IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 27 May 2014

Please note: this is an archived Conservation Outlook Assessment for Škocjan Caves. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Škocjan Caves

SITE INFORMATION

Country:
Slovenia
Inscribed in: 1986
Criteria:
(vii) (ix)

Site description:

This exceptional system of limestone caves comprises collapsed dolines, some 6 km of underground passages with a total depth of more than 200 m, many waterfalls and one of the largest known underground chambers. The site, located in the Kras region (literally meaning Karst), is one of the most famous in the world for the study of karstic phenomena. © UNESCO

SUMMARY

2014 Conservation Outlook

Good

The values of the site are currently well preserved and maintained, and the likeliness of external threats to happen is very low. Very good management and management system is in place with highly qualified staff. The combination of different designation and protection regimes is covering most of the watershed and is a guaranty for conservation of the site’s values. However, given the small size of the property, urban encroachment and intensification of development in the vicinity is a serious problem. Global changes (temperature rise, changed in water regime) are beyond the control of management authorities but might affect the property in the long term.

Current state and trend of VALUES

Good
Trend: Data Deficient

Values like natural phenomenon and karst processes are very resilient. Threats within the site are extremely limited and are under control. Only global changes are a real threat, but they are beyond control of the site management.

Overall THREATS

Low Threat

Threats to the WH values of the site are limited and the situation is under strict control. However some development outside of the area might affect the values of the site. Given the small size of the property, urban encroachment and intensification of development in the vicinity is a serious problem. Global changes (temperature rise, changed in water regime) are beyond the control of management authorities but might affect the property in the long term.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Very good management and management system with highly qualified staff, however there are some concerns regarding the levels of funding from the state. The combination of different designation and protection regimes is covering most of the watershed and is a guaranty for conservation of the WH and associate values.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► Exceptional natural karst phenomenon

Criterion:(vii)

This exceptional system of limestone caves comprises collapsed dolines, some 6 km of underground passages with a total depth of more than 200 m, many waterfalls and one of the largest known underground chambers. The site, located in the Kras region (literally meaning Karst), is one of the most famous in the world for the study of karst phenomena. With persistent force the Reka River disappears in the karst underground passing through an impressive and picturesque up to 146 m height and 123 m wide channel, making the dynamic river dramatically roaring and flowing with many cascades and waterfalls through one of the largest known underground canyons. It ends with enormous Martel chamber that exceeds 2,200,000 m3 in volume. Those vast halls and chambers in the cave are characterised by distinguished variations of limestone bedrock and speleothem formations. (WHC Website).

► On-going geological karst processes

Criterion:(viii)

The system of subterranean passages, fashioned by the Reka River, constitutes a dramatic example of large-scale karst drainage. An underground system of passages runs from the Reka's source to Timavo on the Gulf of Trieste in Italy. In places the surfaces of the galleries at several levels have collapsed and give the appearance of deep chasms. (WHC

Website)

▶ **History of cave exploration**
Criterion:(viii)

Ever since the first scientific studies were carried out in the 19th century, the grotto system has been considered important karst phenomena in Europe and all organizations responsible for it have maintained it intact. The caves were first explored by Svetina in 1839, who descended 100 m into the Reka. Speleological research began in 1851 (and continues to date), research on the water system in 1893 and in 1894 the famous speleologist Martel published the work Les abimes. (WHC Website)

Other important biodiversity values

▶ **Combination of alpine and Mediterranean ecosystems and species**

A mixture of habitats is represented corresponding to the floras of Central Europe, the Mediterranean, Submediterranean, Ilyrian and Alpine, all of which are present side by side in the Great Valley. The rare endemic Campanula justiniana grows here at its type locality.

▶ **Underground fauna with endemic species**

Rich biodiversity is a result of specific conditions in the collapse dolines and the underground environment. The walls of the collapse dolines represent habitats for rare and threatened animal and plant species. Within the cave percolating and underground river water provides another living environment to endemic cave fauna. (RSOUV – draft)

Assessment information

Threats

Current Threats

Low Threat

Current threats to the WH values are limited and mostly come from outside (urbanization, infrastructure development, water use). Tourism pressure is under control. The natural beauty and natural phenomena of the site are hardly affected; but changes outside the property may affect the overall site quality (water flow, water pollution). The resilience of the system to natural changes is very high.

► Renewable Energy

Low Threat
Outside site

Use of hydropower and reservoirs construction upstream. Developments took place during the former communist period: 2 reservoirs were built upstream (R14)
Construction of the extensive dam and creation of water reservoir (drinking water) on the Padež river have been discussed for decades. The Padež river has direct connection to the Reka river catchment, the main water supply for the key value of the WH site – underground river flow. As it is for now, there is no indication that the construction of the reservoir might be approved at the short term. (R12 - 2012)

► Water Pollution

Low Threat
Inside site
Outside site

Development of industrial plants upstream: the factory in Il. Bistrica formerly very polluting, ceased to use the "wet method" in 1986, stopping the pollution. 2 purifying stations have been built upstream. (R14)
Pollution is currently reduced to some modest extent (R13)

► Commercial/ Industrial Areas

High Threat

Outside site

Very limited development in the property; some developments in the buffer zone. Given the small size of the property, urban encroachment and intensification of development in the vicinity is a serious problem. Two industrial zones have been constructed close to the WH area. Potential effects on the site are currently under investigation. Plans for setting up the third such zone has temporarily been abandoned, mainly for commercial reasons (low success of the previous two zones (R12).

► Tourism/ visitors/ recreation

Very Low Threat
Inside site

There is a significant visitors' flow (80'700 visitors in 2004), but the situation is under control (R7, R13). The management of the visitor’s flows is quite efficient. (R12)

► Other

Low Threat
Inside site

Changes in water regime (R7). Risk of cave flooding which can affect the sites values, though it is a natural phenomenon which has happened several times in the past.
Threat to flora and underground fauna (air and water temperature rise) (R13). Alpine relict plant species are growing together with Mediterranean species thanks to very particular climatic conditions.

► Renewable Energy

Low Threat
Inside site

Wind farm construction in the area of the Vremscica ridge has not been in progress the negotiation process for the constructions at the Volovja reber is still ongoing. (R12)

Potential Threats

High Threat

Potential threats from infrastructures and water use could seriously affect site's values; however their likeliness to happen in nowadays very low. Global changes might affect the biological values of the site.

▶ Roads/ Railroads

Low Threat
Inside site

There were plans to construct new motorway close to the WH site. One of the corridors that has been proposed would definitively affect the integrity of the site, however the position of the responsible Ministry for Environment is that such a proposal would not be acceptable due to conservation requirements. The final decision about the corridor has not been taken yet. (R12)

▶ Renewable Energy

Data Deficient
Inside site

Risk of renewed interest for renewable energy and need for fresh water in the coastal areas (R 12, R13). Construction of the extensive dam and creation of water reservoir (drinking water) on the Padež river have been discussed for decades. There is no recent information available on this issue.

▶ Housing/ Urban Areas

Very High Threat
Inside site
Outside site

The pressure from the close-by Trieste area, Divača and other areas was very high during the last decade (housing, industrial and commercial areas, motorways, etc.). Several projects have been abandoned for economic reasons, but could be reactivated. (R13, R12).

Protection and management

Assessing Protection and Management

► Research

Mostly Effective

Long tradition of cave research (< 150 years)
There are several ongoing research programs (R7):
risk assessment, studies relating to the value of the site, monitoring exercises, archaeological surveys, visitor management, rural sociology studies, occupational safety studies. In addition there are international projects aimed at detailed archaeological, hydrological, sociological and educational research. Some hydrological measurements were performed in frames of Slovene programme IHP – UNESCO
and IGCP.

► Relationships with local people

Highly Effective

Good integration of local villages in the planning and operation (R 7, R13). The management of the WH and Park area has stimulated an effective collaboration with the local community and excellent collaboration between the site authorities and the communities should be highlighted. (R12)
Local inhabitants also take part in the Park’s activities formally through the Skocjan Caves Public Service Agency and selected boards and events (R7)

► Legal framework and enforcement

Mostly Effective

Good legal framework exits with adequate support from the State; however there are some resources limitations which may affect the implementation (R7, R13)
• Acts: The Nature Conservation Act; The Cultural Heritage Protection Act; The Act Providing Funds for Certain Urgent Programmes of the Republic of Slovenia in Culture; The Promotion of Balanced Regional Development Act
• Laws: The Škocjan Caves Regional Park Act,
Decision on the Establishment of the Škocjan Caves Park Public Service Agency

• Other: Ordinance amending the ordinance on spatial components of the long-term and medium-term social plan of the Republic of Slovenia; Ordinance amending the ordinance on spatial components of the long-term and social plan of the Sežana Municipality for the area of the Divača Municipality; Natura 2000 (R7)

► Integration into regional and national planning systems

Data Deficient

Reportedly good planning at state level (R13)

► Management system

Mostly Effective

Good and efficient system in place, despite resources limitations (R12, R13). Responsibility for over-seeing the implementation of the management plan and monitoring its effectiveness is with the Ministry of Environment, spatial planning and energy; Council of the Škocjan Caves Park Public Service Agency; Expert Council of the Škocjan Caves Park Public Service Agency (R7)

► Management effectiveness

Highly Effective

Very competent and dedicated staff implementing the Management plan (R13).
Number of staff: 18 (R7, 2006)
Rate of access to adequate professional staff
across the following disciplines:
• Very good: education
• Good: conservation, promotion, interpretation;
education
• Average: management, visitor management
The site also benefits from a substantially large
group of volunteers, derived from the local community and conservation specialists.

It has been demonstrated that Skocjan Caves Regional Park, despite shortages in staffing and funding, is still reaching its conservation objectives

at the very high level. (R12)

▶ Implementation of Committee decisions and recommendations

Mostly Effective

Improvement of the legal situation after the political changes in the 90's has taken place according to WHC recommendation (R7); environmental threats are taken into consideration (R5, R7). However some of the requests from the committee have not been fulfilled. (R12)

▶ Boundaries

Highly Effective

Well coordinated site's design including WH, Biosphere Reserve and Ramsar designations. The boundaries of the property are adequate (R7, R13); the buffer zone, established by the Regional Park law in 1996 is adequate (R7)

▶ Sustainable finance

Mostly Effective

State budget is the main source of financing; it has suffered recently from serious restrictions. (R7, R13)
Sources of funding also include revenues from own activities; cofinancing and donations and international financing from PHARE, INTERREG, and Ramsar Convention (R7)However, despite shortages in staffing and funding, Skocjan Caves Regional Park is still reaching its conservation objectives at the very high level. (R12)

▶ Staff training and development

Highly Effective

Very qualified staff in the various field of management; strong participation to international conferences and workshops (R13), namely those related to the respective designations: World Heritage, MaB and Ramsar Conventions.

▶ Sustainable use

Mostly Effective

There is no sustainable use of natural resources within the property, except for tourism. Most activities occur within in the surrounding cultural landscape

(BR buffer and transition zones) (pers. obs.). There are some concerns about maintaining traditional activities.

► Education and interpretation programs

Mostly Effective

Adequate awareness of World Heritage among: visitors, local communities, businesses, and local authorities (R7). Frequent school activities and special events (R13) in the caves and in the surrounding villages. There is an education strategy in place.
As well, a number of conferences organize excursions to the Park from other parts of Slovenia. There are seasonal and thematic excursions and public events on a regular basis (R7)

► Tourism and interpretation

Highly Effective

There is a very efficient management and control of the visitors' flow (R13). Following visitor facilities are available: a museum and tourist information centre. The
Park has walking and cycling trails as well as a specialized Education Trail (R7, R13). A building with conference room has been purchased and equipped. (R13) .There is an adequate number of signs referring to World Heritage site and the World Heritage Convention Emblem is used on all publications. (R7)

► Monitoring

Highly Effective

A strong formal monitoring programme exists in particular for water quality and environmental factors, as well as visitors' flow (R7, R13).
The Škocjan Caves Park
cooperates with the Environmental Agency of the Republic of Slovenia and the Karst Research Institute ZRC SAZU in the performance of measurements and analyses of a complex system of ecosystems. The Research and Development Service, which
operates within the framework of the Park, aims to establish the Park's infrastructure for the performance of measurements and, in combination with the national monitoring, prepare more detailed inspections and monitoring of

the state in the Park
In future, the plans of the Park's expert services will also comprise the following social indicators which also relate to sustainability indicators and will be presented in correlation with them in the long-term research activities: health, financial status, forest utilization, tourism, land ownership, number of organizations in the protected area and its vicinity, external influence of the biosphere reserve managing authority.

Overall assessment of protection and management

Mostly Effective

Very good management and management system with highly qualified staff, however there are some concerns regarding the levels of funding from the state. The combination of different designation and protection regimes is covering most of the watershed and is a guaranty for conservation of the WH and associate values.

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

Mostly Effective

There is a certain level of protection applied to the whole watershed, including the Biosphere Reserve designation. This has restricted or even stopped some construction projects; however there is in several cases a need for large scale EIA studies.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Exceptional natural karst phenomenon

Good
Trend:Stable

The natural beauty of the site is hardly affected for the time being; however

changes outside the property (construction, infrastructure development) may affect the overall site quality (R12, R13)

► On-going geological karst processes

Low Concern
Trend:Stable

Some changes (construction of reservoirs) occurred upstream in the past affecting the water flow and regime (R 14). Global changes might affect the natural processes which are well preserved to date.

► History of cave exploration

Good
Trend:Stable

Exploration and scientific research are ongoing and are efficiently regulated (R7, R13) and a good monitoring programme is in place.

Other important biodiversity values

► Combination of alpine and Mediterranean ecosystems and species

A mixture of habitats is represented corresponding to the floras of Central Europe, the Mediterranean, Submediterranean, Ilyrian and Alpine, all of which are present side by side in the Great Valley. The rare endemic Campanula justiniana grows here at its type locality.

► Underground fauna with endemic species

Rich biodiversity is a result of specific conditions in the collapse dolines and the underground environment. The walls of the collapse dolines represent habitats for rare and threatened animal and plant species. Within the cave percolating and underground river water provides another living environment to endemic cave fauna. (RSOUV – draft)

Summary of the Values

▶ Assessment of the current state and trend of World Heritage values

Good

Trend: Data Deficient

Values like natural phenomenon and karst processes are very resilient. Threats within the site are extremely limited and are under control. Only global changes are a real threat, but they are beyond control of the site management.

▶ Assessment of the current state and trend of other important biodiversity values

Low Concern

Trend: Data Deficient

The plant and animal populations in the dolines and caves are stable and quite resilient to natural events (floods, water regime variation). However, global changes might modify the climatic conditions in the dolines, and thus affect the relict plant species as well as the rare and endemic underground fauna (R7, R13). Pollution is currently under control, the situation has rather improved.

Additional information

Key conservation issues

▶ Sustainable use of natural resources

National

Pressure on renewable energy and water use at regional level might be a threat in the future

▶ Water quality and global changes

Global

The underground organisms are extremely sensitive to environmental changes.

▶ Regional development

Local

Changes in the current land use in the surroundings, affecting the spectacular landscape of the property and the surrounding cultural landscape.

▶ Visitors' management

Local

The important visitors' flows must be carefully controlled

Benefits

Understanding Benefits

▶ Outdoor recreation and tourism

Villages development included private accommodation, restaurants, etc.

▶ Does management of the site provide jobs (e.g. for managers or rangers)?

The Park has generated several direct and indirect employments and contributes a lot also to the wider, national economy especially through development of tourism. At the same time, key natural assets are at present well preserved. (R12)

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		Habitat survey glacial and termal relicts
2	.		Birds monitoring, cave invertebrates
3	.		Microclimate of the caves monitoring, monitoring of the visitors flow

№	Organization/ individuals	Project duration	Brief description of Active Projects
4	.		Water quality monitoring
5	.		Pollutants in the air monitoring, radon monitoring due to radiation protection of the employees

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Bats monitoring	
2	.	Social studies	
3	.	Cave research through the syphon	
4	.	Infrastructure of the caves, to enable safety	

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