salisb) plant species in Serbia. This perennial early spring geophyte from the *Ranunculaceae* family is a natural rarity and belongs to the category of extremely endangered plant species in Serbia.

Nature Park “Tikvara” is located on the left bank of the Danube, near Bačka Palanka. The area of the natural asset is dominated by forests of soft deciduous trees, and the whole area is intertwined with the tributaries of the Danube as well as marsh areas. Beside the dominant part of the aquatic ecosystem of Tikvara, in the Nature Park there is an artificial marsh cypress stand, as a natural monument. The artificial stand of the marsh cypress, which is a floristic rarity for our climate, is of exceptional aesthetic and scientific value, together with four plane trees. The size of the surface of the navigable area is constantly changing depending on the water level of the Danube. Although Tikvara is a natural fish hatchery and the largest wintering ground for white fish on the Danube, changes in the water level also affect the retention period of certain fish species in the blue zone and their migration into the Danube riverbed.

Nature Park “Begečka jama” is directly located on the banks of the Danube, between Bačka Palanka and Novi Sad. This popular picnic area, created on the old bed of the Danube, is important for nesting birds. About 150 species of birds can be seen in the park. The special vegetation value of this area consists of one white poplar tree and four black poplar trees, extremely rare representatives of the vegetation of typical floodplains of Vojvodina, which are today protected as a natural monument – rare specimens of flora.

The route further follows the Danube to Novi Sad, where you can find several parks of natural monuments, while on the right bank of the Danube, near the route, there is the National Park “Fruška gora”.

Due to its natural beauty, Fruška gora was declared a national park in 1960 and it is a member of the Federation of National Parks of Europe. The tourist values of Fruška gora lie in arranged picnic areas, hiking trails, as well as monasteries built in its dense forests. The most famous arranged picnic areas are Stražilovo, Iriški venac, Letenka, Glavica, Popovica, Andrevlje, Testera. Marked hiking trails on Fruška gora lead through deciduous forests, meadows and pastures, and these are of different lengths and ascents. There are also three mountain lodges, where mountaineers can request rest, accommodation and food: Stražilovo (on the picnic area of the same name), Zanatlija (near the top of Glavica) and Železničar (on Popovica). The main characteristic of this area is the existence of numerous endangered, rare and protected plant and animal species. Pastures and fertile land, vineyards and orchards decorate the slopes and lower parts of Fruška gora, while the areas located at altitudes above 300 meters above sea level are covered with dense, deciduous forests.

The Special Nature Reserve “Koviljsko-petrovaradinski rit” is located at the exit from Novi Sad towards Fruška gora and Sremski Karlovci. It consists of Koviljski rit, which represents a larger part along the left bank of the Danube, while the Petrovaradin part of the marsh stretches on the right bank. The richness of the marsh is reflected in the lushness of plant communities, forests, meadows, reeds, woodlands, as well as the diversity of fauna, especially in the presence of rare species of birds. The basic values of this area are the preservation and diversity of the original orographic and hydrographic forms of marshes (islands, backwaters, ponds, swamps), the preservation and abundance of the original plant communities of marshes (forests, meadows, reeds, woodlands) and the diversity and richness of fauna (206 bird species and 24 species of fish),

especially the presence of some rare species. This is the most important natural hatchery for fish in the middle course of the Danube, especially for pike, sturgeon and carp.

The 1000 m long educational trail at the Kurjačka greda site is suitable for smaller groups of visitors. At the Šlajz site, there is the possibility of renting boats and fishing. The Tikvara site is located along the embankment, next to the local road, and in the immediate vicinity of the Kovilj monastery. An ecological-educational centre has been built on this site, which consists of an outdoor classroom with benches and tables and a bird observatory.

The Great War Island is located at the confluence of the Sava and the Danube and it is protected as a landscape of exceptional features. It is a nature reserve of almost 200 different species of birds being located practically in the middle of Belgrade, very close to the city centre.

There are several nature parks in Belgrade and very close to the trail of the EuroVelo route 6 there is the protected habitat “Veliko blato”, which is located on the left bank of the Danube between Belgrade and Pančevo, being significant because of the various birds that can be found there.

The Special Nature Reserve “Deliblatska peščara” is located in the most southeastern part of the Pannonian Plain, in southern Banat between the Danube and the southwestern slopes of the Carpathians. This natural phenomenon occurred during the ice age when this oasis of sand-steppe vegetation was formed in the absence of surface watercourses. In this area, the original sand and forest-steppe ecosystems have remained, while in the riverbed, on the banks and islands of the Danube, aquatic, wetland and forest communities have developed. The remnants of the typical steppe of the Pannonian Plain are former pastures, which cover about 20% of the reserve and today you can see herds of Podolia cattle (gray-steppe cattle), which originates directly from the European wild cattle – aurochs, and in the past it was the most typical representative of the working cattle type in Europe. Due to the presence of a large number of bird species, many of which are rare and endangered, this area is included in the most important bird habitats in Europe – an IBA area.

The landscape of exceptional features of Karaš-Nera consists of preserved abandoned meanders of the Karaš and river habitats of the Nera, sands and steppes, which are a priority for protection in Central Europe, as well as the most striking landscape of the dune relief in Serbia, while the

Nera River is an ecological corridor of international importance that flows along the border of Serbia and Romania, connecting the Carpathians and the Pannonian Plain.

Đerdap National Park is located on the right bank of the Danube, which in that part represents the natural border between Serbia and Romania. The basic natural phenomenon of the area of the Đerdap National Park is the grandiose Đerdap gorge, the longest and largest gorge in Europe. Separate units are represented by three canyon gorges: Golubac, Gospođin vir, the canyons of Great and Small Kazan, as well as three valleys Ljupkovska, Donjomilanovačka and Oršavska. Over 1100 plant species and subspecies survive in the area of the national park. The flora of Đerdap is characterised not only by its diversity and richness, but also by its distinct relict character. Among the elements of the ancient flora, there are bear hazel, nettle, walnut, lilac, silver linden, maklen, medunac, and of special value are forest and shrub communities. The great wealth of the animal world in the area of the Đerdap National Park exists primarily due to the preservation of various habitats that provide good conditions for the survival of such a large number of animal species.

The following habitats are especially important in the Đerdap National Park: water, i.e. the Danube with tributaries, preserved forest habitats, primarily large forest complexes which are a prerequisite for the diversity of wildlife in them, meadows, gorges and canyons. In these preserved habitats, the vertebrates' animal world stands out, this includes: mammals, birds, reptiles, amphibians and fish.

EuroVelo 11

The trails of the EuroVelo 11 and EuroVelo 13 routes enter Serbia together. Although some natural assets are located in the relative vicinity of the planned EuroVelo route 11, it will be described in more detail in the next part as the EuroVelo route 13 practically passes through these areas. Also, having in mind the status of the route due to which it is less relevant in terms of tourism than the other two routes that pass through Serbia, natural assets will be described relatively briefly here.

The special nature reserve of the pastures of Velika Doplja (Great Bustard) is a mosaic of steppe, saline, meadow, swamp and arable ecosystems, with rare plant and animal species, among which the great bustard certainly stands out for its attractiveness. This area is the only habitat of this bird in Serbia and one of the rare habitats of it in Europe and the world. Due to its specific attractive

appearance, the great bustard has always been popular for hunters, so that today there are less than forty specimens of this species left. The reserve is located practically between the routes EuroVelo 11 and EuroVelo 13, near Čoka.

The Special Nature Reserve “Slano Kopovo” is a representative, preserved Pannonian landscape. This salt lake represents an exceptional natural value from the geomorphological, hydrological and microclimatic aspect. Slano Kopovo is one of the most important and most distinctive bird habitats in Serbia. Its value is reflected in the nesting of species atypical of the Pannonian Plain, as well as the fact that it is a unique migratory station for certain migratory bird species.

The Stara Tisa Nature Park is located on the right side of today’s Tisa River near Bečej. The most significant value of the Nature Park is the white water lily, which is on the list of natural rarities in Serbia. The most common is a group of aquatic plants that are, according to some authors, of relict features in this part of Europe, such as milfoil, duckweed, and buttercup. Rush broom and buttercup are important to preserve the biodiversity of the area, which are according to the degree of endangerment of IUCN defined as critically endangered species and are on the Preliminary Red List of Flora in Serbia.

The fish stock is rich in 23 species of fish. 166 species of birds have been registered in the investigated area, of which 87 species are protected by the Decree on the Protection of Natural Rarities of the Republic of Serbia, while some belong to the group of the most endangered animals on the planet.

The Special Nature Reserve “Okanj bara” is characterised by saline soil and salt water. This area is rich in protected natural areas, and nearby there are the special nature reserve of the marshes of lower tisa, Nature Park “Jegrička” and nature park “Rusanda” and a little southern from Zrenjanin to Pančevo there is the Special Nature Reserve “Carska bara” as well as the Special Nature Reserve “Titelski breg” and the Nature Park “Ponjavica”, not far from Pančevo. The southern part of the route has no significant natural assets in the direct vicinity of the planned route.

EuroVelo 13

Not counting the relatively short branch of the alternative route that passes through the mentioned special nature reserve of Upper Danube, EuroVelo route 13 enters Serbia in the immediate vicinity

of Subotica in the region of Subotica sands with exceptional features. The trail passes near the Nature Park Palić, the Special Nature Reserve Lake Ludaš and the Special Nature Reserve Selevenj pusta, where it leaves Serbia and enters Hungary with a possible detour that would include the nature park Kamaraš in Horgoš. After re-entering Serbia, the route leads near the mentioned special nature reserve pastures of Velika Doplja and then crosses to Romania, from where it returns only near Vršac.

The protected habitat “Mali vršački rit” is located north of Vršac at the foot of Vršac Mountains and is a habitat for a large number of birds and rare plant species. It is characterised by dry and wet meadows, ponds and reeds.

The Vršac Mountains landscape of exceptional features is an independent and clearly separated mountain massif that rises above the plain of Banat. Known for its diverse flora and beneficial climate, the Vršac Mountains are suitable for all types of rest and recreation. Landscapes above 250 meters are overgrown with forests of mixed composition, in which linden, oak, cer, ash and acacia predominate. The slopes of the Vršac Mountains have been covered with flowers of various plants since early spring. About 150 species of birds can be seen in the Vršac Mountains, depending on the season, where birds of prey occupy a key place.

The route continues parallel to EuroVelo 6 and passes through the already described areas such as Deliblato sands, Karaš-Nera and Đerdap, and after Negotin the trails separate.

The Stara Planina Nature Park is the longest mountain massif in Serbia. It abounds in wild and unexplored expanses filled with peaks, waterfalls, canyons and gorges. Among more than a thousand plant species, Pančić’s frog grass is unique, while at the foot of Babin zub there is a habitat of subalpine beech. In addition to them, protected species such as dwarf iris, Kosovo peony, mountain maple, and forest lily can also be seen in the nature park.

4. Marketing of the cycling routes

The process of tourism product development cannot be separated from the system of other activities. In a functional context, there is technical product development, marketing activities and financial planning. As far as the services are concerned, other values can be channeled to users, in this case to tourists, as with a traditional product:

- functional value: desired, expected performance at a reasonable price;
- social value: it is of particular importance to members of one or more social segments (such as a place of vacation);
- emotional value: desired mood, comfort, safety, ambience;
- value of rarity, novelty: experience, gaining knowledge;
- value condition: result achieved without prior intention to purchase.

Tourism product development is the primary marketing tool. The necessary steps are: to conduct appropriate market research (examination of user needs, make the necessary changes, analysing the activities of the competition, definition of own strengths and weaknesses), evaluate the results and select the target group.

When considering the development and formation of a tourism product, the following must be taken into account:

- definition of services (positioning);
- continuous product design;
- adaptation to needs and competition;
- not all tourists and all their needs have to be met;
- specialise the own offer and offering unique, quality services.

The most important goal of tourism product development is to create a unique offer!

Positioning of the tourist service package is defining:

- user wishes;
- taking into account trends;
- which services are not available to our competitors?
- what are the strengths of our services?
- formulation of an individual offer for sale (USP technique).

Based on these findings, one should determine a complex offer for the selected target group, using the USP technique based on several guidelines:

- successful offers are focused on a specific, selected point, which can be well positioned for a specific target group;
- users should be given benefits;
- the offer is easily understood and achievable;
- the offer is easily recognisable;
- the offer is true and convincing;
- it can be easily sold (can be marketed well).

The basis of the uniqueness and specialisation of a tourist product is a natural or historical attraction. On the other hand, it is a new combination of existing elements, thematic trips.

The development of different types of thematic tourism in this area, will only depend on the creation of tourist arrangements in the future, and this is the step that will be followed. The process of developing a new tourist product must start from the product life cycle for the beginning, which means two challenges for the company, or in this case the tourism service providers: first, each product becomes obsolete once (this is in itself a product development problem), and second, it is necessary to know why and how the product ages (this is the area of the marketing task).

For one destination, a well-established strategy, a portfolio of tourism products can yield success based on existing opportunities. When analyzing the elements, economic, social, cultural, environmental and political elements must be taken into account.

The steps of the tourism product development process are as follows:

- initial phase: formation of travel motivation;
- resource fund: resources and possibilities of the destination;
- product development: infrastructure, facilities, services;
- activities and experiences, tourist offer;
- communication: image and positioning, communication and promotion, sales;
- result: tourist consumption/trade.

The process of tourism product development is complex and has several participants, so it requires the involvement of a management organisation that leads, coordinates and ensures an appropriate structure for implementation.

Tourism development is always part of a broader strategic development process. A sustainable development tool takes into account unique attractions, a specific destination, authenticity; it has the support of the local community, protection of the natural and socio-cultural environment. The results are separable, different from the competition.

They are based on market needs and trends, preceded by market research and analysis. The role of the state is of the utmost importance at the national level, at the international level these are correct and accurate information and data, available opportunities, facilities, spatial planning policies, development of a supportive environment in which companies and local communities can realise their visions in predictable conditions. At the local level, the role of local governments is even more important. Consultations - coordination - cooperation: these are the basic key elements in the process of tourism product development.

Before starting the specific process of tourism product development, it is necessary to analyse and evaluate the wider environment, which can be grouped according to the basic elements and principles. Among the basic elements, it should be noted that tourism is a specialised industry that includes the state, the private sector and various communities; so conscious planning, different approaches and coordination are key to successful development.

The marketing of cycling tours must answer strategic questions:

- which tourists are desired to be attracted to local tours;
- which integrated tourist products can be offered;
- what will be the long-term consequences for the environment.

Optimisation of tourist valorisation and available resources, sustainability must be reflected also in marketing. Marketing activities must present the tourist product of eco-cycling tourism as visitors experience it, as a dynamic activity, which provides the experience of discovering local characteristics, new things, expanding horizons, integrating experiences.

The basis of marketing activities for the development of eco-cyclo products are the characteristics of the micro-region, the destination. The tourist eco-cyclo product that marketing must support should include important features:

- clear product name;
- concept of local trails for tours, circular trails, trail networks, their combinations, links with the EuroVelo route;
- the shortest possible route to the rest area;
- unobstructed roads, road safety;
- paths that lead through nature or in its vicinity;
- relevant signalization signs, unobstructed passage through the routes;
- passability of trails in case of bad weather conditions;
- possibility of return by public transport;
- accommodation and food services, healthcare, repair services.

Micro-destination marketing of eco-cyclo products must achieve two goals: quantitative – optimal number of visitors for the micro-destination; qualitative – greater recognisability of the destination. The quantitative goal of a constant increase in the number of visitors is not adequate, i.e. only to the point where the optimum sustainability is reached. The destination has as many visitors over a period of time as the sustainability of the resources provides, i.e. there is no negative impact on the environment. The recognisability of the destination is closely related to the quality of services and information provided.

Key markets are determined by the following rules:

- detailed study of potential tourists and selection of the segment that is easiest to attract;
- examine whether the selected segment corresponds to sustainability;
- sort the examined segment of eco-cyclo tourists according to the types of bicycles they ride; according to the countries they come from; according to solvency-how much they spend on average; according to preferences within eco-tourism – bird watching, photo safari, study of biodiversity; by age groups and gender; according to the motives of arrival; according to the number of persons travelling together – individuals, club groups, organised temporary groups,

permanent groups, one-day excursions, multi-day tours, tours of international routes etc .; arrival season; educational level; a means of transport used in addition to bicycles.

After identifying key markets, marketing channels are to be planned. It needs further research and is part of the action plan.

4.1 Marketing channels

Marketing channels of the selected segment of eco-cycle visitors can be direct or indirect. Direct channels are used by tourism service providers who have their own databases, use direct marketing, and have no intermediaries in selling their services. This channel is suitable for service providers who have some experience and are not beginners for eco-cycling tourism. Indirect marketing channels involve sales intermediaries: travel agencies, local travel and excursion organisers, specialists in eco and cycling tourism.

Both marketing channels are promotion channels and must have successful communication with potential visitors for other marketing activities to make sense. Successful communication relies on the communication of the marketing plan, which consists of:

- specifications of the target group;
- specifications of the goal, which the communication should achieve;
- formulation of marketing messages;
- choice of channels for communication with potential visitors;
- specification of the budget of promotional activities;
- determining the time of promotion.

The choice of promotion channels is a set of possibilities and refers to: online promotion, web portals and bloggers, social networks, billboards, guides for eco-cyclo tourists, advertisements, press conferences, special events, participation in fairs, promotional video, creative workshops, distribution of printed promotional material, recordings, photographs, maps, promotional gifts, stands, posters; individually or in combinations.

At the start of the introduction of the eco-cycling tourism product, it is necessary to prepare materials that will serve as indirect channels for attracting visitors to the micro-destination. Over time direct marketing, direct contact with visitors takes over a part of the promotion. Establishing

personal contacts with visitors requires constant updating of the database, rapid adaptation of the offer to the changing needs and desires of tourists and, above all, acceptable prices of services, value for money.

Promotion channels must take into account the local population, the public of the micro-destination, their expectations and opinions. In that way, the identity of the destination, its biological diversity and natural processes will be preserved.

The optimal result of good promotion is high satisfaction of visitors with the services provided, destination recognition, sustainable resources, and economic effects for the local population.

5. Recommendations, conclusion

1. Organise parts of local tours according to the types of bicycles (because not all visitors are equally fit, nor they are led by adrenaline), so local tours and the entire route must be attractive for different groups.
2. Win-Win combination is a road bike+vintage bike. The use of road bikes is growing towards luxury models, according to higher purchasing power of visitors, so that is the segment of users that should be counted on.
3. Mark important service points along the tour, where possible with pictograms.
4. Creatively valorise myths and interesting historical facts, use them to tell stories at a rest area or when a group is stopping at a destination, told by a guide.
5. Well-identified variants of eco-cyclo local tours with accompanying services can become a factor of local industry over time. The development of these types of tourism is a good base for a society that cares about sustainability, inclusivity, tradition.
6. It is recommended to connect important stakeholders, PC Palić-Ludaš, Riapria Association, Mountaineering Club “Spartak” in enriching eco-cyclo events and integrating these two types of tourism.
7. Set up various info boards at the Rest Place: about biodiversity rarities, information needed and important to eco-cyclo tourists, maps showing tours.
8. Use pictograms where important information needs to be given.
9. Develop house rules for the behaviour of users at the rest area and about the use of rest area infrastructure.
10. Monitor the satisfaction of users of eco-cyclo tourist services, at the rest area.
11. Rest Place should become an important meeting point for users and service providers, a point where all important information is obtained, where continuous internal statistics are kept on the number of users and their satisfaction, where innovations for tour development come from.
12. The microlocation has excellent resources for the development of eco-cycling tourism, it is recommended to connect with other micro-regions in the country and abroad.
13. It is recommended to accommodation facilities, for easier identification, to emphasize the “bike friendly” services in their promotion and place such a note in front of their facility.

14. Get the local population acquainted with the eco-cyclo resources in the micro-region and start trainings.

6. Action plan

The action plan refers to measures that are adapted to eco-cyclo tourists in the development of eco-cyclo destinations, as follows:

Priority	Measure	Description of the measure	Responsible organisation
Providing information to tourists			
	Providing local information to cycling tourists (info boards, online, maps)	<ul style="list-style-type: none"> - placing info boards in visible places with important phone numbers, information, websites important for eco-cycling tourists - designing a logo for service providers of eco-cyclo tourists that will be recognisable, using it in promotional materials 	NGOs, local self-government
	Unique national signalisation	- building a system that is easily recognisable and wherever tourists go, they can get the same information during the cycling tour	NGOs at national level, state institutions
	Connection to the Euro Velo system	- marking, building and organising the necessary promotion of all three EuroVelo routes through Serbia	NGOs at national level, state institutions, European institutions
Marketing activities			
	Creating a national image	- intensifying national media campaigns on cycling tourism as a sector with excellent potential in Serbia	State institutions
	Targeted advertising for cyclists	- targeting of the developed cycling tourism packages to potential tourists	NGOs, local and state institutions

Building partnerships			
	Database of service providers	- creating a database of all tourism service providers that in some way appear on the supply side in cycling tourism.	NGOs
	Developing thematic bike tours	- creating shorter and longer tours, along a natural asset or about natural wealth, which pass near a EuroVelo route, but also separately from it, in order to connect individual thematic tours, not only in terms of cycling tourism, but also such topics that can be reached by bike. Organising additional creative workshops for crafts or so-called survival tours.	NGOs
	Cooperation with other providers of tourist services - development of joint tourist products, packages	- integrating other tourist products with eco-cycling tourism in the offer: wine routes, cultural-historical objects, events, gastronomic routes, recreation and spa, forest and meadow trails, theme parks, attractions - encouraging the sale of local products and networking of service providers.	NGOs
	Cooperation of local population and tourists	- every resident of the local community who rides a bicycle should be an ambassador of eco-cycling tourism, to give information to tourists, guide them, help with bicycle repair - organising joint local tours of eco-cyclo tourists with the local population	NGOs
	Regional cooperation	- inside and outside the country, development of joint program packages, tours, with joint marketing and market presence	NGOs, local and state institutions

		- harmonisation of the offer with the criteria at the regional level	
Quality improvement			
	Training service providers	- multi-level training of stakeholders on tourism-related skills for providing a uniform offer	NGOs
	Establishment, implementation and maintenance of quality systems	- development of a quality system specially adapted to cycling tourism, introduction of a system for service providers and its periodic review	NGOs, state institutions
Development of an ecological approach			
	Local population	- training and shaping the attitudes of the population in order to create an environmentally conscious way of life - initiating measures with public companies to maintain hygiene and cleanliness of infrastructure as well as the necessary maintenance	NGOs
	Tourists	- presenting valuable areas for tourists, putting them in the context of an approach to nature protection	NGOs
Development of transport approach			
	Local population	- raising public awareness about eco-cycling tourism and educating local population about the potential of eco-cycling tourism	NGOs

		-development of transport attitudes, especially for cyclists	
Infrastructure development			
	Bicycle paths	- constructing clearly marked and safe local trails, marking objects that are “eco-cyclo friendly” - reconstruction and construction of new bicycle paths	Local self-governments and state institutions
	Rest areas	- construction of bicycle rest areas of small dimensions, for short stops, with safe storage, parking lots	NGOs, local self-governments
	Complex rest areas	- construction of a rest area for cyclists suitable for camping and meals, with complete infrastructure	Local self-governments and state institutions
	Installation of public bicycle systems	- construction of micro and macro-regional system of public bicycles that can be used not only in the city / settlement, but also in the region	Local self-governments and state institutions
Traffic counter			
		- Equipment for counting traffic on busier bicycle paths	NGOs, local self-governments
Intermodular development			
		- initiating the integration of bicycle traffic with public transport systems, ensuring safety	State institutions

7. Method of monitoring the realisation, visitor counter and CRM

The method of tracking the route in the process of its realisation envisions monitoring within two possibilities: through a counter – mobile application for smartphones, and through user satisfaction within the CRM (Costumers Relationship Management). Monitoring the implementation of the route is necessary in order to take possible measures to put it into practice. Many European cultural routes are well designed and developed, they also have good information support, but still practice shows that they did not come to life as expected. In order for the route to come to life, it takes time for it to “mature”. The “ripening” time of the route should keep the route in the planned strategic direction, so the events on the route must be monitored.

DCC - Danube Competitiveness Centre, a project partner is developing a mobile application that will be available to every eco-cyclo tourist and will contain essential information for the internationally integrated route of the project. Through this application, it will be possible to follow the number of interested tourists, which contents they prefer the most, whether they give ratings and comments regarding the route. Eco-cycling tourism does not belong to the type of mass tourism, but to tourism of special interests and thematic tourism, which has already been mentioned earlier, so that the quantification of the number of tourists is not authoritative enough. In order to get a true picture of the success of the route, it is not enough to have quantitative data, especially when the number of nights of these tourists is difficult to track, but it is necessary to have information on the satisfaction of visitors who move through local parts of the route and use it for connection to EuroVelo trails.

The data of monitoring the number of visitors and their overnight stays in the micro-region is not enough. Neither local tourism statistics, nor national ones, do not make a difference in the analysis of data by types of tourism, because there is no platform that would provide classified data by types of tourism. Only aggregate destination data are obtained that are not useful for eco-cycling tourism.

Information on visitor satisfaction can be tracked in the following ways:

- questionnaire at the rest area; with one to three questions that can be changed depending on the segment for which answers are sought (e.g. whether the cleanliness of the rest area is adequate,

whether obtaining information via wifi is quickly enough, whether the rest area meets the expectations concerning the observation of biodiversity etc.);

- conversation with, interview of visitors by the host at the welcome desk-reception;
- a book of impressions in which visitors write their experience;
- by monitoring social networks, websites of the cluster, other NGOs and stakeholders, as well as the natural resource manager PC Palić-Ludaš;
- by monitoring the experiences of visitors through their publications on the Internet.

Comparing these sources can provide reliable information on customer satisfaction and in which direction to correct services, pay attention to providers on the route about the quality of their services, introduce innovative services, determine where the route is based, what is missing, whether it is necessary to introduce internal quality standards for service providers on the route, which services to develop, reorient, abolish. This information is important for the route management to get the facts, the experiential base, on the basis of which decisions can be made. The same possibilities should be applied to the providers who will be on the route, although the information from the rest area, as the most important hub of the micro-destination, is of priority importance.



Figure 12. Scheme of CRM
Source: pixelmindit.com

The rest area is a place where the necessary parameters can be measured in order for the route to be sustainable, one of the important meeting places for the supply and demand of eco-cycling tourism, an information point where visitors can meet their basic needs.

Most business improvements come from the ideas of users, visitors. The same is the case with following the opinions of users on the route. If there are sources for recording such information, it is necessary to maintain and improve the services on the route by following the opinions, descriptions of satisfaction, suggestions and ideas of visitors. The key to the success of a route lies in the quick identification of the needs and expectations of tourists, easy access to the segmented market, with personalised and up-to-date information. Eco-cyclo tourists are sophisticated; they know very well what value they want to get for their money, they are interested in high quality and sustainability. According to their basic requirements, the following should be adjusted:

- provided set of quality services on the route;
- information on meeting needs;
- method of collecting information on customer satisfaction;
- monitoring the quality of service;
- formation of personalised services.

A rounded whole is got that will give a picture of the success of the route. When monitoring customer satisfaction, “micro niches” may appear within eco-cycling tourism (for example, the study of butterflies, wild herbs, sediments...). These are activities that involve an even smaller number of people with special, additional interests. Tracking and identification of these micro niches is important for the success of the route for the following reasons:

- identification of new needs;
- strengthening new services for micro niches;
- satisfied user of the micro niche will attract potential visitors;
- dissatisfied user from the micro niche can damage the image of the route with negative comments and damage the reputation, brand, as well as the perception of other users about the route.

Visitors from micro niches can become loyal and regular visitors, but only if the quality of services is constant in continuity. They are important for WOW marketing – word of mouth advertising –

and they can fill parts of the season when specific events in eco-tourism take place, but also during events that attract cyclo-tourists.

For the segment of cyclo-tourists, it is necessary to follow local events and cyclo-visitors who visit them. This is additional data to attract potential users. In order to measure the level of their satisfaction, it is recommended to use a specially made application for that event, with already offered answers, which can be used by visitors on the spot, by phone. The intangibility of the tourist product, the impossibility of its transfer before the purchase, makes this product very dependent on information. Therefore, it is necessary to find ways to measure customer satisfaction information for all segmented customers.

Many visitors will record their videos, which is another channel for monitoring user satisfaction. It is important to give them space to publish them. An example is the website of a travel agency, where there is a segment where visitors to a destination, according to the travel arrangement, publish their records, stories and impressions after the trip. Of course that is a part of the travel agency's policy and operational tasks. The analysis of these announcements provides information on how much the route has really met the expectations of visitors.

Tourism, as well as eco-cycling tourism is basically a personal experience of attractiveness and activities, which are presented on blogs. Blogs have a strong influence on decisions about destination and travel. These are content created by the users themselves, personalised and therefore these another source of monitoring user satisfaction. Tourist promotional materials often exaggerate in the descriptions of a destination, sensationally present the expected experiences, which bloggers do not do, but they give very objective attitudes, positive or negative. Blogs allow getting to know micro niches even better.

In measuring and monitoring customer satisfaction, the common denominator of the listed possibilities is up-to-dateness.

Monitoring the realisation, maturation and life of the route has one more aspect. It refers to the management of visitors as a limited capacity of the number of tourists in the micro-destination, that is, how many visitors are too many. For protected natural assets, that is an inevitable precondition. In order to achieve all the parameters of not disturbing sensitive ecosystems and at the same time meeting the expectations of users, limit should be set in monitoring the development

of the route, about how many eco-cyclo tourists the destinations can receive at the same time. The limit should be set immediately in the house rules of the rest area.

If we get very good indicators of customer satisfaction, e.g. that 98% of users who provided feedback, out of 500 visitors in one season, were satisfied, it does not mean that they will automatically become loyal to the destination and return next season. Visitors were satisfied with the services they received, the gap between what was received and what was expected was small. Their needs will change for the next season and in order to be attracted next season, the route management must raise the level of its services, to a quality that will be unexpectedly positive, new, surprising, that will delight the user, become attractive. Only attractive quality can attract old customers again, who will take friends with them or tell them about the destination, nurturing potential customers (WOW marketing). The users were satisfied with the received services, but it is not known whether they will be satisfied with the future services, because they have not been provided yet. The big task of the management is to detect changes in their expectations, read “between the lines” in which direction the expectations of service users will move on the route next season. Only then it will be possible to create a new, exciting service every season, to talk about the sustainability of the route, because it follows the most important thing, what the user says and expects.

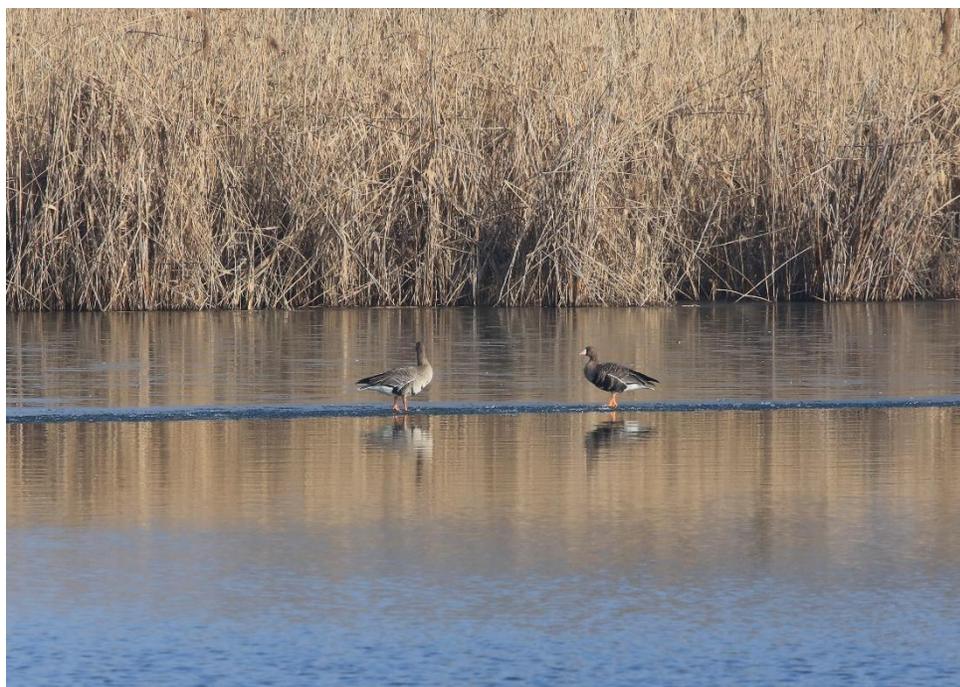
Conclusion: monitoring the realisation of the route is a long-term process, with several sources of information that need to be analysed and on the basis of which activities on the route can be corrected.

8. Pictures, maps

Subotica sands



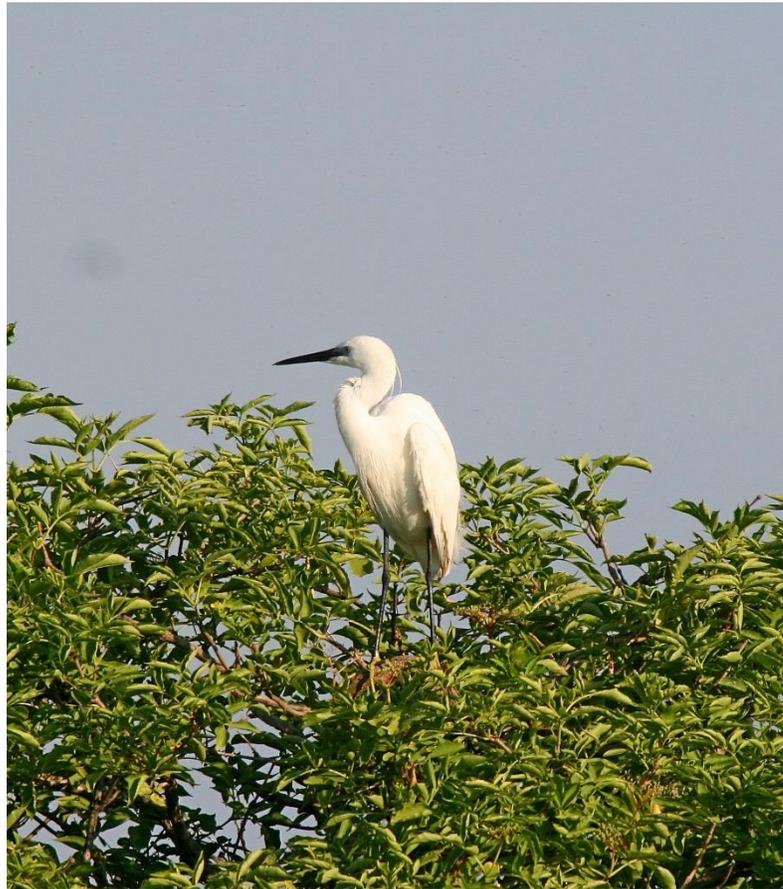
Lake Ludaš





Lake Palić





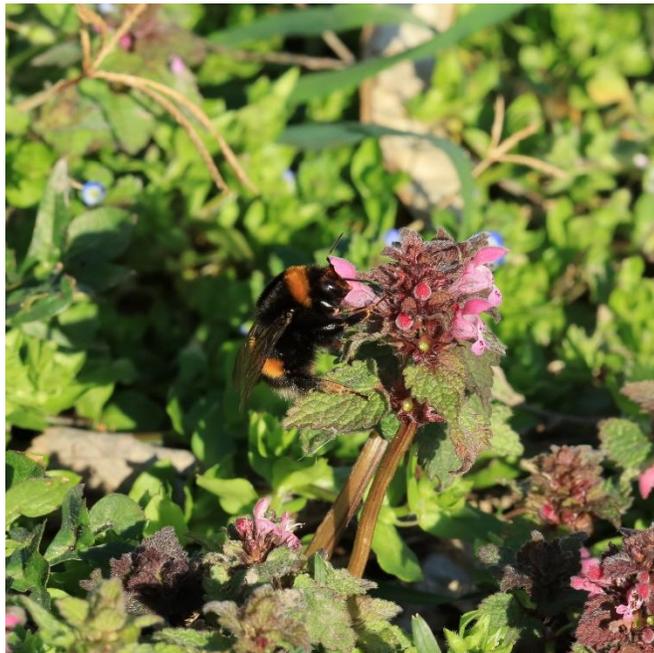
Lake Kelebija



Meadow Čurgo in Hajdukovo



Selevenj pusta





Northern Banat



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