

## Ramsar Information Sheet

Published on 10 March 2017 Update version, previously published on : 1 January 2007

# Hungary

## Baradla Cave System and related wetlands



Designation date 14 August 2001

Site number 1092

Coordinates 48°28'04"N 20°30'47"E

Area 2 056,00 ha

https://rsis.ramsar.org/ris/1092 Created by RSIS V.1.6 on - 18 May 2020

## 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 25 km long Domica-Baradla Cave System is a typical and the largest subterranean hydrological system of the karst plateau in the territory of Slovakia and Hungary in transborder position. The site is listed as a representative part of a bilateral UNESCO Biosphere Reserve and the World Cultural and Natural Heritage site. The site is characterised by a permanent subterranean stream, ponds, by rich dripstone features and diverse representatives of subsurface fauna as well as rich archeological findings.

### 2 - Data & location

#### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

Compiler 1

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/

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

From year 2007

To year 2014

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

Baradla Cave System and related wetlands

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A Changes to Site boundary Yes O No 

(Update) B. Changes to Site area No change to area

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?

## 2.2 - Site location

#### 2.2.1 - Defining the Site boundaries

b) Digital map/image <1 file(s) uploaded>

. . .

Former maps 0

Boundaries description (optional)

The boundary of the Ramsar Site follows the passages of the known cave system, and on the surface the areas of the connected wetlands and water-related habitats (sinkholes, etc.).

#### 2.2.2 - General location

a) In which large administrative region does the site lie?

Borsod-Abaúj-Zemplén

b) What is the nearest town or population centre?

Miskolc

#### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries?

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?

idem No C

d) Transboundary Ramsar Site name: Domica – Baradla Cave System

#### 2.2.4 - Area of the Site

Official area, in hectares (ha): 2056

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

## 2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Pannonic

#### Other biogeographic regionalisation scheme

European Environmental Agency (2012)	
http://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-1	

## 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

The Domica-Baradla Cave System is a representative example of groundwater related wetlands and the largest subterranean hydrological system of the karst plateau in the territory of Slovakia and Hungary. The Other reasons site shelters natural habitat types of community interest such as wet meadows and humid grasslands, whose conservation requires the designation of Special Areas of Conservation under the Annex I of the EU Habitat Directive.

- ☑ Criterion 2 : Rare species and threatened ecological communities
- ☑ Criterion 3 : Biological diversity

The Domica-Baradla Cave System supports more than 500 species of troglobite, troglophile and Justification trogloxene animals including endemic species important for maintaining the biological diversity within the Pannonic biogeographic region.

☑ 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

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Adenophora liliifolia	Lady Bells	<b>2</b>					Hungarian Red Book: considered as "actually endangered species"	
Centaurea scabiosa sadleriana		Ø					IUCN European Red Book	
Dactylorhiza majalis	Western marsh orchid	<b>2</b>					Hungarian Red Book: considered as "actually endangered species"	
Epipactis palustris		<b>2</b>			LC Sign		Hungarian Red Book: considered as "actually endangered species"	

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

Phylum	Scientific name	Common name	Species qualifies under criterion	contri uno crite	erion	Period of pop. Est.	% occurrence 1)	IUCN Red / List	CITES Appendix I	CMS Appendix I	Other Status	Justification
Birds	rds											
CHORDATA/ AVES	Ciconia ciconia	White Stork						LC Str			(EU Birds Dir.: Annex I & Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Cinclus cinclus	White-throated Dipper						LC Sir			(Hungarian Red Book: considered as "critically endangered species")	
CHORDATA/ AVES	Circaetus gallicus	Short-toed Snake Eagle						LC Str			(EU Birds Dir.: Annex I & Hungarian Red Book: considered as "critically endangered species")	Criterion 4: This species regularly breeds on the site.

Phylum	Scientific name	Common name	qi u cr	peci ualifi unde iteri 4 (	es r on	COI	peci ntribi unde riteri 5	r S	Pop. Size	Period of pop. Est.	% occurrence		CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Corvus corax	Northern Raven	<b>V</b>									LC Sign			(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AVES	Coturnix coturnix	Common Quail	<b>2</b>									LC Sign			(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AVES	Crex crex	Corn Crake	<b>V</b>									LC Sir			(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AVES	Dendrocopos medius	Middle SpottedWoodpeck	e E	<b>/</b>											(EU Birds Dir.: Annex I & Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Dryocopus martius	Black Woodpecker	<b>.</b>	<b>2</b>								LC Sign			(EU Birds Dir.: Annex I & Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Emberiza cia	Rock Bunting	<b>V</b>			<b>V</b>						LC Sir			(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AVES	Ficedula albicollis	Collared Flycatcher	√.	<b>/</b>								LC Sign			(EU Birds Dir.: AnnexI)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Lanius collurio	Red-backed Shrike	√.	<b>/</b>								LC ●部			(EU Birds Dir.: Annex I)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Lophophanes cristatus	European Crested Tit	<b>V</b>												(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AVES	Lullula arborea	Woodlark	₽.	1								LC Sign			(EU Birds Dir.: AnnexI)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Otus scops	Eurasian Scops Owl	<b>V</b>									LC ●数 ●翻			(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AVES	Pernis apivorus	European Honey Buzzard	Ø.	<b>2</b>								LC St Other			(EU Birds Dir.: Annex1 & Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Picus canus	Grey-headed Woodpecker	√.	<b>/</b>								LC Sign			(EU Birds Dir.: Annex I)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Strix uralensis	Ural Owl	<b>V</b>	1								LC ●部			(EU Birds Dir.: Annex I & Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Sylvia nisoria	Barred Warbler	√.	<b>2</b>								LC ●部			(EU Birds Dir.: AnnexI)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ AVES	Tetrastes bonasia	Hazel Grouse	Ø.	<b>/</b>											(EU Birds Dir.: Annex I & Hungarian Red Book: considered as "critically endangered species")	Criterion 4: This species regularly breeds on the site.
Fish, Mollusc and Cr																
CHORDATA/ CEPHALASPIDOMORPH	Eudontomyzon danfordi	Carpathianlampre Carpathian brooklamprey	y; • • • • • • • • • • • • • • • • • • •	<b>/</b>								LC ●許 ●開			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
MOLLUSCA/ GASTROPODA	Sadleriana pannonica		<b>.</b>	<b>/</b>											(IUCN Red List, Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
Others																
CHORDATA/ REPTILIA	Ablepharus kitaibelii	Snake-eyed Skink	<b>V</b>									LC Sit Sites			(Hungarian Red Book: considered as "critically endangered species")	

Phylum	Scientific name	Common name	Specie qualific under criteric 2 4 6	es co r on o	Specie ontribu under criterio	Period of pop. Est.	% occurrence 1)	IUCN e Red A List	CITES Appendix I	CMS Appendix I	Other Status	Justification
ARTHROPODA/ INSECTA	Apatura iris	Purple Emperor	<b>2</b> 00								(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AMPHIBIA	Bombina bombina	European Fire- bellied Toad	77					LC Sign			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Canis lupus	Wolf	~~					LC Sir	✓		(Hungarian Red Book: considered as "extinct species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Drusus trifidus										(Hungarian Red Book: considered as "actually endangered species")	
ARTHROPODA/ INSECTA	Duvalius hungaricus		<b>.</b>								(Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site. This species was first described in the region. It is an endemic troglobite species living exclusively in the caves of Aggtelek and Slovak Karst.
ARTHROPODA/ INSECTA	Eriogaster catax	Eastern Eggar	990								(Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Euxoa distinguenda		<b>2</b> 00								(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ MAMMALIA	Felis silvestris	Wildcat	990					LC Sing			(Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex IV)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Glis glis	Edible dormouse						LC Single			(Hungarian Red Book: considered as "actually endangered species")	
ARTHROPODA/ INSECTA	Gnophos pullata										(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ AMPHIBIA	Hyla arborea	Common Tree frog	77					LC Sign			(Habitats Directive: Annex IV)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Leucorrhinia pectoralis	Yellow-spotted Whiteface	~~					LC Sign			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Limenitis populi	Poplar Admiral									(Hungarian Red Book: considered as "actually endangered species")	
ARTHROPODA/ INSECTA	Lucanus cervus		~~								(Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Lycaena dispar	Large Copper	~~								(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Lynx lynx	Eurasian Lynx	~~					LC Si:			(Hungarian Red Book: considered as "extinct species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Maculinea alcon	Alcon blue									(Hungarian Red Book: considered as "actually endangered species")	
ARTHROPODA/ INSECTA	Maculinea teleius	Scarce Large Blue									(Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Miniopterus schreibersii	Schreibers'sLong- fingeredBat	~~					NT			(Hungarian Red Book: considered as "critically endangered species" & Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.

Phylum	Scientific name	Common name	Species qualifies under criterior	s co	Species ontribut under criterio	Pop. Size		CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ MAMMALIA	Muscardinus avellanarius	CommonDormous HazelDormouse					LC ●数 ●簡			(Hungarian Red Book: considered as "actually endangered species" & Habitats Directive: Annex IV)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Myotis bechsteinii	Bechstein's Myotis	<b>9</b> 90				NT			(Habitats Directive: Annex II & Hungarian Red Book: considered as "critically endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	6CL	lesser mouse- earedbat; Lesser Mouse-eared Myotis	<b>77</b>				LC • st			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA		pond bat; Pond Myotis	<b>9</b>				NT			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA		Geoffroysbat; GeoffroysMyotis	<b>9</b>				LC ●数 ●開			(Habitats Directive: Annex II & Hungarian Red Book: considered as "critically endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	inyous myous	mouse-earedbat; Mouse-eared Myotis	<b>2</b> 20				LC			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Nonagria nexa		<b>2</b> 00							(Hungarian Red Book: considered as "actually endangered species")	
ARTHROPODA/ INSECTA	Notodonta torva	Large Dark Prominent	<b>2</b> 00							(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ MAMMALIA	Nyctalus leisleri	Leisler'sNoctule; lessernoctule	<b>9</b>				LC ●数 ●際			(Habitats Directive: Annex II & Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Protaetia speciosissima	Green flower beetle	<b>2</b> 00							(Hungarian Red Book: considered as "actually endangered species")	
CHORDATA/ MAMMALIA	Rhinolophus euryale	MediterraneanHors	s d e at				NT			(Habitats Directive: Annex II & (Hungarian Red Book: considered as "actually endangered species")	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Rhinolophus ferrumequinum	greater horseshoe bat	<b>7</b>				LC Si OM			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA	Rhinolophus hipposideros	lesser horseshoe bat	<b>9</b> 90				LC State			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
CHORDATA/ MAMMALIA		European GroundSquirrel; European Souslik	<b>7</b> 70				VU ●数 ●開			(Habitats Directive: Annex II)	Criterion 4: This species regularly breeds on the site.
ARTHROPODA/ INSECTA	Tettigonia caudata		<b>2</b> 00							(Hungarian Red Book: considered as "actually endangered species")	
ARTHROPODA/ INSECTA	Trichoferus pallidus		<b>2</b> 00							(Hungarian Red Book: considered as "critically endangered species")	

<sup>1)</sup> Percentage of the total biogeographic population at the site

Species listed under Criterion 2 which are not yet included in the Catalogue of Life:

Callimorpha quadripunctaria, Spanische Flagge: (Habitats Directive: Annex II)

Albocosta musiva: (Hungarian Red Book: considered as "actually endangered species")

The extensive underground world of the Aggtelek and Slovak Karst including the Domica-Baradla Cave System provides a habitat for more than 500 species of troglobite, troglophile and trogloxene animals including endemic species as well as species first described from this region.

The biospeleological research in the Baradla Cave started as early as the middle of last century. In 1932 Endre Dudich described already 262 species from the cave, which number was unique in Europe that time. In 1970 435 species were described including Protozoa, Nematoda, Rotatoria, Annelida, Crustacea, Diplura, Coleoptera, Diptera, Palpigradi, Araneidea, Acaridea, Mollusca and Mammalia.

Noteworthy fauna which are not yet included in the Catalogue of Life:

Allolobophora mozsaryorum (Annelida): Baradla Short Lower Cave is the only known habitat for this endemic species.

Niphargus aggtelekiensis (Amphipoda): This species is prominent by their large populations and ecological significance.

Argynnis pandora, Syn. Pandoriana pandora: (Hungarian Red Book: considered as "potentially endangered species")

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

<no data available>

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

## 4.1 - Ecological character

Habitats according to the whole territory of Aggtelek National Park:

- caves
- stream, springs
- steppes, dry calcareous grasslands ad rocky grasslands,
- thermophilous forest fringes,
- humid grasslands and wet meadows,
- dry heathland,
- Juniper downs,
- tall herb communities,
- thickets
- extrazonal beech forest,
- hornbeam and oak forest,
- thermophilous oak forest,
- scrub forest with pubescent oak,
- ravine forest
- rockforest.
- riparian communities with willow.

#### Caves:

Important/Vulnerable species:

Niphargus aggtelekiensis, Mesoniscus graniger, Duvalius hungaricus, Eukoenenia austriaca vagvoelgyii, Allolobophora mozsaryorum, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Plecotus austriacus, Plecotus auritus, Myotis nattereri, Myotis bechsteinii, Myotis emarginatus, Myotis mystacinus, Myotis daubentonii, Myotis dasycneme, Myotis myotis, Myotis blythii.

Springs and riparian forest with willow:

Important/Vulnerable species:

Dryopteris carthusiana, Equisetum hyemale

Drusus trifidus, Sadleriana pannonica, Eudontomyson danfordii, Salamandra salamandra, Cinclus cinclus, Motacilla cinerea, Neomys fodiens,

Bazophil marshfield (Carici flavae - Eriophoretum)

Important/Vulnerable species:

Carex flava, Carex lepidocarpa, Dactylorchiza incarnata, Eriophorum latifolium.

Wet meadows (Cirsio cani - Festucetum pratensis, Junco-Molinietum)

Important/Vulnerable species:

Betula pubescens, Dactylorchiza majalis, Gentiana pneumonanthe, Iris sibirica, Salix aurita

Maculinea teleius, Lycaena dispar, Crex crex.

#### 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 water > Flowing water >> Mt Permanent rivers/ streams/ creeks		1		
Fresh water > Flowing water >> N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks		2		
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools				
Fresh water > Marshes on inorganic soils >> Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils				
Fresh water > Marshes on peat soils >> U: Permanent Non- forested peatlands		4		
Fresh water > Marshes on inorganic soils >> W: Shrub- dominated wetlands		3		
Fresh, saline, brackish or alkaline water > Subterranean >> Zk(b): Karst and other subterranean hydrological systems		0		Representative

#### Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
2: Ponds				

#### 4.3 - Biological components

#### 4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Asplenium scolopendrium	Hart's-tongue fern	Species protected at national level.
Betula pubescens		Species protected at national level.
Cardamine glanduligera		Species protected at national level.
Daphne mezereum	Garland Flower	Species protected at national level.
Eriophorum latifolium		Species protected at national level.
Jurinea glycacantha		Species protected at national level.
Neottia nidus-avis	Bird's-nest Orchid	Species protected at national level.
Phlomoides tuberosa	Jerusalem Sage	Species protected at national level.

#### 4.3.2 - Animal species

Other noteworthy animal specie

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
ARTHROPODAIMALACOSTRACA	Mesoniscus graniger					Cave-dwelling endemic species detected on the site. This species is prominent by their large populations and ecological significance.
ARTHROPODA/INSECTA	Apatura ilia	Lesser Purple Emperor				Hungarian RB - potentially endangered species
ARTHROPODA/INSECTA	Argyronome laodice					Hungarian RB - potentially endangered species
ARTHROPODA/INSECTA	Brenthis ino	Lesser Marbled Fritillary				Hungarian RB - potentially endangered species
ARTHROPODA/INSECTA	Carabus intricatus	Blue ground beetle				
ARTHROPODA/INSECTA	Chersotis fimbriola baloghi					Hungarian RB - potentially endangered species
ARTHROPODA/ARACHNIDA	Eukoenenia austriaca					Cave-dwelling endemic species detected on the site.
ARTHROPODA/INSECTA	Hemaris tityus	Narrow-bordered Bee Hawk-moth				Hungarian RB - potentially endangered species
ARTHROPODA/INSECTA	Neptis rivularis	Hungarian Glider				Hungarian RB - potentially endangered species
ARTHROPODA/INSECTA	Neptis sappho	Pallas Sailer				Hungarian RB - potentially endangered species
CHORDATA/MAMMALIA	Sciurus vulgaris	Eurasian Red Squirrel				
CHORDATA/AMPHIBIA	Triturus cristatus	Great crested newt				

### 4.4 - Physical components

## 4.4.1 - Climate

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

The climate is humid continental with long summers. The Carpathian Mountains have relatively strong climatical influence upon the area. The average annual temperature is rather low (8.2 °C) and the average temperature is only 15.5 °C in the growth season, such value can be measured only at the higher mountains of Hungary. The annual precipitation was between 600-700 mm but it significantly decreased during the last years, with an average of about 400-500 mm. The local microclimates are strongly influenced by the relief.

#### 4.4.2 - Geomorphic setting

a) Mnimum 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

RIS for Site no. 1092, Baradla Cave System and related wetlands, Hungary		
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.		
The area is part of the catchment area of the Sajó river, which flows into the Tisza.		
.4.3 - Soil		
Mneral ☑		
(Update) Changes at RIS update No change		
No available information		
Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes O No ●		

Please provide further information on the soil (optional)

The variety of soil types reflects the heterogeneous geological composition of the region. Limestone, dolomites and their scree at the base of slopes are covered by the product of long-term weathering and residual soils (terra rossa). Brown rendzinas, common rendzinas and luvisols occur on the lower slopes of valleys, where gravels or clayey materials have accumulated through the weathering of limestones. Cambisols and rendzinas are characteristic of plateau sites with fewer fine karstic forms and with thicker weathering deposits, often continuously covered by oak-hombeam forest. In the basins, brown soils are found on the margins, and hydromorphic floodplain and floodplain gley soils in the floodplains.

#### 4.4.4 - Water regime

#### Water permanence

rate permanence		
Presence?	Changes at RIS update	
Usually permanent water present		
Usually seasonal, ephemeral or intermittent water present		

Source of water trial frailitatins character of the site		
Presence?	Predominant water source	Changes at RIS update
Water inputs from rainfall		No change
Water inputs from surface water		No change

#### Water destination

Presence?	Changes at RIS update	
To downstream catchment	No change	
Feeds groundwater	No change	

Stability of water regime

Presence?		Changes at RIS update	
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.

(See additional material for further information)

#### 4.4.5 - Sediment regime

Sediment regime unknown

<no data available>

#### 4.4.6 - Water pH

Unknown 📝

#### 4.4.7 - Water salinity

#### Fresh (<0.5 g/l)

(Update) Changes at RIS update No change Increase O Decrease O Unknown O

#### 4.4.8 - Dissolved or suspended nutrients in water

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  $characteristics in the area surrounding the Ramsar Site differ from the \ i) \ broadly similar \ O \ ii) \ significantly different \ \textcircled{0}$ site itself

Surrounding area has greater urbanisation or development  $\square$ 

Surrounding area has higher human population density  $\Box$ 

Surrounding area has more intensive agricultural use  $\ \square$ 

Surrounding area has significantly different land cover or habitat types  $\hfill\Box$ 

#### 4.5 - Ecosystem services

#### 4.5.1 - Ecosystem services/benefits

#### Regulating Services

Eco	system service	Examples	Importance/Extent/Significance
Mainten	ance of hydrological regimes	Groundwater recharge and discharge	Medium
	ution control and detoxification	Water purification/waste treatment or dilution	High

#### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Medium
Recreation and tourism	Picnics, outings, touring	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	High
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Major scientific study site	Medium

#### Other ecosystem service(s) not included above:

The role of the site in flood control and groundwater replenishment is not relevant.

The sediment of the cave system plays an important role in the filtration of heavy metal pollution.

Archaeological excavations revealed the presence of prehistoric man in the Baradla Cave in 1876. The most important archaeological sites are the Baradla-Domica Cave System with its settlements of Bükk culture both inside and in front of the cave entrance, and with its charcoal drawings unique in Central Europe.

The importance of the karstic springs was recognised by local people as early as in the Middle Ages. The energy of the springs has ever been utilised from ore crushing to milling grains. Even electricity was generated in the first half of the 20th century by the water of the Jósva spring thus creating public lighting in Jósvafő and later in the Baradla Cave.

(See additional document for further information on scientific research, tourism & education/public awareness activities)

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site?

#### 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	כ
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

<no data available>

## 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	<b>&gt;</b>	<b>&gt;</b>
Local authority, municipality, (sub)district, etc.	<b>2</b>	

Private ownership

1 mate officient		
Category	Within the Ramsar Site	In the surrounding area
Cooperative/collective (e.g., farmers cooperative)		✓
Other types of private/individual owner(s)	<b>2</b>	<b>2</b>

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

a) within the Ramsar site: State owned: 75,7 % Municipality: 16,6 % Private: 6,3 % Other: 1,4 %

b) in the surrounding area (according to the area of the Aggtelek National Park):

State owned: 92,1 % Municipality: 3,2 % Private: 3,5 % Other: 1,2 %

#### 5.1.2 - Management authority

agency or organization responsible for	Aggtelek National Park Directorate
managing the site:  Provide the name and title of the person or	
people with responsibility for the wetland:	Balázs Veress director
Postal address:	H-3758 Jósvafő, Tengerszem oldal 1. – HUNGARY
E-mail address:	info.anp@t-online.hu

## 5.2 - Ecological character threats and responses (Management)

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

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Livestock farming and ranching	Medium impact	Medium impact		No change	<b>✓</b>	decrease

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Logging and wood harvesting	Medium impact	Medium impact	<b>₽</b>	No change	✓	No change

#### Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Household sewage, urban waste water	Medium impact	Medium impact	<b>2</b>	decrease	<b>2</b>	No change
Agricultural and forestry effluents	Medium impact	Medium impact	<b>2</b>	No change	<b>2</b>	decrease

Please describe any other threats (optional):

#### Within the Ramsar Site:

- Past: forestry, chemicals used by agriculture, waste-water and domestic waste
- Present: forestry time and spatial restriction according to the management plan, waste-water and domestic waste (decreasing)

#### In the surrounding area:

- Past: forestry, chemicals used by agriculture, animal husbandry, waste-water and domestic waste
- Present: Forestry, chemicals used by agriculture, animal husbandry (decreasing), waste-water and domestic waste
- Potential: forestry time and spatial restriction, chemicals used by agriculture (decreasing), animal husbandry (decreasing), domestic waste

#### 5.2.2 - Legal conservation status

#### Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
UNESCO Biosphere Reserve	Aggtelek Karst & Slovak Karst		partly
World Heritage site	Aggtelek and Slovak Karst		partly

Regional (international) legal designations

<u>- 109.11.01 (11.11.11.11.11.1) 109.11.11.19.11.11.11</u>			
Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	Aggtelek Karst		partly

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Park	Aggtelek		partly

#### 5.2.3 - IUCN protected areas categories (2008)

			_
In Christ	Moture	Reserve	$\Box$
ia Sinci	nature	Reserve	-

Ib Wilderness Area: protected area managed mainly for wilderness protection

Il 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

Legal protection		
Measures	Status	
Legal protection	Implemented	

#### Other:

Management plan exists (from 01. 01. 1997.), but no longer meets the requirements of more recent national legislation (needs to be updated and passed again).

A major (3 million Euros) project took place in recent years to develop the Lake Vörös entrance of Baradla cave for tourism.

#### 5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

Has a management effectiveness assessment been undertaken for the site?

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

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

Facilities for education and visitors' centers:

- Exhibition: Natural assets of Aggtelek National Park,
- Village Museum at Jósvafő,
- 2 study trails.

Environmental education and public awareness:

- The National Park organises different summer-camps for pupils and students: "explore the nature"-camps, work camps (bird-ringing camp, habitat-restoration camp, research camp).
- The National Park organises fieldtrips for students of secondary schools, universities and postgraduate students.
- The specialised staff of the National Park usually hold lectures on the natural and cultural heritage of the region for tourist-groups, students and local people.

(See additional document for further information on Current communications, education and public awareness (CEPA) activities)

#### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

#### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Plant community	Implemented

#### Botanical surveys:

- setting up a flora list of vascular plants
- National Biomonitoring Programme (NBmR)
- Natura 2000 survey programme

(See additional document for further information on current scientific research and facilities)

## 6 - Additional material

#### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

See 6.1.2 Additional reports and documents > vi. other published literature, for the list of bibliographical references.

#### 6.1.2 - Additional reports and documents

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

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

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

iv. relevant Article 3.2 reports

v. site management plan

<no file available

vi. other published literature

<2 file(s) uploaded>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Ponds formed by rimstone bars in the Styx Branch of Baradla Cave. (*Mr. Csaba Egri, 30-12-2013*)

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Transboundary Designation letter

<1 file(s) uploaded>

Date of Designation 2001-08-14