NOMINATION TO THE WORLD HERITAGE LIST

Convention concerning the Protection of the World Cultural and Natural Heritage

Name: SKOCJAN CAVES

Identification No: 390 Date received by WH Secretariat: 31.12.85

Contracting State Party having submitted the nomination of the property in accordance with the Convention: YUGOSLAVIA

Summary prepared by IUCN (April 1986) based on the original nomination submitted by Yugoslavia. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

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1. LOCATION:

In the commune of Sezana, east of Trieste. 45°40'N, 14°00'E.

2. JURIDICAL DATA:

A major part of the grotto system is located within the protected site and is considered to be a natural and cultural monument. The legislation which applies to the area is the Law of Protection of Natural and Cultural Heritage and by a Decree giving specific protection to the grottos.

The protected area is in public ownership except for a small number of parcels which remain in private hands. The area is open to public access and the acquisition of the private enclaves is not envisaged in the management documents.

3. IDENTIFICATION:

The protected area extends over 200ha and includes four deep and picturesque chasms, Sokolak in the south, Globocak in the west Sapen dol and Lisicina in the north. They are components of the system of grottos and are alike floristically. Apart from the 2.5km of river the Mahorcic grotto is included which has several underground lakes and five cascades.

The grottos are a karst feature and are the beginning of a system of underground passages from their source to 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. The river enters the Skocjan grotto in an underground passage 350m long, reappearing in the bottom of a 150m deep and 300m long chasm, before disappearing into a passage 2km long. This passage reaches heights of up to 148m and widths of 100m. There are five galleries and a canal. A gallery (500m long) of stalactites and stalagmites leads to the surface. The total length of the grottos in Skocjan is over 5km with a depth of 230m in certain places. In total there are 25 cascades along the river. A.C. Waltham in his book The World of Caves noted 'its enormous river galleries make it one of the wonders of the world' (p. 98). The surroundings of the grotto consists of 30 areas of archeological excavation revealing that the site has been occupied for more than 10,000 years. A further 18 areas exist in the peripheral region.

A mixture of habitats are 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. This unique combination allows Mediterranean species (such as Adiantum capillus veneris to grow next to Alpine species (such as Primula auricula). The endemic Campanula justiniana is present here at its type locality. It is classified as Rare by IUCN.

The system of grottos is rich in speleofauna and a major habitat for Microtus nivalis and the endemic Proteas anguinus. The underground galleries hold five species of wintering bat in large numbers. The area is a wintering site for Tichodroma muraria.

4. STATE OF PRESERVATION/CONSERVATION:

The grottos, chambers and entrances of the Skocjan Caves are very well preserved despite the large numbers of visitors. The only building work carried out has been safety walkways and bridges. The entrances are locked to permit control of visitor numbers. Ever since the first scientific studies were carried out in the 19th century the grotto system has been considered an important karst phenomena in Europe and all organizations responsible for it have maintained it intact.

The total population of 400 people are present in three villages (Skocjan pri Divaci, Matavan and Betanja) within the protected area. Pollution of the river Reka, caused by industrial discharges 30km away once threatened the Skocjan grottos. At the end of 1982 an agreement was signed to combat degradation of the river. Measures taken should restore the quality of the river to pre-industrial levels before 1990.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST:

The Skocjan Caves System nomination, as presented by the Government of Yugoslavia provides the following justification for designation as a World Heritage property:

a) Natural property

(iii) Superlative Natural Phenomena, formations or features. Skocjan Caves are a well preserved unique example of Karstic erosion. The underground river galleries, of impressive size are unique in the world. The area is important for fundamental research on Karst which has been going on since the 19th Century. The geological terms "karst" and "dolina" originated there.

(iv) Rare and Endangered Species. The ecosystem preserved in the dolinas contains a number of rare and endangered species. In the cave systems live several rare animal species.

b) Cultural values of the area are being reviewed by ICOMOS.

WORLD HERITAGE NOMINATION -- IUCN TECHNICAL EVALUATION

390 SKOCJAN CAVES (YUGOSLAVIA)

1. DOCUMENTATION:

(i) Consultations: Yugoslavian Government Officials (16), H. Bibelriether, B. Sket, F. Howarth, A. Cigna, H. Trimmel, P. Chapman.
(ii) Site visit 15 July 1986.
(iii) Literature Consulted: Waltham, The World of Caves; Resumes of International Symposium on Protection of Karst, 1982.

2. COMPARISON WITH OTHER AREAS

Karst cave systems are found in many locations throughout Europe and the world. There are another 5000 caves in the Republic of Slovenia alone. The most comparable notable site is the Postojna caves (on the Yugoslavian indicative list as Notranjski Karst). These later caves are larger and longer and have a richer fauna than Skocjan but have been modified significantly by tourism development and much higher pollution levels. In terms of its ecological, research and educational values Skocjan is considered a superior example of on-going natural processes due to less degraded conditions and to its more exceptional display of formation and erosional features at different levels. Other caves in Yugoslavia that are also worthy of special note are found north of Dubrovnik, in the interior of Hercegowina, and at Pivka, Krizna and Planina. The dimensions of the dolines and the subterranean canyon at Skocjan, however, are most exceptional and it is judged as the most suitable for World Heritage consideration within Yugoslavia.

Other particularly significant caves in Europe occur at Punkevni in Czechoslovakia, Gaping Gill in the UK, Vercours and Trou du Glaz in France, Castellana in Italy and Pierre St. Martin in Spain. Many of these also contain unique features and many are deeper and longer than those at Skocjan. None however, have the long tradition of scientific research that gave rise to the geological terms "karst" and "doline" as have the cave systems found in Slovenia. The archeological values of the caves may also be among the most significant in Europe. Skocjan's special significance is further reflected in the proceedings of the International Symposium on Protection of Karst which was held there in 1982.

3. INTEGRITY

Cave systems are sensitive to disturbance and public use of the caves at Skocjan is closely controlled and regulated. Cave entrances can be locked and all groups are accompanied by guides. A short and unobtrusive outdoor escalator has been installed to facilitate exit from the caves and this will lead to increasing levels of visitor use (in 1985, 50,000 tourists visited the caves) which could result in greater impacts in future.

There are two important issues relating to integrity that will require careful monitoring. The first is industrial water pollution of the Reka River, which flows through the caves. Organic wastes from a fibreboard factory accounted for one-half of the pollution and this will cease this year with the opening of a new factory which will not pollute. An agreement with Italy to clean up the river by 1990 should restore water quality to acceptable levels.

A second concern is the possibility of inappropriate developments in the surface zone surrounding the underground caves. The three small villages here are being restored and tourism parking is being developed. Careful planning to ensure that the 200 ha cultural landscape of the site remains authentic and natural must be strengthened. Both the commune of Sezana and the Institute for Preservation of Monuments have responsibility for protection. The possibility of a more extensive regional park is a welcome initiative.

4. ADDITIONAL COMMENTS

The map submitted in the nomination does not indicate that the underground chamber of Hanke Canal extending in the direction of Druskovec is a part of the site. This should be corrected to ensure that this Canal is included as a part of the property inscribed.

5. EVALUATION

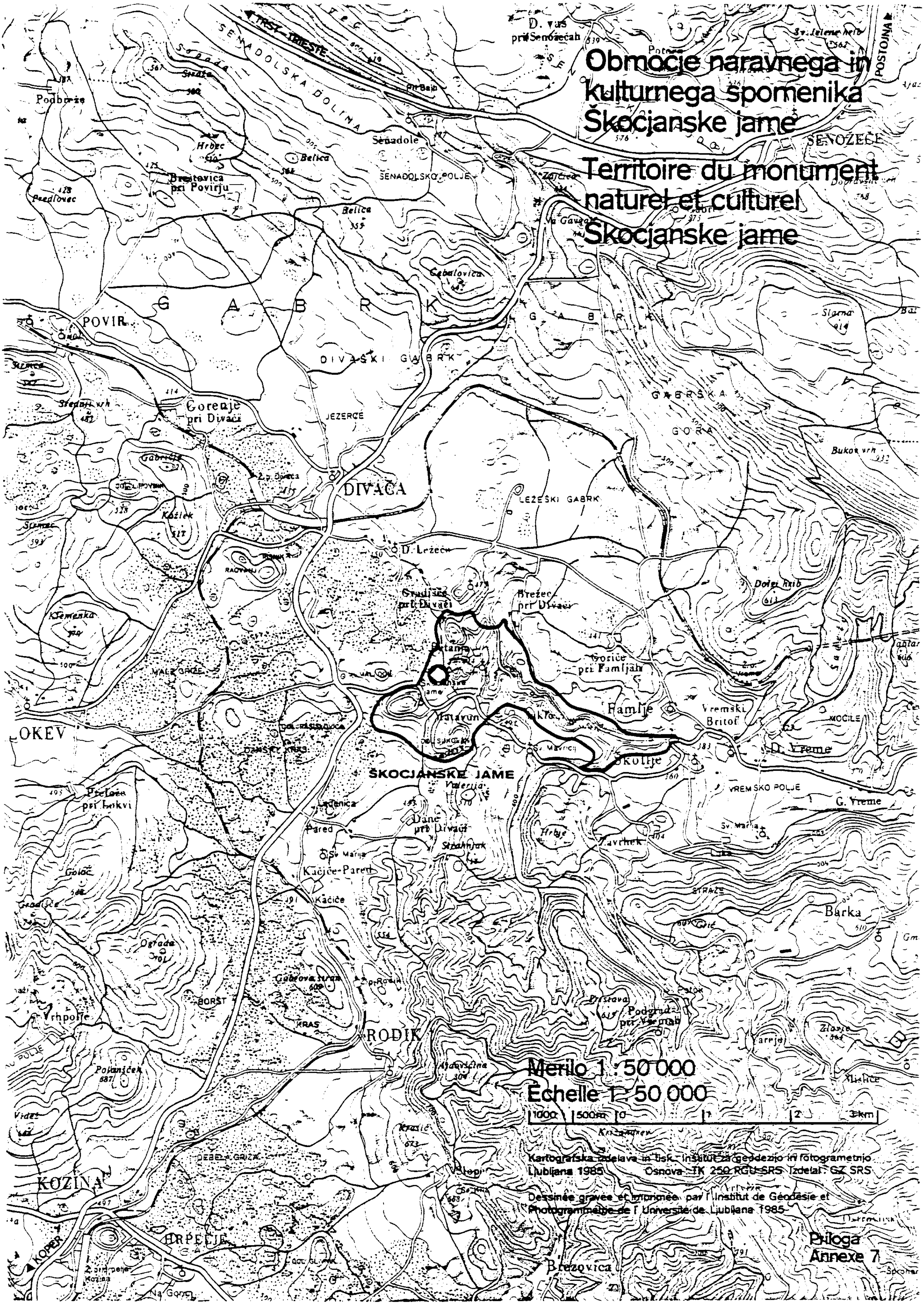
Of the many thousands of limestone cave systems in existence the Skocjan group is certainly one of the most unique. Its relatively natural condition and array of underground features have made it one of the most famous study localities for classical karst in the world. It thus meets criteria ii for natural sites as it provides an exceptional display of on-going geological processes. The collapsed dolines and underground caverns and waterfalls also merit its inclusion on the basis of criteria iii. With regard to its integrity the main concerns are its small size, the need for protection of the surrounding cultural landscape, the reduction of water pollution levels, and careful controls on visitor use.

6. RECOMMENDATIONS

The Skocjan caves should be inscribed on the World Heritage list as a natural property. The Committee should endorse planned improvements in water quality and encourage strengthened land use planning of the surrounding zone.

(i) (iii)

International Union for Conservation of Nature and Natural Resources



Območje naravnega in kulturnega spomenika Škocjanske jame
Territoire du monument naturel et culturel Škocjanske jame
Merilo 1 : 50 000
Échelle 1 : 50 000
1000 500m 0 1 2 3 km
Kartografska izdelava in tisk: Inštitut za geodezijo in fotogrametrijo Ljubljana 1985 Osnova: TK 25 RGU SRS Izdelal: GZ SRS
Dessinée gravée et imprimée par l'Institut de Géodésie et Photogrammétrie de l'Université de Ljubljana 1985
Priloga
Annexe 7
ŠKOCJANSKE JAME
DIVAČA
SENOŽEČE
POVIR
LOKEV
KOZINA
HRPELJE
RODIK
TRST - TRIESTE
POSTOJNA
KOPER
SENADOLSKA DOLINA
GABRK
DIVAŠKI GABRK
GABRŠKA GORA
LEŽEŠKI GABRK
VREMSKO POLJE
Gorenje pri Divači
Senadole
Brestovica pri Povirju
Podbreže
D. Ležeče
Gradišče pri Divači
Brežec pri Divači
Betanja
Matavun
Famlje
Vremski Britof
Škoflje
D. Vreme
G. Vreme
Goriče pri Famljah
Dane pri Divači
Kačiče-Pared
Kačiče
Ležeče
Barka
Podgrad pri Vremah
Brezovica
Prelože pri Lokvi
Vrhpolje
Slope
Krasić

SOCIALIST FEDERAL REPUBLIC OF YUGOSLAVIA

NAME Skocjanske Jama or Caves of **Skocjan**
Known as Reka Höhlen und Dolinen von St Kanzian, Grotten und Höhlen von
Sankt Kanzian before 1918 and as Grotti di San Canziano between 1918 and
1945.

MANAGEMENT CATEGORY III (Natural Monument/Natural Landmark)
X (World Heritage - Criteria iii)

BIOGEOGRAPHICAL PROVINCE 2.33.12 (Balkan Highlands)

GEOGRAPHICAL LOCATION In the commune of Sezana in the Socialist Republic of Slovenia, 13km east of Trieste. 45°40'N, 14°00'E

DATE AND HISTORY OF ESTABLISHMENT 1980. Inscribed on the World Heritage List in 1986.

AREA 200ha. Includes the area to the east where the River Reka first appears in a shallow canyon.

LAND TENURE Public ownership except for a small number of parcels which remain in private hands. The area is open to public access and the acquisition of the private areas is not envisaged in the management documents.

ALTITUDE No information

PHYSICAL FEATURES The site includes four deep and picturesque chasms, Sokolak in the south, Globocak in the west Sapen dol and Lisicina in the north. They are components of the system of grottos and are alike floristically. Apart from the 2.5km of river the Mahorcic grotto is included which has several underground lakes and five cascades. The site is a very well preserved feature of classic contact karst character. The grottos are the beginning of a system of underground passages from their source to Timavo on the Gulf of Trieste in Italy. The system of subterranian passages, fashioned by the Reka River, constitute a dramatic example of large-scale karst drainage. In places gallery surfaces have collapsed at several levels and give the appearance of deep chasms. The river enters **Skocjan** grotto in an underground passage 350m long, reappearing at the bottom of two 150m deep and 300m long chasms, before disappearing into a passage 2km long. This passage, one of the largest underground canyons in the world, reaches heights of up to 148m and in places widths of 100m. The flow rate can reach 300 cu.m per second. There are five side galleries and a canal. A gallery (500m long) with stalactites and stalagmites leads to the surface. The total length of the grottos is over 5km with a depth of 230m in certain places. In total there are 25 cascades along the river including a 163m waterfall. A.C. Waltham in his book The World of Caves noted 'its enormous river galleries make it one of the wonders of the world' (p. 98). The surroundings of the grotto

consist of 30 areas of archaeological excavation revealing that the site has been occupied for more than 10,000 years. A further 18 areas exist in the peripheral region.

VEGETATION The Sokolak, Globacak, Sapen dol and Lisicina chasms have similar vegetation formations and, due to the microclimatic conditions present in the collapsed galleries and the shallow chasms of the river valley, a mixture of habitats are 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. This unique combination allows Mediterranean species (such as Adiantum capillus veneris) to grow next to
Alpine species (such as Primula auricula). The endemic Campanula justiniana is present here at its type locality. It is classified as IUCN Category Rare in the 1982 List of rare, threatened and endemic plants in Europe (Nature and Environment Series No. 27 Strasbourg 1983). Nine species classified as rare in the Slovenian Red Data Book are also present including Aconitum anthora, Cercis siliquastrum, Delphinium fissum, Euphrasia italica, Juniperus oxycedrus, Laburnum alschingeri, and Orobanche hederae Slovenia is found only in the Great Valley.

FAUNA The system of grottos has typical speleofauna including habitat for Microtus nivalis and the endemic Proteas anguinus. The underground galleries hold five species of wintering bat in reasonable numbers. The area is a wintering site for Tichodroma muraria.

CULTURAL HERITAGE Archaeological finds point to continuous settlement from the Middle Stone Age to the Iron Age, when a fort was constructed where **Skocjan** stands today. The Romans erected another fortification in the same place, and during the Middle Ages a fortified rural settlement was established (Anon., 1987).

LOCAL HUMAN POPULATION The three villages (**Skocjan** pri Divaci, Matavan and Betanja) within the protected area have a resident population of 65. They are themselves considered to be worthy of classification as national cultural monuments.

VISITOR AND VISITOR FACILITIES Parts of the grottos are accessible to tourists (over a 400m altitudinal range and a 4km distance, between 1 June and 30 September), but apart from safety walkways, bridges and an outdoor escalator no other constructions exist. Some 50,000 tourists visited the caves in 1985, 60% of whom were foreigners. Visitors are strictly controlled and their numbers regulated.

SCIENTIFIC RESEARCH AND FACILITIES The area is not well surveyed zoologically but currently research is being done on the cave fauna. The site has been occupied since the Iron Age with evidence of the presence of a Roman fortress, five prehistoric cemeteries; Middle Ages cultures and many separate associations since the Iron Age (Puc, 1987). Documentary references exist since the time of Posidinuis (135-50BC). It has frequently been written about with important descriptive works appearing in 1599 and 1689. Scientific studies started at the beginning of the 19th

century and were first explored by Svetina in 1839 who descended 100m 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'. The site has been fundamental to research on karst phenomena since the 19th century and has given rise to two geomorphological terms, namely 'karst' and 'doline'. The continuing importance of the site was reflected in the proceedings of the International Symposium on Protection of Karst which was held at **Skocjan** in 1982. The grottos were administered by the Italian Alpine Club from 1918 to 1945 and since then by the Speleological Association of Slovenia, by the Karst Research Institute and the Archeological Institute of the Academy of Sciences in Ljubljana. The archaeological finds are possibly among the most significant in Europe, and accompanying documentation is lodged in a number of museums at Trieste, Vienna, Padou, Postojna and Ljubljana. A popular account is given by Puc (1987).

CONSERVATION MANAGEMENT A major part of the grotto system is located within the protected area and is considered to be a natural and cultural monument. The legislation which applies to the area is the Law of Protection of Natural
and Cultural Heritage (Official Journal of the Slovenian Socialist Republic No. 1/81 Annex 1, 13 January 1981) and by a Decree giving specific protection to the grottos (Official Journal of the Slovenian Socialist Republic No. 17/80, 17 July 1980 and 11/81, 14 April 1981 annexes 2 and 3). The site lies in the north-east section of Kraski Landscape Park.

The Commune of Sezana passed the legal rights of management to the Office of Tourism, Portoroz, which deals with the grottos and their entrances and the Institute of Reafforestation and Amelioration of the Karst which deals with the forests and uncultivated areas. The agencies responsible for conservation activities are the Regional Institute and the Republic Institute for the protection of natural and cultural heritage. The former (at Nova Gorica Delpinova 25 YU-65000) is responsible for site preservation in the Sezana commune the latter (at Plecnikov trg 2, YU-61000 Ljubljana) at the Republic level. The grottos, chambers and entrances are very well preserved despite the large numbers of visitors, individually and in parties. The only building work carried out has been safety walk ways, bridges and an outdoor escalator. The entrances are locked to permit the best control of visitor numbers. Ever since the first scientific studies were carried out in the 19th century the grotto system has been considered an important karst phenomena in Europe and all organisations responsible for it have maintained it intact. Since 1945 it has been classified as a phenomena of great and exceptional value in the Socialist Republic of Slovenia. (Inventory of Heritage of great importance in the Socialist Republic of Slovenia, Institute of the Socialist Republic of Slovenia in charge of preservation of Monuments, Ljubljana 1976). All forms of construction and pollution, direct and indirect, is prohibited and all flora and fauna in the grottos is protected, including areas of the Okroglica chasm, the Great and Little Valleys and all subterranian areas. In the peripheral zone all forms of pollution are prohibited and buildings beyond existing village boundaries not allowed. A strict protection regime exists for architectural localities. Scientific research and agricultural

work must be authorised, and tourist development is permitted under certain conditions. This includes the restoration of the three small villages and the development of parking areas. Preservation measures are executed through the committee charged with planning and protection of the environment in Sezana commune and carried out through the Office of Tourism, and others. The protected area is integrated in all the planning documents both medium and long term and the conservation principles are fixed in the social and spatial plans for the Sezana commune in accordance with the decrees on the protection of the Grotto.

MANAGEMENT PROBLEMS Massive pollution of the Reka River, 50% of which is caused by organic wastes from a fibreboard factory and the rest from organic acids production130km away at Ilirska Bistrica, began to threaten the grottos. At the end of 1982 an agreement to combat the degradation of the river was signed by those responsible for the pollution and the executive committee of the Socialist Republic of Slovenia, the Sezana commune and those at Ilirska Bistrica. (Official Journal of the Republic of Slovenia No. 31/82 annex 12). Measures to be taken (new cleaning equipment and construction of a biological treatment plant) should restore the quality of the river to pre-industrial levels before 1990.

STAFF Six including four guides, one labourer and one superintendent

BUDGET No information

LOCAL ADMINISTRATION
The Municipality of Sezana, Partizanska 4, 66210 Sezana
Turisticna organizacija Portoroz, Temeljna organizacija zdruzenegadela Gostinstvo Sezana, Partizanska 1, 66210 Sezana
Zavod za pogozdovanje in melioracijo Krasa, Partizanska 49, 66210 Sezana

REFERENCES
Middleton, J. and Waltham, A.C. (1986). The Underground Atlas-gazetteer of world's caves and karst. Robert Hale, London (in press).
Nomination presented by the Government of Yugoslavia. No. 390.
Puc, M. (1987). Skocjanske Jame. Unesco, Paris/Top Portoroz, Divaca, Slovenia, Yugoslavia. 20 pp.
Union Internationale de Speleologie. Commission pour la protection l'exploitation et le tourisme (1982). Resumes, Symposium international "Protection du karst a l'occasion du 160-anniversaire de l'amenagement touristique des Skocjanske Jame. Lipica, Le 7-9 Octobre 1982. Sezana.
Waltham, A.C. (1976). The World of Caves. Orbis.

DATE November 1986, updated May 1990
1096V

Infobase produced by WCMC, January 1992

DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL

Convention concernant la protection du patrimoine mondial, naturel et culturel

Nom: GROTTES DE SKOCJAN

No d'identification: 390 Date de réception par le secrétariat: 31.12.85

Etat Partie contractante ayant présenté la désignation du bien, conformément à la Convention: YOUGOSLAVIE

Résumé préparé par l'UICN (avril 1986) d'après la désignation d'origine soumise par le pays. L'original et tous les documents présentés à l'appui de cette désignation seront disponibles pour consultation aux réunions du bureau et du comité.

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1. SITUATION:

Commune de Sezana, Est de Trieste. 45°40'N, 14°00'E.

2. DONNEES JURIDIQUES:

La plus grande partie des parcelles où sont situées les grottes se trouvent dans le site protégé et sont considérées comme un monument naturel et culturel. La législation applicable à cette région est la Loi sur la protection du patrimoine naturel et culturel et le Décret sur la protection des grottes de Skocjan.

L'aire protégée appartient au domaine public à l'exception d'un petit nombre de parcelles privées. Cette zone est ouverte au public et l'acquisition des enclaves privées par l'Etat n'est pas envisagée dans les documents de gestion.

3. IDENTIFICATION:

L'aire protégée s'étend sur plus de 200ha et comprend quatre dolines effondrées profondes et pittoresques, Sokolak au sud, Globacak à l'ouest, Sapen dol et Licicina au nord. Celles-ci sont des composantes du système des grottes et se ressemblent par leur végétation. Outre les 2,5km de rivière, la grotte de Mahorcic en fait également partie, avec ses lacs souterrains et ses cinq cascades.

Les grottes présentent un développement de karst et marquent le début d'un système souterrain s'étendant jusqu'aux sources du Timavo, dans le golfe de Trieste. A certains endroits, la surface des galeries s'est effondrée à plusieurs niveaux et a l'apparence de dolines profondes. La rivière pénètre dans la grotte de Skocjanpar par un passage souterrain de 350m de long, réapparaissant au fond d'une doline de 150m de profondeur et de 300m de longueur, avant de disparaître dans un passage de 2km de long. Ce dernier atteint par endroit 148m de hauteur et 100m de largeur. On y trouve également cinq galeries et un canal. La galerie (500m de long) des stalactites et des stalagmites conduit à la surface. La longueur totale des grottes de Skocjan dépasse 5km, et la profondeur atteint 230m à certains endroits. Il y a en tout 25 cascades le long de la rivière. A.C. Waltham dans son livre The World of Caves écrivait "...its enormous river galleries make it one of the wonders of the world" (p. 98). Les environs des grottes comprennent 30 champs archéologique qui ont révélé que ce site était déjà occupé il y a plus de 10 000 ans. Il existe 18 autres champs archéologiques autour des grottes.

On y trouve un mélange intéressant de biotopes correspondant à la flore d'Europe centrale, méditerranéenne, subméditerranéenne, illyrienne et alpine, que l'on trouve côte à côte dans la Grande Doline. Cette combinaison unique permet à des espèces méditerranéennes (telles que Adiantum capillus veneris) de croître à côté d'espèces alpines (telles que Primula auricula). Campanula justiniana est une estpèce endémique. Elle est classée dans la catégorie R-rare sur la Liste de l'UICN.

Le système de grottes est riche en spéléofaune et constitue un biotope majeur pour Microtus nivalis et l'espèce endémique Proteas anguinus. Cinq espèces de chauve-souris hivernent en grand nombre dans les galeries souterraines. Cette zone est également une aire d'hivernage de Tichodroma muraria.

4. ETAT DE PRESERVATION/CONSERVATION:

Les grottes, chambres et entrées de Skocjan sont en très bon état de conservation malgré les nombreux visiteurs qui y viennent. Les seuls travaux de construction qui ont été entrepris sont des sentiers de sécurité et des ponts. Les entrées des grottes sont fermées à clé pour permettre de mieux surveiller les visiteurs. Depuis les premières études scientifiques, au 19e siècle, le système de grotte est considéré comme un phénomène hors du commun de karst européen, tous les organismes qui s'en sont occupés se sont efforcés de le garder intactes.

La population totale de 40 personnes vit dans trois villages (Skocjan pri Divaci, Matavan et Betanja), à l'intérieur de l'aire protégée. Récemment, la pollution croissante de la rivière Reka, provoquée en majeure partie par des déversements industriels à 30 kilomètres des grottes a commencé à menacer les grottes de Skocjan. C'est pourquoi un accord a été conclu en 1982, qui devrait permettre de lutter contre la pollution de la rivière et lui permettre de retrouver d'ici 1990 son degré de pureté pré-industriel.

5. RAISONS JUSTIFIANT LA DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL:

Pour justifier la désignation des Grottes de Skocjan en tant que bien du patrimoine mondial, le gouvernement de Yougoslavie a donné les raisons suivantes:

a) Bien naturel

(iii) Formations remarquables, beauté naturelle exceptionnelle. Les Grottes de Skocjan sont un exemple unique d'érosion karstique bien préservé. Les galeries fluviales souterraines, de taille impressionnante, sont uniques au monde. Cette zone est importante pour la recherche fondamentale sur le karst, qui a commencé au 19e siècle. Les termes géologiques de "karst" et "doline" ont été créés dans cette région.

(iv) Espèces rares et menacées. L'écosystème préservé des dolines contient un certain nombre d'espèces rares et menacées. Plusieurs espèces d'animaux vivent dans les grottes.

b) Les valeurs culturelles de la région sont examinées par ICOMOS.

DESIGNATION POUR LE PATRIMOINE MONDIAL -- EVALUATION TECHNIQUE DE L'UICN

GROTTES DE SKOCJAN (YOUGOSLAVIE)

1. DOCUMENTATION:

a) Consultations: représentants du gouvernement yougoslave (16), H. Bibelriether, B. Sket, F. Howarth, A Cigna, H. Trimmel, P. Chapman.
b) Visite du site: 15 juillet 1986.
c) Littérature consultée: Waltham, The World of Caves; Resumes of International Symposium on Protection of Karst, 1982

2. COMPARAISON AVEC D'AUTRES AIRES:

On trouve des réseaux de grottes karstiques en de nombreux endroits d'Europe et même du monde entier. Dans la seule République de Slovénie, il y a 5000 autres grottes. Le site important le plus comparable est le réseau de grottes de Postojna (figurant sur la liste indicative yougoslave, sous le nom de Notranjski Karst). Les grottes de Postojna sont plus longues et plus larges que celles de Skocjan; leur faune est plus riche mais elles ont été sensiblement modifiées en vue du tourisme et le taux de pollution y est plus élevé. Du point de vue de l'écologie, de la recherche et de l'éducation, les grottes de Skocjan sont considérées comme un meilleur exemple de processus naturels en évolution car elles sont moins dégradées et qu'elles présentent, à différents niveaux, des formations et des structures dues à l'érosion beaucoup plus exceptionnelles. Il existe, en Yougoslavie, d'autres grottes méritant d'être mentionnées: au nord de Dubrovnik, en Herzégovine, à Pivka, Krizna et Planina. Les dimensions des dolines et du canyon souterrain de Skocjan sont cependant exceptionnelles et l'on estime que c'est la désignation la plus appropriée au patrimoine mondial pour toute la Yougoslavie.

En Europe, il existe des grottes particulièrement importantes, notamment Punkevni en Tchécoslovaquie, Gaping Gill, au Royaume-Uni, le Vercors et le Trou-du-Glaz, en France, Castellana en Italie et le gouffre de la Pierre-Saint-Martin en France, à la frontière espagnole. Beaucoup possèdent aussi des structures uniques et beaucoup sont plus longues et plus prodondes que celles de Skocjan. Aucune cependant n'a, comme les grottes de Slovénie, la tradition de recherche scientifique qui a conduit à la naissance des termes "doline" et "karst". L'intérêt des grottes pour l'archéologie est peut-être aussi parmi les plus grands d'Europe. L'importance particulière de Skocjan se trouve également reflétée dans les procès-verbaux du Colloque international sur la protection du karst qui fut réuni à Skocjan en 1982.

3. INTEGRITE

Les réseaux de grottes sont sensibles aux perturbations. L'utilisation des grottes de Skocjan par le public est étroitement contrôlée et réglementée. L'entrée peut être fermée et tous les groupes sont accompagnés de guides. Un escalator, court et discret, a été installé à l'extérieur pour faciliter la sortie des grottes ce qui entraînera une affluence accrue de touristes (en 1985, 50 000 personnes ont visité les grottes) et pourrait avoir des conséquences plus marquées à l'avenir.

Deux problèmes importants, relatifs à l'intégrité, devront faire l'objet d'une surveillance rigoureuse. Le premier concerne la pollution d'origine industrielle des eaux de la Reka qui traverse les grottes. La moitié de la pollution est due aux déchets organiques rejetés par une fabrique de panneaux en aggloméré. Il y sera mis fin cette année, avec l'ouverture d'une nouvelle usine non polluante. Un accord passé avec l'Italie en vue de nettoyer la rivière d'ici 1990 devrait améliorer la qualité de l'eau dans des limites acceptables.

Le deuxième problème vient du risque de développement d'une infrastructure inappropriée dans la région qui entoure les grottes. Les trois petits villages qui s'y trouvent sont en train d'être restaurés et l'on se propose d'aménager des parkings pour les touristes. Il convient de renforcer la planification afin que le paysage culturel de 200 hectares, compris dans le site, reste authentique et naturel. La commune de Sezana est chargée de la protection, conjointement avec l'Institut pour la protection des monuments. La possibilité d'agrandir le parc régional serait une initiative heureuse.

4. COMMENTAIRES ADDITIONNELS

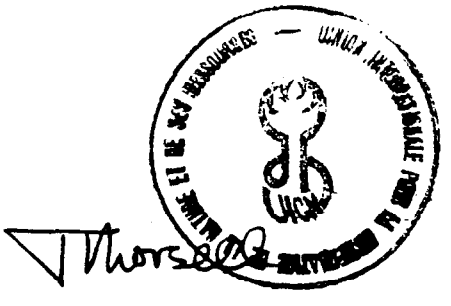
La carte fournie avec la désignation n'indique pas que la chambre souterraine du canal Hanke, en direction de Druskovec, fait partie du site. Cela doit être corrigé afin de garantir que ce canal fasse partie du bien inscrit.

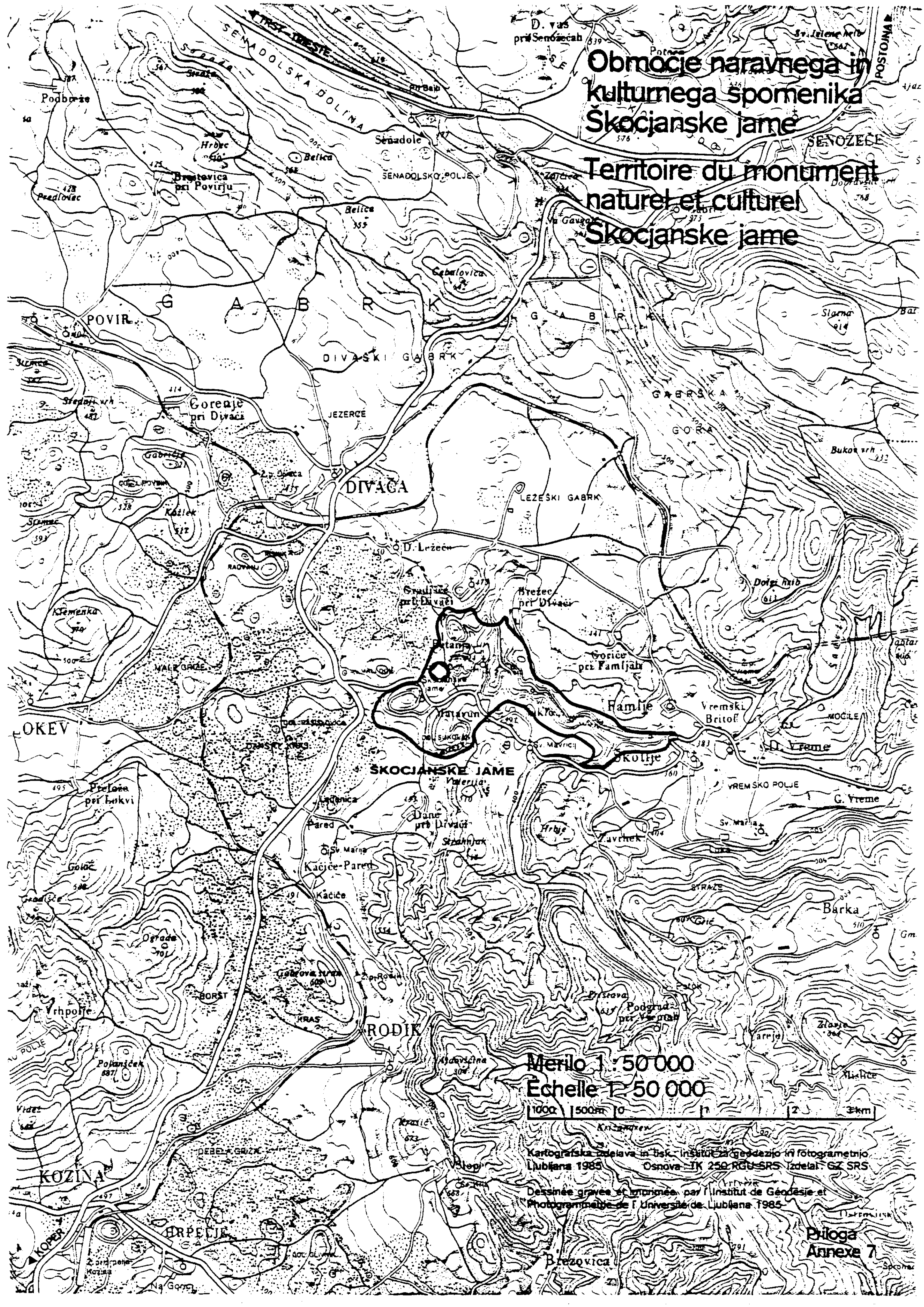
5. EVALUATION

Parmi les milliers de réseaux de grottes calcaires, le groupe de Skocjan est certainement un des plus exceptionnels. Grâce à son état relativement naturel et à toute une palette de structures souterraines, le site est devenu un des lieux d'étude du karst classique les plus célèbres du monde. De ce fait, il satisfait au critère ii) pour les sites naturels car il présente des processus géologiques exceptionnels en évolution. Les dolines effondrées, les cavernes et les cascades souterraines font que Skocjan mérite aussi d'être inscrit au titre du critère iii). En ce qui concerne son intégrité, les principales préoccupations portant sur les petites dimensions du réseau, la nécessité de protéger le paysage culturel alentour, la réduction du taux de pollution et la surveillance rigoureuse des visiteurs.

6. RECOMMANDATIONS

Les grottes de Skocjan devraient être inscrites sur la Liste du patrimoine mondial en tant que bien naturel. Le comité devrait approuver les améliorations prévues de la qualité de l'eau et encourager une planification renforcée de l'aménagement de la zone environnante.





Območje naravnega in kulturnega spomenika Škocjanske jame
Territoire du monument naturel et culturel Škocjanske jame
Merilo 1 : 50 000
Échelle 1 : 50 000
1000 500m 0 1 2 3km
Kartografska izdelava in tisk : Inštitut za geodezijo in fotogrametrijo Ljubljana 1985 Osnova : TK 250 RGU SRS Izdelal : GZ SRS
Dessinée gravée et imprimée par l'Institut de Géodésie et Photogrammétrie de l'Université de Ljubljana 1985
Priloga
Annexe 7
TRST - TRIESTE
POSTOJNA
KOPER
SENADOLSKA DOLINA
D. vas pri Senožečah
Senadole
SENADOLSKO POLJE
SENOŽEČE
Podbrže
Brestovica pri Povirju
Predloŝec
Hrbec
Belica
Čebulovica
G A B R K
POVIR
DIVAŠKI GABRK
GABRŠKA GORA
Gorenje pri Divači
JEZERCE
DIVAČA
LEŽEŠKI GABRK
D. Ležeče
Gradišče pri Divači
Brežec pri Divači
Betanja
Goriče pri Famljah
Famlje
Vremski Britof
D. Vreme
MOČILE
Matavun
Škoflje
ŠKOCJANSKE JAME
Vrem Polje
G. Vreme
LOKEV
Prelože pri Lokvi
Kremenka
MALE GRIŽE
Ležeče
Dane pri Divači
Pared
Kačiče-Pared
Kačiče
Sv. Marija
Zavrhek
Barka
Rodik
RODIK
BORŠT
KRAS
Pristava
Podgrad pri Vremah
Vrhpolje
Polanšček
KOZINA
HRPELJE
DEBELA GRIŽA
Slope
Brezovica
Na Gonu
Mišlice
Krašić
Ograde
Gabrovica