

IUCN Conservation Outlook Assessment 2014 **(archived)**

Finalised on 15 June 2014

Please note: this is an archived Conservation Outlook Assessment for Caves of Aggtelek Karst and Slovak Karst. To access the most up-to-date Conservation Outlook Assessment for this site, please visit <https://www.worldheritageoutlook.iucn.org>.

# Caves of Aggtelek Karst and Slovak Karst

## SITE INFORMATION

Country:

Hungary, Slovakia

Inscribed in: 1995

Criteria:

(viii)

Site description:

The variety of formations and the fact that they are concentrated in a restricted area means that the 712 caves currently identified make up a typical temperate-zone karstic system. Because they display an extremely rare combination of tropical and glacial climatic effects, they make it possible to study geological history over tens of millions of years. © UNESCO

## **SUMMARY**

### **2014 Conservation Outlook**

#### **Good**

The conservation outlook for the karst features of the site is good. Only about 1% of the caves are open for visitation and careful monitoring programmes are in place. Protection and management of the karst areas is relatively effective both in Hungary and Slovakia and on transboundary level. However, potential threats, such as pollution from agricultural activities in the area, require monitoring and careful planning, including development of an integrated management of the entire water catchment. There are some concerns regarding protection of the above-ground terrestrial biodiversity of the site.

### **Current state and trend of VALUES**

#### **Good**

#### **Trend: Stable**

More than 99% of the Caves of Aggtelek Karst and Slovak Karst is preserved in its original natural condition and is well protected. The other 1% has been substantially modified as “show-caves” to allow human use, which includes 300,000 visitors annually (SoOUV, 2013). These caves are also in good condition and monitoring programmes are in place.

### **Overall THREATS**

#### **Low Threat**

Current threats to the site’s values (large number of visitors, associated litter, and illegal garbage disposal in the surrounding area) are relatively low but together add up to a source of concern for the conservation of the site’s values. Potential threats from increasing number of visitors, as well as pollution from agricultural activities in the area, require monitoring and careful planning, including development of an integrated management of the entire water

catchment.

## **Overall PROTECTION and MANAGEMENT**

### **Mostly Effective**

Protection and management of karst features is effective in both countries. An integrated management plan has been prepared for the transboundary site. The administrative bodies in two countries also carry out joint projects including research and monitoring. However, there are some concerns regarding protection of above-ground terrestrial biodiversity of the site.

# FULL ASSESSMENT

## Description of values

### Values

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#### World Heritage values

► **Remarkable diversity of caves types and important evidence of geologic history**

Criterion:(viii)

The site is distinctive in its great number (with 712 recorded at time of inscription) of different types of caves found in a concentrated area. Geological processes causing karst features to be buried by sediment and then later reactivated or exhumed provide evidence pertaining to the geologic history of the last tens of millions of years. Relicts of pre-Pleistocene karst (i.e. more than about 2 million years old) are very distinct in the area, and many of them show evidence for sub-tropical and tropical climate forms. These include rounded hills that are relicts of tropical karst later modified by Pleistocene periglacial weathering. This suite of paleokarst features, showing a combination of both tropical and glacial climates, is very unusual and is probably better documented in the Slovak Karst than anywhere else in the world. These caves are also noted for having the world's highest stalagmite, aragonite and sinter formations and an ice filled abyss, which considering the territory's height above sea level, is a unique phenomenon for central Europe (SoOUV, 2013).

#### Other important biodiversity values

► **Important cave biodiversity**

Cave and subterranean water fauna are of particular scientific interest. Beetles and other insects are abundant, 2000 butterfly species have been identified. Cave worms are often found in sand and clay deposits whereas molluscs are associated with underground streams, and crustaceans occur including an endemic species of primitive crab. 500 species of animals live in the caves, many of them endemic. A total of 21 bat species have been identified in the Slovak and Aggtelek Karst (SoOUV, 2013).

### ► **Above-ground biodiversity**

A unique biotope arises where two floral sectors (Carpathian and Pannonian) overlap, and consequently many rare endemics can be found throughout the territory. Approximately 70% of the territory consists of deciduous woodland dominated by hornbeam and oak. The fauna includes wolf, lynx, red deer, roe deer, wild boar, wild cat and badger. Nesting bird species include: rock bunting, black stork, corncrake, imperial eagle, dipper, Ural owl, saker falcon, short-toed eagle, honey buzzard (SoOUV, 2013).

## **Assessment information**

### **Threats**

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#### **Current Threats**

##### **Very Low Threat**

Despite the strict conservation activities, the fact that the caves are visited by such a large number of visitors might eventually lead to some damage and pilferage. However, the level of threat is very low.

#### ► **Solid Waste**

##### **Very Low Threat**

##### **Inside site**

##### **Outside site**

Elimination of illegal garbage disposal and building debris in the surrounding

settlements is necessary to prevent pollution of the water in the caves system (SoOUV, 2013) .

### ► **Tourism/ visitors/ recreation**

#### **Very Low Threat**

##### **Inside site**

More than 99% of the Caves of Aggtelek Karst and Slovak Karst is preserved in its original natural condition and is well protected. The other 1% has been substantially modified as “show-caves” to allow human use, which includes 300,000 visitors annually (SoOUV, 2013). Despite the strict conservation activities, the fact that the caves are visited by such a large number of visitors might eventually lead to some damage and pilferage (pers. observations).

### ► **Water Pollution**

#### **High Threat**

##### **Inside site**

##### **Outside site**

There is a serious pollution problem which is contaminating cave waters and threatening the park's ecosystem. This arises from the increased use of pesticides and fertilizers in the surrounding areas and from tourist's vehicles and nearby industry (IUCN, 2000).

## **Potential Threats**

### **Low Threat**

There is a potential risk of pollution of the cave system from agriculture activities on the arable land in the area. Protection of the unique geological features of the site requires integrated management of the entire water catchment.

### ► **Other**

#### **Low Threat**

##### **Inside site**

##### **Outside site**

The cave system is exceptionally sensitive to environmental changes,

including agricultural pollution, deforestation and soil erosion. Maintenance of the integrity of active geological and hydrological processes (karst formation and the development or evolution of stalagmites and stalactites) requires integrated management of the entire water catchment area (SoOUV, 2013).

## **Protection and management**

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### **Assessing Protection and Management**

#### **► Relationships with local people**

##### **Mostly Effective**

There is one sizeable settlement (Silica) and two hamlets within the Slovak protected area and two villages (Aggtelek and Jósvalfő with approximately 1,100 inhabitants) inside the Aggtelek National Park's boundaries (SoOUV, 2013).

#### **► Legal framework and enforcement**

##### **Highly Effective**

All of the caves are State-owned and their protection is guaranteed by the Act no. LIII. 1996 on nature protection in Hungary and by the Slovak Constitution no. 90/2001, and the Act of Nature Protection and Landscape no. 543/2002 in Slovakia, irrespective of ownership or protection status of the surface areas (SoOUV, 2013). The Aggtelek Karst (Hungary) was first declared a protected landscape area in 1978 under decision No.8/1978 of the President of the National Authority for Environment and Nature Conservation (OKTH), and in 1985 was designated a national park by law-decree No.7/1984 (XII.29.) OKTH (IUCN, 2000). The Slovak Karst Landscape Protected Area was established in 1973 and in 2002 the Slovak Karst National Park was established (Act No. 543/2002). The protection arrangements are considered highly effective in Hungary and sufficiently effective in Slovakia (Periodic Report, 2006).

#### **► Integration into regional and national planning systems**

##### **Mostly Effective**

Both national parks are well integrated into the regional systems of protected areas.

► **Management system**

**Highly Effective**

In Slovakia, management of the caves system is implemented by the Slovak Caves Agency in Liptovský Mikuláš. Management of terrestrial ecosystems is implemented by the Authority of the Slovak Karst National Park in Brzitín. Aggtelek Karst is administered by the Aggtelek National Park Directorate. The administrative bodies in two countries carry out joint projects including research, protection and monitoring (SoOUV, 2013).

An Integrated Management Plan has been prepared for the transboundary site. Permanent monitoring and control of caves' condition is carried out by Speleological Guardian Service (Speleologická strážna služba).

► **Management effectiveness**

**Highly Effective**

Protection of the caves appears effective (pers. obs.)

► **Implementation of Committee decisions and recommendations**

**Data Deficient**

No recent Committee decisions.

► **Boundaries**

**Highly Effective**

The site's northern and southern boundaries are defined by the geological borderline between karstic and nonkarstic rocks, whilst the western and northeasternmost points comprise Jelsava town and Jasov village, respectively (IUCN, 2000).

► **Sustainable finance**

**Mostly Effective**

In both countries the national parks receive budget from the state which



appears adequate.

### ► **Staff training and development**

#### **Mostly Effective**

In Slovakia, there are 15 administrative staff members and 18 cave guards . In Hungary, the Aggtelek National Park Directorate is comprised of 60 staff members (Periodic report, 2006). Speleological staff in both countries receive regular training.

### ► **Sustainable use**

#### **Mostly Effective**

The current levels of visitation appear sustainable, however, careful monitoring is required to ensure conservation of the site's values.

### ► **Education and interpretation programs**

#### **Highly Effective**

Both countries have good education and interpretation programmes in place (Periodic report, 2006).

### ► **Tourism and interpretation**

#### **Highly Effective**

Interpretation of cave protection, cave values and cave benefit for local people is very effective. There are a lot of materials available in both countries. A tourism management plan is available on both countries (Periodic Report, 2006).

### ► **Monitoring**

#### **Highly Effective**

Regular monitoring of the caves' state and development is carried out by the Aggtelek National Park Directorate in Hungary and the Slovak Caves Agency (Periodic Report, 2006)

### ► **Research**

#### **Highly Effective**

In Slovakia, Slovak Academy of Sciences and Slovak Speleological Association are involved in the research activities. Research in Hungarian caves is undertaken by the Hungarian Academy of Science in collaboration of the Aggtelek National Park Directorate. Research on biodiversity values of the site is, however, limited.

## **Overall assessment of protection and management**

### **Mostly Effective**

Protection and management of karst features is effective in both countries. An integrated management plan has been prepared for the transboundary site. The administrative bodies in two countries also carry out joint projects including research and monitoring. However, there are some concerns regarding protection of above-ground terrestrial biodiversity of the site.

#### **► Assessment of the effectiveness of protection and management in addressing threats outside the site**

##### **Some Concern**

Management programs are mainly focused on the internal threats. The few threats from outside the site, such as water flow from arable agriculture lands, have not been addressed to any extent.

## **State and trend of values**

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### **Assessing the current state and trend of values**

#### **World Heritage values**

#### **► Remarkable diversity of caves types and important evidence of geologic history**

##### **Good**

##### **Trend:Stable**

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300,000 visitors annually (SoOUV, 2013). These caves are also in good condition and monitoring programmes are in place.

## **Other important biodiversity values**

### **► Important cave biodiversity**

Cave and subterranean water fauna are of particular scientific interest. Beetles and other insects are abundant, 2000 butterfly species have been identified. Cave worms are often found in sand and clay deposits whereas molluscs are associated with underground streams, and crustaceans occur including an endemic species of primitive crab. 500 species of animals live in the caves, many of them endemic. A total of 21 bat species have been identified in the Slovak and Aggtelek Karst (SoOUV, 2013).

### **► Above-ground biodiversity**

A unique biotope arises where two floral sectors (Carpathian and Pannonian) overlap, and consequently many rare endemics can be found throughout the territory. Approximately 70% of the territory consists of deciduous woodland dominated by hornbeam and oak. The fauna includes wolf, lynx, red deer, roe deer, wild boar, wild cat and badger. Nesting bird species include: rock bunting, black stork, corncrake, imperial eagle, dipper, Ural owl, saker falcon, short-toed eagle, honey buzzard (SoOUV, 2013).

## **Summary of the Values**

### **► Assessment of the current state and trend of World Heritage values**

**Good**

**Trend: Stable**

More than 99% of the Caves of Aggtelek Karst and Slovak Karst is preserved in its original natural condition and is well protected. The other 1% has been substantially modified as “show-caves” to allow human use, which includes 300,000 visitors annually (SoOUV, 2013). These caves are also in good condition and monitoring programmes are in place.

► **Assessment of the current state and trend of other important biodiversity values**

**Data Deficient**

**Trend: Data Deficient**

There is little information available about the state of the site's above-ground biodiversity.

## **Additional information**

### **Key conservation issues**

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► **Large number of visitors**

**Local**

Careful monitoring needs to be sustained to prevent from negative impact from tourism.

► **Surface activities**

**Local**

Key agriculture stakeholders are poorly involved in site management. An integrated management of the entire watershed is necessary to ensure that the caves are protected from pollution in the long-term.

### **Benefits**

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#### **Understanding Benefits**

► **Outdoor recreation and tourism**

Tourism generates considerable economic benefits.

## Summary of benefits

The site contributes to the regional economy through tourism and is also important for education.

## Projects

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### Compilation of active conservation projects

<b>Nº</b>	<b>Organization/ individuals</b>	<b>Project duration</b>	<b>Brief description of Active Projects</b>
1	Aggtelek National Park Directorate		Several conferences, symposiums and workshops
2	Slovak Caves Administration		Organization of Conferences, Symposiums and Workshops

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