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Feasibility study on establishing transboundary cooperation in the potential transboundary protected area:

Tara-Drina National Park

Prepared within the project "*Sustaining Rural Communities and their Traditional Landscapes Through Strengthened Environmental Governance in Transboundary Protected Areas of the Dinaric Arc*"

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ENVIRONMENT FOR PEOPLE
in the Dinaric Arc

A Western Balkans
Environment & Development
Cooperation Programme

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List of acronyms:

AEWS	Accident Emergency Warning System
BiH	Bosnia and Herzegovina
CBD COP 9	9th Conference of the Parties to the Convention on Biological Diversity
CBD PoWPA	Convention on Biological Diversity, Programme of Work on Protected Areas
EU IPA	European Union, Instrument for Pre-accession Assistance
GEF	Global Environment Fund
IUCN SEE	International Union for Conservation of Nature Programme Office for South-Eastern Europe
NP	National Park
PA	Protected Area
REC	Regional Environmental Center
SR	Republic of Serbia
SNV	Netherlands Development Organisation
TBPA	Transboundary Protected Area
TBR	Transboundary Biosphere Reserve
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WWF MedPO	World Wide Fund for Nature Mediterranean Programme Office

BACKGROUND OF THE STUDY

The Project "Environment for People in the Dinaric Arc"

The project "Environment for People in the Dinaric Arc" began in 2009 and is funded by the Ministry for Foreign Affairs of Finland. The project is expected to last three years. It represents a joint development initiative by IUCN (International Union for Conservation of Nature) implemented by the IUCN Regional Office for Pan-Europe and IUCN Programme Office for South-Eastern Europe, in partnership with the World Wide Fund for Nature–Mediterranean Programme Office and SNV–Netherlands Development Organisation.

The project was developed to support the political commitments of the Dinaric Arc countries towards enhancing cooperation on protected area establishment and management within the framework of implementing CBD PoWPA. In this context, the most important step was the "Big Win" commitment for the Dinaric Arc, jointly signed by Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia, and Slovenia in May 2008 during the 9th Conference of the Parties to the Convention on Biological Diversity (CBD COP 9) in Bonn, Germany. The commitment includes the general statement of all signatories to build an effective network of protected areas, based on the recognition of the natural and cultural wealth of the Dinaric Arc region. It also includes a list of specific national and regional priorities for each country. These priorities include the establishment of 13 new protected areas and the evaluation of the contribution the protected areas could make to the local and national economies. They also include strengthening regional collaboration by creating a series of transboundary natural resource management areas (i.e. transboundary protected areas), which shows a general awareness that protecting this natural and cultural wealth can only be achieved through the close cooperation of the Dinaric Arc countries. The EU perspective is currently the main political driver, since EU accession is the principal objective for the countries of the region. Strong economic growth and progressing integration into the EU are set to bring the stability, security, and prosperity that the peoples of the region are hoping for. In this context, establishing transboundary collaboration on environmental and development issues is of interest to all the western Balkan countries.

The "Environment for People in the Dinaric Arc" project aims to transform this political commitment into a concrete action for the Dinaric Arc region. In short, the goal of the project is to improve the sustainable development of rural communities on the basis of conservation of biological diversity and traditional landscapes in transboundary regions by enhancing regional cooperation and strengthening environmental governance, including participation and empowerment of civil society and local communities (IUCN, 2008).

Why transboundary cooperation?

The need for establishing transboundary collaboration is based on the idea that natural systems straddling political boundaries can be most effectively managed as functional units at the scale of the regional landscape and would, therefore, benefit from appropriate mechanisms for long-term transboundary cooperation. While the establishment of TBPAs for integrated conservation and development can enhance environmental protection, it can also reinforce political security and provide multiple benefits to local communities.

The existence of TBPAs and their buffer zones can help rebuild divided communities, promote freedom of move-

ment and create new opportunities for sustainable development, including low-impact tourism. Such areas can also make an important contribution to regional biodiversity conservation programmes, especially in areas where they form a coherent ecological network.

Neighbouring states, which often have different levels of technical expertise, knowledge, capacity, and financial resources, can benefit by combining their respective strengths through transboundary cooperation (IUCN, 2008).

Purpose of the assessment

The purpose of the assessment is to feed the project with necessary information and provide directions for increasing the level of transboundary collaboration by taking advantage of the opportunities and overcoming the difficulties identified in this report.

Methodology

This analysis is based on a questionnaire completed by two local consultants, one for each side of the border at each project site. The questionnaire was developed by Mr Zbigniew Niewiadomski, the UNEP Regional Consultant on Trans-boundary Protected Areas.

The UNEP kindly made the questionnaire available to this project and allowed its author, Mr. Niewiadomski, to assist us. The initial questionnaire was slightly modified to focus on the specific needs of this project and the specifics of the pilot sites.

The questionnaire consists of 168 questions and regional consultants were given a three-month period to provide answers with the assistance of other regional experts, local administrations, Internet research, scientific articles and personal discussions. Although the questionnaire provided sound insight into the traditional landscape, a more thorough overview of the local law enforcement and social background is recommended for future assessments.

Fig. 1 Population of *Picea omorika* at the locality Studenac

SPECIFIC REMARKS FOR POTENTIAL THE DRINA BIOSPHERE RESERVE - REPORT

Fig. 2 Bridge of Mehmed Pasa Sokolovic

Fig. 3 Remains from the Roman period - Skelani

This study focuses on the area which stretches along sections of the border region between southwest Serbia and eastern Bosnia and Herzegovina in the central part of the Drina River Valley. The study examines the possibilities for establishing a transboundary protected area, in this case a Biosphere Reserve, and analyses the transboundary cooperation in this region to date. This is a predominantly mountainous region belonging to the Dinaric Alps. The area includes specific karst landscape scenery with deep gorges and canyons, dense forests, mountain meadows and lakes.

According to the Spatial Plan of Republika Srpska, the Drina Biosphere Reserve will encompass 1148 km^2 of which 626 km^2 is on the territory of Republika Srpska. It is planned that this potential transboundary protected area will extend over parts of the territory of three municipalities in BiH (Srebrenica, Visegrad and Rogatica), and three municipalities in Serbia (Bajina Basta, Uzice and Cajetina).

The beautiful Drina River dominates the area. The Drina River is the largest tributary of the Sava River with a catchment area of 19,946 km^2. The river's original wildness has been disturbed by two hydropower plants and several artificial lakes in the region of Visegrad, Perucac and Zaovine.

This region has outstanding natural values and contains preserved ecosystems, endemic and threatened plant species and communities, including Serbian spruce (*Picea omorika)* as the flagship species of the entire area. It is a refuge for unique fauna and large predator species such as brown bear, wolf and golden eagle.

Numerous archaeological sites have been recorded in the area (118 on the BiH side), including rich cultural and archaeological values such as wooden architecture and traditional land use practices. The Bridge of Mehmed Pasa Sokolovic is inscribed on UNESCO World Heritage List.

Much more information is available for the area of Tara National Park than for the other side of the border, owing to the fact that the park was established in 1981. On the other side, protection of the valuable border area in Bosnia is planned in the future, and currently there are many gaps in knowledge and much less information available.

Fig. 4 Map of the Tara-Drina National Park (source: Institute for Protection of Natural and Cultural heritage, Banja Luka)

CONTEXT FOR TRANSBOUNDARY COOPERATION

Historical context of the area

The history of the Balkans has been marked with confrontations of different political and religious interests and ideas. Due to historical processes in the region, local populations lived periodically in the same state and often belonged to different entities and were separated by wars. Bosnia and Serbia were two of the six constituent republics in the common state of the Socialist Federative Republic of Yugoslavia (SFRY). During this period, the local people in this transboundary region were connected through many sectors especially economy, healthcare, communications and others.

The recent history is marked by a civil war in the 1990s on the territory of BiH. There were no conflicts or war activities on the territory of Serbia in this particular region. On the BiH side of the border, the recent military conflict resulted in a change of the ethnic structure, depopulation of certain rural areas, abandoned settlements and agriculture areas. Several small areas are no longer accessible due to the presence of land mines. Regardless of the ethnical, religious and cultural differences, the local inhabitants in this region have been coexisting for a long period and have strong and interdependent links.

Border context

The border line between Serbia and BiH extends over 383 km, of which 229 km is a river border. In the proposed transboundary protected area, the main physical features defining the boundaries are rivers and mountains, especially the Drina River. In this part, the landscape is particularly dominated by Lake Perucac, which was formed by the damming of the Drina River. The rest of the border crosses through mountain meadows and forests and is primarily a terrestrial mountainous region.

This border was established as a result of a long-term historical process in the Western Balkans and dates back to the time of Ottoman Empire. During the dissolution of the former Yugoslavia, the borders of the former Yugoslav socialist republics were internationally recognized as state borders between the newly created states. This implies that the border between Serbia and BiH was determined in 1945 by the post-war Communist regime. However, the Dayton Peace Accord from 1995 specifically states the obligation of Serbia and BiH to ratify their borders and resolve any outstanding disputes.

The establishment of borders and formation of new states led to the limitation of free commuting of people and goods. There is no visa regime for crossing the border, though crossing is only legally permitted at border crossings, which complicates the situation for people owning farms and land on the other side of the border. For citizens of these two countries, only an identification card is necessary (with the exception of children who require a passport). There are other regulations restricting the flow of goods and services across the border (customs, complex veterinary and health regulations) which creates difficulties for the livelihood of people in the border regions and hinders economic development. The movement of goods (including animals) that must pass veterinary and sanitary controls is possible only at border crossings with organized sanitary and veterinary control. The Karakaj border crossing near Zvornik, which is outside the proposed protected area, is used for the trade of goods of animal and plant origin.

The issue of smuggling domestic animals across the border needs to be addressed integrally for the region as a whole. By having both countries adopt the European legislation, this issue would be significantly reduced.

Overcoming these and other issues is largely a matter of political will on both sides of the border.

Apart from what was mentioned above, there are no specific obstacles posing a major problem for transborder cooperation.

Socioeconomic context

Demography

The geographical position, historical and natural processes have all had an important influence on the demographic situation and settlement disturbance in this region. In both countries, this area lies in remote mountain parts, characterised by negative demographic trends and a low population density. Population size is decreasing every year throughout the area due to the negative demographic trends. This is a significant regional problem, as the population is elderly and workforce is migrating towards larger urban centres.

According to the last Serbian census in 2002, the total population of the potential Biosphere Reserve on the Serbian side was 7,220 inhabitants in the broader area of Tara National Park. The census from 1948 recorded 14,816 residents in this part. These figures reveal the depopulation trend the area is facing. The total population in all three municipalities of the proposed area is 100,076 (Uzice – 45,667; Bajina Basta – 34,183; Cajetina – 20,226). The population density in the area is very low, with average of 23 residents per square kilometre, and as low as 9 in some parts. A negative tendency and aging structure of the population is especially pronounced within the national park area. The average age of the population in settlements in this area is 48 years, and up to 60 years in some villages. The working age population is represented by only 3,116 inhabitants.

The general Tara area encompasses a mountainous region with a settlement pattern consisting of small settlements and hamlets. The proposed transboundary area in Serbia includes 15 villages. The average number of residents per settlement is 481. Such a network of scattered settlements and hamlets, known as the *starovlaski* type, is characteristic for Tara Mountain as indigenous and has been preserved to the present day. The most important settlements within the proposed area are: Zaovine, Perucac, Kremna, Mokra Gora, Bioska, while the settlements Rastiste, Jagostica and Solotusa lie in the territory of the national park. In the proximity of the proposed area, there are two urban settlements: Bajina Basta and Uzice.

On the BiH side, there is an evident lack of official demographic data relating to population density and size for the area within the potential protected area. However, there are certain demographic estimates at the level of the Republika Srpska entity as listed within its Spatial Plan 2005–2015. The population size generally is very low. Estimated population size is about 56,000 in the territory of three municipalities (Visegrad 20,000; Rogatica 15,000; Srebrenica 21,000). The estimated population density is 35 inhabitants/km^2. It is estimated that population size and density may be even lower in the rural parts of the proposed protected area, due to the terrain configuration.

There are no settlements divided by the state border. However, in many cases, the local residents have land and properties on the other side of the border.

Transport infrastructure

The density of road network in the Tara region is low, and existing roads are mainly in poor condition. The area is not well connected to the larger national roads. The total length of roads is 1678 km^2 with 50% currently undergoing modernization. Within the three municipalities (Uzice, Bajina Basta and Cajetina), local roads account for 73.3%, regional for 16.4% and national highways for only 10.2% of the total road network (Spatial plan for the

Fig. 5 View from Tara National Park towards Bosnia

special purposes of Tara National Park: Official Gazette SR 95/06). The most important transport corridor passes through the nearby Branesko polje, i.e. road E-763 and the Belgrade–Bar railway that connects eastern parts of Europe with the Adriatic coast in Montenegro. This transport corridor is also an important tourist route to Montenegro. In the area of Tara National Park there is a well developed network of forest roads which contributes to the openness of the area.

Water transport on Lake Perucac has local transboundary and tourism importance. Railway transport in Mokra Gora is a great tourist attraction with possible connections to Visegrad. The reconstructed sections of the forest railway in the national park also have great potential for tourism.

The international main road E-761 connects Serbia with Bosnia and Herzegovina and Croatia, i.e. continental areas with the Adriatic Sea, via Mokra Gora and Sargan. Other important roads are regional roads: R-452 Bajina Basta–Srebrenica, and R-451 Visegrad–Bajina Basta.

Economic development

The economy of the area is primarily based on the wealth of natural resources. Natural resources and their diversity have influenced the development of several economic branches. The abundance of water of the Drina River and its confluents offers a number of opportunities for development. Agriculture and forestry are the two most important economic activities in the region, while industry is underdeveloped or in decline. Tourism is significantly better developed in Serbia while in BiH, tourism has great though unrealized potential.

Energy production is a very important economy branch for this region. The Drina has the highest hydroelectric potential in the Balkans, though this is only partially being utilized. Two power plants are situated in the area of the potential TBR, which indicates the significance of the area for the economy. The hydropower plant in Perucac has a power of 368 MW and is the largest hydropower structure on the Drina River. The dam in Perucac is 498 m long and 90 m high and Lake Perucac accumulates 340 m^3 of water. Visegrad Lake was formed by the construction of a 280 m long and 79.5 m high dam for the needs of the Visegrad hydropower plant. The lake accumulates 125 m^3 of water.

Fig. 6 Sargan railway

Transboundary cooperation in this particular area would initiate several direct and indirect effects that would improve quality of life for citizens on both sides of the border. First, the proposed cooperation would create jobs and provide an opportunity for the local population to increase their personal incomes (employed directly within future national park institutions in BiH or employed indirectly through local market sale of their products). Increased communication between the population on both sides could be expected to lead to better understanding and bridging of the communities in the area.

Bosnia and Herzegovina

According to the data from the Investment Development Bank of Republika Srpska in 2008, GDP per capita was KM 5,891 for Republika Srpska and KM 6,435 for BiH, which is a positive trend of increase of the GDP per capita for 2008. Trade and agriculture made the largest contribution to the Republika Srpska GDP in 2008, while the trade and processing industry were most significant for the BiH GDP.

According to the official data of the Republika Srpska Spatial Plan 2005–2015, the total employment rate in Republika Srpska is 16.2%. The employment rate is 13.2% in Visegrad, 7.1% in Srebrenica and 16.3% in Rogatica. Generally, employment in the area is low and below the Republika Srpska average. The largest contribution to employment is provided by agriculture and cattle raising, followed by industry, mining and energy production.

According to data from the Chamber of Commerce of Republika Srpska, 38 legal entities are registered in the Srebrenica municipality. Industry is almost non-existent while natural resources are the backbone of economic development. The Sase mine has significant potential for exploitation of zinc, lead and silver. There are 48 mineral springs, including the famous Guber spring. Forest resources are spread over 26,000 hectares and managed by the Drina forestry company. A significant source of income is generated through the collection of medicinal plants, tourism, and hunting in the renowned Susica hunting ground. Agriculture is the main business and total arable land area is about 20,150 ha. Cattle raising and fruit production are the main agriculture activities.

In accordance with the data provided by the Chamber of Commerce of Republika Srpska, the Municipality of Rogatica has significant capacities for the metal industry, textile industry, construction, agriculture and food processing (slaughterhouses and production of malt), forestry (exploitation and planting of trees, construction of forest roads - Sjemec-Srpske Sume forestry company). Private entrepreneurship, trade, catering services and crafts are being developed throughout the municipality. The popular resort Borike is in northeast of the municipality at an altitude of 1100 m where, in addition to Hotel Borike, one can find the famous farm of Bosnian mountain breed horses.

The Municipality of Visegrad has partly developed industry and several sound enterprises, such as the Visegrad hydropower plant, UNIS-USHA, Metalac, Granit, Metal gas, Varda chemical industry, UNIS-UTEL, and Panos forest enterprise. In terms of agriculture, fruit production and cattle-raising are predominant. The Drina, Lim and Rzav Rivers and two artificial lakes that are 88 km in length, surroundings of the Panos, Sjemec and Stolac mountains are rich in forests and large green areas, natural beauty and wild animals, which forms the basis for development of hiking, hunting and fishing, water sports, etc.

Serbia

Possible TB protected area will include parts of three municipalities: Bajina Basta, Uzice and Cajetina. All three municipalities have a lower per capita income than the national average. The lowest employment rate among the three municipalities is in Bajina Basta (number of employed per 1000 inhabitants is 173, while the Serbian average is 270). Bajina Basta belongs to the moderately developed municipalities in Serbia. The number of work-capable residents in the Serbian part of the potential TBR that have occupation is 2606 (36%), and the number of dependants (i.e. people without working relationships - children, pensioners, work-incapable people, etc.) is 2256 inhabitants or 31% of the total population in the area (source: Statistics Office of the Republic of Serbia - Census of the Population, Households and Dwellings in 2002).

The general area of Tara National Park is composed of rural settlements and, accordingly, agriculture has a traditionally important role in the local economy. It is estimated that 34% of the working population is employed in agriculture and according to cadastral data, 24,380 ha (38%) in the planned TB area is agricultural land. Forestry is another important economic activity in the region and this part of Serbia has a long history of forestry. Forest land and resources are spread over 32,768 ha in the Serbian part of the possible TBR, and they are managed by the public enterprise of Tara National Park and the Uzice Forest District (unit of the Serbian Forests public enterprise). Due to the significant forest resources, the primary wood processing industry is also developed. Hunting, fishing and collection of medical plants and berries are traditional practices of the local population, though they have only a secondary role.

In the Municipality of Bajina Basta, the local economy is based primarily on forestry, agriculture and energy production. According to the data of the Institute of Statistics, the structure of the national income in Bajina Basta is as follows: the energy sector is best represented with 36%, while agriculture and forestry together account for 24%. The preserved area has great possibilities for the production of healthy food and traditional products. According to the Master tourism plan for Tara, resources (preserved mountain area, freshwater resources, etc.) in this area could be used for the development of several types of tourism: winter and summer holidays, rural tourism, business tourism, short holidays, health and wellness tourism, touring.

The Bajina Basta hydropower plant in Perucac is a very important part of the economy in this area, with an annual production of 1625 Gwh. Several artificial lakes have been created on Tara Mountain and a reversible hydropower plant installed with an annual capacity of 1070 Gwh.

According to the data of the Regional Chamber of Commerce in Uzice, this region is especially known for its raspberry production. The annual production of raspberries amounts to 35,000 to 40,000 of tonnes. Honey production is also represented in the area with the brand "Pcelica sa Tare" (Bees from Tara).

Important tourism facilities on Tara are the Tara military complex, and the children's camp complex on Mitrovac. Clean freshwater resources are also potential for economic development. This is reflected partly in fishery development (600 t of fish is produced in the Perucac and Raca fish ponds) and the bottled drinking water brand "Zlatibor". Agriculture and food processing industries are also presented in the Uzice region with the famous brands "Zlatibor" and "Zlatiborac". Small industries are represented with the Metaloplastika processing industry for plastics and metals. Within the territory of Uzice, tourism is represented by the Drvengrad Hotel and tourism complex and the tourist attraction "Sarganska osmica" –a transversal railway. In the urban area of the Uzice municipality, heavy industry is also developed with the Sevojno copper and brass mill and the Sevojno aluminium mill.

Tourism

Tourism has been recognized as a great potential for enhancing and developing the local economy, though based on official data from the Statistics Office of the Republic of Serbia, it still accounts for a low share of the product of the local area. The planned area has great potential for the development of several types of tourism and diverse and rich resources that can be used to enhance local economic development. The Serbian side of the potential transboundary area has a much more developed tourism infrastructure and includes well known tourism destinations (Tara, Mokra Gora, Sargan, Zlatibor). Tara mountain has more than 100 years of tourism tradition. According to the data of the Statistical Institute, more than 80,000 tourists were record-

ed in 2009 in the broader area of Tara and Bajina Basta. The total recorded number of tourists in all three municipalities of the proposed area is 160,087. Even though tourism infrastructure is much more developed on the Serbian side, there is a strong need to improve and to develop new infrastructure. The main tourist points with developed tourism capacities are: Kaludjerske Bare, Mitrovac, Predov Krst, and Sargan and Drvengrad in Mokra Gora. Existing tourist infrastructure includes the following types of facilities: several hotels, motels, restaurants and small scale private accommodation, which has been increasing in recent years. Two information centres have recently opened within Tara National Park. The management of Tara National Park has begun with the creation of a network of educational trails (several trails have been marked with educational boards and resting places).

Accommodation capacities in the general area of Tara Mountain includes about 4500 beds (2200 in hotels, motels and lodges and 2300 in small scale private accommodation).

Tourism and natural resources form the base of the economy of the Municipality of Cajetina. The municipality has a famous tourism centre at Zlatibor Mountain with 12 hotels, 29 restaurants, 4 tourist agencies and other tourist facilities (according to the Zlatibor Tourist Board). The famous Cigota rehabilitation centre is also located in this municipality.

Guber Springs

Despite the great potential for tourism development, there is an evident lack of tourism infrastructure on the BiH side. The popular Borike resort is found at an altitude of 1100 m where, in addition to Hotel Borike, one can find famous farm of the Bosnian-mountain horse breed. The Visegradska Banja spa and the Vilina Vlas rehabilitation centre are supplied with the rich source of radioactive thermal water from the Guber springs.

Fig. 7 Guber Springs

UNIFING ELEMENTS—NATURE OF THE PROPOSED TRANSBOUNDARY PROTECTED AREA

Environmental conditions

The planned transboundary Drina Biosphere Reserve encompasses a region with high natural values and conserved ecological processes and ecosystems. The quality of the region's groundwater, surface water, air and soil can be evaluated as very favourable, which is a consequence of the remoteness of industries and urban areas. This area has a preserved environment with a low degree of human impact, primarily because the area is isolated, not easily accessible, and parts of it have long been protected.

In Serbia, there are no monitoring stations for air quality in the planned area. The nearest monitoring station for air quality and radioactivity is on Zlatibor Mountain, and results from that station indicate good air quality with very low concentrations of pollutants (source: Republic Hydrometerological Institute of Serbia). The main sources of pollution are traffic, tourism facilities and households.

Meteorological data from the Mitrovac station (Tara plateau) for the period 1965–1984 were used to define the climate characteristics in the region. Microclimatic characteristics of the area could be altered due to the construction of reversible hydropower plant at Zaovine, and there is a need for meteorological station in this area.

Waters of this region are primarily of category I or II (Waters Act, Official Gazette Republic of Serbia 30/10, Regulation on categorization of water flows and Regulation of water classification, Official Gazette SFRJ 6/78). These indicate the highest quality as estimated using 11 indicators, including suspended matter, pH, dissolved oxygen, degree of biological productivity, transparency, smell, etc. There are two monitoring stations of the Republic Hydrometrological Insitute of Serbia (Lake Perucac, Drina River) that survey surface water quality. There is a general problem with solid waste management in the Drina River watershed. This problem is particularly pronounced at Lake Perucac. Some attempts to resolve aspects of this issue have been made within several projects, however, the issue remains at the regional level.

Soil quality is generally good, reflecting also the land use pattern. Degradation and pollution of soil is connected mainly with solid waste management.

Research studies on heavy metals in plants, soil, and water showed no values above the accepted thresholds.

Overview of natural values in the region

The Drina River and its canyon, which forms the natural border between BiH and Serbia, is the main characteristic of this region. This is one of the fastest and loveliest rivers in the Balkans. It is a geomorphological and landscape phenomenon that has influenced both historical and natural processes in the region. The canyon is 1000 m deep at some places. Major changes to the flow of the Drina River have been caused by hydropower plants in Bajina Basta, Visegrad and Zvornik. The catchment area of the Drina River is 19,226 km^2.

Landscape, ecosystem, species and genetic diversity of the proposed area put this region among the internationally significant areas for biodiversity conservation. The planned biosphere reserve is represented by mountain elevations intersected by many gorges and canyons, the most impressive of which is the Drina River canyon. Diverse geological bedrock and natural historical processes have formed rich

Fig. 8 Drina River Canyon

and diverse ecosystems and vegetation types. Ecosystems are continuously changing throughout the area creating a mosaic of unique and rare habitats. The proposed transboundary protected area has a wide range of natural/landscape values: endemic and rare or endangered flora and fauna species, plant communities, habitats, ecosystems and particularly landscape phenomena. The key natural values that would justify the protection of the area are:

- the Drina Transboundary Biosphere Reserve will encompass virtually all the natural stands of the tertiary relict and endemic tree species *Picea omorika*;
- biodiversity richness in general, and the presence of many endemic and relic plant species;
- outstanding geomorphological and hydrological features;
- one the most productive forest ecosystems in the Balkans is Tara Mountain.

Fig. 9 *Picea omorika* forest

Bosnia and Herzegovina

Parts of Rogatica territory have abundant specific variety and preserved natural and cultural historic values. The most interesting are the localities of Serbian spruce or Panciceva omorika (*Picea omorika*) designated as special botanical reserves (Nature Protection Act of Republika Srpska (Official Gazette 113/08): Mt. Mehra Sjemec, Goli Vrh Vratar, Panjak, Javor, Mt. Novo Brdo Tesla. There are cultural monuments of major value in this area, such as the bridge on the Zepa River which is included on the BiH national list of cultural monuments. Plans are in place to include Borike with its horse farm into the protected landscape category.

Visegrad Municipality is recognised for its rich selection of plants and animals and it is widely known as a centre of endemism, and a centre for a range of tertiary flora and fauna species. From the conservation perspective, the most important species in Visegrad municipality is Serbian spruce. It represents a unique endemic species of the Balkan Peninsula and its natural habitat is in Veliki Stolac (altitude 1540 m) in the territory of Visegrad. According to the Nature Protection Act of Republika Srpska (Official Gazette 113/08), major localities of Serbian spruce are designated as special nature botanical reserves: Gornja Brstanica, Cerova, Ravan, village Klasnik, Rakovac,Tovarnica, Stule Karaule, Bozurevac, Veliki Stolac, Gostilja. These localities have also been designated as Important Plant Areas in Central and Eastern Europe (Plantlife International, 2005). The most famous nature monument is the "written rock" (*pisana stena*) in the village of Zlijeb.

Experts from the Republic Institute for Protection of Cultural, Historical and Natural Heritage of Republika Srpska have prepared studies proposing the protection of the midstream section of the Drina River in the category of national park. The Republic of Srpska Government, at the proposal of Ministry of Spatial Planning, Urbanism and Ecology drafts the regulation on pro-

tection. In the canyon of the Rzav River, construction of five small hydropower plants is planned. The Republic Institute for Protection of Cultural, Historical and Natural Heritage prepared the project documentation and set strict criteria to protect the natural, cultural and historical property in the territory.

According to studies prepared by Republic Institute for Protection of Cultural, Historical and Natural Heritage of Republika Srpska and concerning the National Environmental Action Plan for BiH (2003), the Nature Protection Strategy of Republika Srpska (2007/2008) and Spatial Plan of Republika Srpska to 2015, stated that between 15 and 20% of the territory should be protected. For example, in the territory of the Municipality of Visegrad, a number of picturesque and conserved localities can be included in the category of nature landscapes: ecosystems of *Pinus nigra* (Prelovo, around Visegradska spa, Hill Staniste) and the Kamenica hunting grounds. The maidenhair fern (*Adiantum capillus veneris*) grows in the Visegrad spa area.

The Mehmed Pasa Sokolovic Bridge in Visegrad has been included on the UNESCO World Natural and Cultural Heritage List[1].

Endemic plant species of the area include: *Centaurea derventana* var. *dobrunae,* (Derventan cornflower, Razdolina canyon near Dobrun); *Amphoricarpus autariatus***,** *Adenophora lilifolia* (Ladybells), *Aquilegia grata* (Mauve columbine; Drina canyon, Rzav canyon), *Fumana bonapartei* (Rock rose, Krusevica valley), *Verbascum bosnense* (Krusevica valley), *Cephalantera pastricensis* and others.

A number of endemic and tertiary relicts exist among invertebrate species of the insect groups Psihodida, Ephemeroptera, Plecoptera, Trichoptera, Ortoptera. The region also abounds in amphibian, fish, reptile, bird and mammal species. Some of the most important mammals with viable populations are chamois and brown bear. As for fish species, the Salmonidae family is well represented with Danube salmon (*Hucho hucho*) and Brown trout (*Salmo trutta*) as the most important species due to the genetically pure populations. Danube salmon is an endemic species of the Danube watershed and an endangered fish species in many countries.

Serbia

Plant communities of old deciduous and mixed coniferous forests on Tara Mountain represent a unique example of well preserved forests with numerous endemic and relict species of indigenous flora and fauna. Preserved mixed forest ecosystems *Piceto-Abieto-Fagetum* of spruce (*Picea abies*), silver fir (*Abies alba*) and birch (*Fagus sylvatica*) are dominant on the plateau of Tara mountain and represent one of the best preserved forests of Europe. Special values of the area are the plant communities and unique ecosystems of the Serbian spruce (*Picea omorika)*. Apart from these, the following plant communities are also phytocenologically important: pine forests (forests of Austrian pine (*Pinus nigra*) and Scots pine (*Pinus silvestris*) - *Erico Pinetum nigrae*), oak communities, beech communities (*Fagetum montanum*) and others. Interesting habitats on Tara include the peat bogs that are characteristic for the boreal region and house a certain number of glacial relicts.

This region has been known as a refuge for many relic plant species, and played an important role for the survival of these species during the last glacial period. The most important is the tertiary relic species of spruce, Serbian spruce (*Picea omorika)*. The species was discovered in 1876 on the slopes of Tara Mountain and its discovery was a surprise for the scientific world. Today the entire natural population of this species is confined to the area around the central reaches of the Drina River.

Other important tertiary relict species in the flora of this region are: English

1 http://whc.unesco.org/en/list

yew (*Taxus baccata*), Bladder nut (*Staphyllea pinnata*), Holly (Ilex *aquifolium*), *Euphorbia glabriflora and* others.

Chasmophytic, xerophilic plant communities with a distinct endemic character have developed on the steep slopes and rocks of this region. Important endemic species on limestone are Derventan cornflower (*Centaurea derventana*) and French scorzonera (*Reichardia macrophilla*), on serpentine grounds - Halacia (*Halascya sendtneri*), Novak's feather grass (*Stipa novakii*), Dyer's greenweed (*Genista friwaldskyi*) and Cinquefoil (*Potentilla molis*).

Invertebrates of the area are poorly researched. A special feature of the fauna is Pancic's grasshopper *(Pyrgomorphella serbica)*, which is a tertiary relict and a species endemic to Tara Mountain. Preserved forests are habitat for viable populations of diverse fauna, though detailed research is restricted to just a handful of species. There are an estimated 53 mammal species in this region, though they are yet to be researched. These include several endangered species such as Brown bear (*Ursus arctos*), Otter (*Lutra lutra*), and European pine marten (*Martes martes*). Tara is regarded as a reproductive centre for the population of Brown bear (*Ursus arctos*), and it is very important for the survival of these species in Serbia. A significant population of Chamois (*Rupicapra rupicapra*) has also been recorded in this area.

Tara is on the list of Important Bird Areas (IBA), with a total of 135 species of birds recorded here, among them: Golden eagle (*Aquila chrysaetos*), Peregrine falcon (*Falco peregrinus*), Ural owl (*Strix uralensis*), and Eurasian eagle owl (*Bubo bubo*). Tara is also identified as a Prime Butterfly Area (PBA), with 138 species of diurnal butterflies recorded.

Fig. 10 *Centaurea derventana*

Fig. 11 *Pyrgomorphella serbica*

Existing and potential natural and landscape linkages across the border

The most important target species in this region is *Picea omorika*. Conservation of the habitats of this species, unique in the world, should be a priority. For the survival and proper conservation management activities of this species, transboundary cooperation is essential. There are many endemic and endangered plant species that are important for transboundary cooperation such as: Derventan cornflower (*Centaurea derventana*), Golden drop (*Onosma stellulata*), Sweet columbine (*Aquilegia grata*), Lady Bells (*Adenophora lilifolia*), Rock rose (*Fumana bonaparte*i, Halacia (*Halascya sendtneri*).

Animal species diversity is also important for transboundary cooperation, especially for the large mammals such as Brown bear (*Ursus arctos*), Wolf (*Canis lupus*), Lynx (*Lynx lynx)* and Jackal (*Canis aureus)* that require large territories, and also for species such as Chamois (*Rupicapra rupicapra*), Golden eagle (*Aquila chrysaetos*), Peregrine falcon (*Falco peregrinus),* Capercaillie (*Tetrao urogalus*), Pancic's grasshopper (*Pyrgomorphella serbica*) and others. Some studies conducted to date have proven that these species migrate over the border. Detailed research of the area is required to show that other species also have their mainstays on the other side of the border. The Drina River is habitat for the Danube salmon (*Hucho hucho*), a species endemic to the Danube watershed, as well as to a number of other fish species.

Important habitats and ecosystems are divided by the state border or are in close proximity to the border. Among the most important are the habitats and ecosystems of Pancic spruce (*Picea omorica*) ecosystems of Austrian pine forests (*Pinus nigra*), preserved forest ecosystems of mixed forests of coniferous and deciduous tree species, freshwater habitats and ecosystems of Lake Perucac and the Drina River, and mountain meadows with rare plant species.

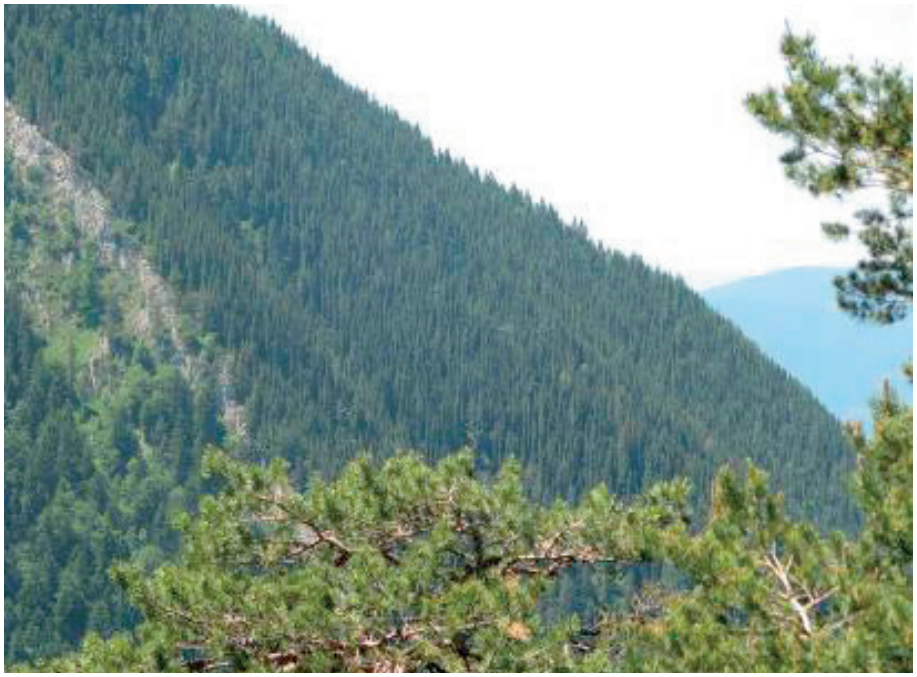


Fig. 12 Veliki Stolac (largest population of *Picea omorika* on the very border with BiH)

Habitats of rare and endemic species on the Serbian side are effectively protected with suitable zones of protection. Harmonisation of protection status on either side of the border is essential for proper management of habitats divided by the border.

Mapping of habitats using GIS technologies using the EU framework and priority national habitats (Official Gazette SR 135/10) can also contribute to transboundary habitat protection.

It is important to emphasize that this transboundary region is an essentially unique area intersected by state borders. In general, these two countries share the same populations of species, habitats and ecosystems. Transboundary cooperation in the management of fauna species is necessary. This is very important for large carnivore species that can migrate over large distances. Transboundary cooperation is vital for some species, especially due to their different conservation status in the two countries. Brown bear (*Ursus arcotos*) is a very good example. Hunting of this species is prohibited under Serbian law, but not under BiH law. Management of this population in the region is even more difficult because of the fact that on the Bosnian side the protected area has still not been designated. Through transboundary cooperation at the regional level, it will be possible to protect the population through integrated management.

For local people on both sides, natural resources are an important foundation for economic development. Local people are largely dependent on ecosystem services and resources. Involving people in the processes of joint management of natural resources, with an emphasis on sustainability, could lead to more than just to protection of endangered species populations. Previous systems in these two countries were not based on the participatory approach. Introducing such an approach and integrative management of biodiversity could bring benefits not only for wildlife but also to local inhabitants.

Fig. 14 Meadow on the very border Serbia/BiH

Fig. 13 Brusnica gorge

Potential threats to the environment

Lack of financial means, civil war and a poor economy led to an increase in the utilization of natural resources in the 1990s by local inhabitants. Though the economy is recovering, pressures on natural resources remain significant (forestry, limestone extraction). The following issues can be emphasized:

- Degradation of freshwater habitats by alterations of the hydrological regime caused by dam construction and energy-orientated water management. The hydropower plants at Perucac and Visegrad were built prior to the designation of Tara National Park. Additionally, a pumped storage hydroelectricity plant (hydroelectric power is stored in the form of water, pumped from a lower elevation reservoir to a higher elevation) with a system of several artificial lakes was built at Tara Mountain in the village Zaovine. Due to construction of these dams, some rare species habitats were destroyed and, in the case of Lady bells (*Adenophora lilifolia*), this led to extinction of the species in the Derventa gorge. Dam construction also caused major changes to other species dependent on aquatic habitats.
- Illegal building activities, largely connected with unsustainable development of tourism in the region, are devastating the landscape.
- Illegal hunting and fishing – although fishing and hunting are traditional activities in this region, there is always the issue of intensified utilization of natural resources.
- Illegal utilization of forest and forest products.
- Extraction of mineral resources - mineral resources have been extracted for several purposes. One is the traditional practice of lime-making in some parts of the region in the 1990s. In general, the extraction of limestone as resource has been intensified.
- Pollution problems and management of solid waste in the Drina Valley- this problem is well illustrated by the case of floating waste on Lake Perucac. This problem was and is a theme of several projects. Many of the upstream towns in the Drina watershed have their landfills on the river banks. Due to the general lack of environmental awareness and the fact that the collection of waste is not well organized in some parts of the region (some villages, new tourism settlements) waste disposal, sometimes illegal, creates a problem and poses a threat to water and land quality.
- Wastewater management - in the general area of the region, settlements usually do not have sewage systems, and sewage is drained into the rivers without treatment. This is a problem especially for karst areas.
- If tourism development is not managed in a sustainable way, it can become a very significant threat and cause pressure to the environment**.** Tourism is becoming an increasingly important branch of the economy on one hand, though on the other it should be wisely dealt with so that any harmful effects are prevented.
- In general, there is no heavy industry in this region, with the exception of the Varda chemical plant in Visegrad that is a major threat to the environment.

SUPPORT FOR TRANSBOUNDARY COOPERATION

Legal and institutional framework for biodiversity conservation

Both countries have aligned their legislation in the field of environment and nature conservation with the EU legislative framework, meaning that currently it is very similar. Neither country has a satisfactory percentage of protected areas, though the total protected areas in Serbia is near 6% of the state territory, while in BiH this is only 0.9%.

Serbia

The Ministry of Environment and Spatial Planning is responsible for the formulation and implementation of environment and nature conservation legislation. It also coordinates and supervises protected area managers, and management plans and other documents, and programmes for the protected areas are being endorsed by the ministry. The Ministry of Agriculture, Forests and Water Resources has the responsibility of natural resource management and endorses forest management plans and supervises forests utilization in protected areas. The fundamental law in Serbia for biodiversity and nature conservation is the Nature Protection Act (Official Gazette SR 36/09). The Institute for Nature Protection, as defined by the Nature Protection Act, is a competent body for affairs on nature conservation issues on the territory of the Republic of Serbia and is also in charge of providing a competent opinion and assessment on activities in protected areas and their influence on protected species. They also conduct studies for protected area designation. The role of the Institute for Nature Conservation is defined in Article 102 of the Nature Protection Act.

Legal procedures for protected area designation are outlined in Articles 41–46 of the Nature Protection Act. The initiative for designation of a protected area can be made by government, local authorities, scientific institutions, PA managers, citizens and others according to Article 6 of the Nature Protection Act. The proposal for designation of a protected area is based on a feasibility study which is the responsibility of the Institute for Nature Protection. The procedure of protected area designation is defined in Articles 41–47 of the Nature Protection Act.

The competent authority is obliged to put the designation proposal to public debate and public display. The competent authority is defined by the Nature Protection Act and depends on the type of protected area to be designated. Government designates protected areas based on the proposal of the Ministry of Environment and Spatial Planning, in line with the opinions granted by the competent ministries, in the case of internationally important areas and nature parks that are on the territory of two or more municipalities. Parliament designates a national park by virtue of a special law. Nature parks, nature monuments and nature landscapes (if on the territory of one municipality) are proclaimed by local authorities.

Pursuant to the Nature Protection Act, protected area managers are obliged to: protect, promote and enhance protected areas; ensure conservation of natural resources and monitor the state of the environment; ensure the proper level of protection of zones which are prescribed and properly marked on the ground; implement management plans; prevent any activity that could lead to devastation or put the protected area at stake. Management of protected areas is based on the following documents

(there are also other documents and plans like forestry management plants, regulatory plans and others): Decree for designation of a protected area, Spatial plan of the municipality in which territory protected area is placed and Spatial plan of special purpose for the protected area, Management plan of the protected area which is designed for a period of ten years. National park administrations are also in charge of forest management on the territory of the park. It should be mentioned that new National Parks Act is currently in Government procedure.

BiH

Since part of the transboundary area is situated on the territory of Republika Srpska, environmental protection is under the jurisdiction of this entity in BiH. The Government of Republika Srpska, Ministry of Spatial Planning, Civil Engineering and Ecology and the Institute for Cultural, Historical and Natural Heritage of Republic of Srpska are responsible for nature and landscape conversation issues in this part of BiH.

Nature protection is under the jurisdiction of the Ministry of Spatial Planning, Civil Engineering and Ecology of Republika Srpska. This subject is handled pursuant to the Nature Protection Act (Official Gazette Republika Srpska 113/08). A legal or physical entity can submit a request for designation of a protected area to the Ministry of Spatial Planning, Civil Engineering and Ecology. The minister responsible for nature protection initiates the procedure for designation of a protected area by submitting a proposal to the Government. The proposal is based on the professional expertise of the Institute for Cultural, Historical and Natural Heritage of the Republic of Srpska and other expert institutions. Depending on the professional expertise, the Government prepares the act for designation of the protected area. In accordance with Article 19 of the Nature Protection Act, the Republic of Srpska National Assembly may authorize RS representatives in an inter-entity environmental commission to partake in designing guidelines for coordination and cooperation in transborder protected areas.

The protected area administration is in charge of implementation and control of specific management measures and provisions that are stipulated by the relevant ministries. Pursuant to Article 40 of the Nature Protection Act of Republika Srpska, the general act on proclamation of the protected area establishes the management goals, and specific measures and techniques to be applied in protected areas. Following adoption of the act on proclamation of the protected area, a management plan should be developed. The Ministry of Spatial Planning, Civil Engineering and Ecology produces secondary legislation on the preparation, content and measures for the authorized body to implement and control management measures.

Protected areas in the planned transboundary protected area

The first conservation initiatives in this area were undertaken in 1950. Later, comprehensive research led firstly to the establishment of several nature reserves and nature monuments. In 1981, the area of Tara Mountain and Zvezda Mountain were designated as Tara National Park (Official Gazette SR 3/93). The area of Tara National Park was put on the tentative list for World Heritage Sites in the 2005, however, approval is still pending.

In the former Yugoslavia, there was also the idea for establishment of a transboundary Drina National Park. In recent years, thanks to the efforts of the Institute for Nature Protection in Serbia and studies conducted, new protected areas have been established in this region: Sargan-Mokra Gora Nature Park in 2005 (Official Gazette SR 52/05, 81/08),

Zaovine Protected Landscape (Official Gazette SR 76/08).

While there are three designated protected areas on the Serbian side, on the Bosnian side there are no currently officially designated protected areas. Designation of Drina National Park is planned in BiH and there is a list of natural values on the Bosnian side categorized as nature reserves and nature monuments.

Administration

Institutes in Serbia are in a better state than those in BiH (RS) in terms of their technical, operational and human resources. Thus, the Serbian Institute for Nature Protection is far better equipped than its counterpart in Republika Srpska. Furthermore, Tara National Park already exists, while BiH is yet to proclaim a protected area on its side of the border.

Name of site	Conservation category	Size (ha)	Country
Drina	planned for designation-national park		BiH
Tara	national park	19,175	Serbia
Sargan-Mokra Gora	nature park	10,813	Serbia
Zaovine	nature landscape	6,264	Serbia
Zlatibor	planned for designation-nature park	32,174	Serbia

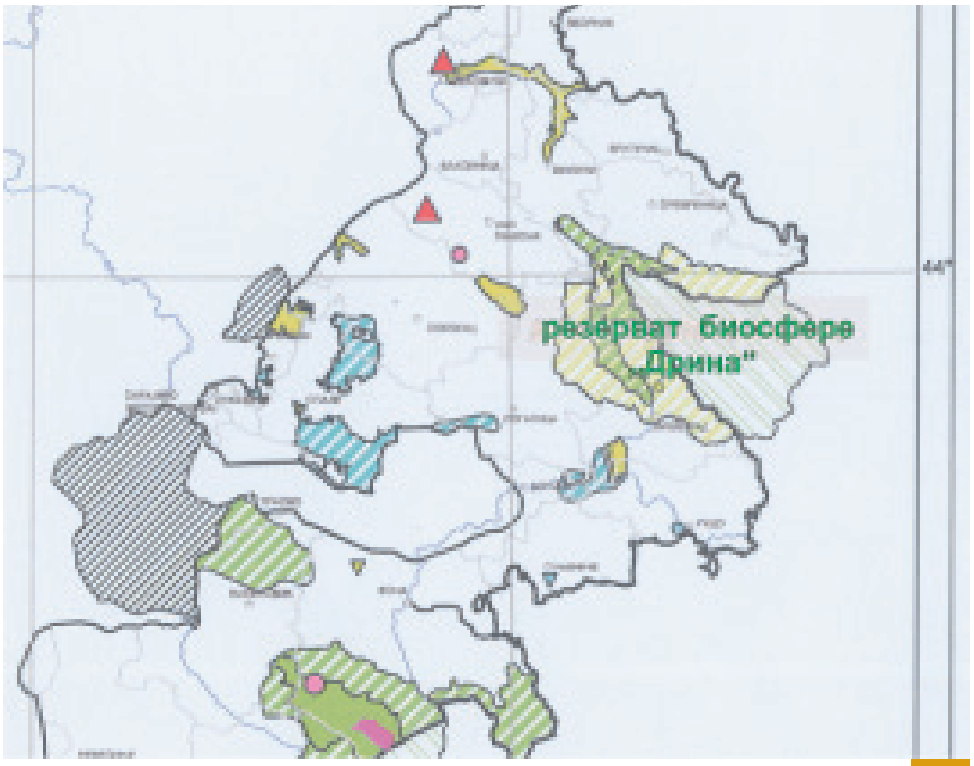
Table 1 Protected areas in the region

In Serbia, the planned transboundary area would comprise protected areas which have been divided into functional zones according to the law and designation studies. The surface area currently under protection is 36,252 ha, or 57% of the proposed biosphere reserve on the Serbian side. Of this area, 3,361.49 ha is under strict protection (zone I), 10,069.39 ha is under active protection (II zone) and 22814.35 ha is in the area of cooperation (zone III). The potential Zlatibor Nature Park, would also be partly included in the transboundary protected area. Designation of this protected area is in the pipeline.

In 2006, the Institute for Cultural, Historical and Natural Heritage of Republic of Srpska prepared the basic documentation and submitted the preassessment application of the planned Drina National Park to the Ministry of Spatial Planning, Civil Engineering and Ecology .The documentation was resubmitted twice in 2007 and 2008. The procedure is underway in the Ministry.

The Public Institution of Tara National Park is the managing authority of the national park. This public institution was founded in 1993 and already has experience in managing protected areas and building technical and human capacities. It is mainly financed from own revenues and only a small number of activities is financed by the

Fig. 15 Excerpt from the Spatial plan of Republic of Srpska to 2015.



State Budget. Tara National Park has always been open to international and transboundary cooperation.

National authorities create better possibilities for transboundary cooperation by providing support in the field of legislative regulations and by developing cooperation at the national and regional level. Local authorities could provide technical and operational assistance in the field and could also provide some, though limited, financial contributions.

Strengthening activities could be supported by international organizations through the transfer of knowledge and presentation of good examples and experiences from previously established transboundary protected areas. Additional financial assistance should be provided from external resources since Serbia is a country in transition, and the financial contributions of institutions is very limited.

The Republika Srpska recently adopted the National Parks Act. This will hopefully speed up the process of designation of protected areas in BiH, thus creating institutional capacities for cooperation at the level of the transboundary protected area.

Communication

Since the official languages in these two countries is understood by the local populations on both sides of the border, and one of the official languages in BiH is also Serbian, there is no language barrier, which facilitates successful transboundary cooperation. Scientific and technical terminologies used in this region are similar. In recent years, progress has been made in the coordination of systems and legislation with international and European ones.

Personal contact between individual representatives of official institutions and partners in trans-border cooperation exists. The example is cooperation of the two institutes for nature protection. Their representatives communicated on various occasions, took part in seminars, gave presentations, etc. Joint papers on the Drina Biosphere Reserve have been published. Their cooperation is based on good will and professional collaboration, which is certainly an advantage and enhancement for future transboundary cooperation. Personal contacts are also frequent at the level of the local communities.

There are several social events that bring together people from different parts of the proposed transboundary protected area. Two regattas are organized, one on Lake Perucac and the Drina Regatta, which has become a traditional event. During these events, the local population sails down the river in various types of vessels over tens of kilometres. It represents a major social event for the region with great tourism potential. Several music festivals are also organized, i.e. Most Fest, Silvershine Fest.

In order to ensure regular future communication between stakeholders within the TBR, it is necessary to create institutional capacities on both sides of border for transboundary cooperation, and to formulate means of cooperation. Nomination of the TBR should be undertaken jointly by Serbian and BiH authorities. The proposed area should be considered within its ecological and cultural context and it is presumable that a BR will be designed in order to adequately deliver the three main BR functions: conservation, development and logistics. In order to promote conservation and the sustainable use of biological and landscape diversity, a participatory approach should be applied and aimed at the involvement of all relevant stakeholder groups. A MoU could be one pillar, but it is necessary to organize regular meetings, workshops, roundtables with relevant stakeholder groups and involve them actively in community based planning.

Transboundary cooperation should be utilized as an excellent tool for increasing social capital in the target area. This can be especially important in bridg-

ing the social capital in the area and serving as a good example (lessons learned) to be multiplied throughout the region. Economic aspects of the initiative could be observed as crucial for the population on both sides of the border and could serve as a mobilizing factor. Furthermore, folklore and other cultural events that would potentially follow the entire initiative could provide additional space for communication and the exchange of creative energy between stakeholders on both sides of the border.

Funding and coordination

Available funding resources that could be used for supporting common activities are mainly external (international) founds, such as:

- EU IPA (European Commission Instrument for Pre-Accession Assistance), especially pertaining to component II Cross-border cooperation, transnational programmes (South East Europe Transnational programme);
- World Bank;
- UNDP programmes;
- GEF.

In both countries, national environmental funds support environmental projects.

It would be difficult for the national or regional authorities in both countries to provide financial assistance, due to the following reasons:

- The area in question is underdeveloped and cannot generate funds needed for such interventions.
- Republika Srpska is experiencing the difficult impacts of the financial and economic crisis, which only worsened the already poor economic and financial position of this BiH entity which is now relying on international help for budget support.
- According to data specified in the Report on the state of environment in Serbia published by the UN in 2007, total government expenses on the environment in this country in the period 2003–2006 were 0.3–0.4% of the national GDP. Tax revenues from the field of environment (environmental taxes), introduced pursuant to the new Environment Act in 2004 (Official Gazette SR 135/04), totalled about EUR 26 million in 2006 (without taxes on petroleum derivates which are substantial). Nature protection and biodiversity expenses account to 2.5% of all expenses in the field of environment.
- Local municipal budgets have rather limited potential in this respect. In Serbia, the budgets of the municipalities Uzice (approximately EUR 15 million) and Cajetina (EUR10 million) are quite larger than of Bajina Basta (EUR 5 million). The situation is similar in BiH, as local communities are underdeveloped and rely on budgetary support from the entity Government. Therefore their budgets could not be considered a potential source of financing.

Therefore, it is obvious that substantial external financial sources should be raised if this initiative is to be implemented. One of the options could be to establish a regional fund for this purpose. There is no doubt that establishment of such a regional fund with a clearly defined mission would be of great importance for planned transboundary cooperation. Such a fund would also serve to promote and generate mutual project ideas and serve to more easily attract additional funds. A regional trust fund could also provide sustainability in achieving common goals. One problem that has arisen in some projects is that financial resources are no longer present when the project is finished and planned activities and cooperation between partners also ceases. The self-sustainability of projects depends on the concept of

the project. Institutional sustainability is very important for long term success of the project and serves as a driving force to initiate and implement project activities.

There is no common governing body to coordinate transboundary cooperation in the proposed transboundary protected area. Establishment of such a body would require fulfilment of several preconditions. Firstly, it is necessary to proclaim the protected area of the Drina Biosphere Reserve in BiH (RS) by establishing a protected area of similar status, e.g. national park, on the BiH territory. Secondly, the entire transborder area could be proclaimed protected and a joint management body formed after signing of the memorandum and agreement on cooperation between the two countries. All stakeholders should be included in this type of cooperation.

Support and involvement of local stakeholders

The most interested stakeholders at the local and national level in Bosnia and Herzegovina are:

- Government of Republic of Srpska - Ministry of Spatial Planning, Civil Engineering and Ecology;
- BiH Inter-entity Commission for Environment for both entities, i.e. Federation and Republika Srpska in BiH;
- Institute for Cultural, Historical and Natural Heritage of Republic of Srpska;
- Municipality Visegrad;
- Municipality Srebrenica;
- Municipality Rogatica.

These key stakeholders fully support the proposal to establish a transborder protected area. The Institute for Cultural, Historical and Natural Heritage of Republic of Srpska, by initiating the procedure and submitting a request to the Republika Srpska Government to proclaim the protected area of the Drina biosphere reserve in Republika Srpska and BiH has made the initial major step in getting the project off the ground. Finances have been earmarked for a study giving a detailed scientific and professional analysis of the area, which will form the basis for establishing the borders of the protected area and proclaiming the area protected. The RS Government has taken this proposal into consideration and it will be addressed integrally with other proposals and planned protected areas.

In Serbia, the main stakeholders interested for transboundary cooperation are:

- national level regulatory bodies: Ministry of Environment and Spatial Planning; Ministry of Agriculture, Forestry and Water Resources;
- Institute for Nature Protection;
- protected area management bodies: Public Institute of Tara National Park, Mokra Gora Tourist Board, Tara-Biosfera NGO;
- local administration: Municipalities of Bajina Basta, Uzice and Cajetina;
- Bajina Basta hydropower plant;
- Serbian Forests public enterprise;
- NGO sector;
- SME tourism sector.

It should be mentioned that institutional stakeholders in Serbia support this proposal and are open to cross-border cooperation.

Local people, on the other hand, are very sensitive to the issues connected with protected areas and they see protected areas as an obstacle to the area's development (restrictions, more complicated procedure for practices, especially for building and construction). Community involvement and support is very important for a successful TBPA and could be achieved though capacity building activities, awareness

raising campaigns, including presenting information, especially on common benefits, to citizens through the mass media. Presenting the benefits of sustainable use of joint resources and protected areas is certainly one of the activities for increasing the capacities and awareness of local communities, however, support for implementation of concrete activities of sustainable development that will generate benefits is also needed. The local population see their chance in market development and small business opportunities. Tourism development could be a key factor for transborder cooperation. Furthermore, entrepreneurs on both sides of the border would be encouraged to invest more money into the region's development. Many major social, economic cultural and ethical issues could be addressed.

Examples of common transboundary initiatives undertaken

Generally there were several transboundary initiatives in this region, but they were not directly connected with the designation of the transboundary protected area. Transboundary initiatives in the region usually are focused on a larger area of the Drina River Watershed.

Transboundary initiatives in this region can be summarized as cooperation of:

1. Institutions (Institute for Nature Protection of Serbia; Institute for Protection of Natural and Cultural Heritage of Republika Srpska)—the most important initiative for designation of the transboundary protected area was cooperation between these two Institutes. They signed a contract in March 2005 on joint cooperation on the designation of transboundary biosphere reserve. Basic field research was conducted in September 2005, which led to defining of the borders of transboundary biosphere reserve and valorisation of the area.

2. Different subjects within projects of a larger scope implemented by international organisations—REC had several projects regarding cross-border cooperation in the field of environment in the Drina River watershed:

- "Municipal Transboundary cooperation on the environment in the Drina River Watershed": the Drina River Committee is one of the most important outputs of the REC projects implemented in this region. This committee serves as a specific platform for communication and coordination between the municipalities in the three countries of the Drina River Watershed and continues to be active and holds regular meetings;
- "Enhancing Cross-border Cooperation in the Drina River Basin": this project has a duration from June 2009 to June 2011, and is a follow-up to activities on the Drina River Basin and projects previously implemented by REC and financed by the Norwegian Government. The project aims to enhance cross-border cooperation in the Drina River basin through a framework for sustainable pollution prevention and environmental protection. The goal of the project is to promote peace and stability through environmental cooperation and sustainable development within the framework of the Drina River Committee. Activities of the project are focused on research and assessment, inventory of significant pressures and impacts in the Drina River Basin, capacity building and networking, strengthening links to the existing Danube/Sava Accident Emergency Warning System (AEWS);
- CARE project "Tourism development in the Drina valley": the goal of the three-year project was to assist the economic regeneration of the Drina Valley and respective municipalities by fostering and promoting a sustainable

and quality visitor industry in the region. Partner organisations of the project were the Municipalities of Rudo, Visegrad, Srebrenica and Bratunac in BiH and Priboj, Uzice, Bajina Basta and Ljubovija in Serbia. One of the results of the CARE project was the establishment of associations of stakeholders from municipalities from the Drina Valley region of BiH and Serbia.

3. Associations: "Association of Drina Fisheries" is an associations of fishers based on previous cooperation between the municipalities of Bajina Basta, Uzice, Ljubovija, Priboj, Mali Zvornik (Serbia), and Visegrad, Rudo, Srebrenica, Bratunac, Foca and Gorazde (BiH); Drina Valley Entrepreneurs Association; Tourism inter-regional association (TIDA)

4. Municipalities and institutions implementing IPA programs, especially Component II—Cross-border Cooperation Programme. Some of the IPA proposals submitted to the EU were:

- IPA CBC Serbia-Bosnia and Herzegovina 2007–2013. One of the applications was submitted by Tara National Park (Serbia) and the Municipality of Srebrenica in the field of tourism. Other municipalities also submitted their proposals;
- Institute for Protection of Cultural and Natural Heritage from Banja Luka (BiH) and the faculty Futura of Singidunum University from Belgrade (Serbia), also submitted a project proposal to the IPA ADRIATIC Programme. The project was aimed at establishing the Drina Biosphere Reserve with activities on valorisation of natural resources and products from the communities and finally at the development of documentation for designation of the Drina Transboundary Biosphere Reserve;
- Non-governmental organisations and societies, e.g. Friends of Srebrenica Association, Srebrenica (BiH) and FORCA Civil Action Forum, Pozega (Serbia).

FIRST STEPS IN TRANSOUNDARY COOPERATION: OPPORTUNITIES, CHALLENGES, BENEFITS

Existing ground for transboundary cooperation

There is already a foundation for transboundary cooperation in the context of the protected area. Political support has been stipulated in the general agreement signed between two countries and the legal framework can be found in strategic documents.

- Political support has been stipulated in a general agreement signed between two countries. The Republic of Serbia and entity Republika Srpska have signed a bilateral agreement on special relationships. This is a general agreement, though Article 1 of this document lists field tourism and the environment as areas of cooperation.
- Serbia and the entity Republika Srpska have strategic documents (Spatial plans) identifying this region for transboundary cooperation. The spatial plan of Republic of Srpska 2005–2015, as a strategic development document, provides the legal foundation for the Drina Biosphere Reserve, having a transborder character. Generally, all stakeholders support transboundary cooperation and the idea of the transboundary protected area.

The legal framework for cooperation on the Serbian side can be found in Article 24 of the Nature Protection Act which stipulates that a protected area can be a transboundary area connected to neighbouring countries.

A great advantage for transboundary cooperation is that there is no language barrier between these two countries, and the language is understood entirely by the population in both countries. There are already several initiatives in the region on transboundary cooperation. Informal and formal cooperation exists between different stakeholders in the area. Inhabitants in the region in both countries have been connected, and have depended on each other throughout history.

Opportunities

This region offers a number of opportunities for transboundary cooperation. The benefits from cross-border cooperation can be generated at several levels. The most feasible ones are:

- Ecosystem-based management can be applied for plant and animal species where their populations occur on both sides of the state border or for migratory wildlife species that cross state borders.
- Transboundary cooperation will create possibilities for more effective protection of the area and minimize environmental pressures. Also, integrated and participatory natural resource management systems can be introduced for the area as a whole.
- Common inventories of natural and cultural resources can be developed.
- By applying adequate biodiversity management systems, populations of endangered species could be more effectively protected and their migration corridors researched in greater detail.
- Transboundary cooperation can generate ecological, social and economic data including maps, thus creating a foundation for better decision-making and for development of common strategies and planning common transboundary actions.

- Tourism is recognized in the region as an economic activity of great potential. Development of joint tourism policies and products is in the interest of all local municipalities.
- Transboundary cooperation is a great opportunity for better understanding between partners from each side of the state border and building the common identity of the TBPA region.
- To some extent, the exchange of experience and technical skills already exists, however, this is certainly a very feasible activity for future actions.
- Coordination of management practices in the border region and harmonisation of management plans at the scale of the entire TBPA.
- Implementation of projects for establishing of common labelling, marketing, agricultural products and handicrafts.

Benefits for the local population

As previously mentioned, transboundary cooperation should be utilized as an excellent tool for increasing social capital in the target area. The economic aspect of the initiative could be observed as crucial for the population on both sides of the border and could serve as a mobilizing factor. The most convincing potential benefits of transboundary cooperation and establishing the TBPA that should be communicated to the local population are:

- Open possibilities for improved international recognition of the whole TBPA region.
- Enhanced tourism development due to improved and diversified tourism products, and increasing incomes for tourism accommodation owners.
- Increased marketing strength of the whole TBPA region.
- Created mechanisms for increasing incomes of local farmers and craftsmen.
- Contribution to the protection of traditional knowledge, traditional land-use forms, cultural heritage and technical skills.
- Provides development of common regional products.
- Transboundary protected areas, especially those with international recognition, can attract international donors and agencies to the region.
- Creates possibilities for new jobs and contributes to improving the demographic situation in the region, especially reducing the migration of younger age population.

Challenges

There are also constraints and challenges that should be overcome in order to ensure sustainable transboundary cooperation in terms of the transboundary protected area. These are:

- On the BiH side, authorities have not yet designated a protected area of similar status as on the Serbian side, furthermore there are no protected areas in this region on the BiH side.
- An official agreement on transboundary cooperation regarding possible transboundary protected area has not been signed by any stakeholders or authorities on either side of the border. Agreements have been made between certain stakeholders on varying issues, but not specifically regarding the TBR.
- Regional and local institutional capacities in the two countries are not the same, thus impeding data exchange (protected area partners).
- No common vision has been developed by stakeholders in the region regarding the TBR.
- There is no commonly elaborated document or strategies which could be used for development of a work plan for transboundary cooperation. To date, only several scientific papers have been jointly prepared.
- Spatial plans for the whole area (zoning plans, land use patterns) have not been developed.
- Common inventories, maps and databases on biodiversity do not exist. There is a lack of data regarding species population size and distribution, especially on the BiH side.
- Species' migration corridors have not been researched and are not known in the border area. This kind of information is necessary for spatial and zoning planning of the whole area.
- Transboundary projects implemented in this region in both countries have primarily been mainly financed by international and external funds. Funding activities for the transboundary protected area will be difficult to secure from state or especially municipal budgets.
- Economies of the local municipalities are mainly under-performing, which implies greater engagement of external financial sources.
- In both countries, this region has difficulties regarding demography. The area is marginalised in both countries with a declining population, which is especially expressed in BiH following the wartime events.

Recommendations

- Designation of a national park on the territory of BiH (entity Republic of Srpska) would be the first action for triggering transboundary cooperation. The recently adopted National Parks Act in Republika Srpska will contribute to speeding up the whole process. This is necessary for creating possibilities and institutional capacities (defining the management institution for this park) for transboundary cooperation.
- Common objectives and vision for transboundary cooperation should be defined by all relevant stakeholders.
- Furthermore, it would be good to formalise transboundary cooperation through the signing of an official agreement regarding TBR.
- For sustainable transboundary cooperation, it is important to apply a participatory approach and actively involve all relevant stakeholder groups in community-based planning. In order to achieve this, organization of regular meetings, workshops and roundtables with relevant stakeholder groups is necessary.
- Projects with concrete actions and quick wins, from which both nature and people will benefit, should be implemented in the region (developing products from sustainable tourism and agriculture). Tourism development could be a key factor for transborder cooperation.

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