NATURA 2000 in Slovenia

Shadow List

February 2004

NATURA 2000 in Slovenia – Shadow List

Author of the Shadow list: Oikos Inc.

Author of the text: Martina Pečnik

Reviewers of the draft text: Anton Komat, Barbara Kovačič, Borut Rubinič, Borut Štumberger, Brigita Gregorčič, Boštjan Kerbler, Gregor Kovačič, Marko Arnuš, Marko Slapnik, Simon Škvor, Tina Kirn, Vanja Šendlinger.

Proofreading: Maša Rakuš, B.A.

Photos on the cover: Oikos Inc.

Introduction

In 1992, in response to significant and ongoing deterioration of many habitat types and the growing number of endangered species, EU member states adopted the Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (CE/92/43), also known as the "Habitats Directive". The Habitats Directive aims to contribute to the protection of biodiversity by establishing a European network of protected areas, called *Natura 2000*, as well as by protecting endangered species in their natural range. The legislation complements the 1979 Birds Directive, which establishes protected areas for endangered bird species. WWF and its partners strongly support the implementation of the Habitats Directive and the establishment of Natura 2000 for the following reasons:

• The Habitats Directive represents a real attempt to conserve Europe's biodiversity based on sound scientific evidence. Natura 2000 will not only be a collection of national or regional parks designated for a variety of reasons;
• The sites to be designated under Natura 2000 are intended to protect a representative sample of all Europe's most threatened habitats and species, as listed in the annexes of the Directives;
• The Habitats Directive does not seek to rule out economic activities in Natura 2000 areas, but rather aims to promote sustainable activity in support of the conservation objectives for these areas.

The implementation of the Natura 2000 network of nature conservation areas in the current 15 EU member states has been plagued by difficulties and delays. Lack of information and explanation at national and local levels concerning the implications of Natura 2000 have provoked opposition that has led to blockages and delays at the European level. Governments largely underestimated the scientific work required to gather the necessary data to propose a coherent list of sites for all the habitats and species listed in the Directive. Furthermore, there was reluctance to involve NGOs in the site selection process. However, these difficulties should not detract from the tremendous progress that has already been achieved through the implementation of Natura 2000 up to now. Although site selection is not yet complete, the existing and proposed sites in the EU-15 already represent some 18 % of the Union's territory (over 60 million hectares).

Natura 2000 and the future member states

In order to join the European Union, candidate countries must transpose the requirements of the Birds and Habitats Directives into their national legislation and prepare for the establishment of Natura 2000 on their territory. This includes submitting their lists of proposed Sites of Community Importance (pSCI) to the European Commission by the date of accession. The lists of pSCI will then be evaluated by the European Topic Centre for Nature Protection and Biodiversity (ETC/NPB) and through a moderation process for each bio-geographic region (see map below). The extension of Natura 2000 to 12 additional countries is a new challenge. The countries that are now preparing to join the European Union have some of the most pristine landscapes and near-natural river systems on the European continent, including flourishing wildlife and a great variety of natural habitats – a natural wealth that will greatly enrich the European Union. Yet accession to the EU will also be accompanied by accelerating development pressures to such natural values,

with for example the extension of the Trans-European Network for Transport (TENS-T) or the implementation of the Common Agricultural Policy.

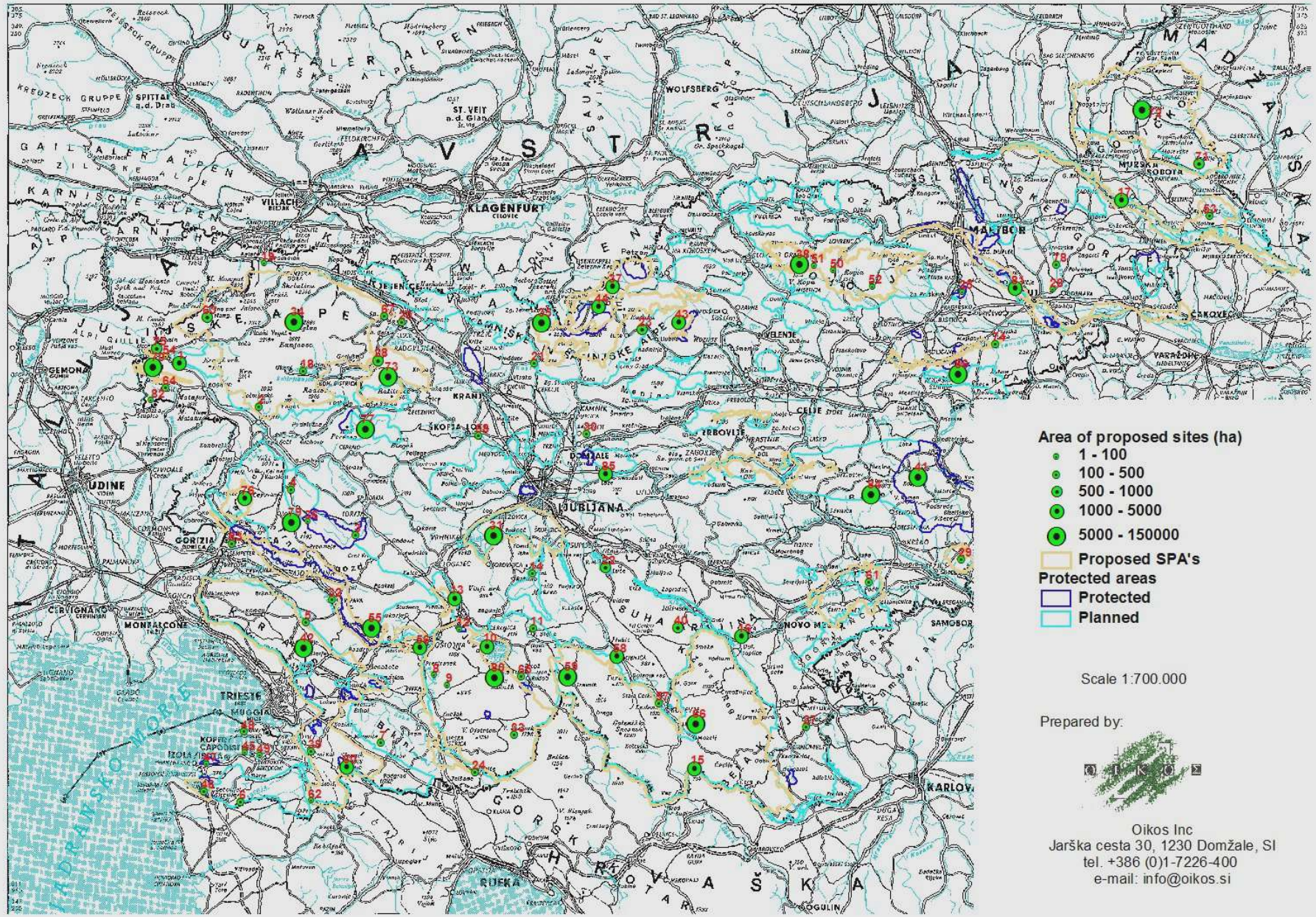
Natura 2000 in Slovenia

In the run-up to the historic enlargement of the European Union, the WWF Ecological Networks Team, in the framework of the WWF Accession Initiative, decided to build on its experience of working on Natura 2000 in the EU member states.

Beside the monitoring report, WWF has prepared a first list for potential Natura 2000 sites for Slovenia with the technical support from OIKOS, the so-called "Shadow sites". The aim of this list is to raise awareness of the importance of Natura 2000 in general and specifically for the Natura 2000 approach.
The following report should "zoom in" the different "Shadow sites" a bit more and show the reason why these sites could be important for the Natura 2000 network.

In May 2004 – the day of accession – the official list will be proposed by the Slovenian government, and we hope that our work on Natura 2000 could help to propose a sufficient and representative list for Slovenia.

Hermann Sonntag, *WWF European Alpine Programme*


Area of proposed sites (ha)
1 - 100
100 - 500
500 - 1000
1000 - 5000
5000 - 150000
Proposed SPA's
Protected areas
Protected
Planned
Scale 1:700.000
Prepared by:
Oikos Inc
Jarška cesta 30, 1230 Domžale, SI
tel. +386 (0)1-7226-400
e-mail: info@oikos.si

ID = 1: Soča

Region	**Geographical position**
The Alps	The Julian Alps, NW Slovenia
Altitude	**Proposed site**
1000 – 160 m	The Soča River (the spring – Most na Soči)
Nature protection status	
Partially protected – upper most part is within the Triglav National Park	
Habitats	**Species**
3220, 3222, 3230, 6510, 6520, 8120, 8210, 8215, 91E0*	1083, 1087*, 1089, 1137, 1138, 1149, 1131, 1107, 1163, 1169, 1354*, 1355, 1361

Landscape features: The *Soča* River could be estimated as the most famous and well known of the Slovene alpine rivers. The river itself is distinguished by its exceptional emerald-green colour due to the dissolution of pure limestone. At its spring in *Zadnja Trenta* the water gushes from a crevice before dropping 15 m onto the bedrock. In its upper reaches, the water quantity depends on snow melting and the Karst retinence which retains water in the Karst underground acqufeirs. Through the valley of *Trenta,* the river flow cuts several moraines, and gouges its way into the bedrock in which it has cut canyon-like ravines and creates erosion potholes on the riverbed, such as *Soška korita*. In its lower reaches, from *Kobarid*, the river changes from a torrential stream to a laminar flow; gravel pits and low embankments are formed due to river accumulation, and the river discharge is influenced by the rainfall regime as well.

Biodiversity and protection: The river course forms its biodiversity in habitats from herbaceous vegetation along their banks, hay meadows, calcareous rocky slopes with chasmophytic vegetation to alluvial forests. The most well known species is the endemic fish *Soška postrv* (*Salmo marmoratus*) that can reach up to 1 meter in length and 15 kg in weight. The fish was on the verge of extinction due to the artificial input of alien species, now it is recovering under controlled fish breeding. The upper part (almost up to *Bovec*) is under protection of the Triglav National Park.

Man and nature: Agriculture and forestry are complemented by tourism. Water sports tourism is organized by local sport clubs and foreign agencies, all the sportsmen are obligated to pay tax, the number is not limited. Some parts of the river are prohibited for sport activities. In the area of the National Park natural sights are well preserved, natural and cultural trails are built by Info-park centre in *Trenta* and local societies. At *Most na Soči* an artificial dam has been built, the lake is used for tourism.

Threats:

- Hydropower plants
- Alien species introduction (*Salmo trutta m. fario*)
- Gravel extraction (lower reaches)
- Untreated waste water pollution

- Pollution from agriculture
- Mass tourism (rafting, kayaking, canyoning)
- Constructions near the river

ID = 2: Tolminka

Region	**Geographical position**
The Alps	Julijske Alpe, NW Slovenia
Altitude	**Proposed site**
690 – 190 m	The Tolminka river
Nature protection status	
National Park Triglav	
Habitats	**Species**
3220, 3222, 3230, 6520, 91E0*, 9110	1107, 1354*, 1355, 1361

Landscape features: *Tolminka* is a left tributary of *Soča* river, flowing from the south fringe of Julian Alps. Due to carboneus bedrock, area is carstifed. Along the stream there is 11 km long cave *Pološka jama* and above its tributary river *Zadlaščica* is the cave of *Zadlaška jama*. Downstream river gouges its way into the bedrock in which it has cut canyon-like ravine and created erosion potholes on the river bed known as *Tolminska korita*. Ending of the canyon is marked by the waterfall and a short horizontal cave with a thermal spring with an average temperature of between 18.8° C and 20.8° C, what is a rare phenomenon in alpine areas. Subterranean water trickles along the fault lines of rocks where it warms up.

Biodiversity and protection: Dominant habitat is alpine river and the herbaceous vegetation along its banks, in the upper reaches valley widens to hay meadows. In the pristine nature *Salmo marmoratus* has lived untouched and now days genetic pure species are introducing to *Soča* river again. Area is under protection of Triglav National Park.

Man and nature: Area of the river Tolminka is non-settled or has abandoned farms. River is attractive for tourism, round natural trail is marked. Water quality ranks into 1st class, any water sport activities are prohibited.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution
- Mass tourism

ID = 3: Idrijca

Region	**Geographical position**
Dinaric	Idrijsko hribovje, W Slovenia
Altitude	**Proposed site**
1000 – 160 m	The Idrijca River
Nature protection status	
Partially protected – Zgornja Idrijca Landscape Park	
Habitats	**Species**
9010, 91E0*, 91F0	1137, 1131, 1107, 1163, 1354*, 1355, 1361, 1137, 1138, 1162, 1186, 1902, 4108

Landscape features: With its 48 km the *Idrijca* is the longest tributary of the *Soča* River. The river course runs through deep valleys gouged between Karst plateus of *Idrijsko hribovje*. As a torrential stream, it forms many pools, waterfalls and rapids. Water is supplied from numerous Karst springs along the course, the most famous is *Divje jezero* ("Wild lake"), located under a wide rock wall. Sifon of the source is estimated to 120 m depth, the amount of water fluctuating is from 0 - 60 m^3/sec.

Biodiversity and protection: The dominant habitat along the river course is alluvial forest which in the remote upper part successfully preserves species as *Salmo marmoratus* and *Proteus anguinus*. The river shore is also an area for *Lynx lynx* and *Lutra lutra*. The upper part of the stream is protected as a Landscape Park.

Man and nature: Due to ruffed surface, unfavourable natural possibilities and remote position, the area is scarcely inhabited. Pristine nature attracts sportsmen and fishermen. The lower part (around *Idrija*) was affected by industry – waste from the mines of mercury and local factories. For the needs of forestry, artificial dams were built (*klavže*) which at low river discharge ensured transport of wooden trunks.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution
- Mass tourism

ID = 4: Trebuša

Region	**Geographical position**
Dinaric	Idrijsko hribovje, W Slovenia
Altitude	**Proposed site**
900 – 190 m	The Trebuša River
Nature protection status	
Partially protected – Natural monument	
Habitats	**Species**
9010, 91E0*	1107, 1354*, 1355, 1361

Landscape features: The *Trebuša* is a left tributary of the *Idrijca* River. The river course flows through deep valleys which are gouged between the Karst plateus of *Idrijsko hribovje*. Due to the Karst processes, the area has Karst characteristics – Karst springs, 500 m cave *Bele vode*, sulphur spring *Žvepleni izvir*.

Biodiversity and protection: In remote tributaries *Salmo marmoratus* has preserved its origin. The river shore is also an area for *Lynx lynx* and *Lutra lutra*. The area is partially protected, as a Natural monument.

Man and nature: Due to ruffed surface, unfavourable natural possibilities and remote position, the area is scarcely inhabited. Pristine nature attracts sportsmen and fishermen. Fishing is controlled by the Fishing society of *Tolmin*; on the whole there is no authority or organisation which manages the river. Small hydropower stations are located on the tributaries.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution

ID = 5: Raša

Region	**Geographical position**
The Mediterranean	Kras, W Slovenia
Altitude	**Proposed site**
160 – 660 m	The Raša River
Nature protection status	
No protection recently	
Habitats	**Species**
/	1354*, 1186

Landscape features: The *Raša* is the only surface water stream in Karst. It flows along the tectonic line on the contact with flysh, on the NE margin of the plateau. Tributaries from the flysh area are sufficient enough to enable the stream to flow across the limestone bedrock. The valley is presented with a 150-200 m deep canyon-like ravine.

Biodiversity and protection: Due to purity of tributaries species like *Proteus anguinus* can still be found. The area has recently had no protection.

Man and nature: Tributaries used to serve for watermills and sawmills, which are now abandoned. The sunny side of the slopes is covered with vineyards.

Threats:

- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture
- Regulations of water system
- Water abstraction

ID = 6: Dragonja

Region	**Geographical position**
The Mediterranean	Koprska brda/Šavrini, SW Slovenia
Altitude	**Proposed site**
300 – 0 m	The Dragonja River
Nature protection status	
No protection recently	
Habitats	**Species**
/	1137, 1307, 1193, 1220, 4104

Landscape features: The valley of the *Dragonja*, with its mainly torrential tributaries, is the 'green' part of the Slovenian Istria. The river flows across the flysch bedrock; the riverbed is covered with alluvial accumulation. The most important natural phenomenon is the channel of the river stream, which is rich in special geological, geo-morphological and hydrological features include gorges (*Stranice*), meanders, erosion hollows, gravel pits, sinkholes, caves and waterfalls (tufa cascades). Geological profiles of Eocene flysch with heights to 50 m (*Škrline*), rarely through limestone patches (*Stena*), present a geological heritage of sediment textures, fossils and structure features. The river's main characteristic is the preservation of the prime-image. The river experiences significant seasonal fluctuations in level and in summer it almost dries up in places.

Biodiversity and protection: The diverse river channel enables diversity in ecological conditions – endemic species. The valley is home to several endangered animal and plant species (IUCN Red List of Threatened Animals, 1990). *Bombina variegata* and *Barbus plebejus* are present here. The area has recently had no protection.

Man and nature: Despite centuries of human presence, the area has preserved its natural equilibrium. The most obvious traces of human presence are (abandoned) cultivated terraces of olive trees and vineyards and numerous mills (miller's trade, blacksmiths). The area of the river stream is uninhabited.

Threats:

- Untreated waste water pollution (improper sewage system in villages, illegal waste dumps)
- Pollution from agriculture (agrochemical pollution – pesticides, nitrates)
- Mass tourism
- Any human interruptions with the hydro system of the river
- Alien species introduction

ID = 7: Brkinski potoki

Region	**Geographical position**
The Mediterranean	Brkini, SW Slovenia
Altitude	**Proposed site**
520 – 700 m	The Brkini brooks
Nature protection status	
No protection recently	
Habitats	**Species**
3290, 5130, 6510, 8310	1352*, 1354*, 1361

Landscape features: Along the southern border of the flysch *Brkini* hills some 17 brooks sink forming the most characteristic contact Karst in Slovenia. The relief forms of this contact Karst show gradual dissection of the former Karst relief. Blind valleys with corrosionally widened bottoms developed by strong water table control while some fluvial forms, preserved on the Karst surface, show differential tectonic movements. Some ponors (sinking holes) continue in accessible caves ending by the siphons of captured water in the altitudes between 370 to 430 m. The deepest cave is 150 m deep, and the longest is 6 km long.

Biodiversity and protection: Along the brooks habitats as lowland hay meadows and caves closed for the public are presented. *Canis lupus* and *Ursus arctos* periodically stay here. The area has recently had no protection.

Man and nature: The area is neither under traditional agriculture nor is it overgrowing. It is settled with villages along the brooks, and along the road *Kozina – Starod* (*Rijeka* - Croatia).

Threats:

- Alien species introduction
- Untreated waste water pollution (improper sewage system from villages)
- Pollution from agriculture

ID = 8a + 9a: Pivška presihajoča jezera

Region	**Geographical position**
Dinaric	Pivka, southern Slovenia
Altitude	**Proposed site**
530 – 580 m	The Pivka intermittent lakes
Nature protection status	
Partially protected: Nature monument Petelinjsko jezero / Palško jezero / Veliko Drskovško jezero / Malo Drskovško jezero	

Pivka intermittent lakes are a Karst system of seventeen intermittent lakes in the upper part of the *Pivka* valley, called Upper *Pivka*, on the transition between the Submediterranean and the Dinaric regions. Almost all the lakes lie in dolines or bigger Karst depressions on a limestone terrace, which separates the upper reaches of the sinking river and the foothills of the Karst plateaus of *Javorniki* and *Snežnik*. The lakes, which extend in the area of 15 km, differ in size, duration, shape, water flow, vegatation cover and fauna. Only three lakes are bigger than 10 ha, the smallest lake measures around 0.1 ha (Habič, 2001).

- Water springs several times a year after abundant rainfall or melting of snow, mostly during autumn and spring: Lake *Petelinjsko*, *Palško*, *Radohovsko, Veliko zagorsko*, *Kljunov ribnik*, *Kalško*, *Veliko and Malo Drskovško, Parsko* (the last three are connected by an underground stream way).
- Some flood only at the highest water levels: *Šembijsko*, *Laneno*, *Bačko*, *Za Kalcem*, *Malo zagorsko*, *Klenško* lakes, *Krajnikov Dol* and *Jeredovce*.

Water from most lakes flows underground to the springs of the *Pivka* River, which is a western tributary in the Karst drainage of the *Ljubljanica* River. The water from the southern most (and highest) lying *Šembijsko* Lake flows underground to the springs of the *Reka* River, so the area of the Upper *Pivka* valley has a so called Karst "bifurcation" (Habič, 1975).

A characteristic of the area is the mosaic – like structure of humid and extensive hay meadows, dry Karst grasslands, naturally afforested land, thermopile forest of *Seslerio autumnalis-Osryetum carpinifoliae* and artificially planted forest of *Pinus nigra*. The more rarely filled lakes usually do not have a developed flood vegetation. There are very few fields, actually only in small lakes, which are closer to villages. The fauna of the lakes is also diverse, especially endangered species of birds, butterflies, beetles, lower crustaceans (Brancelj et al., 2000).

The area is scarcely inhabited. Settlements are small, except the local centre *Pivka* with about 2000 inhabitants.

Polluted water from settlements and industry on the Upper *Pivka* mixes with a huge amount of underground water from the lakes vast hinterland of *Javorniki* and *Snežnik*. Therefore, despite pollution the water ranks into the highest water quality class.

The area of the *Pivka* intermittent lakes (as a part of Karst drainage basin of the *Ljubljanica*) is in the proposal for the protection under the Ramsar Wetland Convention.

ID = 8: Petelinjsko jezero

Region Dinaric	**Geographical position** Pivka, southern Slovenia
Altitude 550 m	**Proposed site** Lake Petelinjsko
Nature protection status Nature monument	
Habitats 3180*, 6410	**Species** 1352*, 1354*, 1361

Landscape features: Lake *Petelinjsko* is the second largest and the most permanent among the intermittent lakes of the *Pivka*. An oval depression is filled up to half of year on average. At the highest water level it measures 70 ha with the highest depth of 13 m. The feeder side consists of Karst springs with Karst hinterland of *Javorniki* and *Snežnik*, sinking sides of ponors and estavelles at the permeable bottom (Habič, 1975; Habič, 2001).

Biodiversity and protection: In the dry period the levelled lakebed with deposits is covered with humid meadows of *Molinion Caeruleae, associations: Deschampsio-Plantaginetum altissimae* (Ilijanić, 1974) *Gladiolo-Molinietum* (Horvat, 1962)*, Allium angulosum ass.*, where also endemic species of lower crustaceans *Chirocephalus croaticus* live. The lake is surrounded by dry Karst grasslands *Fectuco Brometea*, shrubs and forest edge (Brancelj et al., 2000). Due to the vicinity of *Javorniki* also *Canis lupus* and *Ursus arctos* appear.

Man and nature: The area in the Upper *Pivka* represented an economic hinterland of *Trieste* (Italy) and *Rijeka* (Croatia) for long centuries. Farmers were providing urban centres with cattle, turnips, woods and ice for food conservation. Traditional agricultural use in the lake depression has lately been mowing and grazing. There were no attempts to change the lakebed into fields by hydro-melioration works. The wider area of the lake used to be a periodic military firing ground. There are still traces of shooting activities on slopes.

Threats:

- Natural afforestation of grasslands due to abandonment of extensive agriculture
- Lack of nature conservation awareness of local people (afforestation with spruce)
- Pollution from agriculture (intensive fertilization, sewage outlets into the Karst underground with no control)
- Tourism (no proper management for activities and carrying capacity of the vulnerable Karst ecosystem). The *Pivka* intermittent lakes lie near urban centers and on the transition of tourist flow toward the Adriatic Sea.

- Untreated waste water pollution (illegal waste dumps as means of filling up of dolines and caves- especially along roads)
- Digging of lake deposits (rubble) and quarrying of limestone at the edges
- Pollution from military firing grounds *Poček* and *Bač* with heavy metals and fossil fuels (plans for their extension into the area of the *Pivka* intermittent lakes)
- Growing conflict between the locals and predators due to increase in both predators and pastures with sheep.

ID = 9: Palško jezero

Region	**Geographical position**
Dinaric	Pivka, southern Slovenia
Altitude	**Proposed site**
560 m	Lake Palško
Nature protection status	
Nature monument	
Habitats	**Species**
3180*, 6410	1352*, 1354*, 1361

Landscape features: Lake *Palško jezero* is the largest and the second most permanent of the *Pivka* intermittent lakes. The intermittent lake fills the Karst depression of about 1.5 km in length and 0.5 km in width for approximately a quarter of the year. The lake has two inlets called the *Njivice* and the *Ždink* around the hill *Jezerščak*. Water is supplied through Karst springs at the foothills of *Javorniki*, the largest is the cave *Matijeva jama* which functions as a typical Karst estavelle (water springs and sinks). The lake level fluctuates according to the water table, at the village *Palčje* for 50 m. In the winter of 2000, the water level rised above century's average, the lake covered the biggest known area of 189 ha with the highest depth of 23 m (Habič, 1975; Habič, 2001).

Biodiversity and protection: The levelled lakebed is covered with humid meadows with associations of *Deschampsio-Plantaginetum altissimae* (Ilijanić 1974), and willow shrubs, which are the nesting ground for *Crex crex* (Brancelj et al., 2000). Dry Karst grasslands, plantations of *Pinus nigra* and the thermopile forest of *Seslerio autumnalis-Osryetum carpinifoliae* grow on the banks of the lake depression. Due to the vicinity of *Javorniki* also *Canis lupus* and *Ursus arctos* appear.

Man and nature: The tranzimance of *Pivka* shepherds between the *Snežnik-Javornik* highlands and *Friuli* or *Istria* plains lasted till the middle of the 20th century. The characteristics of the upper most *Pivka* countryside are depopulation, decline in number of mostly aged part-time farmers, non-favourable nature conditions for agriculture and rapid natural afforestation. Farming in the lake depression has been extensive (meadows and pastures) with no hydro-melioration works. The area around the lake used to be a military training area.

Threats:

- Natural afforestation of grasslands due to abandonment of extensive agriculture
- Lack of nature conservation awareness of local people (afforestation with spruce)
- Pollution from agriculture (intensive fertilization, sewage outlets into the Karst underground with no control)
- Tourism (no proper management for activities and carrying capacity of the vulnerable Karst ecosystem)

- Untreated waste water pollution (illegal waste dumps as means of filling up of dolines and caves- especially along roads and in the local hinterland of the lake where lies the village *Palčje* with direct pollution
- Digging of lake deposits (rubble) and quarrying of limestone at the edges
- Pollution from the military firing ground *Bač* with heavy metals and fossil fuels (plans for the extension of the military areas into the area of the *Pivka* intermittent lakes)
- Growing conflict between the locals and predators due to the increase in both predators and pastures with sheep.

ID = 10: Cerkniško jezero

Region	**Geographical position**
Dinaric	Notranjsko podolje, W Slovenia
Altitude	**Proposed site**
550 m	Lake Cerknica
Nature protection status	
No protection recently	
Habitats	**Species**
3180*, 3290, 6510, 8310	1014, 1065, 1052, 1060, 1059, 1352*, 1354*, 1361, 1186, 4065. Euring: 04210, 02310, 02560, 15150, 04080, 04100, 03700, 00950, 00980, 02020, 02430, 12730, 01340, 01310

Landscape features: Lake *Cerkniško jezero* is Slovenian most known intermittent lake. Karst hydrology has been investigated since ancient times, and the first flood preventing measures were held here. The lake pours out onto the Karst polje of about 70 km^2. Water drainages from the surrounding limestone plateaus and springs as small tributaries of the lake in contact with the less permeable bedrock. The water sinks through the ground ponors where large amounts of mud are usually accumulated. It is mainly dry in summer and in late winter season. During the autumn rains and after the spring snow melts the lake fills up again. At its full extent, the lake can cover up to 26 km^2.

Biodiversity and protection: There are huge expanses of reed, sedge and wet grasslands. On the eastern edge of the lake, there are remnants of a raised bog. Habitats have been affected very little by man. The lake is the second most important breeding place for globally endangered corncrake *Crex crex* in Slovenia. The area belongs to IBA. *Proteus anguinus* is common in the surrounding caves. The area has recently had no legal protection; it is a part of the proposed Regional Park *Snežnik*.

Man and nature: In the past, the area was famous for being a phenomenon where water brings fish from the underground, land where man makes hay, harvests, grazes, fishes, hunts and ice skates all in the period of one year. Several attempts for drainage and preservation of the lake were made in the past. Due to regulation, the lake is slowly drying. Settlements are located on the outer, higher edges, with exception of Lake *Dolenje Jezero* and *Otok* ("Island"), which is surrounded by water in the wet season. Inhabitants are mostly employed in the local wood industry. An additional branch is forming in tourism – recreation activities, sport fishing, museum of local folk culture and life in *Dolenje Jezero*, mountain paths to *Slivnica* (1114 m) are marked, and a mountain hut is built.

Threats:

- Alien species introduction (*Solidago canadensis, S. gigantea, Helianthus tuberosum*)
- Untreated waste water pollution (from settlements)
- Pollution from agriculture (additional eutrophication with artificial fertilizers)

- Mass tourism (boating, wind surfing, angling, off road traffic)
- Burning of vegetation
- Collection of rare species

ID = 11: Bloke

Region	**Geographical position**
Dinaric	Bloke, S Slovenia
Altitude	**Proposed site**
700 – 860 m	The Bloke plateau
Nature protection status	
No protection recently	
Habitats	**Species**
3290, 6110*, 6510, 7230	1352*, 1354*, 1361, 4045

Landscape features: The plateau of Bloke is about 15 km long and 10 wide. The undulating surface is crossed with shallow valleys and short slopes. Because of a less permeable bedrock (dolomite, residual material, sandstone, marl limestone), the plateau has surface water drainage. In contact with limestone the courses sink, the greater part drainages through the cave system of *Križna jama*, known for underground lakes and diverse speleothemes. The main water stream is the *Bloščica*, which forms numerous meanders, swamps, ox-bow lakes (Lake *Bloško jezero*) regarding its low gradient. The highlands of *Bloke* preserve a complex of low mountain moors, the widest in Slovenia.

Biodiversity and protection: High biodiversity is present due to Dinaric environment and higher altitudes. Habitats like *Rupicolous calcareous* or basophilic grasslands of the *Alysso-Sedion albi* are found here. The area has recently had no protection.

Man and nature: Unfavourable natural conditions led to rare inhabitation. People used to make their living from stockbreeding and transport services. Together with making woodenware the traditional branches survived, as additional earnings. Rich in folk culture, the area is known as the cradle of the Slovenian skiing – skis developed as the most suitable way of commuting during severe winters.

Threats:

- Alien species introduction
- Untreated waste water pollution (settlements)
- Pollution from agriculture
- Shrub encroachment
- Drainage (plans of the *Bloščica* regulation, melioration in flood plains, water restrains)

ID = 12: Rakov Škocjan

Region Dinaric	**Geographical position** Notranjsko podolje, S Slovenia
Altitude 520 m	**Proposed site** Rakov Škocjan valley
Nature protection status Rakov Škocjan Landscape Park	
Habitats 3290, 6510, 8319	**Species** 1352*, 1354*, 1361, 1186

Landscape features: The valley is about one kilometre long along the sinking stream of the *Rak*, under the Karst plateau of *Javorniki*. It represents a collapsed cave system, widely famous for natural bridges. The river springs from an underground drainage of the cave *Zelške jame*, on the side of the opened collapse doline a natural bridge *Mali naravni most* is arched. Before the sinking cave *Tkalca jama* a bigger natural bridge *Veliki naravni most* has formed. The whole area is heavily carstified with the main features such as collapse dolines, vertical shafts and caves.

Biodiversity and protection: The Karsts depressions create micro-ecological conditions, which make the area unique. *Proteus anguinus* can be found in the spring and the sinking caves. The area is protected as a Landscape Park, it is a part of the proposed Regional Park *Snežnik*.

Man and nature: The area is uninhabited. To serve tourism some facilities were built. A youth house is used for educational weekly programmes, mostly for elementary schools. During the summer some meadows turn into camping sites of various youth organisations.

Threats:

- Untreated waste water pollution (by underground drainage from Lake *Cerknica* which is overfilled with organic matters)
- Pollution from agriculture (influence from *Cerknica* valley)
- Alien species introduction (appearance of *Potamogeton spp.*)
- Collection of rare species (*Lacerta horvati* – the second find in Slovenia)

ID = 13: Planinsko polje

Region	**Geographical position**
Dinaric	Notranjsko podolje, W Slovenia
Altitude	**Proposed site**
450 m	The Planina polje
Nature protection status	
Planinsko polje Landscape Park	
Habitats	**Species**
3180*, 3290, 6510, 8319, 9180*	1352*, 1354*, 1361, 1186, 1014, 4101. Euring: 04210, 08310, 08550, 12730, 15150

Landscape features: *Planinsko polje* is a part of the Karsts basin of the *Ljubljanica* River. It is the northeastern most in the line of the *Notranjska* Karst poljes. It is 6 km long and 3.5 km wide and covers 16 km^2. The polje is part of the karstic drainage basin of the *Ljubljanica* River and has been known as a classical area for karstological research since the 17th century. The flat basin is surrounded by limestone karsts plateaus from where water drainages. The site displays typical Karst features such as caves (more than 100 in the vicinity), sink holes, small streams, the *Unica* River with its beautiful meanders is the main water-body. The river springs in the *Planina* cave and sinks into 150 sink holes on the other side of the polje. Flooding lasts from some days to several months (max 11 km^2).

Biodiversity and protection: In the lower parts of the polje, wet meadows dominate, on the slopes calcareous grasslands have developed. The *Planina-Postojna* cave system is known as the world hotspot for subterranean biodiversity caves (84 taxons). The area belongs to IBA, it is protected as a Landscape Park.

Man and nature: According to scarce settling, the area is still well preserved. Settlements are at the outermost, highest edges of the site. The main land use of the site is agriculture, mainly extensive for mowing of grass and hay, due to annual flooding. Tourism and recreation have started increasing.

Threats:

- Drainage
- Collection of rare species (*Scilla litardierei* – the only location in Slovenia)
- Untreated waste water pollution (from the underground river *Pivka* and *Rak*)
- Pollution from agriculture (use of fertilisers)

ID = 14: Iška and Zala

Region	**Geographical position**
Dinaric	Krimsko hribovje, central Slovenia
Altitude	**Proposed sites**
340 – 800 m	the Iška and the Zala rivers
Nature protection status	
Partially protected: Forest reserves; Natural monument – Jezera v Dragi	
Habitats	**Species**
8210, 8215, 9010, 91E0*	1032, 1093, 1352*, 1354*, 1355, 1361, 4108

Landscape features: Rivers flow through the hills of *Krimsko hribovje,* which is drainage for the marshy land of *Ljubljansko barje*. The *Zala* is a tributary of the *Iška*, well known by the gorge of *Iški vintgar*. The river eroded the dolomite bedrock and formed a 300-400-m deep and narrow valley in the length of 10 km. Features like natural bridges, natural windows, tower-like forms, waterfalls, internal cliffs and plunge pools are common. The characteristics of the river *Zala* are similar. At the passage to the flat land of *Ljubljansko barje* (*Draga*) some artificial lakes have been formed. Their origin comes from digging and exploiting clay sediments.

Biodiversity and protection: Due to microclimate specifics, the area has diverse habitats and gives home to many endangered species, like the Slovenian turtle *Emys orbicularis*. The area is partially protected by forest reserves, and lakes are protected as a natural monument.

Man and nature: According to their purity, the rivers are important for the water supply of the capital city of *Ljubljana*. In the lower reaches of the *Iška,* people exploited clay for the purpose of brickworks. Nowadays the area is turning into a recreation site for the citizens of *Ljubljana*. Were possible, many weekend cottages were built. In the village of *Rakitna*, above the upper reaches of the *Iška*, a climatic health resort for youth has been established.

Threats:

- Hydropower plants
- Mass tourism
- Alien species introduction
- Untreated waste water pollution

ID = 15: Kolpa

Region	**Geographical position**
Dinaric	Kočevsko, S Slovenia
Altitude	**Proposed sites**
160 – 300 m	The Kolpa River
Nature protection status	
Partially protected – Kolpa Landscape Park, Krajc Bukovje Forest Reserve	
Habitats	**Species**
3260, 6510, 8310, 9110, 9180*, 91E0*	1032, 1065, 1052, 1083, 1093, 1220, 1130, 1138, 1141, 1146, 1149, 1122, 1131, 1098, 1105, 1114, 1134, 1160, 1162, 1163, 1124, 1352*, 1354*, 1355, 1361, 1305, 1303, 1193, 1167, 1186, 2511, 2533. Euring: 07650, 07700, 07510, 08840, 13430, 02310, 02430, 02560, 02960, 02980, 03200, 03350, 03260, 04210, 07440, 07510, 08310, 08630, 08980, 12730, 13480, 15150, 08830, 07780

Landscape features: The River Kolpa represents the southern border of the *Kočevsko* region. In its upper reaches, a canyon-like ravine with depths of 200-300 m has been cut. Above the river course, inner cliffs and hanging valleys have formed. Along the riverbed, there are numerous caves, some as spring caves of tributaries (last spring of the River *Rinža*). Widening of the river channel originates in a slower uplift of tectonic blocks and different lithology. The character of the river calms on the Karst plain of *Bela krajina*. According to sufficient river discharge and vertical erosion, the river is able of surface flow across the Karst landscape.

Biodiversity and protection: On large stone cliffs above the riverbed, variegated flora developed, with some endemic species. As part of *Kočevsko* together with the neighbouring regions of *Snežnik* and *Gorski Kota,* the area represents the largest complex for big carnivores. The area belongs into IBA. It is partially protected by Landscape Park on the territory of the *Črnomelj* municipality. The oldest and thickest fir-trees in Slovenia grow in the Forest Reserve.

Man and nature: In the upper reaches only a narrow belt of the valley is convenient for inhabitation. Isolation from the inner land developed a specific "Colonisation Island" with settlers like *Uskoks* or Germans. Folk culture is therefore a mixture of *Bela krajina* and foreign invaders. In the region of *Bela krajina* population is denser. Agricultural land use along the river course prevails. The river is attractive for aquatic sports, especially for rafting and kayaking. Rapids used to provide energy for sawmills and smiths. There are a lot of camping sites along the riverbank.

Threats:

- Shrub encroachment (abandonment is connected with establishment of a closed military zone, a lot of inhabitants were moved. Nowadays the area is open again, yet dwellers are not coming back)
- Untreated waste water pollution (river has a Karst drainage basin - many sources are unknown, some pollution also from Croatia)
- Pollution from agriculture (intensive agriculture in *Bela krajina*)
- Mass tourism by the river (rafting, bathing)
- Collection of rare species (robbery of nests – hawk, eagle)
- Hydropower plants (in the upper reaches)
- Gravel extraction
- Alien species introduction

ID = 16: Krka

Region	**Geographical position**
Dinaric	Suha krajina, S Slovenia
Altitude	**Proposed sites**
180 – 300 m	The Krka River
Nature protection status	
Partially protected – Natural monument Otočec	
Habitats	**Species**
3260, 6510, 7220*, 91E0*, 91F0	1074, 1083, 1060, 1084*, 1089, 1220, 1130, 1138, 1146, 1149, 1122, 1131, 1105, 1114, 1134, 1160, 1163, 1352*, 1354*, 1355, 1361, 1305, 1304, 1303, 1324, 1193, 1186, 2533, 1337, 1220

Landscape features: The spring of the *Krka* is known for numerous Karst springs flowing across the tufa formation. In its upper reaches (up to *Soteska*), the river flows through a canyon like gorge with depths from 15 to 20 m. Above the river channel, a limestone terrace is formed. The riverbed occasionally widens into the small flood plains (*Zagrade, Žužemberk*). Due to joining with the tributaries from the dolomite area, the riverbed is rich in tufa formation with small plunge pools and rapids. On its further flow, the river runs across flood plains with levees and Karst plains.

Biodiversity and protection: According to various landscape types downstream, the river has several habitats. The most known are the petrifying springs with tufa formation. Good water quality in the upper reaches enables variety of fish species, *Osmoderma eremite* can be found as well. The river is protected only on a small part of *Otočec*.

Man and nature: The river used to be a engine of the economy of *Suha krajina*. The main activities arose from iron foundries and ironworks (*Dvor, Fužine*), additional occupations were found in sawmills, charcoal burning, tan craft and leather trade. After the decline of industry, multi-cultural agriculture started again, some industry plants were located (*Žužemberk*), although the majority of the population seeks employment in distant centres.

Threats:

- Untreated waste water pollution (there is no settlement with proper sewage system)
- Pollution from agriculture (from terraces above the river channel, from the drainage basin)
- Regulations of water system (some consolidation works in urban areas)
- Mass tourism
- Alien species introduction
- Collection of rare species

ID = 17: Mura

Region	**Geographical position**
Sub-Pannonian	Murska ravan, NE Slovenia
Altitude	**Proposed sites**
150 – 200 m	The Mura River
Nature protection status	
Partially protected: Forest Reserves	
Habitats	**Species**
6510, 91F0	1037, 1042, 1083, 1060, 1061, 1220, 1130, 1138, 1149, 1122, 1131, 1145, 1098, 1105, 1134, 1099, 1124, 1157, 1159, 1355, 1188, 1167, 2011, 2522, 4065, 1220. Euring: 00980, 01340, 01310, 02310, 04080, 04100, 08310, 08830, 13480, 12730, 03700, 04210, 08550, 08630, 15150

Landscape features: The river *Mura* stretches between the Austrian and the Croatian border. The sub-Pannonian river with a laminar flow meanders between the hilly regions of *Goričko, Lendavske gorice* and *Slovenske gorice*. Seasonal flooding creates a characteristic landscape with numerous natural features, such as levees, gravel riverbanks, dense marshland and ox-bow lakes along the lower reaches of the river where a complex of alluvial forest still remains. During the geological past, several terraces were built along the river channel.

Biodiversity and protection: The complex of *Črni log* (1.200 ha) is the largest *Alnus glutinosa* forest in central Europe. It is dense and uninhabited, and indeed hard of access to people. It is estimated that 70 % of the site is covered with riverine forests and only 20 % of the site is wet meadows, usually mixed with bush and forests (Dopps, 2000, 170). The area ranks into IBA. It is partially protected by Forest and Botanical reserves.

Man and nature: The floodplains of the *Mura* represent the granary of Slovenia. Most commonly grown cereal is wheat, producing of fodder plants, cattle breeding is important as well. The river was often regulated in order to gain land that is more arable. The river discharge was used for mills; some still exist, like the flowing mill in *Veržej*. Wooden ferries (*brod*) still operate. On the basis of fine clay sediments tradition of pottery has developed.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution (outlets of sewage systems from farms, illegal waste dumps)
- Pollution from agriculture (water quality ranks into the lowest classes)

- Water management interventions
- Collection of rare species
- Large infrastructure (motorway, power line)

ID = 18: Bohinjsko jezero

Region Alpine	**Geographical position** The Julian Alps, NW Slovenia
Altitude 525 m	**Proposed sites** Lake Bohinj
Nature protection status Triglav National Park	
Habitats 3130, 3140, 6510, 91E0*	**Species** 1083, 1084*, 1098, 1354*, 1355, 1361

Landscape features: Lake *Bohinj* is locked in a glaciated valley between the summits of *Vogel* and *Bohinj* mountain ridge, it is the deepest and largest permanent natural lake in Slovenia – 4.1 km long, 1.2 km wide and 45 m deep. The annual surface temperature is 9° C, in July 17° C. The lake has glacial origin, and water has accumulated behind the terminal moraine. The drainage basin is spread over the high mountain peaks, and water is supplied from numerous Karst springs. The most well known is the spring of *Sava Bohinjka* with the picturesque waterfall of *Savica*.

Biodiversity and protection: The lake hosts numerous species of fish, like lake trout, brown trout, rainbow trout, eelpout, lake char and cyprinids. Due to preserved nature *Lutra lutra* can also be found in the surroundings. The area is under the protection of the Triglav National Park.

Man and nature: The alpine area of *Bohinj* used to be known for ironworks, forestry and pasture. The last two have remained till the present day. Settlements are located at the bottom of the valley, some also on plateaus as much as 1000 m high (*Koprivnik*, *Gorjuše*). Despite tourism, the lake has preserved its nature authenticity, and was kept away from large tourist infrastructure.

Threats:

- Alien species introduction
- Untreated waste water pollution (sewage system from settlements)
- Mass tourism (bathing)
- Constructions by the lake

ID = 19: Zelenci

Region Alpine	**Geographical position** The Julian Alps, NW Slovenia
Altitude 860 m	**Proposed sites** The Zelenci springs and swamp
Nature protection status Natural reserve	
Habitats 7210*, 7220*, 91E0*	**Species** 1065, 1354*, 1355

Landscape features: The swamp, which the local people refer to as *Pri Savi*, is about 1200 m long, its mean breadth is 150 m, 200 m at its broadest and no more than 20 m at its narrowest section. The breadth of the swamp and the riverbed of *Sava* are determined by fans from the slopes. Slope material covers glacial deposits – a lake has developed behind the moraine. The sediments of the one-time lake consist of lacustrine limestone, known as *kreda* ("chalk"). Together, all the material presents an impermeable surface, which results in formation of the swamp. The westernmost part of the swamp is occupied by an emerald coloured lake, which gives it its name – *Zelenci* ("the greens"). On the lakebed, numerous springs rise from the chalk bottom.

Biodiversity and protection: Despite a small surface area, it offers high diversity in environment of the lake, moor and swamp; the most admired are the petrifying springs with tufa formation.

Man and nature: The area of *Zelenci* has mainly been kept untouched. In the surroundings, chalk has been dug up and used for whitewashing and as a building material. The site is arranged as a natural site for tourists.

Threats:

- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture and ski slopes
- Mass tourism

ID = 20: Sava Dolinka

Region	**Geographical position**
Alpine	The Julian Alps, NW Slovenia
Altitude	**Proposed sites**
430 – 860 m	The Sava Dolinka River
Nature protection status	
No protection recently	
Habitats	**Species**
3220, 3222, 3230	1093, 1149, 1122, 1131, 1145, 1105, 1163, 1354*, 1355

Landscape features: The river stream begins with the Karst spring of *Nadiža* in the alpine valley of *Tamar*. The water sinks into fluvial accumulations and springs again in the marshy area of *Zelenci*. Headwaters are gathered mostly from the left-side slopes of the *Karavanke* mountain ridge. Laminar flow enables formation of vast gravel embankments, and former fluvial terraces remain above the river channel. At *Radovljica* the river joins with the *Sava Bohinjka* and flows as the *Sava* from there on.

Biodiversity and protection: The alpine river and the herbaceous vegetation along its banks, together with ligneous vegetation with *Myricaria germanica*, rich in fish species. The river itself has recently had no protection.

Man and nature: The river has played an important role in the local development. The river discharge was exploited for the motive power of the iron foundry with its centre in *Jesenice*. Nowadays most of the old infrastructure is abandoned, industry has declined, re-structuring is taking place. Several hydropower plants are located on the stream. The upper reaches attract fishermen and water sportsmen (kayaking, canoeing).

Threats:

- Hydropower plants (plan to build the plant *Moste III*)
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution (sewage systems, industry outlets)
- Pollution from agriculture

ID = 21: Kokra

Region	**Geographical position**
Alpine	Kamniško-Savinjske Alpe, N Slovenia
Altitude	**Proposed sites**
400 – 1300 m	The Kokra River
Nature protection status	
No protection recently	
Habitats	**Species**
3220, 3222, 3230, 91E0*, 9531*	1354*, 1355

Landscape features: The river basin of the *Kokra* is about 200 km^2 big and represents the western part of the mountain group the *Kamniško-Savinjske Alpe*. After its spring below the *Karavanke* mountain ridge and the junction with the *Jezernica* River, it enters the gorge, which it had eroded into carboneous bedrock. As a turbulent flow on the steepened riverbed it creates rapids, plunge pools and waterfalls. At its mouth, the river widens as it comes out onto the flood plain of the *Sava* River. Due to accumulation several terraces have been formed.

Biodiversity and protection: A mostly alpine river with herbaceous vegetation, on the sunny slopes with Alpine-Apennine *Pinus nigra* forest as well. Mammals like *Lutra lutra* can also be found on the riverbank. The river ranks into high quality class. So far, it has had no protection.

Man and nature: The narrow and deep valley offers little space for settlement or agriculture. The river discharge is used by small hydropower plants. In the past, the river flow was used for the transport of tree trunks, as forestry and tree felling has been the main activity of the region.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution
- Pollution from agriculture
- Regulations of water systems
- Water abstraction

ID = 22: Radensko polje

Region Dinaric	**Geographical position** Grosupeljsko polje, central Slovenia
Altitude 320 m	**Proposed sites** The Radensko Karst polje
Nature protection status No protection recently	
Habitats 3180*, 3290, 6510	**Species** 1354*, 1355, 1193, 1186

Landscape features: The Karst polje covers the area of 4 km^2. The bottom of the polje is mostly covered with clay sediments deposited by surface streams (in heavy rains) from *Grosupeljsko polje* which it is connected with on its NW side. Bedrock consists of carboneous rock, in some places rich in fossils (onkoidi, megalondontiti). Due to more resistant bedrock in the middle of the polje, the inselberg of *Kopanj* has formed, it rises 70 m above the bottom ground. The drainage basin has three separated tributaries, which are meandering across clay sediments, finally sinking into sinkholes or caves. In heavy rain streams flood locally, an intermittent lake develops.

Biodiversity and protection: Gently undulating surface and clay sediments enables a variety in habitats like turloughs or lowland hay meadows. In the underground waters, *Proteus anguinus* can be found. The area has recently had no protection.

Man and nature: Regarding the strategic position of the inselberg of *Kopanj,* the area had been settled already in the pre-historic period. Nowadays some villages remain on the polje. The majority of the population seeks employment in the nearby centres; agriculture has turned to a hobby activity.

Threats:

- Commasation (joining of small parcels into one unit)
- Alien species introduction
- Untreated waste water pollution (sewage systems)
- Pollution from agriculture
- Collection of rare species

ID = 23: Savinja

Region	**Geographical position**
Alpine	Kamniško-Savinjske Alpe, northern Slovenia
Altitude	**Proposed site**
200 – 1100 m	The Savinja River
Nature protection status	
No protection recently	
Habitats	**Species**
3220, 3222, 3230, 6520, 91E0*, 91F0	1074, 1065, 1052, 1083, 1060, 1061, 1059, 1089, 1105, 1122, 1130, 1131, 1134, 1138, 1354*, 1355, 1303, 1324

Landscape features: Headwaters of the river come from the alpine region of *Solčavsko*. The water is gathered at fluvial-glacial deposits at the bottom of the valleys, which after the junction flow in a uniform course. Ecologically most interesting is the spring of *Črna* where a marshy environment has been formed in contact of gravel and clay sediment. Where captured into the bedrock, the river curved out gorges with rapids and plunge pools. As a torrential stream, it is prone to flooding, especially after entering the more open and levelled landscape. In lower reaches, the river creates gravel embankments; some fossil terraces still remain, although many have changed by levelling the ground and regulation works.

Biodiversity and protection: In the upper reaches, the habitat of alpine rivers and the herbaceous vegetation prevails. As the river enters a more levelled surface, residual alluvial forest can also be found. The upper part ranks into high quality class, consequently the river is rich in fauna. The area on the plain land known as *Šentjanško Okoninski bazen* is an important reservoir of fresh water. It has recently had no protection.

Man and nature: Due to its torrential character settlements were formed only on fans and levelled surface in the lower reaches. After some regulation works the infrastructure began to trickle in. Headwaters are exploited by small hydropower plants, once also for sawmills and for the transport of trunks as tree felling has always been the most important branch along the river. The river attracts sportsmen - kayaking and rafting. There are three camping sites along the river. In the lower reaches, the river flows through a densely populated area around the city of *Celje*.

Threats:

- Hydropower plants (low discharge in dry periods – plants use too much water)
- Pollution from agriculture (lower reaches – agricultural land where artificial fertilizers are used, sewage outlets in upper reaches)
- Gravel extraction (on the plain land around *Ljubno*)
- Untreated waste water pollution (sewage systems, industrial outlets in lower reaches)
- Drainage, Flood control
- Constructions by the river

- Mass tourism (rafting, kayaking)

ID = 24: Reka (Velika voda)

Region Mediterranean	**Geographical position** Reka, SW Slovenia
Altitude 400 – 620 m	**Proposed site** The Reka River
Nature protection status No protection recently	
Habitats 3290	**Species** 1059, 1137, 1138, 1352*, 1354*, 1361, 1304, 1316, 1193, 1186, 1898

Landscape features: The *Reka,* locally named the *Velika voda* ("Big water"), is the widest known sinking stream of the classical Karst. Sinking of the river into collapse dolines of the cave system of *Škocjanske jame*, Karst springs of the *Timav* (Il Timavo) and the *Brojnice – Nabrežina* (*Sorgenti di Aurisina*), and hydro-geographical properties of the *Reka* have been admired and studied since ancient times. The *Reka* drainage basin is caught between the neighbouring Karst areas, supplied with four Karst tributaries, and flowing 51.6 km across flysch bedrock and sinks in contact with limestone. The highest discharge is estimated to over 300 m^3/sec. River floods are an annual event.

Biodiversity and protection: The significance of moist grassland indicates the presence of globally endangered species such as *Maculinea teleius* and *Paleochrysophanus hippothoe*, and the corncrake *Crex crex* (46 breeding pairs estimated, 1999); therefore, it is indicated as IBA. In tributaries *Proteus anguinus* is found. In the upper reaches *Lutra lutra* has been noticed again. The area has recently had no protection; it belongs to the influence zone of *Škocjanske jame* (Unesco heritage site).

Man and nature: The river has created a flat plain around the biggest town in the region, *Ilirska Bistrica*, and industry and dense infrastructure are developing here. Landowners mostly preserved traditional agriculture, flood plains only have seasonal mowing, and orchard cultivation is present as well. Some parts of the river stream have already been under hydro-melioration works. After decades of heavy pollution from the factory of organic acids in *Ilirska Bistrica* water quality is improving. Land subsidence is occurring where there are abandoned coalmines.

Threats:

- New infrastructure (windmills for electricity supply on dry meadows above the river *Reka*)
- Untreated waste water pollution (not managed dump site "*Globovnik*" of closed factory for organic acids, waste from settlements / private companies)
- Pollution from agriculture (along the entire river flow)
- Traffic (non-degradable outlets in the event of road accidents on an important route to *Zagreb* in Croatia, improper parking places for tank lorries)

- Alien species introduction (*Solidago canadensis, S. gigantea, Helianthus tuberosus, Reynoutria japonica, Ambrosia artemsiifolia*)

ID = 25: Rački ribniki

Region	**Geographical position**
Sub-pannonian	Dravsko polje, E Slovenia
Altitude	**Proposed site**
250 m	The Rački fishponds
Nature protection status	
Landscape Park of Rački ribniki - Požeg	
Habitats	**Species**
91G0*	1428, 1898

Landscape features: The area of fishponds is located in the western part of the river *Drava* plain. The surface was formed by streams (*izgoni*) flowing from the plateau of *Pohorje*. On the passage onto the plain land, torrential streams overflowed and accumulated fine deposits, and consequently levees have formed. In order to prevent flooding, additional channels were built and some are used for irrigation. The complex of fishponds is divided into three groups, and together there are 10 ponds which are dedicated to fish breeding. Water accumulation of *Požeg* retains from high waters of the stream *Reka*.

Biodiversity and protection: Although fishponds serve for fish breeding, they represent a rare ecosystem on the plain land. The Pannonian oak-hornbeam forest is crossed with ponds, channels and meadows. The area is protected as a Landscape Park.

Man and nature: The area is uninhabited. On the margin of the park one single farm is located. Tradition of fish breeding is one of the oldest in Slovenia. The park is arranged with info-stops and natural trails. The local society *Društvo za proučevanje ptic in varstvo narave* offers guided tours as well.

Threats:

- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture
- Collection of rare species

ID = 26: Podvinci

Region	**Geographical position**
Sub-pannonian	Dravsko polje, E Slovenia
Altitude	**Proposed sites**
220 m	The Podvinci fishponds
Nature protection status	
Nature reserve	
Habitats	**Species**
91G0*	1428

Landscape features: In the area around the village of *Podvinci* there are two fishponds – *Veliki* ("Big") and *Mali ribnik* ("Small" fishpond). The complex is located on the floodplain in the immediate vicinity of the stream *Pesnica* and the river *Drava*. Both fishponds have an artificial origin; a swampy area was dig up for the purpose of fish breeding. They are shallow, the depth mostly does not exceed one meter.

Biodiversity and protection: Although fishponds serve for fish breeding, they represent a rare ecosystem on the plain land. The Pannonian oak-hornbeam forest acts as a purifier in contract with the agricultural land which is also on the shore. The area is protected as a Nature Reserve.

Man and nature: A part of the area around the fishponds is used for intensive agriculture. It is estimated that the origin of the fishponds goes back to the 18th century. The fishponds are the property of the municipality of *Ptuj*.

Threats:

- Alien species introduction
- Untreated waste water pollution (sewage systems from settlements)
- Pollution from agriculture
- Collection of rare species

ID = 27: Lahinja

Region	**Geographical position**
Dinaric	Bela Krajina, S Slovenia
Altitude	**Proposed site**
130 – 160 m	The Lahinja River
Nature protection status	
Lahinja Landscape Park	
Habitats	**Species**
3260, 6510	1093, 1098, 1114, 1134, 1138, 1146, 1162, 1167, 1186, 1193, 1354*, 2511

Landscape features: The river that flows across the Karst flatland of *Bela krajina*, is a tributary of the River *Kolpa*, and has still preserved its natural character in the upper reaches. Supplied from numerous Karst springs, the river stream is meandering through the plain. Braided river forms meander loops, ox-bow lakes (*Lahinjske Luge, Nerajske Luge*), swamps and wetlands (*Mlake*). There is a speciality there, three hypothermal springs with the temperatures of 18° – 19° C. Dolines, caves and Karst polje (*Zjot*) with sinking tributary have developed due to the Karst processes.

Biodiversity and protection: The dominating habitat is lowland hay meadows, which are already abandoned in some places. The meadows in the region of *Bela krajina* are known as "*stelniki*", birch woods and fern are typical. In pure Karst springs, *Proteus anguinus* and *Triturus carnifex* are found, the Slovenian endemic turtle *Emys orbicularis* lives in the wetland of *Mlake*. The area is protected as a Landscape Park.

Man and nature: Inside the banks of the meander loops are locations for pre-historic colonization (*Pusti Gradec*). Nowadays there is a church and a tourist farm (*Klepčeva domačija*) with an active sawmill. As natural conditions are non-favourable nowadays, the riverbanks are uninhabited, the nearest settlement is the village of *Veliki Nerajec* where the Info-centre for the Park is located. In the Park there are several info-boards and marked nature trails, and guided walks are organized by a local agency. In the lower reaches, the river crosses agricultural land.

Threats:

- Untreated waste water pollution (due to a new purifying plant water quality is recovering, concentration of PCBs in tributary of the *Krupa* is in decline)
- Alien species introduction

ID = 28: Sava Bohinjka

Region	**Geographical position**
Alpine	The Julian Alps, NW Slovenia
Altitude	**Proposed site**
430 – 525 m	The Sava Bohinjka River
Nature protection status	
No protection recently	
Habitats	**Species**
3220, 3222, 3230, 91E0*	1083, 1084*, 1138, 1149, 1122, 1131, 1145, 1163, 1354*, 1355, 1361

Landscape features: The *Sava Bohinjka* is the right tributary of the river *Sava*, it drains waters from the southern fringe of the Julian Alps. Its main spring is at the waterfall of *Savica* - it drops 72 metres from a fault line in the lower part of the *Komarča* cliffs into a deep pool enlarged with the dam for a hydroelectric power plant. The stream feeds *Bohinj* Lake and the outflows on its W-side for 33 km. Along its way, the river changes its character; from a U-glacial valley to a narrower and deepened parts with rapids, pot holes and plunge pools. Terraces have formed above the riverbed, some curved into the bedrock as a result of a glacial flow. On some parts of the sunny slopes, fossil scree fans are preserved.

Biodiversity and protection: The alpine river and the herbaceous vegetation along its banks, together with alluvial forests with *Alnion glutinoso – incanae*, rich in fish species. The river itself has recently had no protection.

Man and nature: The alpine area of *Bohinj* used to be known for ironworks, forestry and pasture. The last two have remained until the present day. Settlements are located at the bottom of the valley, some also on the plateaus as much as 1000 m high (*Koprivnik*, *Gorjuše*). In some parts the river discharge is exploited by small hydropower plants. The river is attracted by fishermen and other water sports such as rafting, caving, canyoning and diving.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution (sewage systems from settlements)
- Pollution from agriculture
- Mass tourism

ID = 29: Jovsi

Region	**Geographical position**
Sub-pannonian	Bizeljsko, SE Slovenia
Altitude	**Proposed site**
140 m	The Jovsi wet meadows
Nature protection status	
Natural monument	
Habitats	**Species**
6431, 91G0*	1188, 1193, 1167. Euring: 04210, 08830, 01340, 01310, 07650, 08550,13480, 15150, 15190, 08410

Landscape features: The site is located 6 kilometres before the junction of the *Sotla* with the *Sava*. Before the regulation the river *Sotla* was flooding, consequently a levee formed. The flood plain is surrounded with gently undulating hills of the *Bizeljsko* region. In some parts groundwater stays on the surface for several weeks after heavy rains. The average water table is close to the surface, consequently gley soils formed. Water channels are remnants of the former *Sotla* meanders. Very nearby there are two young tectonic faults which are still earthquake active.

Biodiversity and protection: The remote location creates a rich ecosystem of wetland (*Arrhenaterion, Molinion)*, species like *Bombina bombina* and *Triturus carnifex* are found. There is a shelter of many nationally and European endangered amphibians and birds here. The area is proposed as SPA, and protected as a Natural Monument.

Man and nature: The area is uninhabited, although it is used for agriculture. Human activity is adapted to natural conditions. Fields are located where the water table is the deepest. Humid parts are used for intensive meadows. Most of the marshy land is cultivated by extensive harvesting once a year. The local hunting society built a special moor for wild duck breeding.

Threats:

- Pollution from agriculture
- Intensive agricultural land use
- Shrub encroachment
- Collection of rare species
- Drainage

ID = 30: Mlake

Region	**Geographical position**
Alpine	Ljubljanska kotlina, central Slovenia
Altitude	**Proposed sites**
320 m	The Mlake site
Nature protection status	
No protection recently	
Habitats	**Species**
6431, 7230, 91E0*, 91G0*	1167, 1898

Landscape features: *Mlake* together with *Blata* present an alluvial forest of *Alnus glutinosa*. The area covers 30 ha of land, located in the NE side of *Ljubljanska kotlina*. The shallow depression is filled with clay sediments, which make the surface impermeable. The area is drained by a small stream of *Rovščica*, which meanders and splits into numerous channels across the area. On the passage to drier surroundings of sandstone deposits, some wetlands and forest edge have been formed.

Biodiversity and protection: Habitats are related to swampy characteristics in a rather alpine-continental climate. Despite its pristine environment, the area has had no protection.

Man and nature: Quite trying access circumstances and economically non-benefit conditions have kept the area away from agriculture and industry.

Threats:

- Alien species introduction
- Pollution from agriculture (polluted underground water, outlets from sewage systems)
- Shrub encroachment
- Drainage (lowering of water table due to regulation works in the surrounding area)
- Urbanisation (new plans for recreation – golf course, picnic areas)
- Visitors (no management plan for visitors in a small vulnerable area)

ID = 31: Ljubljansko barje

Region	**Geographical position**
Dinaric	Ljubljanska kotlina, Central Slovenia
Altitude	**Proposed site**
280 m	The Ljubljansko barje marsh
Nature conservation status	
Partially protected – Kozlarjeva gošča Forest Reserve	
Habitats	**Species**
3290, 6431, 6510, 7110*, 7230, 91D4*, 91E0, 91G0	1014, 1071, 1074, 1065, 1052, 1083, 1060, 1059, 1084*, 1089, 1114, 1220, 1122, 1131, 1138, 1146, 1149, 1105, 1162, 1163, 1354*, 1355, 1361, 1324, 1193, 1167, 1186, 1903, 4045, 4065, moč.sk.. Euring: 02610, 04210, 12730, 03700, 00980, 01340, 01310, 02310, 08310, 08550, 08630, 15150, 15190

Landscape features: The area covers about 150 km^2 of flatland on the southern part of the Ljubljana basin. Depression is filled with alluvial deposits, still sinking at about 2 cm per year. The main river course is the *Ljubljanica*, separating the flood plain longitudinally. It springs from Karst springs at *Močilnik* supplied by waters from a vast drainage basin of Dinaric poljes in *Notranjsko podolje*. Ljubljansko barje is a cultural landscape, dominated by extensively managed late-mown grasslands and cornfields, divided by *mejice*. These are long and narrow lines of trees and bushes, which used to separate land of different owners (over 100 km). Drainage ditches are also evenly distributed, with a total length of more than 400 km.

Biodiversity and protection: Rich in habitats, the area is a home to several important species. Corncrake *Crex crex*, a globally endangered species, breeds in internationally important numbers and counts about half the Slovenian population (Dopps, 2000, 95). Due to the vicinity of the hills of *Krimsko hribovje* and *Menišija* big carnivores are found here. The area belongs to IBA. A small part of the marsh is protected as a Forest reserve.

Man and nature: The marsh has been inhabited since the pre-historic times. In the time of the first inhabitants, the area was covered with lake, and the culture of living on bridges developed (*Mostiščarji*). The lake was gradually filled with alluvial deposits and swamps with bog bed developed. In the 19th century bog beds were strongly exploited mostly for the purpose of heating. Systematic drainage plans were introduced as well. Human activity intensively changed the ecosystem. Nowadays the main activity is producing food on allotments for the markets in Ljubljana. The majority of the population commute to work to Ljubljana.

Threats:

- Untreated waste water pollution (sewage system, illegal dumps, public dump)
- Shrinking of alluvial oak forest

- Intensification of agricultural land use
- Pollution from agriculture
- Shrub encroachment
- Collection of rare species
- Drainage
- Alien species introduction

ID = 32: Mlake pri Vipavi

Region Mediterranean	**Geographical position** Vipavska dolina, W Slovenia
Altitude 140 m	**Proposed sites** The Mlake moor
Nature protection status No protection recently	
Habitats 91E0*	**Species** 1354*, 1361

Landscape features: *Mlake* is about 1-km^2-wide area between the river *Vipava*, the village *Podnanos*, located at the foot of the Karst plateau *Nanos*, in the contact with flysh and limestone bedrock. The moor has been formed due to the geological position, slow flow of the stream of the *Gacka* and the high underground water table.

Biodiversity and protection: Dominate habitats are wet lands and hay meadows. The area was protected as a Landscape park for two years – in order to change the direction of a planned highway. Nowadays it has no protection.

Man and nature: The area used to be a military firing ground for the Yugoslav army. It was closed for public; the first data about the importance of nature have recently been issued.

Threats:

- Shrub encroachment
- Large infrastructure (planned highway)
- Collection of rare species
- Drainage

ID = 33: Snežnik

Region	Geographical position
Dinaric	Javorniki – Snežnik, S Slovenia
Altitude	**Proposed site**
1540 – 1800 m	The Snežnik plateau
Nature protection status	
Nature reserve at the peak	
Habitats	**Species**
4070*, 8210, 8215, 8310	1352*, 1354*, 1361, 4072, 4089

Landscape features: *Snežnik* is a continuation of the high Dinaric plateau belt from the NW. With its 1796 m it is the highest Slovenian peak out of the alpine region. The landscape presents a corridor between the Dinaric and the alpine region. Remnants of glaciations such as glacio-Karst depressions and fluvioglacial material are found on the slope. The area is carstified, features like collapse dolines, dolines, gullies, grikes and clints developed on the exposed limestone bedrock. In some dolines ("*draga*"), vegetation inversion has formed – *Grčovec, Črni dol*. On the NE slope the inner cliffs are common (*Prepad*), due to the formation of collapse dolines.

Biodiversity and protection: Bushes with *Pinus mugo* and *Rhododendron hirsutum* and Calcareous rocky slopes with chasmophytic vegetation are the main characteristics. Because of a wide forest area *Ursus arctos* settles here. *Canis lupus* has been revitalizing. The area is partially protected with the Forest Reserve of *Mašun* and Nature Reserves.

Man and nature: The area is uninhabited. In the past, some parts were used for sheep grazing (tranzimance) which started to decline after 1945. The main human activity is forest felling, which together with *Javorniki* represents the widest forest complex in Slovenia. In the past trunks were used for charcoal burning. Commercial hunting is limited as *Canis lupus* has nearly extinct. Tourism is at the beginning – mountain paths, two mountain huts, mountain biking, the European walking trail (E6). The tourist hamlet of *Sviščaki* has 90 tourist objects, mostly weekend cottages.

Threats:

- Shrub encroachment (*Pinus mungo* covers the peak)
- Collection of rare species

ID = 34: Triglavski narodni park

Region	**Geographical position**
Alpine	The Julian Alps, NW Slovenia
Altitude	**Proposed site**
180 – 2860 m	Triglav National Park
Nature protection status	
Triglav National Park	
Habitats	**Species**
3130, 3140, 4060, 4070*, 6171, 6172, 6173, 6210, 6432, 6520, 7110*, 8120, 8210, 8215, 8240*, 8310, 9110, 91D4*, 91E0*, 9411, 9412, 9420	1072, 1065, 1083, 1084*, 1087*, 1107, 1163, 1352*, 1354*, 1355, 1361, 1304, 1303, 1324, 1308, 1604, 1193, 1167, 1474, 1902, 1604, 4071, 4078. Euring: 02960, 02510, 03300, 03320, 03350, 03570, 07700, 13430, 11620, 02310, 02560, 03200, 03260, 04210, 07510, 07650, 08310, 08550, 08630, 08980, 08840, 09740, 13480, 15150

Landscape features: The relief of the Julian Alps in very dissected, and pointed ridged peaks, steep slopes, and rapid changes in inclination are its general characteristics. Slopes have been smoothed down by glaciers, and alpine rivers curved canyon-like channels, pot holes, plunge pools and waterfalls (*Peričnik*, *Savica*) are common. The only large plateau is the wooded *Pokljuka*, situated about 1200m above sea level. Other high-mountain plateaus are smaller. Due to the prevalence of limestone bedrock, Karst features are common (high mountain Karst) – limestone pavements, sink holes, vertical shafts, Dolinas (*konte* on *Pokljuka*). The accumulation of moraine and residual material has enabled formation of features like drumlin meadows (*Vogar*), glacial lakes (*Bohinj*, *Valley of seven Triglav lakes*) and highland marshes (*Poljuka*). The Julian Alps present the border watershed between the Adriatic and the Black Sea drainage basin. The highest peak *Triglav* (2864 m) is also the highest Slovenian mountain.

Biodiversity and protection: The area of 838 km^2 offers high diversity, regarding landscape features and microclimate specifics (the influence of Mediterranean region in the west). The park got its present extent in 1981. The core of the park consists of high mountain crests, peaks and glacier valleys. The external part is linked with human activity in terms of sustainable development. The area presents the only alpine IBA in Slovenia.

Man and nature: The cultural heritage of the Park is presented by the settlements which have their own characteristic rural architecture and churches, some alpine diaries have survived till today (pastures above *Bohinj*). Remains of the ironworks, monuments to both World Wars (the front battle along the *Soča* River) and a battle from the Napoleonic period (at *Predel*) can also be found within the Park. The whole of the Julian Alps are covered with uniformly marked alpine paths; 32 mountain huts are run by The Alpine Association of Slovenia. In the valley of *Trenta*, an info-park centre offers a museum, guided tours, cultural

trails and hosts educational programmes. Two autonomous species origin in the area: the fish *Salmo trutta marmoratus* and the sheep *Bovška ovca*.

Threats:

- Alien species introduction (*Salmo trutta m. fario* into the *Soča* River and its tributaries, *Phoxinus phoxinus* into Lake *Krn*)
- Untreated waste water pollution
- Pollution from agriculture
- Shrub encroachment (abandonment of alpine dairies)
- Mass tourism
- Development of settlements and tourist infrastructure
- New ski resorts
- Collection of rare species

ID = 35: Kamniško-Savinjske Alpe in Karavanke

Region	**Geographical position**
Alpine	Kamniško-Savinjske Alpe in Karavanke, N Slovenia
Altitude	**Proposed site**
500 – 2560 m	The Kamniško-Savinjske Alpe and Karavanke
Nature protection status	
Partially protected: Forest Reserves and Landscape Parks	
Habitats	**Species**
4060, 4070*, 6171, 6172, 6173, 6210, 6432, 6520, 8120, 8210, 8215, 8240*, 8310, 9010, 9180*, 91E0*	1013, 1087*, 1354*, 1355, 1303, 1324, 1474, 1604, 1902, 4071, 4096. Euring: 03300, 03320, 03350, 07510, 07700, 02960, 03200, 03260, 07650, 08980, 08630, 15150, 08550, 07440

Landscape features: The mountain group of *Kamniško-Savinjske Alpe* is spread in the west-east direction, on the northern side it borders on Austria. Mostly calcareous bedrock builds ridged peaks, dissected plateaus, steep slopes, and produces rapid changes in inclination. Glacially modified valleys gather water from high mountain reservoirs; alpine torrential streams curve gorges and accumulate gravel on more levelled foothills. Characteristics of high mountain Karst can be found here due to limestone features, such as limestone pavement area (*Mali podi*) below the peak of *Skuta*, vertical shafts and cave systems (*Molička peč*). Despite the absence of surface water, one high mountain lake still remains – on the plateau of *Veža*. A remnant of the Middle Ice Age, it lies below the peak of *Skuta* as the eastern most glacial cap in the Southern Alps. The mountain group of *Karavanke* is of older geological origin and thus has a gentler surface, lower peaks and surface water drainage. It spreads westward along the Austrian border.

Biodiversity and protection: The core area with high mountain environment and surrounding foothills presents high diversity in habitats, especially habitats like *Tilio-Acerion* ravine forests or residual alluvial forests are found here. The area is a corridor for *Ursus arctos* on his way to the north. It is partially protected by the Landscape parks and Forest reserves.

Man and nature: The area is generally settled at the bottoms of the valleys, and old farm structure remains on more gentle slopes or terraces. The main human activity is forestry and tree felling which influenced the character of folk culture. Cattle breeding is an important branch as well, although many alpine pastures are in decline. The area of *Kamniško-Savinjske Alpe* is home to the Slovenian autonomous sheep *Jezersko-Solčavska ovca*. According to steep relief and bad transport possibilities some areas have had an isolated development or were more closely connected with Carinthia rather than other parts (*Jezersko, Solčavsko*). An additional branch is forming in tourism – tourist farms, mountaineering with marked paths and several mountain huts, mountain-biking routes, and visiting cultural and natural sights. The mountain ridge of *Karavanke* is an important transit corridor for Slovenia with three international mountain passes.

Threats:

- Hydropower plants
- Alien species introduction
- Untreated waste water pollution
- Shrub encroachment (alpine pastry in decline)
- Mass tourism
- Development of tourist infrastructure
- New ski resorts
- Regulations of water systems
- Collection of rare species

ID = 36: Smrekova Draga

Region	**Geographical position**
Dinaric	Trnovski gozd, W Slovenia
Altitude	**Proposed site**
1100 m	The Smrekova Draga doline
Nature protection status	
Forest Reserve	
Habitats	**Species**
9411, 4070*	1352*, 1354*, 1361

Landscape features: Smrekova Draga is Slovenian most known Karst doline with vegetation inversion. It is located on the northern slope of *Veliki Golak* (1480 m) on the Karst plateau of *Trnovski gozd*. The doline is 140 m deep (1140 m). This phenomenon originates in a microclimate, which develops in depressions of high mountain Karst environment.

Biodiversity and protection: Vegetation inversion is represented with *Pinetum mugo* at its bottom, *Lonicero caeruleae – Piceetum* in its lower part and *Omphalodo – Fagetum* in its upper part. Ecological uniqueness goes to species which are otherwise found on high mountain moors (*Vaccinium uliginosum, Oxycoccus palustris, Polytrichum strictum*). The area is protected as a Forest Reserve.

Man and nature: Doline is in an uninhabited area. In the past, it was not changed or disturbed by human activities.

Threats:

- no threats

ID = 37: Olševa, Raduha, Peca

Region	**Geographical position**
Alpine	Karavanke, Kamniško-Savinjske Alpe, N Slovenia
Altitude	**Proposed site**
700 – 2120 m	The mountains of Olševa, Raduha and Peca
Nature protection status	
Partially protected – The Landscape Park of Topla	
Habitats	**Species**
4060, 4070*, 6171, 6172, 6173, 6210, 6432, 6520, 8120, 8210, 8215, 9110, 9420	1065, 1354*, 1303, 1193, 4071. Euring: 03300, 03320, 03350, 07510, 07700, 02960, 03200, 03260, 07650, 08980, 08630, 15150, 08550, 07440

Landscape features: Mountain massifs belong to two mountain groups, which differ in geological era of origin. Dissected plateaus mainly consist of carboneous bedrock. In contact with impermeable bedrock on its foothills, water reserves are drained through numerous springs (*Olševa*). Steep-sided plateaus have more levelled tops. Undulating surface is partially covered with periglacial deposits. According to its geological structure Karst features are common – rock shelters and caves. The most known is the cave of *Snežna jama*, the only ice-cave in Slovenia, rich in speleothemes. The area is crossed by the Periadriatic tectonic fault, which divides the Euroasian and the Adriatic tectonic plate. Consequently many mineral stocks have formed, like lead and zinc which had been dug up in the mines under *Peca*.

Biodiversity and protection: Area is diverse in habitats, from alpine and boreal heaths to eutric scree slopes and shrub with *Pinus mugo* and *Rhododendron hirsutum*. The mountain range is a corridor for *Ursus arctos*, and *Rhinolophus hipposideros* can be also found here. The area is partially protected by the Landscape park of Topla which is the valley under the mountain of *Peca*.

Man and nature: Human presence goes back to the Palaeolithic era when the first hunters settled in the rock shelter of *Potočka zijalka* on the slope of *Olševa*. Remnants from the past are kept and arranged in the local museum in *Solčava*. Since 1665, lead and zinc have been exploited from the underworld of *Peca*. The mining activity dug about 800 km of shafts and left a mark on the folk tradition and landscape in the valley of *Meža*. Nowadays the mine is closing down; a small part of it is arranged into an underground museum. The mountain range is scarcely inhabited. The main occupation for the inhabitants is tree felling. The main tourist offer consists of tourist farms, mountaineering with marked paths and three mountain huts, the tourist cave of *Snežna jama*; recently the area is visited by mountain bikers as well.

Threats:

- Shrub encroachment
- Inadequate forest management
- New forest infrastructure

ID = 38: Pohorje

Region	**Geographical position**
Alpine	Pohorje, N Slovenia
Altitude	**Proposed site**
280 – 1540 m	The mountain plateau of Pohorje
Nature protection status	
Partially protected: Forest reserves of Črno jezero / Ribniško - Lovrenška jezera / Pragozd Šumik	
Habitats	**Species**
6230*, 6520, 7110*, 9010, 9412	1052, 1354*, 1355, 1303, 1193, 1167. Euring: 03320, 03350, 07510, 07700, 02310, 03260, 08980, 08550, 08630, 13480, 15150, 01340, 01310

Landscape features: *Pohorje* is a dissected plateau, which is the eastern most part of the Central Alps. The massif consists mainly of magmatic and metamorphic rock, the landscape forms several valleys and rounded peaks with the highest of 1543 m (*Črni vrh*). Due to impermeable bedrock, the surface drainage is abundant (waterfall of *Šumik*). The northern margin presents a Tertiary valley covered with gravel, sand and clay – locally a high peat swampland has formed. SE margin forms a hilly region, which gently transits into the flood plain of the River *Drava*. Streams draining *Pohorje* curved many ravines on the steep slopes of the margin. *Pohorje* is known for its mineral resources, like *granodiorit* and *cizlakit,* which was named by the village of *Cezlak*.

Biodiversity and protection: Higher altitude, a geographic position on the passage between the alpine and the sub-pannonian region and surface features created a unique ecosystem with the emphasis on lithology, very different from the Slovenian pattern. The area is mostly covered with forest, partially anthropogenic, habitats such as grasslands on silicious substrates are remnants of forest exploitation. Lakes and active raised bogs are common. The area is partially protected by forest reserves, *Šumik* is a remnant of a virgin forest.

Man and nature: The area has been inhabited since the pre-historic times. The first inhabitants looked for mineral resources for tool making or moved in to escape from invaders. In the 18th and 19th century human activity became intensive, natural resources started to be exploited. The forest gave energy for glaziers' trade and ironworks where mineral stocks manufactured. In the 20th century the manufacture declined, nowadays it is abandoned. The old farm structure (*celk*) remains, cattle breeding is the main agricultural activity. Some farms in re-oriented into sheep breeding or ecological farming. The area is crossed with several mountain paths, mountain biking routes, natural trails, and five mountain huts are located within. Tourist centres are at the ski resort of *Rogla,* which offers sport activities also during the summer, *Ribniško Pohorje, Kope, Mariborsko Pohorje* and *Areh.*

Threats:

- Mass tourism (panoramic road, motocross enthusiasts)

- New ski resorts (connection of all ski resorts)
- Intensive tree-cutting in some parts (after denationalisation)
- Ground acidification (air circulation from thermoelectric power plant in *Šoštanj*)
- Depopulation (decline of cultural heritage - influence of urban life by weekend dwellers)
- Shrub encroachment
- Fragmentation
- Regulations of water systems
- Hydropower plants

ID = 39: Kraški rob (Stene)

Region Mediterranean	**Geographical position** Kras, SW Slovenia
Altitude 140 – 460 m	**Proposed site** The Kraški rob cliffs
Nature protection status No protection recently	
Habitats 5130, 6110*, 8130, 8210, 8215, 9340	**Species** 1088, 1074, 1065, 1083, 1089, 1354*, 1361, 1305, 1304, 1303, 1307, 1193, 1714, 1458, 4187. Euring: 02560, 07780, 07440, 09740, 10050, 12730, 18660, 02310, 03200, 03570, 15150, 07390.

Landscape features: *Kraški rob* represents a sequence of cliffs on the SW margin of the Karst plateau, also known as *Stene* ("Cliffs"). On the frontier between the bedrock of limestone and flysch which continues to the Littoral area, rare geomorphologic features have developed – *spodmoli* (rock shelters). Concave entrance-cave-like features form in the lower part of the cliff, their origin is presumably connected with the tectonic structure, microclimate (sun exposed position) and geological frontier zone. The surface of cliffs is abundant with micro Karst features as well as with calcareous sinter and stalactites.

Biodiversity and protection: Thermopiles environment on calcareous inland cliffs and screes are inhabited by wild rock doves *Columba livia*, alpine swifts *Apus melba* (200 – 300 pairs,), and blue rock trushes *Monticola solitarius* (15 – 20 pairs). The area is the most important Slovenian breeding site for the eagle owl *Bubo bubo* (up to 10 pairs) and scops owl *Otus scops* (300 – 600 pairs). The area has recently had no protection.

Man and nature: *Kraški rob* (*Stene*) is the frontier area between the littoral and the inland territories, obviously present in natural conditions. Small villages are located beneath the cliffs. Earlier cliffs have not been directly affected by human activities; nowadays the main disturbance is sport climbing (cliffs of *Osapske stene, Mišja peč, Črnokalska stena*).

Threats:

- Fragmentation (planned motorways)
- Mass tourism (sport climbing)
- Shrub encroachment
- Large infrastructure
- Collection of rare species

ID = 40: Suha krajina

Region	**Geographical position**
Dinaric	Suha krajina, S Slovenia
Altitude	**Proposed site**
300 – 500 m	The region of Suha krajina
Nature protection status	
No protection recently	
Habitats	**Species**
6110*, 8310	1352*, 1354*, 1303, 1186

Landscape features: The region is strongly carstified, 90 % of the bedrock is limestone (MK, 1999,472). In physical terms, it could be divided into western and eastern, separated by the river *Krka*. The western part is presented with a series of horsts, in-between parallel valleys, and uvalas with numerous dolines, and Karst polje of *Dobrepolje*. The eastern part it is lower, the surface is more levelled, on the plain numerous Karst depressions developed (*Globodol*). The absence of water is common, although the water table is rather high (in heavy rain).

Biodiversity and protection: The habitat of Karst calcareous grasslands and deciduous forest prevails. Caves not open to the public enable specific ecological conditions. *Lynx lynx* and *Proteus anguinus* can be found in the Karst springs and caves as well. The area has recently had no protection.

Man and nature: The area is scarcely inhabited, and depopulation is still present. Settlements are usually confined to uvalas and poljes. The main human activity remains agriculture. Inhabitants seek for jobs in long distance *Novo mesto* or *Ljubljana*, therefore great daily migration is common. *Dobrepolje* has a long tradition in bread baking which turned into some private companies, and it represents a special region within *Suha krajina*. Important employment centres are also a chair factory in *Dobrepolje* and an electronic factory in *Žaga*.

Threats:

- Untreated waste water pollution (no settlement with proper sewage system)
- Illegal waste dumps
- Abandonment of traditional agricultural activities
- Extraction (quarries of stone and sand)
- Shrub encroachment
- Collection of rare species

ID = 41: Kozjansko

Region	**Geographical position**
Sub-pannonian	Kozjansko, E Slovenia
Altitude	**Proposed site**
180 – 660 m	The region of Kozjansko
Nature protection status	
Partially protected: Kozjansko Regional Park	
Habitats	**Species**
3260, 5130, 6210*, 6510, 6520, 7220*, 8310, 91E0*91K0, 91L0	Euring: 08480

Landscape features: *Kozjansko* is a hilly region, on its eastern side bordered with the river *Sotla* and the Croatian border. Geologically it belongs to the group of the *Sava* folds. The hills consist of tertiary sediments which were modified by tectonic and slope processes. Peaks are built of carboneous rocks; valleys are covered with quarter deposits. Due to presence of marl and sandstone, some parts are prone to landsliding and earth slumping. On the headwaters of the *Sotla* floods are common. The most significant thing for this area is the contact between the pre-alpine and the sub-pannonian regions. Eastwardly forest cover drops, arable land is more common (vineyards). In some parts there are examples of isolated Karst landscape with caves, dolines, sinkholes and Karst springs.

Biodiversity and protection: Dry grasslands on high mountains are one of the most important ecological sites, especially considering the fact that those habitats are manipulated through human hand and yet they are very rich in various rare plants (orchids) and animal species (bugs, butterflies). Meadow orchards are of special interest as well. Nearly half of the area is covered with *Fagetum* forest. The area is proposed as SPA. It is partially protected as a Regional Park.

Man and nature: The region is very rich in natural and cultural heritage; there is no heavy industry or any others activity, which would have a negative influence on nature. There is not a lot of soil adequate for farming, a big part of the surface is forests and just some river valleys are inhabited with more people. The centre is a small, medieval village of *Podsreda* where there is also the headquarters of the Park. The Regional Park covers an area of 200 km^2 and belongs into IV. IUCN category. Up to now, many projects were successfully completed. The park has established very strong connections to the local inhabitants, local authorities, schools, NGO's, international partners (Upper Bavarian forest, Slovenian-Bavarian society, Europarc, Eurosite, Regio 21) and so represents a very significant part of the cultural and social life in the area. "The management plan and urgent actions for *Vetrnik* and *Oslica* high dry meadows" are momentarily the most important projects supported by the LIFE-Nature programme. The region is affected by some rather negative trends: depopulation, below average living standard, fluctuation of well-educated experts to big centers and lack of earning opportunities. Tourism is yet to be developed, with the emphasis on sustainable development.

Threats:

- Shrub encroachment (abandonment of agriculture)
- Untreated waste water pollution

ID = 42: Kras

Region	**Geographical position**
Mediterranean	Kras, SW Slovenia
Altitude	**Proposed site**
140 – 1030 m	The region of Kras/Karst
Nature protection status	
Partially protected: forest reserves, Škocjanske jame Regional Park	
Habitats	**Species**
1310, 5130, 6110*, 8310	1088, 1071, 1074, 1065, 1083, 1060, 1059, 1089, 1352*, 1354*, 1361, 1305, 1304, 1303, 1316, 1323, 1321, 1308, 1310, 1193, 1186, 1898, 1604. Euring: 02560, 07780, 07440, 09740, 10050, 12730, 18660, 02310, 03200, 03570, 15150, 07390.

Landscape features: The local name of the *Kras* limestone plateau has given rise to the international geomorphologic term "Karst“ and introduced the science of “karstology“ as the first scientific investigations were held in *Kras*. The whole area is covered with Karst phenomena. The landscape is gently undulating, slightly lowering from NW to SE, without surface drainage. The main landscape features are dolines, uvalas and collapse dolines; their origin is connected with caves, sinking rivers and dry valleys. *Vilenica* is proclaimed as the oldest cave open for tourists (since 1633), the cave system of *Škocjanske jame* has been under Unesco heritage since 1986. Due to its originality, the area is also called “Classical Karst“.

Biodiversity and protection: The area is covered with a mosaic of different succession phases including bare, stony ground, dry calcerous grassland and various kinds of scrublands. At some places, there are inland cliffs in the form of limestone walls and cenotes. The avifauna includes mainly bush land and forest species, as well as species of the dry, open and rocky landscape, and is marked by a complete lack of wetland birds. The area has recently had no protection.

Man and nature: Until the late 19th century most of the area resembled a rocky semi-desert, covered sparsely by grass and shrub which was caused by intense agricultural use, overgrazing, burning and logging. With afforestation campaigns in the early 19th *Pinus nigra* was introduced. Flatland of dolines is used for agriculture; gentle slopes of the *Kras* are covered with vineyards. In the *Kras* two autonomous Slovenian animals were bred – the white horse *Lipicanec* and the shepherd dog *Kraški ovčar*. An additional branch is forming in tourism (visiting natural sites, biking routes, wine routes, culinary specialities).

Threats:

- Untreated waste water pollution (illegal dump places, improper regulation of waste waters and dumps, non-degradable outlets in the event of road accidents)
- Pollution from agriculture
- Intensification of agricultural land use

- Shrub encroachment
- Fragmentation (planned motorways)
- Large infrastructure (planned off-road runway near *Sežana*)
- Collection of rare species

ID = 43: Golte

Region	**Geographical position**
Alpine	Kamniško-Savinjske Alpe, northern Slovenia
Altitude	**Proposed site**
500 – 1560 m	The Golte mountain plateau
Nature protection status	
Golte Landscape Park	
Habitats	**Species**
6171, 6172, 6173, 6210, 6520, 8120, 8210, 8210, 8215, 8310, 9110	1354*. Euring: 03350.

Landscape features: *Golte* is a dissected plateau, which rises in the pre-alpine region of *Kamniško-Savinjske Alpe*. The steep-sided plateau has a more levelled top. Due to limestone bedrock, the plateau accumulates high amounts of underground water that springs in contact with impermeable bedrock (spring of *Ljubija*). The undulating surface is mostly covered with forest, and highly carstified. The main Karst features are dolines and vertical shafts, some of them preserve ice caps also during the warm season (*Lednica*).

Biodiversity and protection: The area is diverse in habitats, from wind edge naked-rush swards to eutric scree slopes and mountain hay meadows. Due to its geographical position, the Euro-Siberian and the Mediterranean communities of the supra to oro-Mediterranean levels (*potentilletalia caulescentis)* can be found as well. The area is protected as a Landscape Park.

Man and nature: The plateau used to be a place for mountain pasturing and tree felling. Nowadays tourism presents an important branch as well. The ski resort runs intermittently, due to financial problems. Visitors are attracted mostly by natural sites (landscape, botanical specialities), mountain paths (mountain hut) and mountain biking routes. Some parts are becoming a popular destination for paragliding. Abandoned pasture huts are being re-structured into weekend cottages.

Threats:

- New ski resorts and encompassing infrastructure
- Mass tourism (short-term plans in favour of ski tourism)
- New infrastructure (weekend cottages bring urban life into vulnerable environment)

ID = 44: Logarska dolina, Robanov kot, Matkov kot (part of Solčavsko)

Region	**Geographical position**
The Alps	Kamniško-Savinjske Alpe, northern Slovenia
Altitude	**Proposed site**
800 – 2450 m	Logarska dolina, Robanov kot, Matkov kot
Nature protection status	
Partially protected: Landscape parks Logarska dolina / Robanov kot, Forest reserves Logarska dolina – Matkov kot / Klemenča planina	
Habitats	**Species**
4060, 6432, 6510, 6520, 8120, 8210, 8215, 8310, 9010, 91E0*	1354*, 1303

Landscape features: Three alpine valleys are presented, all located in the area of the municipality of Solčava: *Matkov kot* with a non-settled bottom valley, and old farm structure (*celk*) on the northern slope; *Robanov kot* is in its middle covered with huge amounts of slope material (stony embankments) which is accumulated by tributaries. These end as torrential streams flowing into the River *Savinja*. *Robanov kot* has a well-preserved terminal moraine at its ending and huntch meadows above it. *Logarska dolina*, the widest of the valleys, gives an example of a glacially modified alpine valley. According to its natural conditions and geographical position it has a unique micro climate. Water is drained by the *Savinja*, changing its nature - from the source (the *Rinka* waterfall), the underground drainage, the flow above non-permeable sediments (the *Črna* spring), to the torrential stream entering the gorge *Socka* before the village of *Solčava*.

Biodiversity and protection: The area surrounded by a high mountain ring offers high diversity in landscape and biota. Habitats from the alpine and boreal heaths, lowland and mountain hay meadows, calcareous screes, rocky slopes with chasmophytic vegetation and Karst landscape are present. Species like *Ursus arctos* and *Rhinolophus hipposideros* also occur. The area is partially protected by Landscape parks and Forest reserves.

Man and nature: The main activity today is tourism (tourist farms, hotel and guesthouse in Logarska dolina, alpine dairies, and mountain huts) and forestry. An important branch of farming is also sheep breeding; this is the home of the Slovenian autonomic sheep *Jezersko-solčavska ovca*. A plan of sustainable development of Logarska dolina has been accepted, the strategy is spreading to other areas as well. The tourism development strategy has been prepared by the municipality of Solčava. A biomass power station is being built in *Logarska dolina*, small hydroelectric plants are already running by some farmers. Some farmers are entering the national programme for ecological agriculture. *Robanov kot* is closed for traffic.

Threats:

- Mass tourism (private interests and foreign investments)
- New ski resorts
- Regulations of water systems

- Shrub encroachment

ID = 45: Žusterna

Region	**Geographical position**
Mediterranean	Koprsko primorje, SW Slovenia
Altitude	**Proposed site**
0 m	The Žusterna coast
Nature protection status	
No protection recently	
Habitats	**Species**
1120*	/

Landscape features: The coast along the small town of *Žusterna* is mainly presented with flysch cliffs rich in sediment texture – the insight in processes of sedimentation and paleobio-activity.

Biodiversity and protection: The natural habitat of *Posidonia oceanica*, a Mediterranean endemic species, one of the most endangered plants on the Mediterranean Sea, is up to 50 metres wide and a kilometre long corridor. *Posidonia* meadows are the key ecosystem – producing oxygen and organic substances, biotone, ground for sessile organisms, diminishing erosion. The area has recently had no protection.

Man and nature: The seacoast is used for tourism, mostly daily visitors as there are no camping sites or hotels.

Threats:

- Dredging
- Herbicide emissions
- Untreated waste water pollution (improper sewage system)
- Mass tourism
- Large infrastructure

ID = 46: Sečovlje

Region Mediterranean	**Geographical position** Koprsko primorje, SW Slovenia
Altitude 0 m	**Proposed site** The Sečovlje saltpans
Nature protection status Landscape Park of Sečoveljske soline	
Habitats 1310	**Species** 1095, 1152. Euring: 04770, 04550, 05750, 06150, 01210, 06240, 08310, 10050

Landscape features: The *Sečovlje* saltpans are the largest saltpans on the Slovenian coast. Once a brackish delta, formed along the mouth of the *Dragonja* River in the 13th century, it was transformed into an 850 ha complex of saltpans. The cultural landscape is presented with salt fields consisting of basins of different evaporation grades and crystallization, surrounded with sweet, brackish and salt-water canals, rocky embankments of the main channels and saltpan houses.

Biodiversity and protection: Their sub-Mediterranean climate, high salinity of water and abandoned salt-making activities in the greater part of the pans create very special ecological conditions, in which only the best-adapted organisms can survive. It is a nationally important breeding place and migration site for some birds (*Larus cachinnans*, *Larus melanocephalus*), therefore it ranks into IBA. The area is protected as a Landscape park, which is divided into four smaller areas or natural reserves which are of exceptional botanical or ornithological importance.

Man and nature: Nowadays, only a smaller part of saltpans called *Lera* remains active for the extensive production of salt using traditional methods, and two-thirds of the saltpans called *Fontanigge* had been abandoned. The salt-making museum encompasses two renovated salt-makers' houses, two adjacent salt fields and the *Giassi* channel which is the main channel for the influx of seawater. The museum presents the old salt-making procedure in individual production units, the beginnings of which date back to the Middle Ages.

Threats:

- Mass tourism (seasonal swimmers, no management for visitors)
- Large infrastructure (golf course, port and airport enlargement in the vicinity)
- Any discontinuity from traditional methods of salt making can interrupt the whole ecosystem
- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture
- Regulations of channels

- Drainage

ID = 47: Strunjan

Region	Geographical position
Mediterranean	Koprsko primorje, SW Slovenia
Altitude	**Proposed site**
0 m	The Strunjan area
Nature protection status	
Strunjan Landscape Park	
Habitats	**Species**
1240, 1310	1152

Landscape features: Precipitous wall of the *Strunjan* cliffs is up to 80 meters high and composed of soft layers of flysch, which have been shaped by winds and rain. As the bedrock is soft, its bottom part has been subjected to constant erosion by the sea, while its upper parts have been decomposed a great deal by the changing weather conditions. The results are geological phenomena, such as rock shelters, micro-tectonic joints, partly broken rock blocks and the slanting layers of sandstone terminating in the sea and at places creating a real natural paving between the land and the sea, and characteristic sediment textures in layers. The *Strunjan* cliffs form the largest known coastal flysch wall on the entire Adriatic coast.

Biodiversity and protection: On the upper edge of the cliffs, especially in erosive gorges, the typical deciduous sub-Mediterranean community of Hop-Hornbeam and Autumn Sesleria (*Seslerio autumnalis - Ostryetum*) developed, in which broom (*Spartium junceum*) and reeds (*Arundo donax*) are also abundant. On cape *Ronek* grow the most distinctive representatives of the Mediterranean maquis i.e. myrtle (*Mirtus communis*) and Strawberry-tree (*Arbutus unedo*). Cape *Ronek* is the only autochthonous habitat of Strawberry-tree in Slovenia. The area is protected as a Landscape park (4 km of shore, a 200-m wide strip of the coastal sea), the coast is protected as a Nature Reserve.

Man and nature: The area above the cliffs is used for vineyards and fruit growing.

Threats:

- Pollution from agriculture (agrochemical pollution)
- Pollution from ports of *Koper* and *Trieste*
- Mass tourism
- Regulations of channels
- Drainage
- Untreated waste water pollution (from summer cottages and settlements)
- Alien species introduction

ID = 48: Debeli rtič

Region	Geographical position
Mediterranean	Koprsko primorje, SW Slovenia
Altitude	**Proposed site**
0 – 20 m	The Debeli rtič peninsula
Nature protection status	
Natural monument	
Habitats	**Species**
1240	/

Landscape features: The wide ridge of *Debeli rtič* peninsula rises easterly into the slopes of *Jurjev hrib* (107 m) and at the root it reaches the height of some 65 m in the west, a huge cliff rises above the sea and a narrow terrace along it. Abrasion, mouldering of the flysch walls and washing away of the weather-beaten rock are the basic geo-morphological processes, which have given the cliff its shape and features (abraded terrace, rock shelters, sediment textures). Under the surface of the sea, one can follow the underwater ridge, gradually thinning towards the west and at the same time indicating the direction of the cape's retreat due to the activities of the sea.

Biodiversity and protection: The bank of the cliff is at places, where the inclination allows so, overgrown with thermophilous plants, particularly *Spartium junceum* and *Coronilla emeroides*. The upper edge of the cliff is overgrown with a thick layer of bushes and trees. The shallow sea floor is well lit and richly overgrown with algae. The protected area covers about 800 m of the coast in the extreme western part of the cape and encloses the edge of the cliff, the walls, the abraded terrace and some 200-m-wide strip of the coastal sea.

Man and nature: The plain above the cliffs is covered with dense vegetation, mostly oak. The area is scarcely inhabited, rare houses, mostly used for agriculture: vineyards and fruit gardens. The Slovenian Red Cross sanatorium for young people is the main infrastructure.

Threats:

- Pollution from agriculture (agrochemical pollution from vineyards)
- Pollution from ports *Koper* and *Trieste* (Italy)
- Boat transport
- Untreated waste water pollution

ID = 49: Škocjanski zatok

Region Mediterranean	**Geographical position** Koprsko primorje, SW Slovenia
Altitude 0 m	**Proposed site** The Škocjanski zatok area
Nature protection status Nature reserve	
Habitats 1310, 1410	**Species** 1014

Landscape features: *Škocjanski zatok* is a half-closed system of brackish water. Generally, a shallow lagoon slowly turns from its central slightly deeper part to mudflats. The Nature Reserve consists of two parts – *Bertoška bonifika* as the freshwater part of the Reserve, and the brackish lagoon with its shallows and mudflats. The Rivers *Rižana* and *Badaševica* flowing into the area bring fresh water into the lagoon, while the sea comes in through the sea channel. *Škocjanski zatok* is the largest brackish wetland in Slovenia.

Biodiversity and protection: The concentrations of salt in soil and various water depths give ecological conditions which result in significant diversity of plant communities – mudflats with annual pioneer halophytes, shallows, deeper waters, passage to tidal area, reed bed in the south part of the brackish lagoon. Some plants, mostly halophytes, are considered rare and endangered species. the area is protected as a Nature reserve.

Man and nature: The formation started with the construction of salines, when the pools for evaporation of water were formed in the times of the Venetian Republic. With embankments, they were protected from high tides and river floods and regulated through a network of draining channels. Before 1911, the production of salt had been totally abandoned due to the salt price decrease. In the period from 1932 to 1939 most of the water regulation works were implemented by the Italian authorities. In the beginning of the 1960s, the Port of *Koper* was built all along the *Škocjan* Bay, which became more and more closed, until it finally got a lagoon character. The lagoon of today's *Škocjanski zatok* remains the very last witness, proving that *Koper* originally used to be an island.

Since 2001 Life Nature III Project is held by the Society DOPPS – BirdLife Slovenia. The principal objective of the project is to restore and manage habitats after industrial degradation in the 1980s in order to support endangered birds of national and European importance.

Threats:

- Untreated waste water production (three chemical factories at the mouth of the river *Rižana* without proper safe systems, half-legal dump place on the margin of the area)
- Pollution from agriculture
- Drainage
- Alien species introduction

ID = 50: Lovrenška jezera

Region	**Geographical position**
Alpine	Pohorje, N Slovenia
Altitude	**Proposed site**
600 – 1560 m	The lakes of Lovrenc
Nature protection status	
Forest reserve of Ribniško - Lovrenška jezera	
Habitats	**Species**
3160, 7110*, 91D0*	1354*

Landscape features: The lakes are located in the eastern part of the dissected plateau of *Pohorje.* The swampy area consists of 20 "moor windows", and had been formed as a mineral swamp on impermeable bedrock. With the accumulation of peat the area gradually changed into high peat swampland. The lack of contact with the groundwater is characteristic, bogs are fed by precipitations alone. Nevertheless, they contain water in dry seasons as well.

Biodiversity and protection: *Lovrenc* bog vegetation is of particular interest. Swamps are acid by nature, producing a characteristic vegetation favouring acidity. Habitats like active raised bogs and bog woodland are common. The area is protected as a Forest reserve.

Man and nature: The area is uninhabited. The peat used to be exploited for heating by local people, but in very modest amounts.

Threats:

- Mass tourism (subsidence of high peat swampland)
- Pollution from the surrounding (lakes are fed by precipitation, small self-cleaning ability)
- Alien species introduction

ID = 51: Ribniško jezero

Region Alpine	**Geographical position** Pohorje, N Slovenia
Altitude 1490 m	**Proposed site** Lake Ribnica
Nature protection status Forest reserve of Ribniško - Lovrenška jezera	
Habitats 3160	**Species** 1354*

Landscape features: The Lake is located in the eastern part of the dissected plateau of *Pohorje.* The dystrophic lake is surrounded by high peat swampland, which passes into dwarf pine and spruce forest. Surface drainage enables impermeable bedrock of metamorphic rocks which the plateau is built of.

Biodiversity and protection: Swamps are acid by nature, producing a characteristic vegetation favouring acidity. Dystrophic lakes and ponds are the main habitat. The area is protected as a Forest reserve.

Man and nature: The area is uninhabited. A mountain hut is built in the vicinity. The Lake is accessible by wooden path.

Threats:

- Alien species introduction
- Pollution from the surrounding (lakes are fed by precipitation, small self-cleaning ability)
- Mass tourism

ID = 52: Črno jezero

Region	Geographical position
Alpine	Pohorje, N Slovenia
Altitude	**Proposed site**
1200 m	Lake Črno jezero
Nature protection status	
Forest reserve of Črno jezero	
Habitats	**Species**
3160	1354*

Landscape features: *Črno jezero* is an artificial lake located in the western part of the dissected plateau of *Pohorje*. The swampy area used to be a junction of streams draining the undulating surface. Water accumulation firstly served as water supply. As it gradually turned into a lake, the lake outflow became an important means of transport for tree trunks. Organic matters deposit on the lake bottom, where the name „*Črno*" (the black) originates.

Biodiversity and protection: The dystrophic lake is surrounded by high peat swampland, which passes into dwarf pine and spruce forest. The unique ecosystem is protected as a Forest reserve.

Man and nature: Human activity connected with forestry and tree felling created the lake. Nowadays the lake is not exploited. Several mountain paths go by, a mountain hut was built in the vicinity. Several channels were built to drain the area and restore picnic sites.

Threats:

- Mass tourism (picnic sites)
- Pollution from the surroundings (lakes are fed by precipitation, small self-cleaning ability)
- Alien species introduction

ID = 53: Polanski log

Region Sub-pannonian	**Geographical position** Murska ravan, NE Slovenia
Altitude 160 m	**Proposed site** The Polanski log alluvial forest
Nature protection status No protection recently	
Habitats 91E0*	**Species** 1355

Landscape features: The complex of alluvial forest of *Polanski log* is located in the depression of the *Mura* flood plain (see ID No. 17), along the tributary of the *Ledava*. According to lower altitude groundwater stays on the surface most of the time.

Biodiversity and protection: The complex of *Črni log* (1,200 ha) is within the largest *Alnus glutinosa* forest in Central Europe. It is dense and uninhabited, and indeed hard to access to people. *Lutra lutra* can also be found due to preserved environment. The area has recently had no protection.

Man and nature: The area is uninhabited. It was left untouched as "useless" land.

Threats:

- Untreated waste water pollution
- Large infrastructure
- Drainage (lowering of water table)

ID = 54: Učja

Region	**Geographical position**
Alpine	The Julian Alps, NW Slovenia
Altitude	**Proposed site**
350 – 600 m	The valley of Učja
Nature protection status	
No protection recently	
Habitats	**Species**
3220, 3222, 3230, 6510, 6520, 8120, 8210, 8215, 91E0*	1083, 1087, 1089, 1137, 1138, 1149, 1131, 1107, 1163, 1354*, 1355, 1361

Landscape features: The alpine valley of *Učja* divides the high Karst plateau *Kanin* and the mountain ridge of *Kobariški Stol*. The upper part of the valley belongs to Italy (*Uccea*). Besides the *Koritnica,* the stream of *Učja* is the most important tributary of the upper *Soča* River. The valley presents one of the few examples of alpine valleys which were not modified by a glacier – it is a hanging valley where the river stream gouged a 30-120 m canyon-like ravine. In tributaries from the *Kanin* slope many waterfalls have been formed – the largest 70 m, it is located on the tributary of *Globoški potok*.

Biodiversity and protection: The area has recently had no protection.

Man and nature: On the Slovene side the valley is uninhabited. Wherever possible, steep slopes are used for hay harvesting. The water quality ranks 1st class, any water sport activity is prohibited. An important traffic connection between the valley of *Soča* and the Italian *Furlanija* plain runs through the valley, an international pass between Slovenia and Italy is located there as well.

Threats:

- Hydropower plants
- Alien species introduction

ID = 55: Čaven – Nanos

Region	**Geographical position**
Dinaric	Trnovski gozd – Nanos, W Slovenia
Altitude	**Proposed site**
100 – 1200 m	The Čaven – Nanos Dinaric plateau
Nature protection status	
Landscape Park of Južni obronki Trnovskega gozda / Južni in zahodni obronki Nanosa	
Habitats	**Species**
8130, 8210, 8215, 8310	1352*, 1354*, 1361, 4089. Euring: 02510, 02560, 03200, 03570, 07440, 07780, 09740, 11620, 02310, 02960, 04210, 15150, 18660

Landscape features: Č*aven,* also known as *Trnovski gozd,* is a vast high Dinaric plateau with special mezzo-climate according to its geographical position. The plateau's fringe is most evident from its southern side, above the valley of the river *Vipava*. The Karst landscape is represented with dolines, uvalas, small poljes, dry valleys, vertical shafts, and depressions as remnants of glaciations. *Nanos* is a relief continuation, which has tectonically been divided from the massif.

Biodiversity and protection: The Dinaric environment is deeply affected by high altitude and geographical position. Bended trees on the fringe are characteristic due to the strong wind *burja*, typical for *Čaven – Nanos*. ¾ of the area is covered with forest. Ecologically important species are found in the Karst features. The area is partially protected – southern fringes of plateaus.

Man and nature: *Čaven* is scarcely inhabited; small villages are located on its southern part. *Nanos* is uninhabited; it had seasonal settlements in the past, which were used for shepherds. Intensive forest felling (charcoal burning), fires and grazing have nearly driven the primary forest out. *Čaven* used to be known for export of ice – ice was supplied from dolines and shafts and exported to Trieste. Gradually, the area is attractive for tourism (hiking, visiting of geo-biological sites, hunting, mountain biking, cross-country skiing).

Threats:

- Shrub encroachment
- Large infrastructure

ID = 56: Pivka in Nanoščica

Region	**Geographical position**
Dinaric	Postonjska kotlina and Pivka, southern Slovenia
Altitude	**Proposed site**
550 – 580 m	The Pivka and the Nanoščica rivers
Nature protection status	
No protection recently	
Habitats	**Species**
3290, 6510	1352*, 1354*, 1361, 1186. Euring: 01340, 04210, 07780, 08310, 08550, 09740, 12730, 15150, 15190

Landscape features: The *Nanoščica* and the *Pivka* rivers flow at the edge of a large depression *Postojnska kotlina* and smaller Karst valley *Pivka*. There are strong springs of pure Karst water flowing into the drainage basin; drainage is located on the flysh and gravel ground, and therefore water resistant, otherwise surrounded by limestone plateaus. The rivers have numerous meanders with well-preserved riverbeds, wet meadows and small areas of reed and sedge. The annual flooding in the lower reaches of the site is regular.

Biodiversity and protection: The well-preserved wet meadows, made extremely colourful by endangered wet meadow and marsh flowers, hold a national important number of grassland birds. Strong population of corncrake *Crex crex* (20-40 calling males) (Dopps, 2000, 49) ranks the site into IBA. Pugled hill, in the middle of the site, supports relict remnants of neutral-soil beech *Fagus* forest. The area has recently had no protection.

Man and nature: Because of the wet ground in the basin, extensive farming is possible only on the driest border of the site, and human settlements are concentrated there as well. Together the grasslands and the arable land cover half of the area. Farming is still extensively apart from the intensive cattle farms on the edge of the site.

Threats:

- Untreated waste water pollution (washing of stable manure, non-degradable outlets in the event of road accidents on the highway which crosses the area)
- Pollution from agriculture (intensification of cattle breeding)
- Drainage of wet meadows
- Alien species introduction (*Solidago canadensis, S. gigantea, Reynoutria japonica*)

ID = 57: Rinža

Region	Geographical position
Dinaric	Ribniško-Kočevsko polje, S Slovenia
Altitude	**Proposed site**
460 m	The Rinža River
Nature protection status	
No protection recently	
Habitats	**Species**
3290, 6510, 91E0*	1145, 1098, 1352*, 1354*, 1361, 1193, 1186

Landscape features: The *Rinža* is a Karst river flowing across *Kočevsko polje*. The major part of the water is supplied from two Karst springs of tributaries of the *Prednja Rinža* and the *Zadnja Rinža* in the NW part of the polje, their flow varies from the rain regime. In heavy rains, additional surface tributaries are decanting from N – *Ribniško polje*. After the confluence at wetlands of the *Mrtvice* the river meanders for 11 km. Due to its laminar flow it temporarily floods. The river course sinks in the area of *Šahen*, heavily carstified with an average of 210 dolines/km^2 (MK, 1999, 430). The river flows underground to the river channel of the *Kolpa* where it springs as the *Bilpa*.

Biodiversity and protection: Along the river, the main habitats are lowland hay meadows and intermittently flowing Mediterranean rivers of the *Paspalo-Agrostidion*. As the area is a part of the *Kočevsko* region *Ursus arctos* and *Canis lupus* are present. The area has recently had no protection.

Man and nature: The river flows along the western side of the polje, crosses agricultural land and the main town of *Kočevje*.

Threats:

- Untreated waste water pollution (in the lower reaches it is heavily polluted although a purifying plant was built, waste dumps in the vicinity)
- Pollution from agriculture (from the meadows)
- Levelling of meanders on *Kočevsko polje*, two dams to protect against flooding)
- Alien species introduction

ID = 58: Ribniško polje

Region	Geographical position
Dinaric	Ribniško-Kočevsko polje, S Slovenia
Altitude	**Proposed site**
480 m	Ribniško polje
Nature protection status	
No protection recently	
Habitats	**Species**
3290, 6510, 91E0*	1352*, 1354*,1361, 1193, 1186

Landscape features: The Karst polje covers an area of 35 km^2. It is surrounded by the mountain ridge of *Velika gora* in the west and *Mala gora* in the east. The *Bistrica* River is the main watercourse, but there are also many strong Karst springs, which are responsible for the annual flooding on the valley bottom. Due to a non-permeable bottom (residual material, alluvial sediments) stream crosses the polje and sink at the foothills of *Mala gora* (*Vrtače*). It consists of limestone bedrock, and it is strongly carstified – average of 113 dolines per km^2.

Biodiversity and protection: One-third of the area is still covered by wet meadows. The site is of national importance for migrating birds: numerous ducks, gulls and birds of prey rest on the water surface at *Prigorica*. The region is a passage to *Kočevsko*, the region of *Ursus arctos*. The area has recently had no protection.

Man and nature: Annual flooding brings fresh alluvial sediments which enables agriculture on the flat bottom valley. From the sediments potter's clay is produced and traditional activity of potter's trade has developed. The region is a home of woodenware making whose long tradition still continues. In spite of numerous hydro-regulations and drainage attempts in the 1970-80s, the area is partially still covered with wet grasslands mowed once a year. Besides nearly ten smaller villages, the only town is *Ribnica*.

Threats:

- Untreated waste water pollution (sewage system from villages)
- Drainage and flood control
- Pollution from agriculture (no intensive agriculture)
- Alien species introduction

ID = 59: Loški potok

Region	Geographical position
Dinaric	Loški potok, S Slovenia
Altitude	**Proposed site**
700 m	Loški potok valley
Nature protection status	
No protection recently	
Habitats	**Species**
6110*, 6510	1352*, 1354*,1361

Landscape features: The valley has been formed along the tectonic line, which separates it from the plateau of *Bloke*. Undulating surface is surrounded with parallel Dinaric horsts. Karst features are mostly represented with uvalas (*Retje*, *Travnik*). The bottom of the valley consists of less permeable bedrock (dolomite, residual material), therefore periodic floods occur.

Biodiversity and protection: The area is a passage to *Kočevsko*, the region of *Ursus arctos*. Habitats like lowland hay meadows and *Rupicolous* calcareous or basophilic grasslands are present. The area has recently had no protection.

Man and nature: The area is settled with villages of no more than 300 inhabitants. Population was strongly affected by cross-Atlantic emigration at the beginning of the 20th century. Traditional occupations were connected with the forest, which is abundant: sawmills and charcoal burning. Some are being revitalized for the purpose of local enterprises. The area is proclaimed as a problematic demographical area.

Threats:

- Untreated waste water pollution
- Shrub encroachment
- Pollution from agriculture (stock breeding – only supplemental occupation)

ID = 60: Čičarija

Region	**Geographical position**
Mediterranean	Čičarija, SW Slovenia
Altitude	**Proposed site**
170 – 600 m	The Čičarija area
Nature protection status	
No protection recently	
Habitats	**Species**
5130, 8310	1354*, 1361. Euring: 02560, 07780, 07440, 09740, 10050, 12730, 18660, 07390, 02310, 03200, 03570, 15150

Landscape features: The Karst plateau continues to Croatia, to the bay of *Rijeka*. The levelled surface is crossed with limestone crusts, with some tributaries on sandstone pockets in between. The highest peak is *Slavnik* (1028 m). The upper part is rich in vertical shafts and dolines.

Biodiversity and protection: Due to the Karst landscape and climatic conditions habitats as *Juniperus communis* formations on heaths or calcareous grasslands prevail. Hay meadows host several endangered plants, like *Serratula lycopifolia* (IUCN globally endangered). *Ursus arctos* and *Lynx lynx* have found shelter here. The area has recently had no protection.

Man and nature: According to unfavourable natural conditions, the area is scarcely inhabited. Inhabitants used to seek employment in *Trieste* and *Rijeka*, the area was affected by depopulation. There are marked mountain paths to the peak of *Slavnik*, there is also a mountain hut. *Čičarija* is economically one of the poorest Slovenian regions.

Threats:

- Shrub encroachment

ID = 61: Krakovski gozd

Region Sub-pannonian	**Geographical position** Krška ravana, S Slovenia
Altitude 160 m	**Proposed site** The forest of Krakovski gozd
Nature protection status Forest Reserve	
Habitats 8310, 91F0, 91G0*	**Species** 1354*, 1361, 1193. Euring: 02920, 03030, 08830, 13480, 15190, 01340, 04310, 02310, 04100,,04210, 07650, 08550, 08630, 15150

Landscape features: The forest complex lies in the central *Krško* basin, on the left bank of the *Krka* River and covers an area of 7000 ha. The undulating surface has developed on alluvial deposits of the rivers *Sava, Krka* and some tributaries from the hills of *Bizeljsko gričevje*. Holocene boulders and pebbles are covered with a thin layer of soils, and silt with clay. Because of less permeable ground, water retains on the surface; in shallow depressions, swamps have formed (*Trstenik*).

Biodiversity and protection: The forest is a remnant of a once vast complex of Slavonic oak forest stretching along the *Sava* and *Danube* rivers. In the heart of the forest (alt. ranging from 150 to 161 m) there is a 40.5-ha large region with well-preserved characteristics of a virgin forest. This part is overgrown predominately with gigantic century-old oaks and hornbeams, the largest *Salix alba* and *Quercus robur* in the country appear here. *Bombina variegate* is a speciality among species.

Man and nature: Due to its less favourable conditions for tree felling on swampy area, the forest was not affected by serious exploitation. It is totally uninhabited and almost untouched by man. Nowadays the forest is managed within the principles of sustainable development; the part protected as a virgin forest remains untouched. The *Ljubljana-Zagreb* motorway runs along the northern edge of the site.

Threats:

- Large infrastructure (motorway Ljubljana-Zagreb, outlets from road accidents)
- Untreated waste water pollution (from the surrounding basin, polluted underground water from agriculture)
- Drainage (water table is falling)
- Pollution of air from the factory of paper and cellulose in *Krško*
- Gravel extraction (by *Koren*)

ID = 62: Sočerga

Region	**Geographical position**
Mediterranean	Koprska brda / Šavrini, SW Slovenia
Altitude	**Proposed site**
300 m	The area of Sočerga
Nature protection status	
No protection recently	
Habitats	**Species**
9340	/

Landscape features: *Sočerga* is known for well-developed landforms of *spodmoli* (rock shelters). Concave entrance-cave-like features are formed in the lower part of the cliffs, their origin is presumably connected with tectonic structure, microclimate (sun exposed position) and geological frontier zone (limestone – flysh). Below the inner cliffs *Sočerska vala* has been formed, it represents a flysh pocket on the limestone dissected plateau.

Biodiversity and protection: The habitat type of *Quercus ilex* and *Quercus rotundifolia* forests prevails. The area has recently had no protection.

Man and nature: *Spodmoli* were locations for the Pre-historic colonization. Nowadays there is village of *Sočerga* with 53 inhabitants (census 1991). The village was affected by depopulation due to modest nature conditions. An international passage to Croatia was established in 1991.

Threats:

- Collection of rare species (robbery of nests of endangered birds, e.g. mountain eagle)

ID = 63: Koritnica

Region	**Geographical position**
Alpine	The Julian Alps, NW Slovenia
Altitude	**Proposed site**
1300 – 380 m	The Koritnica River
Nature protection status	
Triglav National Park	
Habitats	**Species**
9420	1107, 1354*, 1355

Landscape features: The valley of *Koritnica*, also named as *Loška Koritnica*, is the western most valley in the Triglav National Park. The *Koritnica* is an example of a glacially modified alpine valley, with steep slopes, moraines and covered fans. At the more levelled bottom of the valley, the river accumulates slope material and forms gravel embankments. At its ending the river course gouged its way into the bedrock in which it has cut canyon-like ravines with depths of 60 – 70 m and created erosion potholes on the river bed, known as *Mala korita* and *Korita*.

Biodiversity and protection: *Ursus arctos* or *Lutra lutra* can be found on the banks, but their presence is in decline. The watercourse is also home to *Salmo marmoratus*. The area is under protection of the Triglav National Park.

Man and nature: Due to its remote position the area has been affected by depopulation. It is recovering now with the help of tourism. The main tourist offer comes from water sports such as canyoning or kayaking. The river has been polluted with chemical waste from the lead mine in *Rabelj* (Italy) which is now closed.

Threats:

- Hydropower plants
- Alien species introduction
- Gravel extraction
- Untreated waste water pollution
- Water management interventions

ID = 64: Nadiža

Region	**Geographical position**
Alpine	The (pre-alpine) Julian Alps, NW Slovenia
Altitude	**Proposed site**
220 – 400 m	The Nadiža River
Nature protection status	
No protection recently	
Habitats	**Species**
91E0*	1014, 1092, 1136, 1162, 1354*, 1361

Landscape features: The *Nadiža* springs under the slopes of *Kobariški Stol* and for 18 km runs through the area of *Breginjski kot* and through a high gorge at *Robič* enters the Italian territory. In its upper reaches, it flows as a torrential stream which gorged a canyon-like ravine into the carboneous bedrock with steep slopes rising directly from the water. The *Nadiža* is famous for being a wild river with numerous natural pools and erosion potholes. In its lower reaches its bed widens, gravel embankments are formed and it offers a view of the Alpine slopes (*Kobariški Stol, Krn* mountain group) right from the riverbank. The *Nadiža* has two tributaries: the *Bela* and the *Legrada,* and the right one makes a deep gorge in the soft carboneus rock. The *Nadiža* is one of the warmest river with alpine character, the average high summer temperature of up to 22° C.

Biodiversity and protection: As one of the most significant parts of the area the *Nadiža* creates a great diversity not only in landscape but also in biota. In the upper part where the gorge is deep and narrow forests mostly of beech reach almost to the river itself and in the lower widened part hay meadows are still in use. The river trout is the most common fish in the *Nadiža* River. The torrential character produces gravel and sand embankments.

Man and nature: The upper reaches are uninhabited due to the deep gorge; slopes are mostly covered with forests. Small villages are located on fossil river terraces high above the river or on glacier terraces and moraines at the foot of mountain *Stol*. All villages except *Robidišče* are located on the left bank. On the river shore in *Podbela* there is a camp that is recently the only tourist supplier of river activities. Due to a low discharge in the summer, the river soon warms up and consequently attracts many swimmers. Advanced tourism has put the *Nadiža* into the second quality class. The municipality of *Kobarid* has accepted a decree that regulates activities on the river, the riverbanks and protects nature in the river area. Sand and gravel extraction is possible in the lowest part of the river.

Threats:

- Mass tourism: increased wild camping (the municipality decree and camp formation has managed to deal with this problem successfully); insufficient infrastructure (parking places); overcrowded riverbanks in the summer season; excessive use of sun protectors; making free fires near the river.
- Untreated wastewater pollution from villages. Water filter and cleaning station is planned on the *Bela* – the most problematic tributary of the *Nadiža*.

- Gravel extraction is possible in the lower part of the river from the village *Podbela* on. Unorganised gravel extraction has a strong effect on water stream changing. Wild roads that lead to the river destroy the riverbanks.
- Flood control
- Alien species introduction

ID = 65: Obrh

Region	**Geographical position**
Dinaric	Loška dolina, S Slovenia
Altitude	**Proposed site**
580 – 600 m	The Obrh spring
Nature protection status	
No protection recently	
Habitats	**Species**
8310	1162, 1163, 1352*, 1354*, 1361

Landscape features: The area of Karst springs joined into the *Veliki* and the *Mali Obrh* ("big and small") at the village of *Pudob*. Water drainages from *Račna gora* (1140 m) from the *Bloke* plateau. In 6 km the water stream crosses the polje of *Loško polje* and sinks into the ponor cave *Golobina*. It springs again as *Stržen* and it represents an abundant inflow of the intermittent Lake *Cerkniško jezero*.

Biodiversity and protection: The spring ranks into high quality class, therefore *Cottus gobio* can be found here. Habitats like caves not open to the public are common. The area has recently had no protection.

Man and nature: The surface of *Loško polje* is mainly used for agriculture. The local wood factory in *Lož* is still an important branch. The river stream used to serve for watermills, but nowadays they are abandoned.

Threats:

- Untreated waste water pollution (settlements, local factory)
- Pollution from agriculture
- Alien species introduction

ID = 66: Kočevsko

Region	**Geographical position**
Dinaric	Kočevsko, S Slovenia
Altitude	**Proposed site**
180 – 1290 m	The Kočevsko region
Nature protection status	
Partially protected – Forest Reserves	
Habitats	**Species**
9010, 9180*, 91E0*	1065, 1052, 1083, 1087*, 1220, 1098, 1105, 1352*, 1354*, 1355, 1361, 1304, 1303, 1323, 1321, 1308, 1193, 1167, 1186, 4068, 4089. Euring: 07650, 0770, 07510, 08840, 13430, 02310, 02430, 02560, 02960, 02980, 03200, 03350, 03260, 04210, 07440, 07510, 07780, 08310, 08630, 08830, 08980, 12730, 13480, 15150

Landscape features: The region covers an area of 99.000 ha, connected with the *Snežnik* plateau in the west and *Gorski Kotar* in Croatia, and together they represent one of the largest and least populated areas of dense forest in Europe. There are Dinaric landscapes of dissected plateaus, rounded peaks, dry valleys and internal cliffs here. General Karst features are numerous dolines, vertical shafts and caves. Some of the peaks in the site reach 1.000 m. The coniferous, deciduous and mixed forests cover 95 % of the site. The other 5 % is grassland and remnants of pasture.

Biodiversity and protection: The first virgin forest known as *Rajhenavski pragozd* was protected in 1894. The well-preserved remnants of primeval forests are of great scientific importance. The forest complex of *Luzulo - Fagetum* represents the oldest forest association in Slovenia, assumed as an ice-age relict. The Illiric *Fagetum* forests were proposed as additional among habitats listed in the Habitat's directive (code 91K0). Together with the neighbouring regions of *Snežnik* and *Gorski Kotar,* the area represents the largest complex for big carnivores. He area belongs into IBA. It is partially protected by Forest Reserves.

Man and nature: The area is scarcely inhabited. There were several attempts of colonization, mostly by the Germans in the 14th century who colonised a completely uninhabited area. Their 600-year presence strongly affected development of the region. Great emigration at the end of the 19th devastated the region. After 1945, a part of the area was closed for public, it was declared a military zone. Since 1991 it has been opened, nowadays two sites remain as military training centres. The main human activity is forestry and logging which bases on selective cutting. Most of the area is under state property; the state is giving short-term concessions to private tree-cutting companies. The most precious parts are state hunting territories.

Threats:

- Intensive tree-cutting (short-term concessions, lowering in the % of more-thick trees)

- Decline of fir-tree (planned lowering of old phase forest and overfeeding of deer led to decline of fir-tree which is the key tree in the forest complex)
- Shrub encroachment

ID = 67: Radovna

Region Alpine	**Geographical position** The Julian Alps, NW Slovenia
Altitude 460 – 780 m	**Proposed site** The Radovna River
Nature protection status Triglav National Park	
Habitats 91E0*	**Species** 1162, 1354*,1361

Landscape features: The *Radovna* stream begins after the joint of two alpine valleys *Krma* and *Kot* whose tributaries were captured by the *Radovna*. The valley bottom is covered with glacio-fluvial deposits – glacial lake chalk, and in some parts drumlin meadows have formed. Water is supplied from the plateaus of *Pokljuka* and *Mežakla*, gathered from numerous Karst springs. The cave *Gorjanska jama* with the total length of 1300 m is located in the lower reaches. Downwards, by the *Krnica*, the river enters into the impressive 1600 m long *Vintgar* gorge. As the torrential stream erodes the bedrock, it forms pot holes, plunge pools, rapids, and the gorge ends with the 13-m waterfall of *Šum*.

Biodiversity and protection: Due to pure water the river is rich in fauna. *Ursus arctos* and *Lynx lynx* can be found here due to the vicinity of the forest plateaus of *Pokljuka* and *Mežakla*.

Man and nature: The river has played an important role in the local development. Several mills and sawmills were the motive power for the iron foundry and blacksmiths in the past. Nowadays the entire old infrastructure is abandoned, and remnants of the carbon mine can be found as well. The river discharge is exploited by several small hydropower plants. The river is mostly attracted by fishermen. Fishery is managed by the Fisheries Research Institute.

Threats:

- Hydropower plants
- Alien species introduction
- Untreated waste water pollution

ID = 68: Sori (Poljanska Sora, Selška Sora)

Region Alpine	**Geographical position** Škofjeloško hribovje, W-Central Slovenia
Altitude 300 – 800 m	**Proposed site** The Poljanska and Selška Sora Rivers
Nature protection status No protection recently	
Habitats 91E0*, 91F0	**Species** 1060, 1122, 1131, 1138, 1146, 1149, 1105, 1162, 1163, 1354*, 1355, 1361

Landscape features: *Škofjeloško hribovje* is a pre-alpine hilly region surrounded by headwaters of both the *Sora* streams. Landscape, modified by periglacial processes, still preserves terraces, fossil fans and a round gable valley ends with headward erosion. Both rivers have the character of a turbulent flow, and flooding is common in the lower reaches. Due to a non-favourable geological structure, the area is prone to land sliding.

Biodiversity and protection: Both rivers rank mostly in the 2nd quality class. A complex of residual alluvial forest (*Reteške loke*) can be found. Rich in fish species, *Ursus arctos* can be found on the banks as well. The rivers themselves have recently had no protection.

Man and nature: Flood plains along the rivers enable settling and agriculture although the main activity is industry. The valley of *Selška Sora* has a long tradition in iron foundry, which goes back to the 15th century. There was a craftsmen centre at *Železniki* where the industry still employs the majority of the population. An additional branch is forming in tourism (biking and hiking routes, culinary specialities, tourist farms, ski centres) by the initiative of the municipalities of *Škofja Loka*, *Železniki*, *Gorenja vas – Poljane*, *Žiri* and the local tourist board.

Threats:

- Hydropower plants
- Alien species introduction
- Untreated waste water pollution (sewage systems from settlements)
- Pollution from agriculture
- Drainage, flood control

ID = 69: Sotla

Region	**Geographical position**
Sub-pannonian	Sotelsko, E Slovenia
Altitude	**Proposed site**
140 – 300 m	The Sotla River
Nature protection status	
Partially protected: Kozjansko Regional park, Natural Monument of Jovsi	
Habitats	**Species**
91F0	1032, 1060, 1084*, 1089, 1098, 1355, 1193

Landscape features: The *Sotla* springs in the pre-alpine Landscape Park *Boč-Donačka gora* and it flows for 90 km along the border with Croatia till its junction with the river *Sava*. The river system has developed on the basis of tectonic characteristics and selective erosion. Due to the tertiary bedrock, the drainage pattern is very dense, and is asymmetrical as right tributaries prevail. As the bedrock is less resistant, many flood plains have formed. Where the river crosses the more resistant limestone, the valley becomes narrower (gorge *Zelenjak*). The gradient of the river channel is small, river is often meandering, and when river discharge reaches high levels, floods are common, especially in its middle part. The average river discharge is 9 m^3 (at *Rakovec*).

Biodiversity and protection: In the upper reaches *Lutra lutra* can be found, and insects like *Osmoderma eremita* as well. Habitats like the mixed oak-elm ash forest are also present. The river is partially protected as it flows across the teritory of Regional Park and Natural Monument.

Man and nature: In the valley of the *Sotla* good quality soil is used for intensive agriculture. In the surroundings of the town *Rogaška Slatina* industry is a heavy pollutant (water quality drops to the lowest quality class). In order to soothe the danger of flooding a dam was built at *Vonar*. Afterwards it was removed as the lake became overfilled with household outlets. Nowadays re-naturalization programmes started in the area of the former lake.

Threats:

- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture
- Water management interventions

ID = 70: Kobariški Stol

Region	**Geographical position**
Alpine	The (pre-alpine) Julian Alps, W Slovenia
Altitude	**Proposed site**
400 – 1680 m	mountain Kobariški Stol
Nature protection status	
No protection recently	
Habitats	**Species**
9010	1354*, 1361, 1193. Euring: 03570, 04210, 11620, 02510, 02310,08550, 09740, 15150

Landscape features: Also named as *Stol* or *Breginjski Stol,* it is almost a 30-km long mountain ridge rising from *Kobarid* in the Soča valley to the NW Tilmento valley in Italy. The ridge, with the average altitude above 1400 m, presents the beginning of the Alps. The bedrock consists of carboneus rocks; the northern slopes are steep and covered with a low mostly spruce forest. The southern slopes were gouged by land slips. For this reason, many dams have appeared at the foot of the mountain. The forest on the southern slopes reaches up to 800 – 1000 m and slopes are covered with grass to the top. Several springs appear at that altitude. In its lower part, at the foot of the mountain, several moraines were formed presumably by a local glacier that overstepped the ridge from the *Soča* valley. Three steps of terraces were formed, accompanied by balvans and undulating surface. Villages are located on the moraines.

Biodiversity and protection: The primary vegetation – forests, on the southern slopes has been changed into hay meadows and pasture grassland because of agriculture in the past. However, there are many mountain flowers (edelweiss, gentian) growing all over the ridge. The area has recently had no protection.

Man and nature: The area is inhabited only in the lower part of the southern slopes. The levelled terraces are used for agriculture. The upper part is grassland due to intensive forest felling at the beginning of the 20th century. The felling was followed by goat and sheep grazing and hay making all over the southern slopes. The top of the mountain ridge was used as a mountain pasture mostly for sheep and cows. There is still an alpine dairy in *Božca*. Agriculture has been in decline for several years as the area has been strongly affected by depopulation. *Kobariški Stol* is nowadays a popular mountaineering destination, especially in recent years as cross-border cooperation has become intensive. *Kobariški Stol* is also a well-known starting point for paragliding because of convenient slope winds.

Threats:

- Scrub encroachment: low quality forest and scrub overgrow pastures and meadows.
- Mass tourism (paragliding, mountaineering, cycling) causes pollution and changes of the ecosystems. It requires a certain level of protection.

ID = 71: Bukovniško jezero

Region Sub-pannonian	**Geographical position** Goričko, NE Slovenia
Altitude 190 m	**Proposed site** Bukovniško Lake
Nature protection status No protection recently	
Habitats 91G0*	**Species** 1355

Landscape features: Lake *Bukovniško jezero* is an artificial lake which was made in order to soothe high waters of the stream *Bukovnica*. The lake is located in the region of *Goričko* (see ID No. 72).

Biodiversity and protection: Lake surroundings are covered with Pannonian oak-hornbeam forest, *Lutra lutra* can also be found in headwaters. It ranks into IBA. The area has recently had no protection.

Man and nature: Arable land in the surroundings is used for agriculture, the area is inhabited as well. The lake represents an important tourist offer of the region. It is visited by swimmers and fishermen. Fishing is managed by the local fish society.

Threats:

- Alien species introduction
- Pollution from agriculture
- Mass tourism

ID = 72: Goričko

Region	**Geographical position**
Sub-pannonian	Goričko, NE Slovenia
Altitude	**Proposed site**
160 – 420 m	The Goričko region
Nature protection status	
No protection recently	
Habitats	**Species**
9010, 91G0*	1052, 1060, 1061, 1059, 1098, 1134, 1355, 1193, 1167. Euring: 09740, 03700, 07390, 01340, 01310, 02310, 08550, 15150

Landscape features: *Goričko* is a hilly region in its western, northern and eastern parts bounded by the borders with Austria and Hungary. On its southern side, the region rises upon the flatland of the *Mura* plain. The bedrock of the hilly landscape consists of tertiary and Pleistocene deposits from the former Pannonian Sea. Exception is the NW-part where schists form steeper slopes and the only gorge in the region developed. *Goričko* is the driest region in Slovenia (600-800 mm annual precipitation).

Biodiversity and protection: Slopes and summits of many hills are covered with extensively cultivated (half) dry grassland. In the wide alluvial valleys, humid meadows have been preserved. According to its ornithological importance, the area ranks into IBA. Recently it has had no protection.

Man and nature: The area is quite densely populated. Yet the traditionally cultivated countryside is still well preserved, husbandry is the main activity. The most common field plants are wheat, rye, oats, corn and potato. Parcels are small and divided by many hedges and forest edges. Old orchards are still a very common site in the region. The area is strongly affected by depopulation, and much of the arable land remains abandon.

Threats:

- Untreated waste water pollution
- Pollution from agriculture
- Intensive agricultural land use
- Shrub encroachment (depopulation processes)
- Fragmentation (commassation)
- Water management interventions
- Drainage

ID = 73: Jelovica

Region	**Geographical position**
Alpine	The (pre-alpine) Julian Alps, NW Slovenia
Altitude	**Proposed site**
500 - 1660 m	The Jelovica plateau
Nature protection status	
Partially protected: Ledine Landscape Park	
Habitats	**Species**
9010	1072, 1052, 1352*, 1354*, 1355, 1361, 1193, 1902, 1898, 1604. Euring: 03350, 07510, 03260, 08980, 08550, 08630, 07650, 07700

Landscape features: *Jelovica* is an uplifted plateau above the *Sava* valley. Due to its carboneus bedrock, the surface is carstified – through numerous dolines and vertical shafts the water penetrates into the *Sava* drainage. At some parts, the area is covered with Pleistocene deposits of sand and clay which are less permeable for infiltration. Consequently, peat layers with highland marshes develop.

Biodiversity and protection: The plateau presents a forest complex, which gives home to big carnivores such as *Canis lupus* and *Lynx lynx*. The highland plateau with dolines creates a specific microclimate, which is reflected in its fauna and flora. A small part of the plateau is protected by the Landscape park.

Man and nature: *Jelovica* used to be a source of wood energy, and forest felling still remains the main human activity. The area is uninhabited. During the warmer season, the area is visited by many mushrooms and forest fruit pickers.

Threats:

- Shrub encroachment

ID = 74: Dravinja

Region	**Geographical position**
Sub-pannonian	Dravinjske gorice, E Slovenia
Altitude	**Proposed site**
200 – 1140 m	The Dravinja River
Nature protection status	
Partially protected: Štatenberg Landscape park	
Habitats	**Species**
91F0	1037, 1065, 1060, 1061, 1130, 1114, 1355. Euring: 01340, 08310, 02310, 04210, 08830, 08550, 15150

Landscape features: The *Dravinja* is a tributary of the river *Drava* and it flows along the southern fringe of the hilly region of *Dravinjske gorice*. The left tributaries come from the plateau of *Pohorje*, consequently they are torrential streams and they form ravines in their upper reaches. When flowing to the flatland, the flow becomes laminar. Braided river creates flood plains, levees, ox-bow lakes and wet meadows. At the hamlet of *Zbelovo* there is a thermal water spring where a small pool was built.

Biodiversity and protection: The headwaters rank into a high class by the quality of water, therefore they are rich in fauna, *Lutra lutra* can be found as well. A small part of the area is protected as a Landscape Park.

Man and nature: Arable land along the river is used for agriculture, mostly as meadows for cattle breeding. The area is densely populated; settlements are located on fossil terraces. Because of industrial outlets at some parts, the river quality drops into the lowest class.

Threats:

- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture
- Water management interventions

ID = 75: Planja – Skutnik

Region Alpine	**Geographical position** The Julian Alps, NW Slovenia
Altitude 500 – 1720 m	**Proposed site** The Planja – Skutnik mountains
Nature protection status No protection recently	
Habitats /	**Species** 1087*, 1089, 1354*, 1361. Euring: 03570, 04210, 11620, 02510, 02310,08550, 09740, 15150

Landscape features: *Planja – Skutnik* is a mountain ridge, which is a part of the *Kanin* plateau, connected with the pass of *Predolina* (1655 m). The plateau is known for its limestone bedrock on which high mountain Karst has developed. Limestone pavements, micro-Karst features and vertical shafts more than 1000 m deep are common here. As the plateau is the first barrier above the Gulf of Trieste, it receives a lot of precipitations (>3000 mm annually) and therefore represents an important water reservoir. *Planja – Skutnik* rises above the valley of *Učja* and continues across the Italian border. The southern slopes are very steep, mainly of rock wall or inner cliffs. The northern slopes are gentler and covered with vegetation.

Biodiversity and protection: The geographical position on the corridor between the Mediterranean and the Alpine region makes the area ecologically diverse. Insects like *Rosalia alpine* or *Morimus funereus* can be found. The area has recently had no protection.

Man and nature: The area is uninhabited.

Threats:

- Shrub encroachment

ID = 76: Banjšice

Region	**Geographical position**
Dinaric	Banjšice, W Slovenia
Altitude	**Proposed site**
420 – 800 m	The Banjšice plateau
Nature protection status	
No protection recently	
Habitats	**Species**
9180*	1352*, 1354*, 1361

Landscape features: *Banjšice* belongs to high Dinaric plateaus, which is due to carboneous bedrock heavily carstified. On the undulating landscape the main feature are the dolines. In the municipality of *Lokovec* 45 dolines per km^2 could be counted. The plateau is known by *Čepovanski dol*, a dry valley on its SE fringe, whose origin is still under scientific study. In the zone of the main tectonic lines the surface is levelled. The area is partially covered with flysch which enables surface drainage.

Biodiversity and protection: According to its latitude the area has an almost continental climate which consequently affects the environment. The habitat of *Tilio-Acerion* ravine forest prevails. The area has recently had no protection.

Man and nature: The area is scarcely inhabited. Human activity is limited with natural conditions. Traffic infrastructure, as well as settlements, is built along the tectonic lines. Flysch ground enables modest agriculture and cattle breeding. Forest felling used to serve for blacksmiths' craftsmen who have a long tradition. Nowadays trunks are manufactured in the local wood factory in *Čepovan*.

Threats:

- Shrub encroachment

ID = 77: Davča – Porezen

Region	**Geographical position**
Alpine	Cerkljansko hribovje, W Slovenia
Altitude	**Proposed site**
620 – 1630 m	The Davča – Porezen area
Nature protection status	
No protection recently	
Habitats	**Species**
9010	1354*

Landscape features: The area is a hilly region, locally with inner cliffs, located between the rivers of *Selška Sora* and *Poljanska Sora*. The highest peak is *Porezen* (1630 m); *Davča* is a spread village of isolated farms on the right side of the *Selška Sora*. Its tributary, also named *Davča,* is known for deep plunge pools. Steep slopes and torrential tributaries are the main landscape characteristics. Mountain terraces origin in the Miocene plains, further down the slopes there are huge accumulations of residual material as a result of periglacial processes. Due to impermeable bedrock, the surface drainage is dense.

Biodiversity and protection: High mountain *Luzulo - Fagetum* beech forests are of special ecological importance, they grow up to the altitude of 1550 m. The area has recently had no protection.

Man and nature: Due to its remote location, the area is inhabited by foreign landowners – mostly by the colonisation of farmers from Carinthia and South Tyrol (Austria) in the 12th century. Later farmers from the Mediterranean regions settled in as well. The population was affected by emigration, as natural conditions did not offer a chance to everybody. Agriculture remains the main occupation.

Threats:

- Hydropower plants
- Shrub encroachment

ID = 78: Pesnica

Region	**Geographical position**
Sub-pannonian	Slovenske gorice, E Slovenia
Altitude	**Proposed site**
210 – 280 m	The Pesnica River
Nature protection status	
No protection recently	
Habitats	**Species**
91F0	1032, 1355

Landscape features: The river *Pesnica* drains the hilly region of *Slovenske gorice* and on the border with Croatia it flows into the river *Drava*. In the upper reaches, the river plain is narrow, tributaries from the left side prevail, and consequently unsymmetrical drainage pattern had formed. On the junction with the *Drava,* the river channel widens strongly. The braided river meanders, ox-bow lakes and a flood plain form. Silicate gravel which originates in the upper drainage basin is covered with sandy clays.

Biodiversity and protection: Sediments enable formation of mixed oak-elm ash forests and wet meadows in the lower reaches. The area has recently had no protection.

Man and nature: The drainage basin of the river is an agricultural region, mostly known for producing wine. In the upper reaches, the river is dammed with a few accumulations. In the lower reaches, it was partially regulated in order to prevent flooding, and for the need of irrigation. Land on the river plain is used for agriculture – wheat, maize and industrial plants.

Threats:

- Alien species introduction
- Untreated waste water pollution
- Pollution from agriculture
- Water management interventions

ID = 79: Trnovski gozd

Region	**Geographical position**
Dinaric	Trnovski gozd, W Slovenia
Altitude	**Proposed site**
260 – 1500 m	The Trnovski gozd plateau
Nature conservation status	
Partially protected - Landscape Park of Južni obronki Trnovskega gozda	
Habitats	**Species**
4070*, 9010	1065, 1087*, 1352*, 1354*, 1361, 1303, 1193, 1186, 1474, 1547, 1902, 4071, 4089, 4108, 4117. Euring: 02510, 02560, 03200, 03570, 07440, 07780, 09740, 11620, 02310, 02960, 04210, 15150, 18660

Landscape features: *Trnovski gozd* is a high Dinaric plateau also called by a local name *Čaven*.

The description is already included in "Nanos – Čaven" site.

Biodiversity and protection:

Man and nature:

Threats:

- Shrub encroachment

ID = 80: območje Snežniškega parka

Region	**Geographical position**
Dinaric	Javorniki – Snežnik, S Slovenia
Altitude	**Proposed site**
450 – 1800 m	The planned Snežnik Regional Park
Nature protection status	
Partially protected – Ždrocle Forest Reserve, Mašun Forest Reserve, Landscape park of the manor complex Snežnik / Planinsko polje / Rakov Škocjan, Nature Reserve on the peak of Snežnik / Snežnik-Ždrocle / Zatrep-Planinc	
Habitats	**Species**
4070, 8210, 8215, 8310, 3180, 3290, 6510, 8310	1065, 1083, 1060, 1059, 1352*, 1354*, 1355, 1361, 1304, 1303, 1324, 1307, 1308, 1193, 1186, 4072, 4089. Euring: 03570, 04210, 07780, 07650, 07700, 09740, 12730, 11620, 01310, 02430, 02310, 02510, 02960, 02560, 03200, 03350, 03260, 08980, 08550, 08630, 07440, 07510, 15150, 18660, 10050

Landscape features: The proposed site covers nearly 1000 km^2 area. On northern side, it borders with the Karst drainage system of the River *Ljubljanica*. With its underground activity, it forms wide cave systems (*Postojnska jama, Planinska jama*). The area is crossed with *Idrija* fault system, which separates the Adriatic and the Eurasian tectonic plates. According to the geological situation Karst poljes have developed (*Cerkniško polje*, *Planinsko polje*), mostly they are filled with intermittent lakes; the first scientific investigations of Karst hydrology were held here. The area represents a watershed between the Black Sea and the Adriatic; the underground water drainage varies from hydrological situations. The Karst plateaus are a nationally important water reservoir. The surface Karst features are abundant – collapse dolines, natural bridges (*Rakov Škocjan*), vertical shafts, sinking holes, micro features on exposed limestone bedrock, many fossils (rudists). The highlands of *Bloke* still preserve a complex of low mountain moors. The region of *Javorniki – Snežnik* is the widest and the best-preserved forest complex in Slovenia.

Biodiversity and protection: The Karst surface and a wide forest cover enables high biodiversity – some unique ecosystems developed. The area gives home to the largest population of *Canis lupus* and *Ursus arctos* in Slovenia. In the underground water courses *Proteus anguinus* can be found. The whole area is in the procedure of establishing a Regional Park.

Man and nature: Human presence goes back to the Palaeolithic period, in some rock shelters remnants of humans were found (*Betalov spodmol*, *Parska Golobina*). The main activities of the last century have been forest felling, charcoal burning and trading. Nowadays the area is scarcely inhabited, settlements are located on the fringes of the Karst poljes. Rich folk culture (*Cerknica*, *Bloke*) is still preserving the tradition of the relationship between man and nature. In the period of 1920-41, the area was crossed by the *Rapal* line, which bordered Italy and the Yugoslav Kingdom. Remnants of army barracks, bunkers, border barriers or

underground passages can be found as well. Nowadays some parts are used as military training centres. An additional branch is forming in tourism – visiting natural sites, biking routes, mountain paths, the European walking trail (E6), two mountain huts on *Snežnik* and a ski resort on *Javorniki*.

Threats:

- New infrastructure (windmills for electricity supply on dry meadows above the river *Reka*, military and sport shooting grounds)
- Untreated waste water pollution (improper protection of water-supply areas, settlements without sewage systems)
- Pollution from agriculture (on the plains – the river *Nanoščica, Planinsko polje, Cerkniško jezero*)
- Intensive agricultural use (on the plains – the river *Nanoščica, Planinsko polje, Cerkniško jezero*)
- Shrub encroachment (of dry and wet meadows)

ID = 81: Drava

Region	**Geographical position**
Alpine – Sub-pannonian	Dravsko polje, E Slovenia
Altitude	**Proposed site**
210 – 340 m	The Drava River
Nature protection status	
Partially protected: Landscape parks of Mariborski otok / Mariborsko jezero / Drava (Maribor) / Šturmovci, Nature reserve of Ormoško jezero	
Habitats	**Species**
91E0*, 91F0	1037, 1052, 1083, 1060, 1061, 1084*, 1096, 1130, 1138, 1149, 1122, 1131, 1145, 1134, 1124, 1162, 1354*, 1355, 1303, 1324, 1193, 1186, 1614, 2555. Euring: 02310, 06150, 08310, 13480, 12730, 00980, 01210, 01340, 01310, 02430, 04550, 04080, 04100, 08550, 08830, 15150, 05540, 06270, 05780, 08780

Landscape features: At the city of *Maribor* the river leaves the alpine region and gradually flows into the sub-pannonian region. In its upper reaches, the river crosses the fault valley between the plateaus of *Pohorje* and *Kozjak*. The lower part was intensively accumulated during the Pleistocene era. Consequently, a vast fan was formed; this was later on eroded by the river itself, and fossil terraces are nowadays used for settlements and urban infrastructure. Between the reservoirs *Ptujsko* and *Ormoško jezero* (lakes) there are still some large floodplains, which are periodically inundated. The floodplain represents an important reservoir of groundwater.

Biodiversity and protection: The river is one of the best known ornithological areas in Slovenia, and as it hosts many important birds it ranks into IBA. Alluvial forest and the mixed oak-elm ash forest prevail in the parts which are still preserved. A small part of the area is protected by Landscape Parks and Nature Reserve.

Man and nature: Before the city of *Maribor* the river is exploited, mainly for the purpose of hydroelectric energy. Two hydropower plants are located along the flow. The groundwater reservoir is an important water supply for the whole region. The river is attracted by hunters and water sportsmen (swimming, wind-surfing). Due to numerous development schemes in the past, the river and its floodplains are ecologically degraded. Several project for re-naturalizations were carried out by the BirdLife-Slovenia (DOPPS) in cooperation with national institutions and NGOs.

Threats:

- Hydropower plants (drop of water table, drying of small tributaries and wetlands)
- Water management interventions
- Alien species introduction
- Gravel extraction

- Untreated waste water pollution
- Pollution from agriculture

ID = 82: Robidišče

Region	Geographical position
Alpine	The (pre-alpine) Julian Alps, NW Slovenia
Altitude	**Proposed site**
740 m	Village Robidišče
Nature protection status	
No protection recently	
Habitats	**Species**
/	1354*, 1361, 1193, 1167

Landscape features: The village of *Robidišče* is located on a fossil terrace. Deep bellow the village run two rivers: the *Nadiža* and the *Legrada*, creating two separate gorges. They surround the village and so create a plateau on which the village lies surrounded with meadows and pastures. The surrounding and the distant area is mostly Karst with caves and shallow potholes covered with beech forest. From the village there is a great view across the *Nadiža* valley to the Alps (*Breginjski Stol*, *Kanin*, *Krn* mountain group). Although it does not have a very high altitude, impressive views of the mountains, cooler climate and wide meadows and pastures give an impression of high mountain landscape.

Biodiversity and protection: The area of *Robidišče* has to be considered as a bridge between the pre-alpine and the Karst alpine landscape in a geological and geo-morphological aspect. The climate is also influenced by the vicinity of the Adriatic Sea and the Friuli lowland on the one side and by the cooler air coming from the mountains on the other. Therefore, specific vegetation and some animals, especially some birds find good living conditions in the area. There has been no systematic research done for protection of nature and landscape. There is a project on the way run by the local Cultural association.

Man and nature: *Robidišče* today is known as the western most village of Slovenia, surrounded by the Italian border from three sides. The fact of the border existing here for many centuries, has caused some unique cultural and economic activities of the local people, e.g. smuggling. Up to the II World War smuggling was one of the most profitable activities in the wider area, typical only for *Robidišče*. Being on the draft of different cultural and natural influences such us the Mediterranean, the alpine – the Italian, the Slavic, the village has created beautiful stone architecture with houses unique for the area of *Beneška Slovenija*. After the II World War, the village was strongly affected by depopulation because of the political border between Yugoslavia and Italy that provided bad economic conditions for the inhabitants, and later in 1976 because of a strong earthquake. By the census of 2001, *Robidišče* has six inhabitants. Programmes for revitalisation are being started by local communities and associations. Summer camps as a form of youth tourism have been going on for seven years with the emphasis on local identity, a youth hostel is in construction. Sheep farming with milk and cheese production is starting.

Threats:

- Scrub encroachment

ID = 83: Panovec

Region	**Geographical position**
Mediterranean	Goriško polje, W Slovenia
Altitude	**Proposed site**
100 – 180 m	The Panovec wood
Nature protection status	
Natural monument	
Habitats	**Species**
/	1354*, 1361, 1215, 4046

Landscape features: The wood complex of 380 ha is located south of the city of *Nova Gorica*. Gently uplifted undulating land separates the plain of *Goriško polje* from the valley of *Vipavska dolina*. The bedrock consists of flysch with carbonate inserted pieces. Due to some less permeable clay sediments some swamps have formed.

Biodiversity and protection: On the territory of the wood complex, a variety of tree species grow, original or brought from distant countries. Swamps are home for endangered *Rana latastei*. The area is protected as a Natural monument.

Man and nature: The first records about the wood, rich in vegetation, goes back to the year 1470. Throughout history the wood was managed by different authorities. Nowadays it is mostly used as a recreational area in the suburbs of the city. Playgrounds as well as recreation trails are marked. The local forest institution has joined the most important wood sites into a circular “forest trail“.

Threats:

- No threats

ID = 84: Bohor

Region	**Geographical position**
Sub-pannonian	Bohor, E Slovenia
Altitude	**Proposed site**
400 – 1020 m	The Bohor levelled top ridge
Nature protection status	
Partially protected: Tisovec Forest Reserve; Pokojnik Natural Monument	
Habitats	**Species**
9010	1086

Landscape features: Geologically *Bohor* belongs to the group of fold mountains which were formed along the tectonic fault of the *Sava*. The uplifted blocks and mountains were modified by slope processes of erosion, denudation and carstification. Consequently, a levelled top ridge developed. The ridge rises above the river *Sava*, it represents the passage to sub-pannonian region. The highest peak is *Veliki Javornik* (1023 m*)*. The southern slopes are known for gorges with torrential streams and picturesque waterfalls.

Biodiversity and protection: Variety in lithology and soils, and the corridor to the sub-pannonian region created high diversity in vegetation. Due to the sun exposure of the southern slopes, flora and fauna form a unique ecosystem; *Cucujus cinnaberinus* can also be found. The area has recently had no protection.

Man and nature: The area is scarcely inhabited. Isolated farms are mostly located on the southern slopes. The main occupation is cattle breeding; horses, sheep and goats are also reappearing. At the foothills, some weekend cottages are being built. The mountain is crossed with a mountain path; a mountain hut is built as well. A mountain biking route has been arranged.

Threats:

- Improper forest management
- New infrastructure (weekend cottages)

ID = 85: Sava

Region	**Geographical position**
Alpine – Sub-pannonian	Posavje, Central-E Slovenia
Altitude	**Proposed site**
430 – 140 m	The Sava River
Nature protection status	
No protection recently	
Habitats	**Species**
91F0	1014, 1071, 1074, 1060, 1093, 1098, 1122, 1130, 1131, 1105, 1114, 1134, 1160, 1163, 1354*, 1355, 1303, 1188, 1193, 2533. Euring: 03200, 02960

Landscape features: The upper reaches begin after the junction of the *Sava Dolinka* and the *Sava Bohinjka*. The river flow is laminar; the valley is broad and has many fossil accumulation features (terraces, terminal moraines). The river channel follows the *Sava* fault line downward to the *Ljubljana* basin and afterwards enters the group of fold mountains. Across the area of sandstone and mudstone, the river valley is narrow; wide Pliocene terraces are preserved on the slopes. Through the carboneous bedrock the river eroded a gorge where it flows as a torrential stream. Transported material is accumulated in the lower reaches where wide gravel embankments form. Braided river is now mostly regulated, the only ox-bow lake remains at *Prilipe*.

Biodiversity and protection: Although the river channel has been strongly modified by human activities, some parts still remain intact, like the virgin forest of *Krakovski gozd* or the complex of oak-elm ash forest in *Dobrava* where tributaries of the *Sava* flow. After the nuclear power plant *Krško,* there is a complex of dry meadows with gigantic *Orchis ustulata* and *Anacamptis pyramidalis* (and where a new hydropower plant is planned). The river has recently had no protection.

Man and nature: The river flows across the mining region of *Zasavje* and the densely populated basin of *Krško-Brežice* where industrial infrastructure is located as well (Factory for cellulose production, Nuclear power plant). The river is partially heavily polluted, its water quality drops to the lowest class.

Threats:

- Hydropower plants (new plans at several locations)
- Gravel extraction (exploited by two local companies, dig holes are used also as dump places for paper industry)
- Untreated waste water pollution (sewage systems, industrial outlets)
- Pollution from agriculture (intensive agriculture on flood plain)
- Alien species introduction

ID = 86: Boč – Donačka gora

Region	**Geographical position**
Sub-pannonian	Boč – Donačka gora, E Slovenia
Altitude	**Proposed site**
350 – 900 m	The Boč – Donačka gora ridge
Nature protection status	
Partially protected – Landscape Park of Boč-Plešivec- Donačka gora, Forest Reserve Donačka gora	
Habitats	**Species**
9010, 9180*, 9160*	2093

Landscape features: *Boč – Donačka gora* is a hilly ridge with peaks of *Boč* (979 m) and *Donačka gora* (882 m) at both ends. The bedrock mainly consists of carboneus rocks; therefore there is a lack of surface drainage. The eastern part includes sandstone (quarcit *rženjak*) and conglomerate which formed steeper northern slopes with inner cliffs. The processes of erosion and denudation modified the peak of *Donačka gora* into an inselberg which rises upon the undulating surroundings. The ridge goes in the direction of W-E, consequently the northern and southern slopes differ in vegetation and land use.

Biodiversity and protection: The speciality of the area is high diversity in vegetation. Habitats like *Tilio-Acerion* ravine forests and Pannonian oak-hornbeam forest grow here. The area is a shelter for some relict plants like *Dianthus hoppei* or *Sempervivum juvanii*. Here lies the only virgin forest in the sub-pannonian region - *Lamio orvalae-Fagetum* protected since 1965. The forest is an ecological combination of thermopile and hydrofoil associations. The area is partially protected as a Landscape Park.

Man and nature: The proposed area in uninhabited. At the foothills of the southern slopes there are some vineyards and weekend cottages. The area had been settled in the prehistoric time – there are remnants from the Celtic period further on. In the 18th – 19th century forests were exploited for the purpose of the iron-melting factory. Across the area there is a mountain path; a mountain hut is located there as well.

Threats:

- Shrub encroachment
- Mass tourism
- Collection of rare species
- No proper management of virgin forest (it has no protection/corridor belt)

References to the Shadow List:

1. Atlas kačjih pastirjev (Odonata) Slovenije; Kotarac M.: Center za kartografijo favne in flore, Miklavž na Dravskem polju 1997.
2. Atlas ogroženih vrst dnevnih metuljev Slovenije; Čelik T; Rebeušek, F.: Slovensko entomološko društvo, 1996.
3. Atlas Slovenije; Založba Mladinska knjiga in Geodetski zavod Slovenije, Ljubljana 1992;
4. Biodiversity Conservation Strategy of Slovenia. Republic of Slovenia, Ministry of the Environment and Spatial Planning, Ljubljana, 2002.
5. Božič L., Kebe L. (ed.): Opredelitev lokalitet, bistvenih za ohranjanje ugodnega ohranitvenega statusa ptičev iz dodatka 1 ptičje direktive in opredelitev predlogov SPA. DOPPS, Ljubljana, 2001.
6. Denac D., Strgulc S., Vrezec A. et al.: Wetland shadow list Slovenia. DOPPS, WWF, 2000.
7. Interpretation Manual of European Union Habitats. Version EUR 15. European Commission DG XI - Environment, Nuclear Safety and Civil Protection, 25th April 1996.
8. Overview of biodiversity and landscape diversity in Slovenia. Ministry of the Environment and Spatial Planning, Ljubljana, 2001.
9. Polak S. (ed.): Mednarodno pomembna območja za ptice v Sloveniji.DOPPS, Ljubljana, 2000.
10. Ramsar Convention and Slovene Wetlands. National Committee for Ramsar Convention, Ljubljana, 1999.
11. Rdeči seznam ogroženih kopenskih in sladkovodnih mehkužcev (Mollusca) v Sloveniji. Varstvo narave; Bole J.: 183-189, 1992.
12. Rdeči seznam ogroženih metuljev (Macrolepidoptera) v Sloveniji; Carnelutti J.: Varstvo narave 17: 61-105, 1992.
13. Rdeči seznam ogroženih mrežekrilcev (Neuroptera s.l.) v Sloveniji; Devetak D.: Varstvo narave 17: 111-117 , 1992.
14. Rdeči seznam ogroženih plazilcev (Reptilia) Slovenije; Mršič N.: Varstvo narave 17: 41-44, 1992.
15. Rdeči seznam ogroženih ptic gnezdilk Slovenije; Bračko et al.: Acrocephalus 15(67): 165-180, 1994.
16. Rdeči seznam ogroženih sesalcev (Mammalia) v Sloveniji; Kryštufek B.: Varstvo narave 17: 19-27, 1992.
17. Rdeči seznam ogroženih strig (Chilopoda) v Sloveniji; Kos I.: Varstvo narave 17: 137-146, 1992.
18. Rdeči seznam ogroženih vrst dvoživk (Amphibia) Slovenije; Sket B.: Varstvo narave 17: 41-44, 1992.

19. Rdeči seznam ogroženih vrst mahov; Varstvo narave, št. 18, Zavod RS za varstvo naravne in kulturne dediščine, 1992;
20. Rdeči seznam ogroženih vrst praprotnic in semenk; Varstvo narave, št. 14-15, Zavod SRS za varstvo naravne in kulturne dediščine, 1989.
21. Rdeči seznam ogroženih živalskih vrst; Ed. J. Vidic: Varstvo narave, št. 17, Zavod RS za varstvo naravne in kulturne dediščine, 1992.
22. Predlog SPA's za Slovenijo; DOPPS, 2002
23. Raziskava razširjenosti evropskopomembnih vrst v Sloveniji; Prirodoslovni muzej Slovenije, Ljubljana, julij 2001
24. Forest ecosystems Database; Slovenian Forest Service

References to the text:

1. Atlas Slovenije, 1985. Ljubljana, Mladinska knjiga in Geodetski zavod SRS, 366 str.
2. Bartol, B., Debelak, M., Dvorščak, K., Gale, M., Glažar, N., Globevnik, L., Gorkič, M., Habič, Š., Kavaš, D., Mastnak, M., Mihevc, A., Murn, A., Ogorelec, B., Petrič, M., Polak, S., Povž, M., Simonič, A., Slabe, A., Žnidaršič, B., 1999. Regijski park Snežnik- izhodišča za načrt upravljanja: vzpostavitev modela lokalne podpore v Notranjskem regijskem parku- projekt Matra. Ljubljana, Uprava RS za varstvo narave, 181 str.
3. Bloška planota – močvirni biser Notranjske. 1998. Ljubljana, Slovensko odonatološko društvo, informativna zloženka.
4. Brancelj, A., Drovenik, B., Gorjanc, N., Lovka, M., Tome, D., Verovnik, R., 2000. Inventarizacija favne, flore in vegetacije Pivških jezer: končno poročilo. Ljubljana, Nacionalni inštitut za biologijo, 56 f.
5. Brankovič, U. et al., 2000. Europe on crossroads – XII Annual Congress of EGEA, 30. 09. - 06. 10. 2000 in Bohinj, Congress report. Ljubljana, Društvo mladih geografov Slovenije, elektronski vir.
6. Cimperšek, M., 2003. Pragozd na Donački gori. Interno gradivo, 10 str.
7. Davča – kraj prijaznih ljudi. Turistična zloženka, Turistično društvo Davča.
8. Frelih, A., Mozetič, B., 2000. Naravni rezervat Škocjanski zatok. Svet ptic, letnik 6, št. 2, julij 2000. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, str. 8-12.
9. Furlan, Č. A., 2001. Pivka – svet, ki vpija vodo. Revija Svet & ljudje, letnik 4, št. 3. Ljubljana, str.28-33.
10. Gregori, J., 1992. Ptiči hrastovega pragozda in bližnje okolice v Krakovskem gozdu. Acrocephalus, letnik XIII, št. 52. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, str. 66-75.
11. Gregori, J., 1994. Zelenci, naravni rezervat. Ljubljana, samozaložba, 120 str.
12. Habič, P., 1985: Pivka in njena kraška jezera. V: Kranjc, A. (ur.), Poplavni svet na Pivki; Ljudje in kraji. Postojna, str. 41-50.
13. Habič, Š., 2001. The intermittent lakes of Pivka- a natural science exhibition. Guide through the exhibit. Postojna, 8 str.
14. Holcman, A., Kompan, D., Šalehar, A., 1999. Ohranjene slovenske avtohtone domače živali. Domžale, Biotehniška fakulteta, Oddelek za zootehniko, 39 str.
15. Important bird areas in Europe. Priority sites for conservation, Volume 2: Southern Europe. Heath, M.F., Evans, M.I. (ur.). The Netherlands, Bird-Life International, str. 503-513.
16. Ivanovič, M., 2000. Krajinski park Lahinja. Proteus, letnik 63, št. 1. Ljubljana, str. 23-28.
17. Kaligarič, M., 1997. Botanični in naravovarstveni pomen travnikov združbe Danthonio-scorzoneretum villosae nad Rakitovcem v Čičariji. Annales – Anali za istrske in mediteranske študije, št. 11. Koper, str. 33-38.
18. Kerbler, B., 2002. Geografske značilnosti hribovskih kmetijskih gospodarstev v občini Ribnica na Pohorju. Aplikativna razvojna tipologija hribovskih kmetijskih gospodarstev. Metodološki prispevek h geografiji podeželja: diplomsko delo. Ljubljana, Filozofska fakulteta, Oddelek za geografijo, 214 str.

19. Klemenčič, V., 1959. Pokrajina med Snežnikom in Slavnikom: gospodarska geografija. Dela/Opera 8, SAZU, 4. razred. Ljubljana, 197 str.
20. Klenovšek, D., 2002. Pestrost in ogroženost življenja ob spodnji Savi. Svet ptic, št. 2, letnik 8. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, str. 15-16.
21. Kočevsko-Kolpa, Naravovarstvene smernice za gozdarstvo. 2002. Ljubljana, Ministrstvo za okolje in prostor, Agencija RS za okolje, interno gradivo.
22. Kogovšek, J., 1997. Vpliv poselitve in industrije na kraško vodo/The impact of population and industry on karst water. Revija Kras, št. 21 (maj 1997). Ljubljana, Media Carso d.o.o., str. 56-61.
23. Korošec, M., 2001. Zgodovina Cerkniškega jezera. Svet ptic, letnik 7, št. 2. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, str. 34-25.
24. Mednarodno pomembna območja za ptice v Sloveniji; Important Bird Areas (IBA) in Slovenie. 2000. Polak, S. (ur.). Monografija št. 1. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, 227 str.
25. Melik, A., 1954. Slovenski alpski svet. II. opis slovenskih pokrajin, 1. zvezek. Ljubljana, Slovenska matica, str. 320-321.
26. Mihevc, A., 1994. Brkinski kontaktni kras. Acta Carsologica, XXIII. Ljubljana, str. 99-109.
27. Mozetič, B., Šalaja, N., 2001. Škocjanski zatok leta 2000. Svet ptic, letnik7, št. 2. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, str. 24-25.
28. Nemesszeghy, L., 1986. Črna jelša v Prekmurju. Pomurska založba, 88 str.
29. Perko, D., 1992. Tipi pokrajin v porečju Kokre. Geografski obzornik, letnik 39, št. 2. Ljubljana, str. 25-32.
30. Peterlin, S., 2002. Radensko polje – Bodoči krajinski park. Proteus, letnik 65, št. 3. Ljubljana, str. 124-131.
31. Potočnik, M., 1984. Strokovne osnove za krajinski načrt Davča: diplomsko delo. Ljubljana, Filozofska fakulteta, Oddelek za geografijo, 2 zv (110f.; pril.).
32. Prügger, J., Surina, B., Marhofer, H., 2000. Lišaji gozdnega rezervata Ždrocle. Zbornik gozdarstva in lesarstva, št. 63. Ljubljana, Gozdarski inštitut Slovenije in Biotehniška fakulteta, str. 7-25.
33. Ribnika v Podvincih – prezrto bogastvo narave. 2001. Mestna občina Ptuj, zgibanka (6 str.).
34. Rubinič, B., 2000. Blata in Mlake pri Radomljah. Ljubljana, Društvo za opazovanje in proučevanje ptic Slovenije, informativna zloženka.
35. Slovenija – pokrajine in ljudje. 1998. Adamič, O.M., Pavšek, M., Perko, D. (ur.). Ljubljana, Mladinska knjiga, 735 str.
36. Sovinc, A., 2002. Mlake v Vipavski dolini. Proteus, letnik 64, št. 6. Ljubljana, str. 272-276.
37. Surina, B., 1999. Ptice zgornjega dela doline Reke in bližnje okolice. Annales – Anali za istrske in mediteranske študije, separat. Koper, str. 303-314.
38. Šebenik, M., 1996. Gozdna učna pot Panovec. Gea, letnik 6, št. 4, priloga. Ljubljana, str. 42-43.
39. Šušteršič, F., 1994: Ljubljanica – Reka sedmerih imen: s poti po notranjskem krasu. Logatec, samozaložba, 23 str.

40. The Mežica lead and zinc mine as tourist mine and museum. 1996. Mežica, RSC Mežica v zapiranju d.o.o., info-leaflet.
41. Triglavski narodni park – vodnik. 1985. Fabjan, I. (ur.). Bled, Prirodoslovno društvo Slovenije in Triglavski narodni park, 242 str.
42. Trontelj, P., 1993. Jovši – narava ob spodnji Sotli. Lovec, št. 3, letnik LXXVI. Ljubljana, str. 92-93.
43. Vogrin, N., Vogrin, M., 1997. Krajinski park Rački ribniki – Požeg na Dravskem polju. Lovec, letnik LXXX, št. 7/8. Ljubljana, str. 317-318.
44. Vogrin, N., Vogrin, M., 1999. Krajinski park Rački ribniki – Požeg. Gea, letnik 9, št. 12. Ljubljana, str. 6-9.
45. Wraber, T., 1997. Snežnik – gora (tudi) za botanike. Proteus, letnik 59, št. 9-10. Ljubljana, str. 408-421.
46. Wraber, T., 1997. Visoka prerast, Snežnik in – (?) ovce. Proteus, letnik 59, št. 8. Ljubljana, str. 374-377.
47. Zbornik 5. raziskovalno geografskega tabora študentov geografije. Robidišče, 1.-9. julij 2001. Mesec, S., Škvor, S. (ur.). Ljubljana, Društvo mladih geografov Slovenije, Ljubljana, 72 str.
48. URL: http://dragonja.nib.si/DebeliRtic/index.html (21.01.2003)
49. URL: http://dragonja.nib.si/Secovlje/index.html (17.01.2003)
50. URL: http://dragonja.nib.si/Strunjan/index.html (21.01.2003)
51. URL: http://dragonja.nib.si/Zusterna/index.html (17.01.2003)
52. URL: http://os-gorje.s5.net/projekti/Turizem/01_02/radinkole.htm (18.02.2003)
53. URL: http://www.gov.si/kp/ (03.03.2003)
54. URL: http://www.ijs.si/expo98/eng/zakladi/vode-slovenije/bohinjsko-jezero.html (17.02.2003)
55. URL: http://www.lovrenc.si/jezera/barje.html (25.02.2003).
56. URL: http://www.s-3gim.mb.edus.si/timko1/ekosistemi/crno_jezero/projekt/uvod.htm (25.02.2003).
57. URL: http://www.skocjanski-zatok.org (17.01.2003)
58. URL: http://www.tnp.si/tnp (10.02.2003)
59. URL: http://www2.arnes.si/~oskkpi1s/vodna_pot/jovsi.htm (03.03.2003)
60. URL:http://os-gorje.s5.net/projekti/Nasi_kraji/Solkan/Glavno/geografske_znacilnosti_kraja_2.htm (05.02.2003).
61. URL: http://www.gov.si/uvn/slo/index.html (24.03.2003).