

Information Sheet on Ramsar Wetlands (RIS) – 2006 version

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Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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Designation date

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Site Reference Number

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2. Date this sheet was completed/updated:

August 13, 2007

3. Country:

Slovak Republic

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Domica

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

a) Designation of a new Ramsar site ; or

b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

i) the boundary has been delineated more accurately ; or

ii) the boundary has been extended ; or

iii) the boundary has been restricted**

and/or

If the site area has changed:

i) the area has been measured more accurately ; or

ii) the area has been extended ; or

iii) the area has been reduced**

** Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

i) a hard copy (required for inclusion of site in the Ramsar List): ;

ii) an electronic format (e.g. a JPEG or ArcView image) ;

iii) a GIS file providing geo-referenced site boundary vectors and attribute tables ✓;

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary follows a catchment boundary of the Domica Cave – a part of the boundary is delineated by the state border with Hungary, where another Ramsar site is located.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

Domica 48° 28' 53" N, 20° 28' 15" E (centre)

Centre of the whole site was generated as a geometrical centre of the outer boundary.

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The site lies in the south-eastern part of Slovakia, at the border with Hungary. It is a part of the Košice Selfgovernment Region and Rožňava district. It is situated in the cadastral territories of Kečovo and Dlhá Ves, approximately 10 km SSW from Plešivec (around 2,400 inhabitants), 27 km SW from Rožňava (19,260 inhabitants) and 97 km NE from the regional city of Košice (242,000 inhabitants).

10. Elevation: (in metres: average and/or maximum & minimum)

424 m (339–508 m)

11. Area: (in hectares)

622 ha

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Sub-surface wetland representing a part of the 25 km long cave hydrological system Domica – Baradla in a cross-boundary position of Slovakia and Hungary with the total length of measured spaces in Slovakia 5358 m. The site represents the whole catchment area of the underground system of the Domica Cave (National Nature Monument, a part of the World Cultural and Natural Heritage site of UNESCO) in the SW part of the Silická Plateau, representing a typical part of the Biospheric Reserve of the Slovak Karst National Park with occurrence of intermittent surface wetland ecosystems. Underground hydrological system forms specific conditions for existence and preserving of ecological diversity of rare and threatened organisms.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1

The site is a particularly good and representative example of a natural wetland, characteristic for the Western Carpathian region; it is a particularly good and representative example of a wetland which plays a substantial hydrological, biological and ecological role in the natural functioning of a major hydrological system in a trans-boundary position between Slovakia and Hungary; it is also a good example of a specific type of wetland – karst subterranean wetland.

Criterion 2

The cave system supports rare, vulnerable and threatened species, which are included to annexes of international conventions and directives [conservation status according to the Red List of IUCN of Threatened Species (2006); Bern1, 2 – Appendix I and II of the Bern Convention; Bonn2 - Appendix II of the Bonn Convention; HD2, 4 - Annex II and IV of the Habitat Directive 92/43/EEC]:

PLANTS: (on the Domické škrapy landscape) *Dracocephalum austriacum* (Bern1, HD2);

ANIMALS: Invertebrates: (Coleoptera) *Duvalius hungaricus* (HD2, HD4); **(Orthoptera** – on the surface) *Saga pedo* (VU, Bern2, HD4); **Vertebrates: (Amphibia)** *Bufo bufo* (LC, Bern3), *Salamandra salamandra* (LC, Bern3); **(Reptilia** - on the surface) *Ablepharus kitaibelii* (LC, Bern2, HD4), *Lacerta agilis* (Bern2, HD4), *Coronella austriaca* (Bern2, HD4); **(Mammalia)** *Rhinolophus*

euryale (VU, Bern2, Bonn2, HD2, HD4), *Rhinolophus hipposideros* (LC, Bern2, Bonn2, HD2, HD4), *Rhinolophus ferrumequinum* (LR, Bern2, Bonn2, HD2, HD4), *Myotis emarginatus* (VU, Bern2, Bonn2, HD2, HD4), *Myotis daubentoni* (LR, Bern2, Bonn2, HD4), *Myotis nattereri* (LR, Bern2, Bonn2, HD4), *Myotis myotis* (LR, Bern2, Bonn2, HD2, HD4), *Myotis bechsteini* (VU, Bern2, Bonn2, HD2, HD4), *Vespertilio murinus* (LR, Bern2, Bonn2, HD4), *Plecotus auritus* (LR, Bern2, Bonn2, HD4), *Plecotus austriacus* (LR, Bern2, Bonn2, HD4), *Miniopterus schreibersii* (LC, Bern2, Bonn2, HD2, HD4).

The site supports other rare, vulnerable and threatened species bound to specific conditions of the cave system and surrounding karst landscape, which are important from the national point of view. The protected and priority species of national or European importance according to Appendices 4 and 6 of the Regulation no. 24/2003, which executes the Act of the National Council of Slovak Republic no. 543/2002 on Nature and Landscape Protection, are: **Invertebrates:** *Eukoenia spelaea* (Palpigrada), *Niphargus tatrensis* (Crustacea), *Mantis religiosa* (Mantodea – on the surface); **Plants** (on the surface): *Lathyrus pannonicus*, *Danthonia alpina*, *Echium russicum*, *Pulsatilla grandis*, *Fraxinus ornus*. The protection of the site, as an integrated genetic cave system Domica – Baradla, will contribute to preservation and improvement of the viability of rare populations occurring within the cross-boundary hydrological system both on the Slovakian and Hungarian side.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

According to biogeographic regionalisation suggested for European Union (Natura 2000 concept) the area belongs to **Pannonian biogeographic region** (Carpathian). Within the European framework it represents a component of the continental region.

b) biogeographic regionalisation scheme (include reference citation):

According to the phytogeographical division (Landscape Atlas of the Slovak Republic, 2002), the site belongs to the Pannonian flora region (Pannonicum), ancient Matra xerothermic flora ward (Matricum), in which the Slovak Karst forms individual phytogeographical district. According to the zoogeographical division of Slovakia and within the terrestrial biocycle (Landscape Atlas of the Slovak Republic, 2002), the site belongs to the steppe province, Pannonian district and within the limnic biocycle it belongs to Ponto-Caspian province and Tisa area. From the karst and cave regional division point of view, the territory is a part of the Slovak-Agtelek karst region within zoogeographical supraregion of Gemer-Bukk-Spiš (Slovakia-Hungary) in the district of the Western Carpathians province (Košel, 2000).

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geology and geomorphology: The Domica cave system was formed along tectonic dislocations of the limestone massif by corrosion and erosion activities of the underground flow of Styx and its tributaries. The territory represents a contact karst, with a contact of karst territory of the SW edge of the Silica Plateau and non-karst territory of the Bodva Upland. Karst and fluviokarst character of relief dominates the surface parts of the site. The underground cave system is formed in three developmental levels with a relative height span of 8-12 m. The lowest level is filled up with gravels and loam. Horizontal oval passages with distinct ceiling channels, sometimes widened to halls and domes, dominate in the cave. From among the rich flowstone fill, except for the classical sinter forms (stalagmites, stalactites, columns) also shields, drums, cascade pools, onion-like stalactites and

pagoda-like stalagmites occur here. The cave is formed in Middle Triassic pale Wetterstein limestones of the Silica Nappe, which lie on dark Gutenstein limestones and dolomites. Upper parts can have Steinalm limestones. Non-karst territory is formed by Neogene gravels, sands and clays of the Poltár Formation, covered by Quaternary sediments.

Soil types and sediments characteristics: The karst part of the territory is formed by leptosols with various subtypes of Rendzic leptosols and cambisols, with occurrence of Chromic subtypes of luvisols. Planosol and stagnosol luvisols, changing to planosols and stagnosols in the valleys, dominate in the non-karst area. Rendzic leptosols and Chromic soils are developed marginally.

Origin: Natural

Hydrology: There is no surface river network in the territory, however it is due to geological and geomorphologic settings transferred underground through several ponor areas (ponors in the Kečovo Valley, doline ponors under the Čertova diera, ponor under the Lfšcia diera, ponor of Domický Brook, edge doline depression between the road to Kečovo and state border ...). Limestone beds are inclined to the north, which causes the majority of atmospheric waters infiltrating from the surface is drained in direction of this inclination to hydrographic network of the Kečovský Brook. The main artery of the system is the underground flow of Styx with its tributaries, oriented mostly from the south. The biggest one is the Domický Brook. Styx is a cross-boundary underground flow running through spaces to the Baradla Cave System. It springs on the surface in the Hungarian spring Jósvafő. The area of Styx basin covers around 2.3 km². The flow rate fluctuates from 0 – 120 l/s during a year. It becomes active mostly in the spring time and during periods of intensive and longer-term precipitation. In relation to rainfall, it shows a certain time delay with less distinct flowage maximums. Styx becomes mostly inactive during winter. The catchment area of the Domický Brook is almost one third of that of Styx. Its average rate of flow is 0.6 l/s. The regime of the Domický Brook reflects rainfall activity in its basin, the rate of flow fluctuates between 10 – 140 l/s and more. Increased flowages last only short time.

Water quality: Underground waters flowing in the cave in NW-SE direction are considered primary carbonate waters, with chemical composition conditioned by mineralogical-petrographical composition of the rock environment. The chemical composition of underground waters of the system is influenced by rainfall waters, which after a short surface outflow, sink underground, bringing pollution from agricultural activities. The result is deterioration of sensory and physical-chemical attributes of waters. The contamination is connected with organic, inorganic and microbiological deterioration, showing mostly by increased values of CHSK_{Mn}, BSK₅, NH₄⁺, NO₃⁻, PO₄³⁻ and some other specific bacteria. The highest concentration of pollution takes place during torrential waters, caused by intensive rainfall or snow melting. In case of minimizing the influence of agriculture and torrential waters, the underground water has a good quality.

Climate: Domica Cave: Air temperature from 10,2 to 11,4 °C, relative humidity 95 - 98 %.

Surface: The territory lies on the boundary of two climatic regions. Adjacent territory of the Rimavská Basin belongs to warm region, the karst territory is characterized by moderately warm region, warm subregion with moderately humid climate and cold winter. Average annual temperature is 7-8 °C. The warmest month is July with average temperature 18-19 °C, the coldest is January with average temperature -3 °C. Annual precipitation total ranges between 650-700 mm. July has the highest precipitation (85-95 mm), January the lowest (30-35 mm). Characteristic feature of the territory is a great intensity of torrential rains (the intensity of 15-minutes' rain reaches 150-160 l.s⁻¹.ha⁻¹), which causes high predisposition for soil erosion.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The site includes the catchment area of the Domica Cave, representing the whole area of the Styx river hydrological basin. All characteristics from item 16 are the same for item 17.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Replenishment of waterbearing strata; a part of the system of cross-boundary character. Underground hydrological system forms suitable conditions for existence of rare and threatened water invertebrates.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Zk(b), Ts

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Several habitats occur in the site. The habitat of submontane alder alluvial forests is located in the vale parts along intermittent water areas, further habitats include: Carpathian oak-hornbeam forests, Pannonian forest with oak (*Quercus pubescens*), quite frequent are Pannonian-Balkan Turkey oak forests, highly important are lowland hay meadows with a high diversity of autochthonous flora species (*Arrhenatherum elatius*, *Avenula pubescens*), Molina meadows (Calcareous purple moorgrass meadows), semi-natural dry grasslands and scrubland facies on calcareous substrates (Central European steppic grasslands) with high abundance of threatened, rare and protected species.

The cave system contains both terrestrial and water animals, characterised by various adaptations to this peculiar environment. We can find here the genuine cave animals (trogllobites, stygobites), as well as animals occurring except for caves also in their original edaphic and water environment on surface (troglophiles, stygophiles), or accidental individuals strayed from adjacent surface habitats (troglonexes, stygonexes). Presence of water crustaceans is bound mainly to interstitial and hyporeal zones of underground flow of Styx. Several of them are of epigeic origin, which is apparently connected with the fauna of Smradľavé jazierko lake. On the surface of standing waters (lakes), it is possible to observe subpopulations of springtails (Collembola), which are a component of so called epineuston. Cavernicolous communities contain dominant saprophagous springtails (Collembola) and crustaceans (Crustacea) and also predator mites (Acarina). Cave habitats of this area are, thanks to their natural conditions, suitable sites for bat (Chiroptera) populations, which use the caves for hibernation. Their numerous occurrence in the cave contributes to development of cave invertebrate communities (guanophiles), for which the organic matter from guano is one of an important nutritive sources. The presence of surface water habitats secures an adequate environment for reproduction of several amphibian species (Amphibia). They use entrance parts of caves for dormancy or waiting out the unfavourable conditions.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

We can meet various phytogeographic elements with very high species diversity within the site. Thermophilous flora of Pannonian, Submediterranean or Pontic origin occurs here. The flora district of the Slovak Karst indicates occurrence of higher proportion of Carpathian and mountain elements in comparison with the phytogeographical districts of the Pannonian flora. 24 tree species, 39 wood species in the brushwood floor and 180 herb species were determined within the site territory. At present, additional research is carried out. Older works state 318 taxons altogether in the territory of the Domické škrapy natural reserve (E.Karasová in J.Šmídt, 1998).

The most important flora species are represented by endemites, tertiary and glacial relics, mainly palaeo- and neo-endemites, sub-endemites of the Western Carpathian, Carpathian and Pannonian flora.

Endemites and subendemites: *Alyssum montanum* subsp. *brymii* (EN), *Carduus collinus*, *Cyanus triumfettii* subsp. *dominii*, *Thalictrum minus*, *Dianthus pontederiae*, *Seseli osseum*, *Campanula sibirica* subsp. *divergentiformis*, *Melittis melissophyllum*, *Linum flavum*, *Pseudolysimachion orchideum*, *Trommsdorffia maculata*. Vzácné a ohrozené druhy: CR: *Dracocephalum austriacum*, *Lathyrus pannonicus*; EN: *Asyneuma canescens*, *Crupina vulgaris*, *Danthonia alpina*, *Echium russicum*, *Stipa pulcherrima*; VU: *Adonis vernalis*, *Allium sphaerocephalon*, *Cleistogenes serotina*, *Cynoglossum hungaricum*, *Draba nemorosa*, *Iris pumila*, *Lathyrus nissolia*, *Ornithogalum brevistylum*, *Platanthera bifolia*, *Pulsatilla grandis*, *Sempervivum marmoreum*, *Trinia glauca*; ďalšie významné druhy: *Aconitum anthora*, *Anemone sylvestris*, *Cerasus mahaleb*, *Clematis recta*, *Cornus mas*, *Fraxinus ornus*, *Jurinea mollis*, *Lilium martagon*, *Linum tenuifolium*, *Rosa gallica*, *Silene bupleuroides*.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The Domica Cave has a special position within the framework of the Slovak caves from the biodiversity point of view. In total, more than 160 species of invertebrates were recorded here. The specific feature of the Domica cave system is a broad interconnection of the cave hydrological system with surface waters, which is demonstrated by higher occurrence of zooplankton, characteristic for epigeal habitats directly in the underground riverbed of Styx and cave spaces within its flooding capacity, like e.g. cladocerans *Daphnia longispina*, *Ceriodaphnia reticulata*, or copepods *Cyclops strenuus*, *Eucyclops serrulatus*. Subterranean aquatic fauna is represented by lower crustaceans (“microcrustacea”, Entomostraca) stygobitic cyclopoid copepods *Acanthocyclops venustus*, *Diacyclops languidoides*, *Microcyclops rubellus* and hyporheic harpacticoids (Harpacticoida); the group of higher crustaceans (“macrocrustacea”, Malacostraca) is represented by stygobitic amphipods *Niphargus tatrensis*, *Synurella* sp. and cavernicolous isopod *Mesoniscus graniger*. Also rare subterranean archiannelid *Troglochaetus beranecki* (Archiannelida) and molluscs *Pisidium personatum*, *P. casertanum* (Bivalvia) were found in the Domica Cave. From among the terrestrial arthropods (Arthropoda) the following are important paligrade *Eukoenenia spelaea*, Diplura species *Plusiocampa spelaea*, spider *Porrhomma profundum* (carpathic species), carabidic beetle *Duvalius hungaricus hungaricus*. From among by now known 45 species of springtails (Collembola) we can mention occurrence of troglobites *Arrhopalites slovacicus* (the first finding in Slovakia), *Deuteraphorura* sp. (new species for science) and *Pseudosinella aggtelekiensis*. Also occurrence of cavernicolous Diptera species from Phorinae subfamily *Triphleba antricola* was detected. Remarkable is troglobite millipede of the genus *Typhloiulus* sp. (probably new species for science), which is with its body length of around 2,6 cm by now the biggest known cave animal in Slovakia. Oligochaetic worms (Oligochaeta) are represented by species *Rhyacodrilus carsticus*, *R. falciformis*; mites

(Acarina) by guanophilic Oribatid mites *Multioppia* cf. *glabra*, *Gemmazetes cavaticus*, uropodic mites *Uroobovella advena*, gamasid predators *Cyrtolaelaps chiropterae* a *C. mucronatus* and others.

Evertebrata: further important species **Arachnida:** troglophilic taxa: *Lepthyphantes nebulosus*, *Meta menardi*, *M. merinae*, *Necticus c. cellulanus*, *Tegenaria ferruginea*, *Porrhomma convexum*, *P. rosenhaueri*, endemic taxon *Necticus cellulanus affinis*; **Opilionida:** *Mitostoma chrysomelas*; **Pauropoda:** *Stylopauropus pedunculatus* **Collembola:** *Protaphorura campata*, *Folsomia candida*, *Arrhopalites pygmaeus*; **Coleoptera:** *Trechus austriacus*, *Agabus guttatus*, *A. bipustulatus*, *Hydroporus palustris*, *H. planus*, *Ouedius mesomelinus*; **Diptera:** eutroglophilic taxa: *Trichocera regelationis*, *Bradysia forficulata*; on the surface: **Mantodea:** *Mantis religiosa*, **Orthoptera:** *Saga pedo* (VU)

Vertebrata: **Amphibia:** in the cave entrance parts *Salamandra salamandra*, *Bufo bufo*; **Reptilia:** on the surface *Ablepharus kitaibelii*, *Lacerta agilis*, *Coronella austriaca*; **Mammalia:** 12 bat species hibernate in the cave; exceptional is the colony of the Mediterranean Horseshoe bat *Rhinolophus euryale*, with its northern edge of zoogeographic distribution in the south-eastern Slovakia.

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

The cave was discovered on October 3, 1926 and opened to the public in 1932, including electrical lighting and damming of Styx for underground cruise. Since then various research works have been done here – geological, speleological, biospeleological, hydrological, hydrochemical, geophysical, palaeontological, archaeological etc. The cave represents an important archaeological site. It is one of the most significant finding places of the Bukk-Mountain Culture from the Neolithe in Slovakia. Lots of unique archaeological findings were discovered in the cave (ancient pottery, sherds, stone and bone tools) as well as cave bear bones. At present a new environmental education centre in the cave entrance building is in the project state.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box and describe this importance under one or more of the following categories:

- i) sites which provide 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) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where 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:

24. Land tenure/ownership:

a) within the Ramsar site:

Majority of land is in private property and state property. A part is owned by agricultural organizations and minimum by municipalities or other owners.

b) in the surrounding area:
Similar ownership structure as a).

25. Current land (including water) use:

a) within the Ramsar site:

A part of underground spaces is used for tourism, which is also the case of a part of surface territory with educational path through the Domické škrapy Natural Reserve. Forests for timber production cover 31% and protection forests 69% of the forested area. Arable land covers 50%, grasslands 49% and vineyards 1% of the agricultural land. There are two hunting regions, mostly for the roe deer. A state road of the 2nd class crosses the territory leading to the state boundary.

b) in the surroundings/catchment:

There are two villages in the surrounding – Kečovo (410 inhabitants) and Dlhá Ves (615 inhabitants). Active agriculture and forestry is performed in the area. Springs in Kečovo are used for drinking water supply.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

The period of negative influences on cave geosystem started after the discovery of the cave. A part of the cave system was adapted for visitors, including concrete paths, stairs and two underground dams. Ponor situated near the cave entrance was not able to absorb waters from torrential rains which caused floods in the cave. The biggest flood is dated to 1954 and further continued until 1984, when a new entrance building was constructed with a new drainage gallery underground. Agricultural activities on the surface supported the unfavourable situation for floods and soils erosion. Eroded soil choked the ponors, underground channels and spaces and brought also pollution (alkali agents, chlorides, phosphates, nitrates, organic matters) from chemical fertilization. Two dams were built on the surface in 1968 for flood prevention. The process of soil erosion still continues to the present time and causes plugging up of ponors and underground spaces. Except for gradual sprouting with plants, this means reduction of rainfall waters input underground. Potential threats for the water quality present agricultural activities, leakage of oil from agricultural machines, cars parking in the area and moving on the state road, illegal waste dumps in the territory. The reduction of waters underground is caused by decline of annual precipitation totals in the past years.

b) in the surrounding area:

Agricultural activities and development of infrastructure.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The site is a part of the Slovak Karst National Park, declared in 2002, but previously included in the international network of biosphere reserves of UNESCO. The Domica Cave was declared a protected natural monument in 1972 with a protection zone of 624,68 ha. The risk of erosion was reduced by changing of 42 ha of arable land to grassland in 1988. The new act on nature protection from 1994 required working out a new proposal for a protected zone. At present, this proposal is in the stage of negotiations with landowners. According to the act 287/1994 on nature and landscape protection, all the caves had the highest – fifth level of protection. The new act on nature and landscape protection 543/2002 specifically defines the prohibited activities in the caves and other activities requiring the permission of the nature protection authority. The protection zone of the Domica Cave was declared in 2005 (by Regulation of the District Office for the Environment at Košice No. 10/2005) with area of 616,69 ha, with boundaries almost the same as those of the Ramsar site. The Domica Cave was

inscribed on the list of the World Natural Heritage in 1995, within the framework of the bilateral Slovak – Hungarian project “Caves of the Slovak and Aggtelek Karst”. Within the Ramsar locality, there is a national nature reserve Domické škrapy (Domica Karren) with area of 24,44 ha, protected since 1973. The site is not included in the Montreux Record.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

The Management Plan for the Slovak part of the world natural heritage was approved by the Slovak Ministry of the Environment in 1996.

d) Describe any other current management practices:

The Slovak Caves Administration and Slovak Karst National Park cooperate with the partner side of the Aggtelek National Park in Hungary (hydrological and hydrogeochemical monitoring, printing brochure, educational exhibition, research and protection) .

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

The Ramsar site area overlaps with the proposed Special Protection Area Slovak Karst (96,3 %). Management Plan for the Ramsar Site Domica has not been finished yet and submitted for approval.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Several research works were carried out in the territory – geological, geomorphic, speleological, archaeological, mineralogical, palaeomagnetic research of sediments). However, the most important research is connected with the underground hydrological system. It was carried out in 1995 within the framework of PHARE project by the Slovak Environmental Agency and the Ministry of the Environment of the Slovak republic. The aim was to specify the movement of cave water flow pollution and define possibilities of its elimination or accumulation. The monitoring of waters continued in the next years with participation of the Slovak Caves Administration and SKOV Company. The Slovak Caves Administration started to carry out the monitoring since 1999 with its own specialists. The main parameter observed is the quality of underground waters.

A geophysical research was realized in selected parts of Domica in 1996 with the aim of recognition of thickness of cave sediments and possible continuation of cave spaces. The research of water fauna took place in 1997 – 1998. Biospeleological research of the cave still continues. A small meteorological monitoring station was set up in 1998 near the Domica Cave building in cooperation with the Slovak Hydrometeorological Institute. A detailed pedological and hydro-pedological survey of proposed protected territory was carried out during 2000 – 2001. Consecutively, the erosion liability and proposal of anti-erosion measures was worked out in 2002. An analysis of hydrological processes on the territory of the Ramsar site was done in 2003. The first field works started for working out the local territorial system of ecological stability in the same year.

From the older research works on the surface, we can name a complex research on the territory of the Slovak Karst coordinated by the professional nature protection organization during 1986-1990, which continued in further years by partial researches. An expertise of qualitative atmospheric, water and soil indicators was done from analyses by the Institute of Geotechnics of SAV.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

The Domica Cave is used as educational locality in the spaces of entrance building. The visitors also receive detailed information, including hydrological settings, during their underground tour. An

information board installed in the entrance building delivers the basic data on the Domica Ramsar Site. At present, the reconstruction and modernization of the visitors' centre inside and outside the entrance building is carried out. The Slovak Caves Administration and the Slovak Karst National Park issue information brochures and pamphlets on nature values. A monography Slovak Karst Protected Landscape Area was issued in 1994. A cross-boundary educational path, constructed in 1986, leads through the site. It comprises information boards with basic text and graphic data, and printed brochure. The environmental and educational centre on the locality was created in 2006.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The site is situated in an attractive territory of the Slovak Karst, near the state border with Hungary. The closest tourist centre is 27 km distant the Rožňava town, with accommodation facilities and tourist information centre. The Domica Cave is one of the Slovak show caves with the length of visitors' path of 1,560 m and underground cruise of 140 m. The cave is open for public 11 months a year (except for January), with highest attendance in summer season.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

- state (Ministry of Environment, Department of Nature Conservation, Bratislava)
- regional (Regional Office of the Environment, Kosice) and district (District Office of the Environment, Rožňava)
- self-government (region Kosice)
- local (Municipalities of Kečovo and Dlha Ves)

Functional jurisdiction is divided between the Ministry of Environment of SR and Ministry of Land Management (Agriculture and Forestry) of SR.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

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Slovak State Nature Conservancy, Administration of the National Park and Biosphere Reserve Slovensky kras, Biely Kaštieľ 188, 049 51 Brzotin, phone :+421 58 732 68 15, Fax: +421 58 734 67 69, e-mail: slovkras@sopsr.sk

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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