



Ramsar Information Sheet

Published on 23 August 2019

Ukraine

Romania-Friendship Cave



Designation date	20 March 2019
Site number	2396
Coordinates	48°15'21"N 23°37'56"E
Area	0,13 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The Friendship (Romania) Cave is a unique underground formation with fluctuating water regime, and it is the biggest cave in Ukrainian Carpathians. The wetland is a locality for a number of troglobite endemic invertebrate species, some of which became known only from this cave system, and hosts 14 globally important bat species in particular during their hibernation period. The wetland is significant for flood mitigation and is crucial in this aspect for the villages located down in the valley of Tereblia River, because it accumulates a great amount of precipitation and water coming from snow melting. The cave's formation is associated with a giant limestone block of several cubic km – a specific feature of the tectonic Pieniny Klippen Belt, which passes through the southern part of the Uholka massif. The entrance to the cave is located at the bottom of an elliptic karst depression (10 x 15 m) with almost vertical walls. The shaft is of a gap type. At the depth of 30 m, there is a stream which surfaces as a karst source. The total length of the investigated corridors is 980 m, depth – 55 m. The Site is part of a core and buffer zones within the Carpathian Biosphere Reserve and located within the UNESCO World Natural Heritage Site "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe" (2017).

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Bohdan Prots
Institution/agency	State Museum of Natural History National Academy of Sciences of Ukraine and WWF Danube Carpathian Programme
Postal address	Teatralna Str., 18, 79008, Lviv, Ukraine and Mushaka Str., 42, 79011 Lviv, Ukraine
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Compiler 2

Name	Vasyl Pokynchereda
Institution/agency	Carpathian Biosphere Reserve
Postal address	Krasne Pleso Str., 77, Rachiv, Zakarpatska Oblast, Ukraine, 90600
E-mail	pokynchereda@ukr.net
Phone	+38 0673 100158
Fax	+38 03132 22632

2.1.2 - Period of collection of data and information used to compile the RIS

From year	2011
To year	2018

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Romania-Friendship Cave
Unofficial name (optional)	Печера Румунія-Дружба (Pechera Romania-Druzha)

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<2 file(s) uploaded>

Former maps	0
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Boundaries description

The Site situated in Tiachiv district, Zakarpatska Oblast (approximately 120 km south-eastwards of Uzhgorod, 40 km north of Tiachiv and 4 km east of closest Kycherely village). The cave is located within the Rika-Apsha dissected rocky low mountains made of flysch molasses containing giant limestone blocks-olistoliths. Area of the Site – 0.1375 ha, volume – 5500 m³, total length of corridors – 900 m. The entire cave system, as well as the surface above the cave, are part of the Ramsar Site.
The Site territory is a part of a core zone within the Carpathian Biosphere Reserve.

2.2.2 - General location

a) In which large administrative region does the site lie?	Zakarpatska Oblast
b) What is the nearest town or population centre?	Tiachiv town

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes No

2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Alpine

Other biogeographic regionalisation scheme

European-Siberian boreal sub-region, European-West Siberian forest province, Central European zone, Carpathian district, Montane-forest area

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

The wetland is significant for flood mitigation and is crucial in this aspect for the villages located down in the valley, because it accumulates a great amount of precipitation and water formed by snow melting.

Other ecosystem services provided

Cleaning water function for local communities downstream for part of Tereblia river basin.

Other reasons

The site is the biggest cave in the Ukrainian Carpathians, which makes it an important object for scientific research, ecological education and recreation. The wetland is a unique underground natural formation, a habitat for a troglobiont thanatocoenosis characteristic for the Ukrainian Carpathians.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

The site is an important hibernation place for 12 bat species, which are important for maintaining the biotic diversity within the region. The wetland is a typical locality for a number of troglobite endemic invertebrate species, which have been described within the last decades: *Willemia wirae* Kaprus', 1997, *Arrhopalites carpathicus* Vargovich, 1999 (Collembola), *Duvalius transcarpathicus* Shilenkov and Rizun, 1989, *Duvalius werchratskii* Rizun and Janicki, 1994 (Carabidae).

- Criterion 4 : Support during critical life cycle stage or in adverse conditions

3.2 - Plant species whose presence relates to the international importance of the site

Not identified.

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence ¹⁾	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
Others																	
CHORDATA / MAMMALIA	<i>Barbastella barbastellus</i>	Western Barbastelle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - CR	supports during hibernation period
CHORDATA / MAMMALIA	<i>Myotis blythii</i>	lesser mouse-eared bat; Lesser Mouse-eared Myotis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / MAMMALIA	<i>Myotis daubentonii</i>	Daubenton's Myotis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / MAMMALIA	<i>Myotis emarginatus</i>	Geoffroy's bat; Geoffroy's Myotis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - CR	supports during hibernation period
CHORDATA / MAMMALIA	<i>Myotis myotis</i>	mouse-eared bat; Mouse-eared Myotis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / MAMMALIA	<i>Myotis mystacinus</i>	whiskered myotis; whiskered bat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / MAMMALIA	<i>Plecotus auritus</i>	brown big-eared bat; Brown Long-eared Bat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / MAMMALIA	<i>Plecotus austriacus</i>	gray big-eared bat; Gray Long-eared Bat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - RARE	supports during hibernation period
CHORDATA / MAMMALIA	<i>Rhinolophus ferrumequinum</i>	greater horseshoe bat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / MAMMALIA	<i>Rhinolophus hipposideros</i>	lesser horseshoe bat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during hibernation period
CHORDATA / AMPHIBIA	<i>Salamandra salamandra</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	listed in the Red Data Book of Ukraine - VU	supports during spawning and reproduction period

1) Percentage of the total biogeographic population at the site

The site is an important hibernation place for a number bat species, which are important for maintaining the biotic diversity within the region. The wetland is a typical locality for a number of troglobite endemic invertebrate species, which have been described within the last decades: Willemia wirae Kaprus', 1997, Arrhopalites carpathicus Vargovich, 1999 (Collembola), Duvalius transcarpathicus Shilenkov and Rizun, 1989, Duvalius werchratskii Rizun and Janicki, 1994 (Carabidae). There is a high probability to still find cave invertebrate species new for science here. The wetland shelters 14 Chiropteran species for hibernation. Thanks to the stable temperature situation and a high humidity about 1000-1700 bats hibernate there annually.

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Terrestrial underground caves, cave systems, passages and waterbodies	<input type="checkbox"/>	Natural caves, cave systems, underground waters and subterranean interstitial spaces.	EUNIS habitat type (code H1). Bern Convention, Resolution 4 habitat type, used for designation of Emerald sites

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

It is a corrosion-erosion karst cave with an entrance gap. The cave starts with a vertical shaft of 21 m deep, which leads to a chamber 20x15 m with a cone-shaped boulder heap on the floor. From the entrance chamber, there starts a network of corridors going northwards, south-eastwards and westwards. There are 6 streams within the cave, two of which are going across the main chamber and flow together. The others enter in turn the basic watercourse, which flows along the main gallery and gushes as a stream out of the cave, located 70 m lower than the main entrance. Air temperature in the remote places is 8-9°C, water temperature is lower by 1-1.5°C; humidity 98-100%. The catchment area is represented by slopes between 15 and 30 degrees, and in some places up to 40 degrees, which are dissected by river valleys. The massif is mostly made of marls and sandstones, and also of Jurassic limestone and Cretaceous conglomerates. Brown montane-forest soils dominate here.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh, saline, brackish or alkaline water > Subterranean >> Zk(b): Karst and other subterranean hydrological systems		1	0.13	Unique

(ECD) Habitat connectivity **Isolated type of habitat, refugium, unique type**

4.3 - Biological components

4.3.1 - Plant species

<no data available>

4.3.2 - Animal species

<no data available>

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Moist Md-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

The climate of the site is temperate, mean annual air temperature is +7°C, mean temperature in July is +17 °C, and in January -4 °C. Mean annual precipitation equals 948 mm, of which 622 mm occurs during the growing season. The air humidity is high.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Mala Uholka river basin, which is a part of Tereblia river basin and part of upper Tysa (Tisza) river basin, which is included into Danube basin.

4.4.3 - Soil

Mneral

Organic

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes No

Please provide further information on the soil (optional)

Brown montane-forest soils dominate here.

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from rainfall	<input type="checkbox"/>	No change
Water inputs from surface water	<input type="checkbox"/>	No change
Water inputs from groundwater	<input type="checkbox"/>	No change

Water destination

Presence?	
Feeds groundwater	No change

Stability of water regime

Presence?	
Water levels largely stable	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

The wetland is significant for flood mitigation and is crucial in this aspect for the villages located down in the valley, because it accumulates a great amount of precipitation and water formed by snow melting.

(ECD) Connectivity of surface waters and of groundwater	The cave water is linked to surface water and create one hydrological system
(ECD) Stratification and mixing regime	No data

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site

Significant accretion or deposition of sediments occurs on the site

Significant transportation of sediments occurs on or through the site

Sediment regime is highly variable, either seasonally or inter-annually

Sediment regime unknown

(ECD) Water turbidity and colour	High cleanliness of water, high quality level.
(ECD) Water temperature	1-1.5°C

4.4.6 - Water pH

Acid (pH<5.5)

Circumneutral (pH: 5.5-7.4)

Alkaline (pH>7.4)

Unknown

Please provide further information on pH (optional):

The water pH is changeable. In the dominant period of time the water pH is alkaline (7.5-8.1), however in the lengthy rainy periods it become Circumneutral (7.2-7.4).

4.4.7 - Water salinity

- Fresh (<0.5 g/l)
- Mxohaline (brackish)/Mxosaline (0.5-30 g/l)
- Euhaline/Eusaline (30-40 g/l)
- Hyperhaline/Hypersaline (>40 g/l)
- Unknown

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic
- Mesotrophic
- Oligotrophic
- Dystrophic
- Unknown

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself. i) broadly similar ii) significantly different

- Surrounding area has greater urbanisation or development
- Surrounding area has higher human population density
- Surrounding area has more intensive agricultural use
- Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

The site is located within the Uholka field division of the Carpathian Biosphere Reserve within the Core (70%) and Buffer zones (30%). 95% of the surface above the cave system is covered with beech forest, where only within the buffer zone is a limited economic management activity, which includes extraction of dead wood for the needs of local population for firewood. The remaining 5% is located on the outskirts of a hamlet of settlement Mala Uholka, where 7 families are living with a total number of 30 people. This area is mainly used for hay mowing. For the site there is no direct impact from the neighbouring settlement.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Fresh water	Drinking water for humans and/or livestock	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Spiritual and inspirational	Inspiration	Medium
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	Medium

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes No Unknown

4.5.2 - Social and cultural values

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland
- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

4.6 - Ecological processes

(ECD) Primary production	No data
(ECD) Nutrient cycling	No data
(ECD) Carbon cycling	No data
(ECD) Animal reproductive productivity	High level
(ECD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	Non applicable
(ECD) Notable species interactions, including grazing, predation, competition, diseases and pathogens	Non applicable
(ECD) Notable aspects concerning animal and plant dispersal	Refugium habitat
(ECD) Notable aspects concerning migration	Refugium habitat
(ECD) Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	No visible impact, high value of ecosystem integrity

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cooperative/collective (e.g., farmers cooperative)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Provide further information on the land tenure / ownership regime (optional):

The Site territory is a part of a core zone within the Carpathian Biosphere Reserve. It is also the UNESCO World Natural Heritage Property "Primeval Beech Forests of the Carpathians" (2007).

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Carpathian Biosphere Reserve

Provide the name and title of the person or people with responsibility for the wetland:

Mykola Rybak, director

Postal address:

77, Krasne Pleso Str., Rakhiv, Zakarpatska oblast, 90600, Ukraine

E-mail address:

cbr-rakhiv@ukr.net

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Garbage and solid waste	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please describe any other threats (optional):

The wetland is located within the Carpathian Biosphere Reserve, which secures limited access and control of the nature resources. Among the basic types of nature use in this area, it is worth mentioning the following ones: forest use, recreation and traditional farming in particular pasturing. The basic threat for the given wetland lies in the fact that it is located at the village periphery. In particular local people sometimes throw garbage and dead domestic animals down into the cave. Despite the wonderful scenery of the site, it is not intensively visited because of its inaccessibility. Recreation pressure – mainly speleologists – is moderate here.

5.2.2 - Legal conservation status

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other global designation	the UNESCO World Natural Heritage Property "Primeval Beech Forests of the Carpathians"	http://whc.unesco.org/en/list/1133/multiple=1&unique_number=1777	
UNESCO Biosphere Reserve	Carpathian Biosphere Reserve	http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?code=UKR+03&mode=all	whole

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Biosphere Reserve	Carpathian	http://cbr.nature.org.ua/main.htm	whole

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Land conversion controls	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Partially implemented

Human Activities

Measures	Status
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Implemented
Research	Implemented

Other:

Site is managed by the Carpathian Biosphere Reserve.
 The Site belongs to the core and buffer zones of the Carpathian Biosphere Reserve, and corresponds to Category Ia IUCN (strictly protected area set aside to protect biodiversity and also geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values) and II IUCN (strictly limited use of natural resources). Scientists of the Carpathian Biosphere Reserve pay much attention to elaboration of ecological principles of natural ecosystems' conservation and their management. The Carpathian Biosphere Reserve is a member of the World Network of UNESCO Biosphere Reserves since 1993.
 The Site also lies within the UNESCO World Natural Heritage Property Site "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe" (2017).
 The Project of Territory organization (Management Plan) for the Carpathian Biosphere Reserve has been implemented.

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes No

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Animal species (please specify)	Implemented

Ecological, biological and geographic studies are conducted by Carpathian Biosphere Reserve's scientists, scientists of the Uzhgorod National University, Institute of Ecology of the Carpathians National Academy of Sciences of Ukraine and State Museum of Natural History. An annual monitoring of overwintering Chiropteran fauna has been held for over 20 years already.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Kruhlov I. 2008. Delimitatsiya, metryzatsiya ta klasyfikatsiya morfogenykh ekoregioniv Ukrayinskykh Karpat. Ukrayinskyy Geografichnyy Zhurnal 3: 59-68. (In Ukrainian.)
Postawa T., Pokynchereda V., Zagorodniuk I. Summer bat fauna of the Carpathian Biosphere Reserve (the Mala and Velyka Ugolka Valleys) // Studia Chiropterologica. – 2000. – V. 1. – P. 73-82.
Scherbak N.N.. Zoogeograficheskoje delenie Ukrainskoi SSR // Vestnik Zoologii. – 1988. - № 3. – C. 22-31 (in Russian).
Ukrainskie Karpaty. Priroda / Golubets M.A., Gavrusevich A.H., Sagaikevich I.K. and others. -Kiev : Naukova Dumka, 1988. – 208 p. (in Russian).
Vargovich R. S. Hibernation of bats in Transcarpathian (West Ukraine) caves and adits 1988-1998 // Fauna jaskyn. (Mock A., Kovac L., Fulin M. (eds.). – Kosice, 2000. – 185-197.
Red Data Book of Ukraine. Fauna / edited by I.A. Akimov. – K.: Hlobalkonsaltnykh, 2009. – 600 p. [In Ukrainian]

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

<no data available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Friendship Cave (Vasyi Zelenskyi, 08-02-2015)



Friendship Cave (Vasyi Zelenskyi, 08-02-2015)



Friendship Cave (Vasyi Zelenskyi, 07-02-2011)



Friendship Cave (Vasyi Zelenskyi, 07-02-2011)



Friendship Cave (Vasyi Zelenskyi, 09-10-2013)

6.1.4 - Designation letter and related data

Designation letter

<2 file(s) uploaded>

Date of Designation