A Identification of the Area

1. Name of the proposed Geopark
2. Surface area, physical and human geography characteristics of the proposed Geopark
3. Organization in charge and management structure of the proposed Geopark
4. Application contact person

B Geological Heritage

1. Location of the proposed Geopark
2. General geological description of the proposed Geopark
   2.1 Geological description of the Idrija region
      2.1.1 Stratigraphic data
      2.1.2 Tectonics
      2.1.3 Idrija ore deposit
   2.2 Geomorphology
   2.3 The Karst
3. Listing and description of geological sites within the proposed Geopark
4. Details on the interest of these sites in terms of their international, national, regional or local value
   4.1 International important geosites
   4.2 National and local important geosites

C Geoconservation

1. Current or potential pressure on the proposed Geopark
2. Current status in terms of protection of geological sites within the proposed Geopark
3. Data on the management and maintenance of these sites
4. Listing and description of non-geological sites and how they are integrated into the proposed Geopark
   4.1 Flora and fauna
   4.2 Cultural heritage in the Idrija Municipality
D Economic Activity & Business Plan
(including detailed financial information)

1. Economic activity in the proposed Geopark
   1.1. Financial information

2. Existing and planned facilities for the proposed Geopark
   (geo-education, geo-tourism, tourism infrastructure, etc.)

3. Analysis of geotourism potential of the proposed Geopark

4. Overview and policies for the sustainable development of:
   - geo-tourism and economy
   - geo-education
   - geo-heritage

5. Policies for, and examples of, community empowerment
   (involvement and consultation) in the proposed Geopark

6. Policies for, and examples of, public and stakeholder awareness
   in the proposed Geopark.

E Interest and arguments for joining the EGN/GGN

Annex 1 - Self-evaluation document (Document A)
Annex 2 - Separate copy of section B, "Geological Heritage" the application,
           perface – Geological summary
Annex 3 - Letters of Recommendation (Letter of support from the
           UNESCO organisation)

Digital files of the Application Dossier are to be found at the internet sites:
http://www.geopark-idrija.si/
A. IDENTIFICATION OF THE AREA

A1 NAME OF THE PROPOSED GEOPARK

The name of the geopark is Idrija Geopark. The name Idrija is taken from the name of the town and municipality of Idrija, whose entire area falls within the boundaries of the proposed geopark. Idrija is internationally reputed for its mercury mine, which is second largest in the world, and its extremely rich, preserved mining heritage. Idrija’s coat-of-arms features the god Mercury and is associated with mercury, which was discovered in Idrija in 1490. Slovenian geology was born in Idrija, and many geological phenomena have been named after the town (Idrija fault, etc.). The knowledge about numerous natural phenomena in the geopark is based on research conducted by leading European natural scientists who lived and worked in Idrija.

A2 SURFACE AREA, PHYSICAL AND HUMAN GEOGRAPHY CHARACTERISTICS OF THE PROPOSED GEOPARK

The Idrija Geopark is situated in the western part of Slovenia, at a distance of approximately 60 km from Ljubljana, the capital of Slovenia. The Geopark comprises the area of the municipality of Idrija. It belongs to the Goriška statistical region.

**Size of Area**

The Geopark covers an area of 294 sq. km, which represents 1.4% of the territory of Slovenia. A population of approx. 11800 inhabitants lives in the area of the Geopark (data of the Slovenian Statistical Office, April 2011).

![Fig. A1 – Geographic position of the Idrija Geopark in Slovenia and distance to major towns and airports.](image1)

![Fig. A2 – View on the town of Idrija](image2)
Physical Geographic Description of the Area

The area of the Geopark is situated at the meeting point of the alpine and dinaric worlds, and comprises the higher-lying, flat karst world into which water courses, such as numerous torrential streams, have cut deep valleys and gorges. One quarter of the Geopark is comprised of higher-lying, flat plateaus.

The eastern part of the area is formed of the karstified, plateau-covered Rovtarsko hills, which are the remainder of a former karst plain and river terraces. Here there are several plateaus named after larger settlements: Ledine plateau, Vrsniška plateau, Dolska plateau and Zavraška plateau. The plateaus are built of isolated karst terrain with shallow underground water drainage and rare karst phenomena.

The western part of the Geopark comprises the Vojsko plateau, the plateau-like world around Krnice and Šebrelj, as well as the terraces in Čekovnik. The area is built of isolated karst terrain. The relief is gently diversified with inconspicuous peaks.

The southern part of the Geopark rises steeply above the Idrija River valley and comprises the Črni vrh and Zadlog karst poljes. This area is characterised by wholly developed, pure karst. The extreme southern part of the Črni Vrh plateau is encircled by steep slopes with peaks ranging from 900 to 1200 m.

The plateaus are separated by deep valleys with steep slopes and watercourses, many of which are torrential.

Extending across the central part of the Geopark in the direction north-south is the main valley of the Idrijca River. The valley is narrow almost throughout the entire course of the river. It broadens into alluvial plains only at the confluence of the Nikova stream and the Idrijca River.
where the town of Idrija has developed, at the confluence of the Belca stream and Idrija River in Idrijska Bela, and at the confluence of the Kanomljica stream and the Idrija River, where the settlement of Spodnja Idrija developed.

The area has a moderately continental climate typical of western and southern Slovenia and a submediterranean precipitation regime. The average annual rainfall exceeds 2000 mm.

Land Use

The area of the municipality is among the most densely forested parts of Slovenia. Approximately three quarters of the Geopark is overgrown with forests, which have spread throughout the area, except on less inclined surfaces that are suitable for agricultural cultivation and settlement. Cleared areas (62 km²) are predominantly in podoljes, on plateaus, and at the confluences of rivers. Most of these are used as pastureland (50.6 km²), and only 4 km² are intended for agricultural use. The remaining cleared areas comprise built-up land (7 km²).

Population

In past years, the area has registered a constant trend of slightly declining population. The currently negative growth of the population is primarily influenced by the negative increase, and partly also by the depopulation of the municipality.

The average population density in the nominated area is low, amounting to less than 41 inhabitants/km², which is more than twice below the Slovenian average (Slovenia: 97 inhabitants/km²). The most densely populated part of the municipality is in the Idrijca River valley, which is the location of the two largest settlements in the Geopark, i.e. Idrija and Spodnja Idrija. These two settlements are distinctly urban, and are settled by 63% of the entire population of the municipality. All the other settlements, most of which are scattered throughout the hill-covered part of the municipality, are considerably smaller. And the population density is also smaller in this part. The most sparsely settled areas are the southwestern and southern parts of the Geopark.

Trade and Industry

The principal starting point for the extremely successful development of industry in the nominated area was the mercury mine in Idrija, which operated for five hundred years. Many of the mine’s qualified workers directed their rich experience and skills into the development of industrial plants. On a municipal scale, industry represents the main branch of the economy and is focused on machinery and electricity production.

Two international corporations have their registered offices in the municipality. These are the Kolektor Groups and Hidria corporation, whose industrial plants are located in Idrija, Spodnja Idrija, and in Godovič.

In the area of the Geopark, only the town of Idrija has major commercial centres, while the settlements of Črni Vrh, Godovič and Spodnja Idrija have small shops catering primarily to the local population.

Almost 55% of the active working population drives to work in another place every day. As many as 75% of these daily migrants drive to work in places within the municipality. This large share of daily migrants within the municipality is proof that the municipality represents a strong employment area for the local population.

Accessibility

Owing to its relief characteristics, the Geopark has an unfavourable traffic position and is removed from the main traffic routes on the state level. Access by train is not possible, as a railway network has not been built in the area. The closest railway connections are in Logatec and in Most na Soči. The closest airport is the national Jože Pučnik Airport Ljubljana at Brnik, situated 76 km from the area.

The principal road connection through the area is the state mainroad, which also has the greatest traffic load. This mainroad leads to the area of the Geopark from the direction of Ljubljana via the settlement of Godovič, descends along the narrow valley of the Zala stream to Idrija, and then continues along the narrow valley of the Idrija River in the direction of Cerkno and Tolmin, and further on towards the Posočje region. Within the area of the Geopark, this mainroad branches off onto three major state regional roads (in the directions of Ajdovščina, Žiri, and through Kanomljica).

Access to the area of the Geopark is also possible from various directions via narrow local roads, which form part of a well branched road network throughout the Geopark.

Tourism

The rich technical and cultural heritage inherited from the mercury mine in Idrija after five hundred years of operation, together with the exceptional natural heritage, provides a solid foundation for the successful development of tourism.

In spite of this, tourism is not (yet) the most important economic activity.

In Idrija and its surroundings, tourists can visit interesting technical monuments that are exceptional both on a national and international scale. These monuments richly complement the monuments of cultural heritage. According to the data of the Tourist Information Centre in Idrija, the largest number of tourists visit the area in summer.

In higher lying parts of the Geopark, the vast natural surroundings provide excellent opportunities for recreational tourism, particularly for cycling and hiking in summer.

In winter, well-maintained alpine ski courses and cross-country trails on the Vojsko and Črni Vrh plateaus invite skiing enthusiasts during favourable snow conditions.
The project of establishing the Idrija Geopark was started in 2008 by the Idrija Mercury Mine and the Idrija Municipality on the basis of a mutual agreement. The Idrija Municipality has established a consulting working body (Committee) and a coordinator of the establishing project. The committee prepared expert geological basis and other expert materials for establishing and interpreting the thematic paths content and carried out promotional, educative and connective activities with exterior contractors, especially public organisations and potential private partners of the future Idrija Geopark. In 2008, the first person was regularly employed by the Idrija Municipality to work on projects and activities.

In 2010, the Idrija Municipality, on the basis of the Institutes Act (Official Gazette of RS, no. 12/1991) and the municipal statute (OG RS, no. 1/2001), established a public institution – the Idrija Heritage Centre (IHC) (OG RS, no. 55/2010), the program of which involves also the protection of natural monuments and geological heritage, research, development and tourist activities as well as connecting to public and private partners. The founding purpose of Idrija Heritage Centre is to provide coordination of the system of integrated, coordinated and sustainable management, protection, preservation and maintenance of Idrija’s heritage, and conditions for its promotion and interpretation to ensure sustainable touristic development of Idrija. On 2nd October 2010, the Act amending the Act on establishing of the public institution Idrija Heritage Centre (OG RS, no. 73/2010) entered into force. This law explicitly placed the establishing and operation of the Idrija Geopark among the IHC’s activities, formally establishing the Idrija Geopark.

The Idrija Heritage Centre (IHC) is an independent non-profitable public institution established by the Idrija Municipality. The most important activity connected to the management of the Idrija Geopark is to ensure the coordinated, organized, harmonious and sustainable management of the Geopark area.

The bodies of IHC public institution are:

- **the Council** as the steering body of the public institution. It is comprised of five members; three of whom are representatives of the Idrija Municipality, one is representative of the Idrija Municipal Museum and one is representative of employees;
- **the Director** as the executive body of the institution who represents, acts on behalf of and manages the public institution, and is responsible for the legality and professionalism of its activities. The Director is appointed and recalled by the founder on the proposal of the Council.

Expert, technical and administrative tasks are carried out by the IHC Expert Services. The Services cooperate with external experts and contractors to ensure the quality performance of tasks in the areas of geology, education, promotion and development.

The Idrija Geopark Organigram

The Idrija Heritage Centre (IHC) is an independent non-profitable public institute established by the Idrija Municipality. The most important activity connected to the management of the Idrija Geopark is to ensure the coordinated, organized, harmonious and sustainable management of the Geopark area and its development. IHC is the legal entity providing legal and financial framework for Idrija Geopark, and as such it is the main developer and manager of the Idrija Geopark. For the purpose of managing and developing the Geopark, IHC has contractual relations with the two key managers of the cultural and natural heritage connected to the Idrija ore deposit and mining in the mercury mine. The two co-managers are the Idrija Municipal Museum - Museum of the Idrija and Cerkno regions, and the Idrija Mercury Mine - in liquidation which will be replaced by the national institution - Idrija Mercury Heritage Management Centre.
In carrying out expert and development activities of the Geopark, IHC is connected to key expert and partner organizations: The Institute of the RS for Nature Conservation, Slovenia Forest Service, Development Agency of Idrija and Cerkno, Centre for School and Outdoor Activities and research institutions. The partnership has a formal basis in the Partnership Agreement. The IHC is establishing partnerships within the private sector, the suppliers of quality products and services related to Geopark programme and activities.

The management body of the Idrija Geopark is the Council of the Institute which adopts the long-term program policies and strategies, the business, financial and other annual plans, classifies job positions and the staff plan, establishes advisory bodies, and steers the work of the IHC director. The Council is independent in adopting the Idrija Geopark financial plan; financing control is conducted by the Idrija Municipality Monitoring Committee. The Council members are: the representatives of the founder, a representative of the Idrija Municipal Museum and a representative of employees.

The executive body of the Geopark is the Director who in line with the Geopark Expert Group directives prepare the annual plan of work the Geopark, comprised of financial, promotion and development plans, guides the work of expert services, and presents and represents and acts on behalf of the Idrija Geopark.

The Geopark Expert Group is an advisory body of the IHC institution and the IHC Director. It answers to expert questions, coordinates expert work bases and their execution among Expert organizations and institutions in the fields of geology, nature and environment protection, and is a connective body among scientific research institutions and national bodies from reference fields. During the process of developing the Idrija Geopark, the expert project group may be transformed into the IHC Expert Council.

Members of the Geopark expert group:
- University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Geology
- Institute of the RS for Nature Conservation/Regional Unit Nova Gorica
- Institute for the Protection of Cultural Heritage of Slovenia/Regional Unit Nova Gorica
- Slovenia Forest Service/Unit Idrija
- Idrija Mercury Mine
- Karst Research Institute Postojna
- Geological Survey of Slovenia

The Geopark Partner Group is comprised of public and private partners/associates of the Idrija Geopark who have signed the Partnership Agreement and are creatively contributing to the Geopark’s development through activities and partnership cooperation. The common activities of IHC and individual partners are described in the appropriate legal document (Partnership Agreement).

The Idrija Geopark partners:

**A4 APPLICATION CONTACT PERSON**

**Contact Person**

Name: Dušan Černigoj  
Role: Director  
Authority: Idrija Heritage Centre, Geopark Idrija  
Street: Ul. IX. korpusa 17  
Town and postal code: Idrija, 5280  
Country: Slovenia  
Tel: +386 5 373 40 75; + 386 41 624 926  
Fax: +386 5 373 40 89  
E-mail: info@idrija-heritage.eu

The following table shows the members of the management of the Idrija Geopark, the persons responsible for individual areas from the operator of the Geopark (CID) and partner organisations, and the experts for the preparation and implementation of priority areas of the Idrija Geopark.
### Founders of the Idrija Geopark

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Function/competence</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>Municipality of Idrija</td>
<td>Mayor</td>
<td>Mr. Bojan Sever</td>
</tr>
<tr>
<td>Municipality of Idrija</td>
<td>Deputy Mayor/environmental protection, geopark</td>
<td>Mr. Bojan Režun</td>
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### Members of the management of the Idrija Geopark

<table>
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<tr>
<th>Function</th>
<th>Organisation</th>
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<tr>
<td>President of the Council of CID</td>
<td>Municipality of Idrija</td>
<td>Mr. Borut Zajc</td>
</tr>
<tr>
<td>Member of the Council of CID</td>
<td>Municipality of Idrija</td>
<td>Mr. Samo Bevk</td>
</tr>
<tr>
<td>Member of the Council of CID</td>
<td>Municipality of Idrija</td>
<td>Mr. Emil Ferjančič</td>
</tr>
<tr>
<td>Member of the Council of CID</td>
<td>Idrija Municipal Museum</td>
<td>Mr. Anton Zelenc</td>
</tr>
<tr>
<td>Member of the Council of CID</td>
<td>CID</td>
<td>Currently being appointed</td>
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### Persons responsible for priority areas (partners)

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<tr>
<th>Priority area of the Idrija Geopark</th>
<th>Organisation</th>
<th>Name/function</th>
<th>Tasks and activities</th>
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<tbody>
<tr>
<td>Strategic planning of the municipality’s development</td>
<td>Municipality of Idrija</td>
<td>Mrs. Mojca Remškar Planinc, Director</td>
<td>Management and coordination</td>
</tr>
<tr>
<td>Environmental and geoconservation</td>
<td>Idrija Mercury Mine</td>
<td>Mr. Marko Cigale, Director</td>
<td>Natural heritage, geosites, interpretation, education</td>
</tr>
<tr>
<td>Development of (rural) territory</td>
<td>Development Agency of Idrija and Cerkno</td>
<td>Mrs. Jožica Lazar, Director</td>
<td>Sustainable development and rural development</td>
</tr>
<tr>
<td>Cultural heritage</td>
<td>Idrija Municipal Museum</td>
<td>Mrs. Ivana Leskovec, Director</td>
<td>Protection and development of cultural heritage</td>
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### Management of Idrija Geopark – CID

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<tr>
<td>Idrija Heritage Centre (IHC)</td>
<td>Mr. Dušan Černigoj</td>
<td>Director: Organization, management and action plan, coordination</td>
<td>Employee</td>
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### Expert, secretarial/office technical staff of the Idrija Geopark within the scope of CID

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<th>Training-specialty</th>
<th>Tape of contact</th>
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<tbody>
<tr>
<td>Idrija Heritage Centre (IHC)</td>
<td>Mrs. Alenka Tomazin</td>
<td>Professional Assistant for promotion, marketing and sales</td>
<td>Employee</td>
</tr>
<tr>
<td>Idrija Heritage Centre (IHC)</td>
<td>Mrs. Zofija Kokalj</td>
<td>Secretarial/office tasks and finance</td>
<td>Temporary contract</td>
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### Expert staff (partners)

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<th>Organisation</th>
<th>Name</th>
<th>Training-specialty</th>
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<tr>
<td>Municipality of Idrija</td>
<td>Mrs. Mojca Gorjup Kavčič</td>
<td>Consultant for the Geopark area</td>
<td>Assigned contract</td>
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<td></td>
<td>Mrs. Tatjana Bedene Benčina</td>
<td>Environmental protection and spatial planning</td>
<td>Assigned contract</td>
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<tr>
<td></td>
<td>Mrs. Sanja Marija Pellis</td>
<td>Tourism development</td>
<td>Assigned contract</td>
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<td></td>
<td>Mrs. Karmen Makuc</td>
<td>Rural development</td>
<td>Assigned contract</td>
</tr>
<tr>
<td>Idrija Mercury Mine</td>
<td>Mrs. Martina Peljhan</td>
<td>Natural heritage Geosite interpretation and education</td>
<td>Assigned contract</td>
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<td></td>
<td>Mr. Bojan Režun</td>
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<td>Assigned contract</td>
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<tr>
<td>Idrija Municipal Museum</td>
<td>Mrs. Ivana Leskovec</td>
<td>Cultural heritage</td>
<td>Assigned contract</td>
</tr>
<tr>
<td>Development Agency of Idrija and Cerkno</td>
<td>Mrs. Andreja Trojar Lapanja</td>
<td>Sustainable development, projects</td>
<td>Assigned contract</td>
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<tr>
<td></td>
<td>Mrs. Darja Lahajnar</td>
<td>Rural development, development</td>
<td>Assigned contract</td>
</tr>
<tr>
<td></td>
<td>Mrs. Mirka Rupnik</td>
<td>Tourist Information Centre</td>
<td>Assigned contract</td>
</tr>
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</table>
B. GEOLOGICAL HERITAGE

BI LOCATION OF THE PROPOSED GEOPARK

The nominated area is defined in section A. The Geopark lies between 13° 50´ E and 14° 08´ E and between 45° 52´ N and 46° 12´ N.

Fig. BI – Geological map of Idrija Region (Čar, 2010). Drawn by Staša Čertaljč
**B2 GENERAL GEOLOGICAL DESCRIPTION OF THE PROPOSED GEOPARK**

Geological investigations have been conducted in the Idrija region for the past 250 years, which is at least one hundred years longer than in other regions of Slovenia, so it is not surprising that the foundations of Slovenian geology were laid in Idrija (Čar, 2010). The reason for this is the Idrija mine, the second largest mercury mine in the world. The mine was discovered in 1490 and, throughout its five-hundred-year history, has been the subject of professional and scientific studies as well as a rich source of income to its owners. Due to the economic significance and geological complexity of the ore deposit, as well as for the purpose of ensuring its optimal exploitation, distinguished mining, geological and metallurgical experts visited the Idrija ore deposit as early as in the 18th and first half of the 19th centuries. From the second half of the 19th century up to the First World War, important geologists of the Vienna Geological Institute, among others Lipold, Kosmat, Kropac and Pilz, were active in Idrija. In the 1960’s and 1970’s, the Idrija geological school was formed (Mlakar, Čar, Placer, Čadež). The geologists who were members of the school explained the origin of the ore deposit and its extremely complex structure, geologically mapped in detail the entire Idrija area and its broader surroundings, and later also influenced investigations throughout Slovenia. The consequence of this was that the Idrija region was, from the geological aspect, one of the most investigated areas in Slovenia (Čar, 2010).

Carboniferous, Permian, Triassic, Cretaceous and Paleocene-Eocene rocks can be found in the Idrija region. Extensive tectonic movements began in Middle Anisian and lasted throughout the Middle Triassic period. The paleogeographic conditions were highly complicated in this period, during which the famous Idrija mercury ore deposit was formed. Owing to extensive and complex tectonic events, the calm carbonate sedimentation was interrupted in Upper Cretaceous. Typical flysch rocks were formed in the foreland basin.

In the Miocene Epoch, the pushing of the Adriatic microplate under the European plate first transformed the rocks of the Idrija region into a huge recumbent fold. Owing to further displacements, the fold was cut up into individual nappes and intermediate nappe horses, which moved in southwest direction along the thrust plates for as many as several ten kilometres. The final structure of Idrija’s terrain was formed by numerous strong normal and then right-lateral faults, which thoroughly complicated the geological conditions in the Idrija region (Mlakar, 1969; Čar, 2010).
B. GEOLOGICAL HERITAGE

2.1. GEOLOGICAL DESCRIPTION OF THE IDRIJA REGION

2.1.1. Stratigraphic data

Carboniferous

The oldest rocks in the Idrija region are more than 300 million year-old dark grey Paleozoic clastic rocks of Carboniferous age. There are alternating shales and mudstones containing tiny lenses of quartz sandstones, rarely conglomerates.

Permian

Lying discordantly upon Carboniferous beds are Middle Permian quartz sandstones and conglomerates with transitions into variegated shales and siltstones of the so called Val Gardena formation. The above-mentioned clastic rocks are followed by Upper Permian, dark-grey, bituminous, stratified dolomites and stratified grey or almost black limestones rich in fossils.

Triassic

The transition from the Paleozoic to the Mesozoic era in the Idrija region was gradual and continuous. Permian carbonate rocks pass into variegated, developed rocks of Lower Triassic Scythian age. The several hundred metre-thick succession of Scythian rocks begins with stratified grey micaceous dolomite with intercalations of dolomite-quartz sandstones and interbedded marl intercalations continuously passing into lithologically richly developed beds of variegated shale, siltstone and calcareous sandstone with lenses of oolitic limestone. The higher lying oolitic horizons pass into poorly stratified grey dolomites, and these into marls and marly limestones, which are the youngest Scythian rocks in the Idrija region.

The Lower Anisian stage saw the continuation of stable sedimentation and the formation of a characteristic light grey, poorly stratified or unstratified dolomite. In the beginning of Upper Anisian, approximately 243 million years ago, extensive displacements began to occur, with alternating sections of land and shallow waters. Erosion washed away several hundred metres of older layers on raised blocks, leaving even Carboniferous shales, the oldest rocks in the Idrija region, lying on the surface. Owing to the described tectonic movements, the Middle Triassic Ladinian rocks were highly variegated and were mostly deposited discordantly on older rocks, in the case of the Idrija ore deposit even directly on Carboniferous shales. Alongside the diverse and variegated conglomerates and sandstones, Ladinian rocks are developed as bituminous shales, siltstones, marls and sandstones (upper Skonca horizon). Also frequent a various pyroclastic rocks with lenses of reef limestones and tuffs with rare diabase and keratophyre intercalations. Special sediments characteristic of tectonic fault troughs began to form in the tectonic fault troughs. Owing to the complex tectonic conditions, the thickness of Ladinian beds changes considerably – in some parts they are more than 600 m thick, while in others they were not deposited at all.

The Ladinian rocks are covered by white, grained, un-stratified, Upper Triassic Carnian Cordevolian dolomite with intercalations of organogeneous limestone or black thin-layered limestone and grey dolomite. Several-hundred-metre-thick Julian-Tuvalian beds were deposited over the Cordevolian dolomite. They begin with transitional, stratified dolomite, which passes into dark grey limestone. This is followed by a lower clastic horizon comprised of variegated shales, siltstones with anthracite intercalations, variegated calcareous sandstones and conglomerates. These are covered by laminated and oolitic megalodontid limestone with frequent remains of megalodontid shells. The upper clastic horizon is, by its composition and rock structure, quite similar to the lower horizon. Calcareous sandstones with lenses of variegated calcareous conglomerate are the most frequent rock intercalations. Grey, green and burgundy dolomite marls with marly dolomite lenses.

The passage of clastic Carnian rocks into Upper Triassic Norian-Rhaetian stratified dolomite is gradual and continuous. The dolomite, which is usually designated as ‘main dolomite’, is a thinly to mediumly stratified, dark to light grey coloured rock with scarce remains of cellular limestone. Interbedded shale or marl intercalations are frequent in the lower part, while stromatolite and oncolite levels can be found higher in the column.

Jurassic

Owing to complex tertiary tectonic activity, Jurassic rocks are not preserved in the Idrija region.

Cretaceous

Due to thrust tectonics, the entire profile of Lower Cretaceous limestone in the Idrija region cannot be found. An approx. 300 m-thick carbonate horizon is comprised of dark grey bituminous limestones with scarce intercalations of dark grey, thin-layered, grained dolomite. In the surround-ings of Idrija and on the Črni Vrh plateau, Lower Cretaceous Requienia limestone gradually passes into Upper Cretaceous, dark to light grey and white, unstratified, ruditic limestone.

Paleocene–Eocene

Upper Cretaceous limestone is interrupted in its upper part by distinct erosional unconformity, above which Paleocene and Eocene flysch rocks began to be deposited approximately 65 million years ago. Alongside the typical greyish-green shales and marls, quartz sandstones can also be found. Lenses of calcareous sandstones and breccia appear in these rocks. Coarse-grained to block calcareous conglomerates can be found in rare spots along the base, and calcareous conglomerates higher in the profile. Flysch rocks are the youngest sedimentary rocks in the Idrija region, and can be found in Idrija’s tectonic windows.

Recent deposits

The slopes along the upper Idrija River and on Stopnik are covered with extensive boulder rockfall sections, as well as occasional small patches of lateral debris. Small riverside gravel terraces can only be observed in Bela, Idrija and in Spodnja Idrija.
1.2. Tectonics

Tectonic activity in the Idrija region can be divided into the following stages:

- Middle Triassic tectonics,
- Upper Cretaceous-Paleocene stratigraphic gap;
- folding and thrust tectonics;
- Miocene normal and post-Miocene strike-slip tectonics.

Triassic tectonics

Until the end of Lower Anisian, a stable sedimentation process took place in the Idrija region and elsewhere throughout Slovenia. The disintegration of the Slovenian carbonate platform in the beginning of Upper Anisian marked the beginning of a tectonically very active period lasting from Middle Anisian to Middle Carnian. This period is known as the Idrija Middle Triassic tectonic period. The period of Middle Triassic tectonics was characterised by normal tectonic activity. At that time the Idrija territory was cut by several groups of more or less strong normal faults.

Along the normal faults, individual blocks were strongly lowered, while others were only slightly lowered or raised into blocks of land during the general rising of terrain. Around 750 m of layers were eroded on some of the raised blocks (Čar, 1985, 1990). Anisian, Scythian, Permian and even Carboniferous rocks were removed by the depositing of various Ladinian rocks on various older rocks. The strongest and deepest faults built up the ore deposit. It was here that the Idrija Middle Triassic tectonic fault trough and the mercury ore deposit were formed. The vertical displacement component of faults was from 600 to 900 m (Čar, 1990).

Middle Triassic normal tectonic activity created the complicated palaeogeographic conditions that are also strongly reflected in the present-day geological structure of the territory. Today the Triassic structures run in the direction east-west.

Upper Cretaceous-Paleocene stratigraphic gap

Tectonic movements in Upper Cretaceous caused the disintegration of the Dinaric Carbonate Platform, and the formation of flysch rocks in the foreland basin. Features and weak faults of varying directions in Upper Cretaceous limestone can be observed from this period in Idrija’s tectonic windows. Extreme erosional unconformity can be found between these limestones and Eocene-Paleocene flysch rocks. (Čar, 2010).

Folding and thrust tectonics

According to existing data (Placer, 1999; Vrabec & Fodor, 2006), folding and thrusting occurred in the Idrija territory in Upper Eocene and continued in Lower and Middle Oligocene. First a huge recumbent fold was formed which, under subsequent pressures, was cut up by strong thrust plates. Thrusting moved in the direction north-east to south-west. A thrust structure typical of western Slovenia was formed. Lying in the deeper basement of the Idrija region are rocks of the Hrušica nappe, above which are first the Koševnik nappe horse, followed by the Čekovnik nappe horse and the inversely lying rocks of the Kanomlja nappe horse, all of which are covered by rocks of the Trnovo nappe.

The complex folding and extensive thrusting strongly ‘mixed up’ the rocks. Nowhere in the Idrija region can any section be found with a normal stratigraphic sequence of layers from Carboniferous to Eocene. Eocene-Paleocene flysch layers are exposed in deep valleys, while the highest ridges are in several places built of Scythian, Permian and even Carboniferous beds. Thrusting and subsequent erosion created a number of interesting tectonic phenomena: various tectonic windows and tectonic half-windows, as well as tectonic klippe and half-klippe. However, the structurally most important and geologically most interesting are the huge Idrija tectonic windows, such as the Strug single tectonic window in the Idrija River valley, the Bevk single tectonic window in the valley of the Nikova stream, and the Bratuš and Kanomlja triple tectonic window. In particular triple tectonic windows are a rare phenomenon in the area of the Southern Alps, and therefore rightly attract considerable attention.

Lying in the base of both single tectonic windows are Upper Cretaceous rudist limestones that are confined on top by erosional unconformity, and overlain by Eocene Paleocene flysch rocks. These flysch rocks are covered by Lower Cretaceous and Upper Cretaceous limestones of the Koševnik nappe horse that had been torn from the Hrušica nappe in the basement. Lying above the Cretaceous limestones of both triple tectonic windows is Upper Triassic Norian-Rhaetian bedded dolomite of the

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Fig.B3 – Thrust structure of the Idrija region (Čar, 2010)
Čekovnik nappe horse, overlain by variegated Carboniferous, Permian, Scythian, Anisian, Ladinian and Carnian rocks of the Kanomljica nappe horse in overturned position. All of the above-mentioned thrust units finally cover the rocks of the Trnovo nappe in normal position (Mlakar, 1969; Placer, 1973; Čar, 2010).

**Miocene normal and post-Miocene strike-slip tectonics**

Owing to extensive occurrences in the area of the present-day Pannonian basin and in the Carpathians, the tensile stresses that dominated the Slovenian territory in Middle Miocene ran in the direction north-east and south-west. This resulted in the formation of huge normal faults with strong subsidence of north-east blocks, including the two largest faults in the Idrija region: the **Idrija fault and the Zala fault**. Alongside these faults, the north-east blocks were lowered by approx. 450 m.

Due to the underthrusting of Istria (Adriatic microplate) to the north and north-west below Slovenia and western Croatia from late Miocene onward, the stress conditions in Slovenia changed intensively. Compressive forces became predominant in the direction north-south. Underthrust zones were formed along the karst boundary. Older normal faults with ‘Dinaric’ direction were reactivated as right-lateral faults. Numerous parallel Dinaric faults were also formed, which strongly complicated the geological conditions in Idrija (Čar, 2010).

**Idrija fault**

The strongest fault in the Idrija region and one of the largest faults in the Southern Alps is the famous **Idrija fault**. The fault originated in Carnian and runs in typical Dinaric direction, cutting across the entire territory of Slovenia all the way to the area of Velebit in Croatia. On Slovenian territory, the Idrija fault can be traced from the alpine meadow of Predolina (1655m) across the Učja River valley to Žaga, and then along the Soča River valley to Most na Soči, and from here along the Idrija River valley to Trebuša, along the Hotenja valley and across the Oblakov vrh pass, and then along the valley of the Kanomljica stream and across the hamlet of Kanomeljsko razpotje to Idrija. The fault leaves Idrija along the valley of the Ljubevščica stream and crosses Hotenjsko podolje, Planinsko polje and Čerkniško polje to Čabranka and the upper Kolpa River. Throughout its course, the fault is morphologically well-defined and appears on satellite photos as a distinct, straight line. The width of the narrow fault zone varies, and is only 5 to 10 m in some parts, reaching several 10 metres in other parts. The broader fault zone is even up to 2 km wide in some sections. The dislocation of rocks in the fault zone led to the formation of distinct valleys, saddles and levelings. Except for the Učja River valley, the 120 km-long route of the fault zone across Slovenia is not directly visible anywhere. It was, however, crossed several times in the Idrija mine. The displacement of the north-east block in a length of approx. 2500 m in the direction south-east along the Idrija fault has been proven (Mlakar, 1969; Placer, 1981, 1982).

**1.3. Idrija ore deposit**

The Idrija ore deposit is the second largest ore deposit in the world in terms of mercury concentration, being second only to Almadén in Spain (Mlakar, 1974). But the Idrija ore deposit is not only a ‘giant’ among mercury
deposits; it has gained international repute and professional significance primarily because of the conditions in which it was formed, its exceptionally rich and unusual ores, geochemical and mineralogical compositions, and the extraordinary transformations into its extremely complex present-day state. At first glance, its present structure gives the appearance of inexplicable and unsolvable geological ‘chaos’. For this reason, considerable attention has also been attracted by the investigative ‘exploits’ of geologists who reconstructed the origin and development of the ore deposit through its geological history. The first geological data on the Idrija ore deposit were collected in the mid 18th century. Investigations of the ore deposit in the ‘modern’ period have been in progress – with one interruption in the period of the Italian occupation – for as many as one hundred and thirty years, i.e. from approx. 1874 to 2004, when the last (so far!) scientific findings on the geochemical composition and circumstances surrounding the origin of Idrija’s mercury ores were discovered and recorded. The events accompanying the formation of the Triassic structure of the ore deposit and various mercury ores, as well as the transformation of the former ore deposit structure into its present state, represent a geological particularity of international significance.

**Formation of the ore deposit**

The transformation of the Triassic structure of the ore deposit into its present state cannot be explained in simple terms owing to the extensive and complicated events linked to the transformation of the entire area of the Southern Alps, and of course Slovenian territory. Due to strong Tertiary tectonic activity, individual chunks of rock first began to fold, forming an extensive near-thrust fold. The part of the Earth’s crust containing the Idrija Middle Triassic tectonic fault trough and the mercury ore deposit was first concave in shape, and later transformed into a vertical fold. Folding resulted in fractures that caused parts of the ore deposit to move in southwesterly direction. The continuing pressures caused the structure of the ore deposit to gradually lean southward (rotation of ore deposit). The old fractures ceased to be active and new fractures were created, causing individual parts of the ore deposit to shift northward. The final transformation of the large recumbent fold containing the Idrija ore deposit in its upper limb resulted in the formation of folding lines, i.e. large and extensive, almost horizontal tectonic contacts alongside which the Idrija deposit was pushed some 35 km towards the southwest, where it has remained to this day. Another extensive system of faults was formed several million years ago, which included the regional Idrija and Zala faults. These two faults cut the already greatly transformed mercury ore deposit into individual blocks,
moving them forward first in vertical and then in horizontal direction to the southeast (Čar, 2010). The result of the above-described events is the unique, ‘chaotically’ formed present-day structure of the ore deposit.

### Cinnabar ores

Idrija's cinnabar ores were formed in two ways, which is unusual for mercury ore deposits. In the first method, ore-bearing solutions trickled across the faults and fractures through older rocks of the Idrija ore deposit – Carboniferous, Permian, Scythian and Anisian rocks. The hot waters dissolved the soluble minerals, primarily calcite (CaCO₃), leaving small holes of varying size in the rocks. With the gradually decreasing pressure and the cooling of thermal water from 218° do 160°C, mercury (Hg) and sulphur (S) from the ore-bearing solutions combined to form cinnabar (HgS) or a noncrystallised cinnabar gel. In this way the small holes in the rocks, open faults and fractures were gradually filled with cinnabar (HgS). If there was not enough sulphur present, native mercury was released (shales impregnated with mercury droplets). The ores formed in the described manner are called epigenetic cinnabar ores. These ores are customary and have been documented in other mercury ore deposits around the world. Unique and unknown to other Hg deposits are the so-called syngenetic ores, or sedimentary cinnabar ores. Their formation is linked to the pouring of hydrothermal waters enriched with mercury and sulphur, or directly with the cinnabar gel, into the then existing marshes where various sedimentary rocks, known under the name of Skonca beds, were simultaneously formed (Mlakar, 1969). In this second phase of hydrothermal activity, enormous quantities of mercury and sulphur began to flow along the faults. Like the first time, rich epigenetic cinnabar ores were formed in older rocks. A good part of the cinnabar gels was discharged directly into the marshes, forming rich (up to 78% Hg) sedimentary ores (Mlakar and Drovenik, 1971). Due to the small inflow of sulphur, part of the Hg remained in its elemental form, creating ore-bearing deposits with native Hg primarily in the Carboniferous shales (shales impregnated with native mercury droplets), Skonca beds (Mlakar, 1969; Mlakar and Drovenik, 1971, Čar, 2010), and partly also in some other rocks.

The Idrija ore deposit lies directly below the town of Idrija and extends in the direction NW-SE. It is approximately 1500 m long, 300-600 m wide and 450 m deep. Approximately 700 km of shafts have been excavated on 15 levels, where 158 ore bodies were found, of which 141 contain cinnabar (14 ore bodies with mostly syngenetic mineralisation and 127 with epigenetic mineralisation). Native mercury is predominant in the remaining 17 ore bodies.

The names given to these exceptionally rich Idrija cinnabar ores were chosen primarily on the basis of their colour, structure and mercury content, and less on the basis of their composition. The richest ores were named jeklenka (steel ore), opekovka (brick ore), jetrenka (liver ore), and koralna ruda (coral ore). Among the ores specific to the Idrija ore deposit are karoli ore or karolijevka, variations of sedimentary ores, and the so-called shale ore containing a high percentage of native mercury. Based on the percentage of mercury in ores, miners and metallurgists divided ores (for practical reasons) as follows: jeklenka (high mercury content), very rich ore, rich ore, and poor ore or bašperh.

More than 28 minerals of the Idrija ore deposit contribute to the diversity of Idrija’s subterranean world, among which the most important are: cinnabar (HgS), metacinnabar (HgS), epsomite (MgSO₄·7H₂O) in the form of stalactites or fibres, a special and rare mineral – idrialit (C₂H₂·H₂O), a secondary mineral – kaolinit (in beds of up to 15 metres), and richly coloured melanterite (FeSO₄·7H₂O).

#### 2.2 GEOMORPHOLOGY

The main characteristic of the Idrija hills is a sharp morphological cut that was formed in the strong and wide fault zone of the Idrija fault. The second basic geomorphological characteristic of Idrija territory is the valley of the Idrija River and its unusual course, which is primarily the result of lithology and in some parts also of tectonic activity.

The Idrija fault is one of the strongest faults in the region of the Southern Alps, which divides the Idrija hills into two morphologically extremely variegated geotectonic blocks. The main characteristics of the northeastern Krnice-Masore block is a long, on average approx. 1000 m-high ridge running in the direction NW-SE. It begins in Dolenja Trebuša, continues across Utre and Vrhovec.
(1079 m, including Lokvarski vrh), and ends on the small upland plain of Idrijske Kninice with the highest peak of Mt. Jelenk (1107 m). On the north side, numerous morphologically strong ravines are cut into the Kninice ridge. The most prominent among them are the valleys of the Otuška ravine and Sevnica. On the other side of the Idrija River valley lies the beautiful, friendly world of the Ledine plateau, formed during the occurrence of numerous Middle Triassic fractures in the direction east-west. These fractures continue in the direction of Spodnja Idrija. In their fault zones, the Spodnja Idrijca basin was formed by rapid and unusual meandering of the Idrijca River. The Ledine plateau divides the Osojnica stream from Vrsnik, and Žirovnica from the extensive Dolska–Zavraška plateau.

The geotectonic block of the Idrija hills (in a narrow sense) lying on the southwestern side of the Idrija fault zone has a different geomorphological character. The sharp ridge of Mačkove laze, which is confined on the south-west side by the wild and picturesque Gaćnik gorge and its numerous waterfalls, broadens out at Stržnikar into the vast and diversified Vojsko plateau. The plateau-covered world begins on the northwest side with the exposed viewing peak of Hudournik (1148 m), and on the other side by the viewing peak of Kotlovski vrh (1168 m). On the northeast side, the Vojsko plateau descends almost precipitously for approx. 450 m into the fracture valley of the Kanomljica River.

The variegated world of the Upper Idrijca River and the Belca stream represent a special geomorphological unit. The territory of this unit is closed in on the northeastern side by the southern slopes of Razori, Vodonos and Čekovnik. The extensive, sunny slopes have been shaped along the relatively steeply falling layers of Middle Triassic Ladinian rocks, while to the southwest the world of the upper Idrijca River is confined by the northeaster edge of the Trnovo forest. The so-called ‘sunny shelf’ of Čekovnik between Blašk and Bela peak, as well as the small upland plains of Pšenk and Gladke skale, were formed along the folding line between the limestones of the Koševnik horse and the dolomites of the Čekovnik horse.

The southeast part of the Idrija hills is represented by the extensive, karstified Crni vrh plateau in the broader sense. The central levelling of Crni vrh plateau and Zadlog were formed along the nappe plane between the ‘main dolomite’ of the Čekovnik horse in the basement and the Norian-Rhaetian dolomite of the Trnovo nappe. The world of gable end valleys and karst depressions in Lome was formed on flysch rocks of the Hrušica nappe. The Crni vrh plateau descends across the Predgriziše ridge into the Hotenjsko podolje near Godovič, which was formed in a highly disturbed and lowered block of rocks between the Idrija and Zala faults.

2.3 THE KARST

The richly developed and often somewhat specific karst phenomena in the Idrija region are the reflection of complex rock composition, as well as tectonic and morphological stratification, of the highly variegated Idrija region. In a broader sense, the karst territory in Idrija may be divided into the high karst and the solitary karst, which includes the other «nonkarst» territory in the Idrija region (Čar, 2010).

The high karst comprises the area of Pevec, Idrijski Log, Zadlog, the central part of the Črni vrh plateau, Predgrizi and Lom, as well as part of Hotenjsko podolje near Godovič. It continues southward and westward along the boundary of the Trnovo forest, Javornik and Hrušica. Owing to the geological conditions existing on the other side of the Idrija River valley, the high karst passes into shallower limestone karst at Zagrebenc, Gladke skale and the valley of the Nikova stream. From the geological aspect, the high karst and the shallower limestone karst are built of Lower and Upper Cretaceous limestones of the Koševnik horse and Upper Cretaceous rudist limestone of the Hrušica nappe, which comes to light in Bevk’s tectonic window and in the Strug tectonic...
Typical of the high karst are deeply karstified carbonate rocks, particularly limestones, with all the characteristics of classical karst. On the surface, numerous sinkholes can be found in various geological structures (Čar, 2001), whereas the underground karst is characterised by deep abysses, occasional subhorizontal short caves, as well as short sinking streams and swallow holes (covered karst) along the thrust edges. Special mention should be made of the 400 m-deep Habe shaft, the famous boiling spring of Divje jezero (Wild Lake), and the powerful Podroteja springs.

All the remaining parts of the Idrija territory where the high karst has not developed is formally classified as the «nonkarst» world, but certain individual or group karst phenomena found here are classified as solitary karst. This type of karst is usually developed in limestones and dolomites of varying age found in the middle of impermeable rocks (shales, calcareous sandstones, etc.). The size and development of karst phenomena depend on geological conditions, i.e. the petrographic features of rocks, thickness of permeable rocks, tectonics, hydrological conditions, and climatic conditions. The solitary karst is more extensively developed on Krnice, the Ledina plateau, Vojsko plateau, and in Srednja Kanomlja.

B3 LISTING AND DESCRIPTION OF GEOLOGICAL SITES WITHIN THE PROPOSED GEOPARK

The area of the Idrija Geopark has an extremely diverse geological structure as regards the various types of rocks and their age, numerous tectonic elements, fossil and mineral sites. In many cases the geologically significant locations overlap with others, most frequently with geomorphological or hydronatural natural phenomena (karst caves, gorges, springs, …). The geodiversity of the area and its rich geological heritage is evident in the complex natural phenomena. There are 52 sites on the list of geological sites having the status of natural heritage, and are thus ensured special system protection in the Idrija Geopark (source: Nature Conservation Atlas), but not all of them are suitable for presentation. To this data base we have also added those geological sites that have no special legal protection, but are highly interesting and suitable for presentation to the public. From both of these lists and other extensive information, we have selected 41 sites that represent the most important geological and geomorphological heritage of the Geopark. Together with the viewpoints, there are 47 geosites that are suitable for presentation to the public. The final selection of these sites is listed in Table 1 with the following data: name, brief designation, nature protection status I, sort of natural heritage II, and use / purpose III. Abbreviations are specified for I, II and III.
## Geomorphological Heritage

### Table 2 – Geological sites

<table>
<thead>
<tr>
<th>Name of site</th>
<th>Description</th>
<th>Nature protection status</th>
<th>Sort of natural phenomena</th>
<th>Use / purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOSITES</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1 IDRIJA ORE DEPOSIT</td>
<td>A complex geological phenomenon with mercury mineralisation, in which the main ore mineral is cinnabar. It is built of Carboniferous, Permian, Scythian, Anisian, Ladinian and Carnian rocks. A particularity of the Idrija ore deposit are the rich sedimentary ores and native mercury.</td>
<td>International P-LP (part), NH-nat</td>
<td>Geol</td>
<td>Edu, Sci, Tour, Hist</td>
</tr>
<tr>
<td>2 ANTHONY'S MAIN ROAD</td>
<td>Anthony's Main Road is the oldest preserved part of the ore deposit that has remained accessible after shutdown of the mine. Preserved in this site are extraordinary geological phenomena such as Carboniferous rocks mineralised with mercury, Middle Triassic erosional unconformity, sedimentary and coral ores. The ore extraction methods used through history are presented.</td>
<td>International NH-nat</td>
<td>Geol</td>
<td>Tour, Edu, Sci, Hist</td>
</tr>
<tr>
<td>3 DIVJE JEZERO (Wild Lake)</td>
<td>Divje jezero (Wild Lake) is a complex geological, geomorphological and hydrological natural phenomenon, as it is simultaneously a cave, spring and lake. Alpine plants (Slovenian endemic <em>Primula carniolica</em>) thrive on its steep and cold slopes, and its cave is home to the only European cave vertebrate - the human fish (<em>Proteus anguinus</em>). Its international historical significance is linked to such famous scientists as Scopoli and Hacquet, broad-thinking researchers who worked as physicians in the Idrija Mercury Mine. It is arranged as a museum in nature.</td>
<td>International P-LP, P-NM, NH-nat, N2000</td>
<td>Hydr, Geomu, Geom, Geol, Bot, Zool</td>
<td>Tour, Edu, Sci,</td>
</tr>
<tr>
<td>4 IDRIJA FAULT</td>
<td>The Idrija fault is one of the largest faults in the Southern Alps, which cuts across the entire territory of Slovenia, continuing into Italy on the northeast side, and into Croatia on the southeast side. The events occurring along the Idrija fault are also connected to the Idrija ore deposit, which was cut off and displaced from the fault. Numerous earthquakes occurred in the broader fault zone. Remarkable views of the fault zone open up at Kanomeljsko Razpotje and Hudournik on the Vojsko plateau.</td>
<td>International NH-nat (part), N2000 (part)</td>
<td>Geol</td>
<td>Sci, Edu, Hist</td>
</tr>
<tr>
<td>5 ZALA FAULT, Podroteja</td>
<td>A distinctive and morphologically prominent fault zone which separates a variety of rocks. The fault zone is directly visible at several locations. It has an important role in forming the morphology of the terrain in the surroundings of Idrija.</td>
<td>P-LP (part)</td>
<td>Geol</td>
<td>Sci, Edu, Hist</td>
</tr>
<tr>
<td>6 BEVK TECTONIC WINDOW</td>
<td>Lying in the base of this single tectonic window are Upper Cretaceous rudist limestones, which are confined on top by erosional unconformity overlain by Eocene-Paleocene flysch rocks.</td>
<td>NH-nat</td>
<td>Geol</td>
<td>Sci, Edu, Tour</td>
</tr>
<tr>
<td>7</td>
<td>STRUG SINGLE TECTONIC WINDOW</td>
<td>Exposed in the base of the window are Upper Cretaceous limestones and Paleocene-Eocene flysch rocks of the Hrušica nappe overlain by an overthrust plate of Lower and Upper Cretaceous limestone. This is a site of the Carniolan Primrose (<em>Primula carniolica</em>).</td>
<td>P-LP, NH-nat, N2000</td>
<td>Geol, Geom, Bot</td>
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<td>8</td>
<td>KANOMLJA TRIPLE TECTONIC WINDOW</td>
<td>A triple tectonic window with three folding lines that structurally separate four overthrust units. A morphologically and tectonically complex phenomenon of regional importance, covering an area of 1.8 km².</td>
<td>NH-loc</td>
<td>Geol</td>
</tr>
<tr>
<td>9</td>
<td>BRATUŠ TRIPLE TECTONIC WINDOW</td>
<td>The Bratuš tectonic window reveals three overthrust packages of rocks lying one above the other. The deepest lying are the youngest Eocene flysch rocks, and the highest lying are an outcrop of the oldest Carboniferous shales.</td>
<td>NH-nat</td>
<td>Geol</td>
</tr>
<tr>
<td>10</td>
<td>KRAMARŠCA GORGE</td>
<td>An approx. 200 m-long gorge in the upper Idrijca River valley with a very narrow entrance, partly impassable. Water has formed several waterfalls and pools in the gorge. The high walls are built of Upper Triassic, unstratified, grained dolomite. The area is cut by several faults running N-S. Site of the Bear’s Ear (<em>P. aurikula</em>), Carniolan Primrose (<em>P. carniolica</em>), and the Idrija Primrose (<em>P. x venusta</em>).</td>
<td>P-LP, P-NM, NH-nat, N2000</td>
<td>Geol, Geom, Hydr, Bot</td>
</tr>
<tr>
<td>11</td>
<td>BEDROVA GRAPA</td>
<td>A scenic gorge with waterfalls and rapids, also an exceptional geological locality. The entire profile of Upper Triassic Carnian beds and part of Norian-Rhaetian (main) dolomite are visible. The clastic rocks contain numerous sediment textures and remains of Carnian shells (<em>Myophoria and Pachicardia</em>). A site of endangered and protected plant species.</td>
<td>P-LP, P-NM, NH-nat, N2000</td>
<td>Geol, Hydr, Geom, Bot</td>
</tr>
<tr>
<td>13</td>
<td>CARNIAN SANDSTONES WITH FOSSILS IN GAČNIK</td>
<td>Carnian sandstones pass in some spots into conglomerate with red Jasper and intercalations of nodular limestone. The limestones contain the fossil remains of shells, ostracods, corals, spines of sea urchins, algae, and rare remains of land plants. Wetlands can be found below the barren sandy hills and ridges.</td>
<td>NH-loc, N2000</td>
<td>Geol, Geom</td>
</tr>
<tr>
<td>14</td>
<td>LADINIAN BEDS</td>
<td>Alteration of tuffaceous claystones and marls as well as nodular silicified limestones. Several well-preserved ammonites have been found here.</td>
<td>P-LP, NH-loc, N2000</td>
<td>Geol</td>
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<td>Page</td>
<td>Location</td>
<td>Description</td>
<td>References</td>
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<td>15</td>
<td>Diabase</td>
<td>Basalt outcrop with calcite almonds and basalt breccia (red and green coloured), which bear witness to volcanic activity 230 million years ago.</td>
<td>P-LP, N2000 Geol Sci, Edu, Tour</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Volcanic and pyroclastic rocks, Pisance</td>
<td>The surroundings of the Pisance farm are built of purple, red and grassy green tuffs and tuffites with intercalations of diabase and diabase breccia.</td>
<td>/ Geol Edu, Sci, Tour</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Footprints of Upper Triassic reptiles, Medvedje Brdo</td>
<td>Fossil footprints of an unknown reptile. The footprints are on an almost horizontal, bedded surface of Upper Triassic Norian-Rhaetian 'main' dolomite. A sequence of five footprints is visible.</td>
<td>NH-nat Geol Sci, Edu, Tour</td>
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<tr>
<td>18</td>
<td>Megalodontid shells, Knipajz</td>
<td>Profile of Carnian beds (claystones and sandstones) from Julian-Tuvalian, an intermediate horizon between Julian and Tuvalian, with numerous remains of Triadomegalodon idrianus megalontid shells.</td>
<td>P-LP, N2000 Geol Edu, Sci, Tour</td>
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<td>20</td>
<td>Moraine, Hudo polje</td>
<td>Distinct terminal moraine, 5 to 10 m high, believed to date from the peak of Würmian glaciation. In the terminal moraine is a large outcrop revealing the structure of the moraine hill. Fine gravel mixed with large blocks and fine mushy materials are predominant.</td>
<td>P-LP, NH-loc, N2000 Geom Geol Edu, Sci, Tour</td>
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<tr>
<td>21</td>
<td>Trohova ravan</td>
<td>An extensive, dry valley with periglacial debris, a typical alluvial doline. A botanical locality (Gentiana Clusii, Lilium bulbiferum).</td>
<td>NH-loc, N2000 Geom, Bot Edu, Tour</td>
<td></td>
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<tr>
<td>22</td>
<td>Uvala and solitary boulders, Kočeše</td>
<td>Solitary boulders of Anisian dolomite in a karst depression sunken by several meters.</td>
<td>NH-loc, N2000 Geom Edu, Sci, Tour</td>
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<tr>
<td>23</td>
<td>Babji zob in the valley of the Belca stream</td>
<td>A solitary boulder in the form of a several meter-high dolomite column in the valley of the Belca stream.</td>
<td>P-LP, NH-loc, N2000 Geom Edu, Tour</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Tomaz's table</td>
<td>A huge &quot;rock table&quot; comprised of a thick rock plate situated on a narrow rock pillar. A product of tectonic activity and erosion.</td>
<td>NH-nat Geom, Geol Edu, Tour</td>
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<tr>
<td>25</td>
<td>Idrijca river valley</td>
<td>The entire valley is a very narrow and in some parts barely accessible gorge with steep cliffs. Numerous interesting plant species thrive in the valley, including protected and endangered plants. Several historical and technical monuments are situated in the valley.</td>
<td>NH-nat, N2000 Geom, Hydr, Bot, Eko Edu, Sci, Tour</td>
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**Karst and hydrological phenomena**

- Idrijca River Valley: The entire valley is a very narrow and in some parts barely accessible gorge with steep cliffs. Numerous interesting plant species thrive in the valley, including protected and endangered plants. Several historical and technical monuments are situated in the valley.
- Trogir: An extensive, dry valley with periglacial debris, a typical alluvial doline. A botanical locality (Gentiana Clusii, Lilium bulbiferum).
- Uvala and solitary boulders, Kočeše: Solitary boulders of Anisian dolomite in a karst depression sunken by several meters.
- Babji zob in the valley of the Belca stream: A solitary boulder in the form of a several meter-high dolomite column in the valley of the Belca stream.
- Tomaz's table: A huge "rock table" comprised of a thick rock plate situated on a narrow rock pillar. A product of tectonic activity and erosion.
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<th>No.</th>
<th>Location</th>
<th>Description</th>
<th>Keywords</th>
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<tbody>
<tr>
<td>26</td>
<td>Suha Idrija</td>
<td>Represents the lower part of Črni potok, a torrential stream. By its bedding, this is a special type of water channel that was formed at the contact of dolomite and limestone. It runs beneath the fault in the Suha Idrija gorge. Visible here is bedded dolomite (from Cordevolian upwards), which laterally alternates with limestone of Julian age containing <em>Clypeina besici</em> algae.</td>
<td>P-LP, P-NM, NH-nat, NH-loc, N2000, Geom, Edu, Sci, Tour</td>
</tr>
<tr>
<td>27</td>
<td>Valley of the Belca Stream</td>
<td>The valley of the Belca stream is a narrow water gap running in the direction of the Dinaric Alps. Very steep cliffs rise up from the bottom of the valley, in many places these are vertical, overhanging walls. Several botanical particularities can be found in the valley. This is home to the Soča trout. Several technical monuments are preserved in the valley.</td>
<td>P-LP, NH-nat, NH-loc, N2000, Hydr, Geom, Bot, Zool, Edu, Sci, Tour</td>
</tr>
<tr>
<td>28</td>
<td>Gačnik</td>
<td>Gačnik stream, right tributary of the Trebušica, with waterfalls and profiles of Upper Triassic rocks and the fossil shells <em>Myosphera</em> and <em>Pachycardia</em>, fossils of the bivalve mollusc <em>Solenomorphora</em>, and marsh meadows.</td>
<td>P-NM (part), NH-nat, NH-loc, N2000, Hydr, Geom, Bot, Edu, Sci, Tour</td>
</tr>
<tr>
<td>29</td>
<td>Springs in Podroteja</td>
<td>A karst spring lying near the confluence of the Idrija and Zala rivers. Water is used to supply the town.</td>
<td>NH-loc, N2000, Hydr, Edu, Sci, Tour</td>
</tr>
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<td>30</td>
<td>Divji Potok</td>
<td>On the left bank of the Idrija River above the klavže (water barriers) is a strong tectonic spring, Divji potok. The spring rises at an altitude of 737 m from a fissure in the dolomite.</td>
<td>P-LP, NH-loc, N2000, Hydr, Edu, Sci, Tour</td>
</tr>
<tr>
<td>31</td>
<td>Bučke</td>
<td>In the riverbed above Lajšt are natural water pools called bučke. These pools are formed in rocks with inclusions of softer materials that are easily carried away by water. The initial hole begins to broaden and deepen until several meter-deep hollows are formed.</td>
<td>P-LP, N2000, Geom, Edu, Sci, Tour</td>
</tr>
<tr>
<td>32</td>
<td>Waterfall at Bizjak's Mill</td>
<td>Waterfall at Črna, the left tributary of the Poljanska Sora near Podklanec.</td>
<td>NH-loc, Hydr, Geom, Edu, Sci, Tour</td>
</tr>
<tr>
<td>33</td>
<td>Ponor and Gorge in Klame</td>
<td>A barely accessible gorge in Klame located within the Kanomlja triple tectonic window. The Idrija fault runs nearby. During low water levels, the Kanomljica stream disappears into a swallow hole.</td>
<td>P-NM, NH-nat, Geol, Geom, Hydr, Edu, Sci, Tour</td>
</tr>
<tr>
<td>34</td>
<td>Anžičkove and Pagonove Ponikve</td>
<td>A typical example of underground streams on dolomite, forming part of a complex geographic natural area, a rare ecosystem, habitat of endangered plant and animal species.</td>
<td>NH-loc, N2000, Hydr, Geom, Edu, Sci, Tour</td>
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<tr>
<td>35</td>
<td>Spring near Šinkovčeva Žaga</td>
<td>A strong karst spring connected to the nearby cave.</td>
<td>P-NM, NH-nat, Geom, Edu, Sci, Tour</td>
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<td>36</td>
<td>CAVE ABOVE KOBILA</td>
<td>A horizontal cave that is also a boiling stream; after rainfall a mighty waterfall roars and flows out from the cave, discharging into the Idrijca River.</td>
<td>P-NM, P-LP, NH-nat, N2000, Geomu, Hydr, Sci, Edu, Tour</td>
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<td>37</td>
<td>HABEČKOV BREZEN</td>
<td>The deepest natural shaft in the municipality of Idrija (400m), a true rarity because of its natural bridge at the entrance and the springs in the shaft. Water coloring has shown that waters from the shaft flow towards the springs at Podoroteja and Wild Lake.</td>
<td>P-NM, NH-nat, N2000, Geomu, Sci, Edu, Tour</td>
</tr>
<tr>
<td>38</td>
<td>SNEŽŇA JAMA CAVE BELOW STRANGEL</td>
<td>A step-like, inclined shaft. Occasionally used for visits.</td>
<td>NH-nat, Geomu, Sci, Edu, Tour</td>
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<td>39</td>
<td>KALAR GLACIER</td>
<td>The cave is 45 m deep, on the bottom of which is an open area where ice remains all year. The ice was exploited in the past.</td>
<td>NH-nat, N2000, Geomu, Edu, Sci, Tour</td>
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<td>40</td>
<td>MATJAŽEVE KAMRE</td>
<td>Together with the Sora River, this labyrinth of caves represents a speleological site of regional importance. These are the remains of an active water cave carved by the Sora River. It is home to several rare and protected cave animals, and a paleolithic station.</td>
<td>NH-nat, Geom, Geomu, Edu, Sci, Tour, Arch</td>
</tr>
<tr>
<td>41</td>
<td>ZADLOG</td>
<td>Zadlog is a special karst polje formed entirely on dolomite. It is comprised of vast, wet meadows with typical vegetation and fauna.</td>
<td>NH-loc, N2000, Geom, Bot, Edu, Sci, Tour</td>
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<tr>
<th>VIEWING POINTS</th>
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<td>42</td>
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<td>43</td>
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<td>45</td>
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<td>46</td>
</tr>
</tbody>
</table>
B. GEOLOGICAL HERITAGE

Fig. BII - Map of protected areas, geosites, cultural heritage sites, nature sites and Natura 2000.
B4 DETAILS ON THE INTEREST OF THESE SITES IN TERMS OF THEIR INTERNATIONAL, NATIONAL, REGIONAL OR LOCAL VALUE

4.1 INTERNATIONALLY IMPORTANT GEOSITES

The area of the Idrija Geopark has four internationally important geological phenomena (adopted on ProGeo criterias): the Idrija ore deposit, the Idrija fault, Anthony’s Main Road and Divje jezero (Wild Lake).

Their importance stems from their regional dimensions, scientific, research, educational and historical value.

The *Idrija Ore Deposit* (1G) is internationally important and famous because of the complicated Middle Triassic tectonic activity that led to its formation, the exceptional diversity of its rocks, remarkably rich and unusual sedimentary ores, geochemical conditions and mineralogical composition, as well as the complicated transformation into the present-day state. The sedimentary cinnabar ores are a unique mineralogical-geological phenomenon in the world. They were formed during sedimentation in Ladinian marshland (Skonca beds) directly by the settlement of cinnabar gel (gel-like ore) or by the depositing of chalcedony particles saturated with cinnabar (sedimentary ore with sedimentary textures). The gel-like ores are naturally very rich, containing even up to 78% mercury. A particularity of the Idrija ore deposit is also the appearance of native mercury in economical quantities. The structure and formation of the ore deposit has attracted enormous attention from Slovenian and foreign geologists for more than 150 years. More than fifty papers on this topic have already been written. The Idrija ore deposit is the second largest ore deposit in the world by its quantity of mercury in one spot, being second only to the Spanish Almaden. Owing to its economic significance throughout its five-hundred-year history, the ore deposit is also of exceptional technical and historical importance.

**Anthony’s Main Road (2G)** is the oldest preserved part of the shafts of the Idrija Mine. After the mine’s shutdown, it remained open as a tourist mine. In a specially protected section, only the native mercury drops are visible, which is an exceptional rarity on an international scale. Seven geological sections of international professional and scientific importance have been recorded in the area of Anthony’s Main Road. An exceptional geological phenomenon is the Middle Triassic erosional unconformity, which is visible at several locations. Between the Carboniferous rocks on one side and the Ladinian rocks on the other side (kaolinite rocks, dolomite conglomerate), some 750 metres of rocks of Permian, Scythian and Anisian age are missing. This is due to the erosion that occurred in Middle Triassic (Upper Anisian), when the rocks that had been forming for around 60 million years were removed. Other exceptional phenomena on an international scale are the Carboniferous and Ladinian pyroclastic rocks mineralised with native mercury, bedded ore in tuffites, and coral ore (brachiopod of the genus Discina), whose fossil shells and cores were replaced by cinnabar.

**Wild Lake (3G)** is a complex geological, geomorphological and hydrological natural phenomenon. Its exceptionality is its geological structure and structural conditions, the extensity of submerged pit shafts, and the morphological shape of the caldron-like lake. During high waters it spews out as many as several ten cubic metres of water per second, creating a mighty and at the same time the shortest Slovenian river before flowing into the Idrijca River. Its total discharge area covers more than 70 km². During low waters and drought, it appears as a romantic miniature lake squeezed below a mighty limestone wall. Divers have so far investigated the sunken shafts in a length of 462 m and up to a depth of 160 m, and their explorations are continuing. Thriving on the steep and cold cliffs are alpine plants such as the Slovenian endemic, *Carniolan Primrose* (*Primula carniolica*), and the only European cave vertebrate, the human fish (*Proteus anguinus*), lives in the nearby cave. Wild Lake is the northernmost habitat of this important Dinaric endemic. The international historical importance of Wild Lake is linked to famous researchers, such as Joannes Antonius Scopoli (after whom the plant species *Scopolia carnoli ca* has been named) and Balthasar Hacquet (after whom the plant species *Hacquetia epi- pactis* has been named), known as open-minded researchers who worked as physicians at the Mercury Mine in Idrija.
The **Idrija fault (4G)** is an incredibly strong fault, one of the strongest in the Southern Alps. It runs from Croatia across the entire territory of Slovenia and continues into Italy. Its length on Slovenian territory is 120 kilometres.

Given the fact that numerous geological and geomorphological phenomena are linked to its activity, it is of exceptional significance for science and research. The fault was formed in two phases. Initially, it was created as a **normal fault** and then reactivated as a **right-lateral slip** with a displacement of 2.5 kilometres. Its course across Slovenian territory is morphologically very distinct, and appears on satellite photos as a clear, straight line.

In Table 1 above, the importance of each site is designated in abbreviated form in the column **Nature protection status**.

- **sites of international importance (Int)** – exceptional sites of international importance representing a rarity on an international scale,
- **sites of national importance (Nat)** – sites of importance on the national level and protected by state acts,
- **sites of local importance (Loc)** – sites of importance on the local level and mostly protected by local acts.

### Locus typicus for minerals and fossils, some also named after Idrija

The Idrija Mine is a type locality (**Locus typicus**) for the **mineral Idrialite** (chemical formula $C_{22}H_{14}$). It is most often described as a soft mineral wax accompanying mercury ore in the Idrija Mine. It is normally greenish-yellow to light brown in colour with bluish fluorescence. This yellow-green organic mineral mostly appears in irregular forms or as a coating on jetrenka (liver ore). It was first described in 1832, and has international and scientific significance.

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**Fig. B16** – Wild Lake and Human fish (*Proteus anguinus*), **Fig. B17** – View from the Hudournik in the fault zone of the Idrija fault, **Fig. B18** – The mineral *Idrialite*
Numerous fossils were scientifically described for the first time in the area of the Idrija Geopark, and also have their type locality (*Locus typicus*) here. These include two new types of ammonites whose species names are taken from Idrija, *Tirolites idrianus* Hauer (Upper Scythian) and *Trachyceras idrianum* Mojsisovics (Ladinium), and two new types of shells whose species names are taken from Idrija, *Posidonia idriana* Mojsisovics (Carnian) and *Triadomegalodon idrianus* Végh – Neubrandt (Carnian).

4.2 NATIONAL AND LOCAL IMPORTANT GEOSITES

National importance has been determined or recognised for the »geosites« that are rare, typical, or of importance for scientific research or education on the national level. Their importance and use/purpose are indicated in abbreviated form in column III (Use/purpose) of Table 1.

Among the most prominent geological particularities are:

**Tratnik landslides (13 G)** are some of the most picturesque geological features of the Idrija region. Appearing in this landslides are various Carnian clastic rocks, from conglomerates to claystones, including some very beautiful Jasper conglomerates. Numerous sedimentary textures of varying sizes can be observed in the clastites. In between them are stratified or nodular limestones with interbedded marl intercalations containing shell cores. Due to the vicinity of the overthrust, the beds have been transformed into numerous folds of varying size, so that multiple passing of beds from normal into inverse position can be observed. Barite concretions have also been found here.

**Skonca beds (1 G)** are a particularity of Idrija. They were formed in a Ladinian freshwater marshland where some extremely rich sedimentary cinnabar ores were simultaneously deposited. The Skonca beds are typically comprised of dark brown or black sandstones, siltstones, claystones, marlstones and occasionally conglomerates that are rich in bituminous substances. In addition, freshwater marly limestones and kaolinite rocks can also be found here. The beds are rich in plant fossils which so far have not been the subject of research.
Footprints of Upper Triassic reptiles (20 G). Five fossil footprints have been found in grey bedded dolomite of Norian age (Upper Triassic). They are approx. 12 centimetres in diameter and separated from one another at equal distances of 32 centimetres. The sequence of footprints indicates that a two-legged lizard had lived here 220 million years ago in the period of Upper Triassic. The tracks are unfortunately not well preserved, so that the animal cannot be precisely determined.

Idrija tectonic windows (9G, 10G, 11G,...), including the Strug single tectonic window in the Idrijca River valley, the Bevk single tectonic window in the valley of the Nikova stream, and the Bratuš and Kanomlja triple tectonic window. Particularly triple tectonic windows are a rare phenomenon in the Southern Alps, and thus rightly arouse considerable attention and have scientific and educational importance on the national level and in the broader area of the Southern Alps.

Bedrova grapa (11 G), a scenic gorge carved by a stream, features a geological profile of the entire lithological development from Cordevolian, Julian, Tuvalian, and the lower part of Norian-Rhaetian main dolomite. The lithologically variegated, steep slopes of this 1800 metre-long gorge are built of dolomite, limestone, conglomerates, marls, and a variety of other colourful clastites. These clastite rocks have numerous sedimentation textures that are relevant for the interpretation of the palaeoenvironment. Contributing to the geological diversity of the area are also numerous fossils, lumachelles of megalodontid and other leading and typical Carnian shells, in particular Myophoria and Pachicardia. Even older Ladinian pyroclastic and diabase rocks can be found in the lower part of the gorge, at the confluence of the Kramaršca and Idrijca rivers. Karst phenomena can be traced in carbonate sections, waterfalls and rapids are frequently found in the gorge, and the vicinity is an important site of protected plant species.
C1 CURRENT OR POTENTIAL PRESSURE ON THE PROPOSED GEOPARK

The factors affecting the area of the proposed Idrija Geopark are divided into development pressures, environmental pressures, natural disasters and risk preparedness, and visitor/tourism pressures.

Development pressures can be further divided into pressures caused by mining up to the year 1995, which brought adverse effects apart from its positive economic benefits during the busiest periods of the mine. The effects of mining seen mainly in the town of Idrija include a degraded environment (subsidence above the mine, cracks in buildings, remains of deposited smelting residues, ...). The most significant environmental pressures in Idrija and its nearby surroundings are mercury pollution, which was caused by long-term mining. The emissions of mercury into the environment resulted in elevated mercury levels in all parts of the environment, i.e. water, air, soil, sediments and vegetation. The high concentrations in the early seventies, when mercury production was the highest, dropped significantly after the mine was shut down and is today considerably lower.

Another significant pressure is industrial development, which began in 1970. An important pressure factor is also urban development, where discrepancies between the inhabitants and the preservation of heritage can occur. Thus, equal accessibility to the common good and knowledge with the aid of modern infrastructure, as well as balanced and polycentric development of urban settlements accompanied by prudent utilizations and sustainable development must be considered.

Dissension does occur in rural areas, especially in connection with agricultural areas on karst plateaus, where farmers fertilize their crops for a better harvest and thus threaten the groundwater (due to intensive crop fertilisation).

Geosites do not risk being destroyed or degraded because of the construction of roads and buildings. Building construction is prohibited in the protected area (Zgornja Idrija Landscape Park). Another problem is also the growing of new trees that cover the surface and change the landscape.

The assessment of threats posed by natural disasters is based on years of experience. Such disasters in Idrija are mainly caused by: subsidence, earthquakes, storms, landslides and fire hazards.

As regards tourism pressures, the municipality has a large number of transit tourists in summer, but less tourist visits in the other parts of the year. As new visitors are bound to appear in upcoming years, advanced booking of accommodation will be necessary.

In winter, the limited and variable snow cover has not been favourable for the construction of resorts and ski-lift facilities. The only exceptions are the Vojsko and Črni Vrh plateaus, where excellent ski runs are maintained for beginners and family skiing. Both plateaus are also known for their exceptional cross-country trails.

C2 CURRENT STATUS IN TERMS OF PROTECTION OF GEOLOGICAL SITES WITHIN THE PROPOSED GEOPARK

The Nature Conservation Act (Nature Conservation Act – official consolidated text (Official Gazette of the Republic of Slovenia, nos. 96/04 – ZON-UPB2 and 61/06 – Zdru-1) divides the competences in the area of nature protection between the state and local authorities. The protection of biodiversity and natural heritage of national importance are within the competences of the state. Sites of national importance are those natural heritage sites that are of international or great national importance. The determination of the importance of natural heritage as nationally or locally important is regulated by the Rules on the designation and protection of valuable natural features (Official Gazette of RS, nos. 111/04, 70/06, and 93/10). This act also specifies the protection regimes and policies aimed at conserving natural heritage. The Idrija Geopark has 266 natural heritage sites of national importance. Among these are all the most famous natural phenomena representing the most important...
parts of nature and all 225 underground caves in the Geopark. Pursuant to the Cave Protection Act, all karst caves in Slovenia have the status of natural heritage of national importance. However, many natural phenomena in the Geopark are of local importance, and their protection is within the competences of the Municipality of Idrija. The competences of the municipality relate to the protection of natural heritage of local importance, which includes the planning and adoption of protection measures, as well as popularisation of the protection of natural heritage of local importance.

The Nature Conservation Act very precisely regulates the protection of natural heritage, determines its protection status, types and importance, as well as the methods for its conservation. The law also anticipates protection measures (protection, contractual protection and restoration) and policies aimed at conserving natural heritage. The Institute of the Republic of Slovenia for Nature Conservation also performs, among others, the task of monitoring the status of natural heritage, which includes geological heritage, fossils and minerals. The above-quoted law specifies in particular their protection, removal from nature, and exploration. The rules and actions for natural heritage protection are laid down in the Decree on the categories of valuable natural features (Official Gazette of RS, no. 52 / 14 June 2002). A special mechanism for the protection of minerals and fossils are the so-called areas of anticipated geological and geomorphological underground natural heritage. These are areas of potential finds where it is recommended that any minerals, fossils or caves discovered during land works are to be immediately reported to the competent institution.

The protection of karst caves in Slovenia has been regulated since 2004 by the Cave Protection Act, which stipulates that all caves (more than 10,000) are the property of the state. The protection regimes prescribed by this law prohibit any activities that could destroy or otherwise irreparably damage caves, cave inventory or cave life. The Idrija Geopark has a large number of cave sites, as many as 225, but none of them currently has the status of a tourist cave. The main reasons for this are their inaccessibility and natural features, as the majority of them are narrow and steep natural shafts, and a great many are water caves.

The protection of geosites in the protected areas within the Idrija Geopark is laid down in municipal ordinances, which specify the protection regimes for the most important geological localities on the local level.

In the area of the proposed Idrija Geopark, the area of the Upper Idrija River is protected as a landscape park, which also includes the Bukov Vrh nature reserve. The total number of natural monuments within the Geopark is 17. These are: Bedrova grapa and its exceptional geological content – 9 karst caves (Studenčekova cave, Vovkova cave, Spring near Šinkovča žaga and Cave above the Spring, Ponor and gorge in Klane, Habe natural shaft, Cave above Kobila, Ūkovnik, Wild Lake), part of the Govškarca River basin, Waterfall on the Klavžarica, Kramaršca, Suha Idrija, doline below Petelinov vrh, Jelenk, Porezen in the area of the Municipality of Idrija, and Kačja smreka at Godovič.

In most cases the various protection statuses overlap one another, so that a single area or geosite may have several different protection levels that complement one another. The complex nature protection of more than half of the Idrija Geopark area is also complemented by the European regulation Nature 2000. There are eight Nature 2000 areas in the Municipality of Idrija. The Trnovo forest was proclaimed an important area for forest bird species on the basis of the Birds Directive, while other areas were selected on the basis of the Habitats Directive: Trnovo forest – Nanos, Idrija River and its tributaries, Kendove robe, Jelenk, Ūkovnik, Cave below Lešetnica, and the Cave in Globine.

Some geological localities in the Geopark are also protected in combination with cultural heritage. For example, Anthony’s Main Road, Francis’ Shaft, and Joseph’s Shaft also have the protection status of a cultural monument. This overlapping is particularly intensive in the area of the Idrija ore deposit, the mine and the town of Idrija, as well as in all sites that were historically or technologically connected with the Idrija Mine.

Listed below are the legal acts that served as a legal basis for the protection of geological phenomena and the conservation of natural and cultural heritage in the proposed Idrija Geopark.

**International conventions and EU regulations**


These two directives represents a legal basis for Nature 2000.

**National laws**

- Nature Conservation Act. Official Gazette of RS, nos. 56/99, 31/00, 119/02, 41/04, and 96/04, National Assembly of the Republic of Slovenia,
- Cave Protection Act. Official Gazette of RS, no. 2/04, National Assembly of the Republic of Slovenia, Ljubljana,
- Decree on the categories of valuable natural features. Official Gazette of RS, nos. 52/02 and 67/03, Government of the Republic of Slovenia, Ljubljana,
- Rules on the designation and protection of valuable natural features. Official Gazette of RS, nos. 111/04, 70/06, 58/09, and 93/10, Ministry of the Environment and Spatial Planning, Ljubljana,
- Decree on special protection areas (Nature 2000 areas). Official Gazette of RS, nos. 49/04, 110/04, 59/07, and 43/08, Government of the Republic of Slovenia, Ljubljana,
- Cultural Heritage Protection Act. Official Gazette of RS, nos. 7/99, 110/02, 126/03, 63/07, 16/08, 123/08, and 8/11, National Assembly of the Republic of Slovenia, Ljubljana,
Local rules and decrees

In the Municipality of Idrija, nature conservation and protection is regulated by the following rules:

- Decree on the Proclamation of Cultural and Historical Monuments and Natural Sites in the Area of the Municipality of Idrija (Official Gazette of RS, nos. 16/86, 17/88, 56/93, 45/97, 131/03, 45/07, and 115/07), Municipality of Idrija, Idrija,
- Decree on the protection of a part of the Govškarca River basin (Official Gazette of RS, no. 25/89), Municipality of Idrija, Idrija,
- Decree on the proclamation of the Zgornja Idrija Landscape Park (Official Gazette of RS, nos. 11/93 and 37/95), Municipality of Idrija, Idrija,
- Decree on the proclamation of technical heritage in Idrija and its surroundings for cultural monuments of national importance (Official Gazette of RS, nos. 66/01, 55/02, 16/08, and 20/09), Government of the Republic of Slovenia, Ljubljana.

C3 DATA ON THE MANAGEMENT AND MAINTENANCE OF THESE SITES

The responsibility for these sites overlaps in terms of expert and management activities. Expert competences are exercised by specialised institutions (public institutions) with national delegation, and cover systemic nature protection. The Institute of the Republic of Slovenia for Nature Conservation (ZRSVN) is the specialised national institution within Ministry of Environment. In line with its authorisations (Nature Conservation Act), it is in charge of conserving Slovenian nature (conserving biodiversity and natural sights) with an emphasis on priority areas. Its regional Unit Nova Gorica is present in the Idrija Geopark area and is also in charge of regularly monitoring nature status.

The national institution for the protection of cultural heritage in the Idrija Geopark is the Institute for the Protection of Cultural Heritage of Slovenia (ZVKDS), Regional Unit Nova Gorica. Its expert tasks comprise conservation, protection and preservation. The Republic of Slovenia and the Municipality of Idrija ensure the legal protection of cultural heritage, performance of specific parts of protection activities, such as the distribution on budget funds and the adequate inclusion of protection into development and implementation plans, and also encourage public access to heritage. Another part of protection and maintenance activities are individuals and organisations that have been granted permissions or concessions to carry out protection tasks, and non-governmental institutions and associations that work in the area of protection.

As regards management, several managers are present in the Idrija Geopark, who are responsible for the maintenance and management of this sites.

Through the establishment of the Idrija Geopark, a stronger connection is being created between the managers of cultural and natural heritage and specialised institutions. Some of the most important tasks of the Idrija Geopark include coordination among partners, managing natural and cultural heritage, informing, promotional activities and better cooperation among partners in the development of new products and services. The Idrija Geopark combines and coordinates several groups of interest and partners that are of key importance to maintenance and management. The most important managers are: Idrija Municipality, Idrija Mercury Mine, Idrija Municipal Museum, The Slovenian Forest Management Service, Idrija Heritage Management Centre and proprietary owners.

The most important entities in charge of management, maintenance and guardianship of natural and cultural heritage, following public delegations and authorities:

The Idrija Municipality administers the property of the municipality and enables adequate conditions for its economic development, helps develop agriculture, and at the same time keeps the rural areas inhabited. From the beginning, the Idrija Geopark has actively participated in its own establishment with the help of its employees, activity co-financing, project registration, expert help, its inclusion in municipal development strategies, informing the public via press conferences, media, etc. On the basis of municipal acts, the Idrija Municipality is also the actual manager of protected areas and is charged for maintaining the Zgornja Idrija Landscape Park and the only museum in nature – the Wild Lake. It financially supports several programs, including the regulation and guardianship of thematic parks (the Rake natural educational trail).

Yet the main task and delegation of the Idrija Municipality is by all means preparing and adopting strategic spatial and developmental documents related to the Idrija Geopark area.

The Idrija Heritage Management Centre (CID) is a public institution created by the Idrija Municipality with the purpose of coordinating the managers of Idrija heritage and providing a system for its harmonised and durable management. The Centre also carries out basic tasks related to the elaboration of a common tourist program for Idrija, as well as organising the promotion of and support for services and product marketing in Idrija. A long side the management of the Geopark, the Centre is currently establishing the management of the Idrija Youth Hostel and public aquarium, as well as acquiring the necessary framework for continuing its other tasks connected to several areas of Idrija’s heritage and the development of sustainable tourism. As of 1st January 2012, the Centre is taking over the activities of the Idrija Tourist Office.

The Idrija Mercury Mine is engaged in the maintenance, conservation and presentation of two geological sites of national importance: Anthony’s Main Road (a tourist mine) and the Idrija ore deposit, as well as four monuments of technical heritage: Anthony’s Main Road, the smelting plant, Francis’ Shaft and Joseph’s Shaft. For several years, the mercury mine has been a leading creator of natural heritage presentation (the Rake natural educational trail, Vojeko, Zgornja Idrija Landscape Park, Idrija ore deposit), educational programs for natural sci-
C. GEOCONSERVATION

ience teachers and students (cave mapping, ecology, geological and nature conservation programs).

The Idrija Municipal Museum is in charge of collecting, preserving, conserving and presenting movable cultural heritage, as well as non-material heritage in the area of the Idrija Geopark. The administrative office of the museum is located at Gewerkenegg castle in Idrija. The museum manages and maintains several technical and cultural monuments in Idrija, including the Kamšt Water wheel, a collection of renovated mine machinery in Francis’s Shaft, the Miner’s house and the Slovenia Printing Workshop on Vojsko. It often hosts ethnological workshops.

The Slovenia Forest Service, Idrija Unit plays an important part at forest management planning, keeps records of forested surfaces, keeps control over forest management and prepares hunting management plans. It is also partly responsible for nature conservation control.

Besides the above-mentioned managers of the area, there are several individuals who contribute to the program by exercising activities related to the Geopark’s philosophy and the maintenance of certain localities at the Geopark area.

The Development Agency of Idrija and Cerkno plans, prepares and puts into action development projects for the integrated development of rural areas for the purpose of planning the development of the countryside and specific locations, offering new jobs in agricultural and other activities, and providing additional income to those living in the countryside.

By encouraging local inhabitants to cooperate, it develops quality rural products (typical for the region), organises and coordinates supplier connectivity, events and product marketing. Special emphasis is given to the functional knowledge of inhabitants and strengthening of entrepreneurial skills and expertise. In cooperation with local communities, it develops a support infrastructure to develop different programs (farm market, ...).

The Idrija Museum Association is actively involved in research, development and local history of the area. The association’s botanical section has organized and maintains Scopoli’s Memorial Garden and the Flora Carniolumica permanent collection.

Local communities (Vojsko, Čekovnik...) and associations (Trma, TD Kanomlja, TD Špura...) take care that the thematic paths (natural trail at Vojsko plateau, Matuckar trail, Plum circle, etc.) are well-kept and protected. They also take part in organizing programs for different locations such as the Šturmajce homestead.

Private individuals who are proprietors of separate units of natural monuments or cultural heritage observe the legal acts of Republic of Slovenia, take appropriate care of and ensure the protection of sites and locations classified as heritage, and maintain the access paths to such sites (footprints of Upper Triassic reptiles etc.).

C4 LISTING AND DESCRIPTION OF NON-GEOLOGICAL SITES AND HOW THEY ARE INTEGRATED INTO THE PROPOSED GEOPARK

The proposed area of the Idrija Geopark has exceptional natural and cultural heritage that is unique in Slovenia. For more than 500 years, the history of Idrija and its broader surroundings has been inseparably linked to the mercury mine. The identity of the area and its culture, lifestyle, education, research, industry, health and cuisine all have their roots in the exceptional ore deposit, whose discovery in 1490 enabled the development of the town and the local environment.

4.1. FLORA AND FAUNA

The important European and international scientists who came to Idrija because of the mine did not only explore its geology, but also its botany. They laid the foundations of natural science in Slovenia. Knowledge of flora and fauna has a long tradition in the Idrija environment, which began with the arrival of the first botanist in Slovenia in the 16th century, P.A. Mattioli, who was followed by J. Scopoli, B. Hacquet, F. Hladnik, and H. Freyer.

Fig. Cl – Idrija Primrose (Primula x venusta), a hybrid between the Bear’s Ear and the Carniolan Primrose. It thrives in those places where the Carniolan Primrose and the Bear’s Ear grow close to one another.
The territory covered by vast expenses of Idrija’s forests lies between the Julian Alps to the north and the Trnovo plateau to the south, and represents a passage between the Eastern Alps and the Dinaric mountains. It is, however, phytogeographically and geomorphologically more closely linked to the Dinaric than the alpine mountain system (Kordiš, 1986: Idrija Forests through the Centuries).

The main forest community in the Idrija region is Dinaric beech-fir forest (Omphalodo Fagetum Abieti-Fagetum dinaricum) in an altitude belt of (400) 500 to 1250 m. The forest is well preserved, particularly in the Zgornja Idrijca Landscape Park, where the remains of a primeval forest can be found on Bukov Vrh mountain. The forests are very rich in ferns and vascular plants. Among the habitat types of European importance are the vegetation of dry and semi-dry grasslands with many protected species of the orchid family, as well as communities of rock fissures, scree and rocky grasslands. Worthy of special attention and protection are the wet meadows and shallow marshland communities.

The area of the Idrija Geopark is home to more than 25 notable species, around 60 protected species, and more than 70 species from the Slovenian Red List of Threatened Species (Dakskobler et al., 2010).

The areas with particularly valuable and endangered vegetation and flora are Hudournik, the upper part of the Gačnik River basin, the upper reaches of the Idrija River and Belca stream, Sončni rob, Idrijska Bela, the Strug gorge, Wild Lake, Kendove robe and Jelenk mountains, meadows in the Češnjice hamlet, Ljubevč farms near Idrija, Šebalk marshes with nearby meadows near Godovič, and the forests and meadows from Javornik and the Križna Gora mountains. However, not only protected plants are worthy of our attention. Equally important are also rare plants and those that are unusual for a particular area. And even more important is the balance between them, because only the joint protection of all plants and their environments will ensure their further existence.

Idrija’s forests are part of the Trnovo Forest, which extends along continuous forest complexes all the way to the forests of Croatia. This provides a favourable habitat and reproduction area for several species of large mammals (bear, wolf, marten, otter, wildcat, red deer, roe deer, wild boar, ...), as well as many small mammals (dormouse and other rodents, hedgehog, shrew, bat,...). Of interest among the introduced species is the lynx (extinct in the 19th century), which initially multiplied well, and is now stabilising and expanding its area to the south and north of Slovenia. Another introduced species is the chamois, which lives in areas with rocky ridges and ravines as well as sun-exposed plateaus.

A good basis for the study of vertebrates is the work of a native of Idrija, Henrik Freyer, dating from 1842 (Fauna der in Krain bekannten Säugethiere, Vögel, Reptilen und Fische). Equally interesting is the half a century younger list of fish from the Soča River basin, which is the work of Julius Glowacke, a professor of natural science who was born in Idrija in 1846. Both works are highly interesting, because they enable comparison with the present state. A similar comparison is enabled by the study of birds in Carniola using the designations of Idrija.

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**Fig. C2** – Scopolia (Scopolia carniolica) was named after Idrija’s famous natural scientist, Scopoli. It was first discovered, described and depicted by Mattioli as early as in 1569.

**Fig. C3** – Hacquetia (Hacquetia epipactis). Named after Idrija’s famous natural scientist, Hacquet. It is a low (10-25 cm) perennial that blooms from the beginning of April until May.

**Fig. C4** – Snake Pine
**Table 3 – Exceptional trees and ecosystems**

<table>
<thead>
<tr>
<th>Name of site</th>
<th>Description</th>
<th>Nature protection status</th>
<th>Nat. phenom.</th>
<th>Use / purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXCEPTIONAL TREES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 OAK AVENUE</td>
<td>This avenue of Pedunculate oak trees is situated along the Rake trail, and was planted during the construction of the Rake in 1770. Pedunculate (Quercus robur) is a species of oak.</td>
<td>P-LP</td>
<td>Dend</td>
<td>Edu, Tour, Hist</td>
</tr>
<tr>
<td>2 ASH TREES ALONG THE RAKE, Idrija</td>
<td>The Common Ash (Fraxinus excelsior) along the Rake trail is the largest preserved ash tree of its kind in Slovenia.</td>
<td>P-LP, NH-loc</td>
<td>Dend</td>
<td>Edu, Tour, Hist</td>
</tr>
<tr>
<td>3 SNAKE PINE, Godovič</td>
<td>A special genetic combination of the pine tree <em>Picea excelsa form. Virgata.</em></td>
<td>NH-nat, N2000</td>
<td>Dend</td>
<td>Edu, Tour</td>
</tr>
<tr>
<td>4 IVANŠEK’S LINDEN TREE</td>
<td>An old linden tree (<em>Tilia platyphyllos</em>) of enormous size, one of the bulkiest trees in western Slovenia, a local curiosity.</td>
<td>NH-nat, N2000</td>
<td>Dend</td>
<td>Edu, Tour</td>
</tr>
<tr>
<td><strong>ECOSYSTEMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 BUKOV VRH</td>
<td>A Dinaric forest community of fir and beech trees of forest character on the northern boundary of the Trnovo forest (nature reserve). Not suitable for presentation.</td>
<td>P-LP, NH-loc, N2000</td>
<td>Ecos</td>
<td>Sci</td>
</tr>
<tr>
<td>6 ŠEBALK POND AND POTOČNA AREA, Godovič</td>
<td>The waters of the Potočna area are dammed behind the Šebalk pond.</td>
<td>NH-loc, N2000</td>
<td>Ecos</td>
<td>Tour</td>
</tr>
<tr>
<td>7 WATER HOLE IN IVANJE DOLINE above Godovič</td>
<td>A typical village sink-hole pond representing a rare ecosystem with rich invertebrate fauna.</td>
<td>NH-loc</td>
<td>Ecos</td>
<td>Edu, Tour</td>
</tr>
<tr>
<td>8 SINK-HOLE POND BEHIND THE IVANŠEK HOMESTEAD</td>
<td>A typical sink-hole pond forming part of the homestead, a rare ecosystem, the habitat of endangered and protected animal species. The pond is inhabited by different species of amphibians (<em>Rana sp.</em> and <em>Triturus sp.</em>), dragonflies and damselflies (<em>Odonata</em>) are also numerous.</td>
<td>NH-loc, N2000</td>
<td>Ecos</td>
<td>Edu, Tour</td>
</tr>
</tbody>
</table>

**Fig. C5 – Genetically pure Soča trout (*Salmo marmoratus*) live in the rare, inaccessible spring tributaries of the Idrija River.**
4.2. CULTURAL HERITAGE IN IDRIJA MUNICIPALITY

The most important cultural heritage of Idrija is linked to the tradition of five centuries of mining. Monumental technical devices and machines have been preserved. The town of Idrija and its surroundings boast a large number of cultural heritage sites, which testifies to the exceptional significance of this area for mercury production. The technical heritage facilities are the most direct witness of five centuries of mining. A great many rare and even unique specimens of technical heritage have been preserved. The preserved water barriers known as »klavže« are an exceptional example of building construction, and testify to the unique technology of timber floating for the needs of the mine. The continuously emerging challenges in ore extraction and metal production attracted prominent European researchers to Idrija. Idrija also developed as a town with all the necessary educational institutions offering opportunities to capable local inhabitants for educating themselves. Mining activities occupied the male labour force, but also brought lacemaking activities into the town, which were developed by women and provided them with an additional source of income.

A rural population lived in the surroundings of Idrija. Preserved today are the homesteads of powerful, wealthy farmers in Spodnja Idrija, and large, solitary homesteads in the Idrija hills. The existence of residential and all necessary farm buildings testify to the economic independence of these farm units.

The influential historical processes that brought political and social changes also left their mark in the form of immovable heritage sites. These include military facilities from the First and Second World Wars – military routes, boundary fortifications, and burial grounds. Although of younger origin, these sites bear witness to the turbulent historical events in this area in the recent past as well.

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of the Site</th>
<th>Description</th>
<th>Culture protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GEWERKENEGG CASTLE</td>
<td>Dominating the old town is the 16th century Gewerkenegg Castle, which through the centuries served as the headquarters of the mine administration and as a mercury storage. It was the centre of mercury trading in Slovenia, the place where mercury began its journey into the world. Today it is the official seat of the Idrija Municipal Museum.</td>
<td>NM</td>
</tr>
<tr>
<td>2</td>
<td>ANTHONY’S MAIN ROAD</td>
<td>One of the oldest preserved and still open mine entrances in the world. It was dug out in the year 1500, initially supported by wood, and in 1766 built into an oval-shaped shaft. The 18th century Chapel of the Holy Trinity stands in its eastern part. Anthony’s Main Road is arranged as an underground museum.</td>
<td>NM</td>
</tr>
<tr>
<td>3</td>
<td>OLD TOWN OF IDRIJA</td>
<td>Originally a miners’ settlement dating from the 15th century, Idrija developed into a town in the 17th and 18th centuries. The narrow town core has a typical bourgeois, market architecture (administrative and residential buildings). The town has typical miner’s houses and miner’s residential buildings known as »prhauzi«.</td>
<td>LM</td>
</tr>
<tr>
<td>4</td>
<td>THE MERCURY ROUTE</td>
<td>Part of the route along which mercury was transported. The route is inseparably linked to mercury mining and trading.</td>
<td>LM</td>
</tr>
<tr>
<td>5</td>
<td>MAGAZIN-MINE WAREHOUSE</td>
<td>A large, single-storey building that was later used as a silo was built in Baroque style in Idrija’s old town centre in 1764. The silo was used to store wheat and other foodstuffs used to pay the miners. Plaques dedicated to important personalities in Idrija’s history were put up on the facade of the warehouse.</td>
<td>NM</td>
</tr>
<tr>
<td>6</td>
<td>MINE’S THEATRE</td>
<td>Built in 1769, it is the oldest theatre building made of stone in Slovenia. The building testifies to Idrija’s rich and diverse cultural heritage, which includes theatre production. The theatre was renovated several times, but has retained its appearance to the present day.</td>
<td>NM</td>
</tr>
<tr>
<td>7</td>
<td>SECONDARY SCHOOL OF NATURAL SCIENCES</td>
<td>The building housing the Secondary School of Natural Sciences in Idrija was built in 1903 with municipal funds and in classicist style. Today it houses Idrija’s secondary school (gymnasium) and is named after Jurij Vega, a famous Slovenian mathematician. The building was thoroughly renovated in 2008.</td>
<td>LM</td>
</tr>
<tr>
<td>No.</td>
<td>Location/Building</td>
<td>Description</td>
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<tr>
<td>8</td>
<td>POPULAR SCHOOL</td>
<td>The monumental building of the popular school was built in 1876. Today, the building continues to be the pride of the town, offering shelter to various cultural institutions, the reputed Lace School, and the International Centre of Idrija Lace.</td>
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</tr>
<tr>
<td>9</td>
<td>ŠVICA – SCOPOLI’S HOUSE, Kosovelova 8</td>
<td>The famous natural scientist, Joannes Antonius Scopoli, the first mine physicist in Idrija (1754-1769), worked in this building. A memorial plate on the building is dedicated to the memory of his work and his correspondence with the reputed Swedish scientist and princeps botanicorum mundi, Carl von Linne.</td>
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</tr>
<tr>
<td>10</td>
<td>IDRILIA MINER’S HOUSE, Bazoviška 4</td>
<td>The house was built at the end of the 18th century and renovated in the 19th century. The building has a high gable, three floors, a basement and an attic. It is made mostly of wood, with the exception of a stone ground floor. The building is positioned among vegetable gardens. It tells the story of miners’ lives in Idrija.</td>
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<td>11</td>
<td>CHURCH OF THE HOLY TRINITY</td>
<td>Built on the spot where, according to legend, a tubemaker discovered mercury in the far-off year of 1490. The original wooden church, built in 1500, was later built up. The presbytery is decorated with colourful stained-glass windows, other illustrative symbols include ore, a gimlet, and a carbide lamp.</td>
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<tr>
<td>12</td>
<td>ST. ANTHONY’S CHURCH AND CALVARY</td>
<td>Standing on a steep slope overlooking the town is St. Anthony’s Church dating from 1678. In 1766 the Stations of the Cross were set up at the Calvary situated on a rising slope on the west side of the church.</td>
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<td>13</td>
<td>ST. JOSEPH’S CHURCH</td>
<td>The present-day parish church was erected on the spot of the former cemetery Church of the Holy Cross. It was built in 1869 following the drawings of architect Tone Bitenc. The church houses the bell tower of the previous church and the bells of the demolished parish Church of St. Barbara.</td>
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<tr>
<td>14</td>
<td>VAULT OF THE CHURCH OF ST. BARBARA</td>
<td>The vault is the only preserved part of the Baroque Church of St. Barbara, which was damaged during World War II and afterwards demolished. In the renovated crypt is a gallery and a memorial chapel.</td>
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<tr>
<td>15</td>
<td>FORESTRY SCHOOL</td>
<td>A large, several-storey building with a portal bearing the year 1856. It is one of four forestry schools established in the period of the Austrian-Hungarian Monarchy. The school operated from 1892-1909.</td>
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</tr>
<tr>
<td>16</td>
<td>SMELTING PLANT</td>
<td>The area of the smelting plant of the Idrija Mine includes the end cable car stations, a separation plant and mill, a bridge with a railway, a collection bunker with a feeder system, a rotary furnace, condensers, as well as a smokestack and accompanying ducts. Smelting activities developed continuously over the centuries, from burning on coal-fired piles in the 16th century to smelting in modern rotary furnaces in the 20th century.</td>
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</tr>
<tr>
<td>17</td>
<td>ČERMKAŠPIREK FURNACE</td>
<td>A furnace for the processing of small-grained ore. Its design is Idrija’s original improvement of shaft furnaces at the end of the 19th century. It is part of the smelting complex.</td>
<td></td>
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<tr>
<td>18</td>
<td>FRANCIS’S SHAFT</td>
<td>A shaft dating from 1792, used to transport miners and materials up to a depth of 272 metres. Exhibited in the entrance building of Francis’s Shaft are mine machines and devices that are partly still operational. Among these is also Kley’s pump from 1893, which for fifty years was used to pump water from the pit. According to known data, this is the only preserved pump of its kind in the world.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>JOSEPH’S SHAFT</td>
<td>The most important shaft for transporting materials and miners, which connected all 15 levels. It was built in 1786, but has been backfilled today. Exhibited in the vicinity are renovated mine locomotives for the transport of ore through the town. Alongside the shaft is the recently opened Scopoli’s Memorial Garden, where visitors can observe the blossoming of rare plants from the surroundings, which were described by the first botanists who came to explore the Idrija region.</td>
<td></td>
</tr>
</tbody>
</table>
20. **THE ENGINE ROOM OF THE INZAGHI SHAFT**

The Inzaghi Shaft began to be dug in 1764 and was completed in 1890. At that time it comprised a boiler room and an engine room. Later on a lift was installed for the purpose of exporting ore to the surface and transporting miners and equipment. The engine room was renovated in 2005 together with engines from the engine room. Today it houses the Tourist Information Centre.

21. **KAMŠT WATER PUMP WITH RAKE WATER CHANNEL AND KOBILA DAM**

At the end of the 16th century, the Idrijca River was dammed at Kobila and the first water channel known as »Rake« was built. Initially, the water channel extended all the way to the center of the town. Today, it runs only from the dam at Kobila to the kamšt (water wheel). For centuries, the water flowing in the Rake drove the mine devices known as »kamšt« (water pump), which pumped water and lifted ore from the pit. The last preserved kamšt was built in 1790 and operated continuously for a period of 160 years. It pumped 300 litres of water per minute from a depth of 283 m. Its huge wooden wheel has a diameter of 13.6 m.

22. **BRUS WATER BARRIER ON THE BELCA STREAM**

A stone water barrier with a wooden projecting roof. The water accumulating in an artificial lake behind the barrier was released, creating a flood wave that floated the timber all the way to the Idrija Mine.

23. **PUTRIH WATER BARRIER**

A stone water barrier protected by a projecting roof. Its design and method of operation were invented by Jožef Mrak, a constructor from Idrija.

24. **WATER BARRIER ON THE IDRIJCA RIVER**

The largest of all preserved water barriers on the Idrijca River, also known as the Idrija klavže. They were built in 1774. The stone water barrier is 41 m long and was used to float timber to the Idrija Mine.

25. **ROASTING SITES IN THE SURROUNDINGS OF IDRIJA, Pšenk**

21 old ore roasting sites with waste piles of cinnabar-coated vessel fragments were found in the surroundings of Idrija. The closest roasting site was found at Lenštat in Idrija, and the most distant sites are situated 6-7 km air distance from the mine (Čekovnik, Kanomlja). Pottery vessels, sorted and crushed ore, washed ore (šlih), etc. were transported to the roasting sites.

26. **IDRIJA LAUF RAILWAY**

A forest railway in a length of 100 to 3000 m, previously used to transport wood from the heart of forests to the water barriers, from where it was then floated to Idrija. The lauf was the only railway of its kind in the former Austrian-Hungarian Monarchy, and most likely the first in the world. It was made of wood, except for the wheels of carts and other small parts, which were made of steel.

27. **KANOMLJA OR OVČJAK WATER BARRIER**

A stone water barrier used for floating timber to the Idrija Mine, built in Napoleon's time. After its restoration in 2005, the water reservoir behind the barrier is used for a small hydro-power plant.

28. **CHURCH OF ST. MARY ON THE ROCK, Spodnja Idrija**

Rising above the settlement of Spodnja Idrija and the Idrijca River valley is the renovated pilgrim Church of Mary's Assumption, Mary on the Rock, which was first mentioned in 1156. Its impressive interior boasts frescoes drawn by Jožef Mrak, which adorn the arcades, nave and the presbytery.

29. **KENDA MANSION, Spodnja Idrija**

The origins of the Kenda Mansion reach back to the year 1377, when the first landowners managed the farm above the Idrijca River valley. Today this magnificent building has been restored and revived in the spirit of old times, and has been transformed into a hotel. In the vicinity of the mansion is a painted stone granary (author: F. Kobal) and a toplar (double) hayrack.

30. **ŠTURMAJCE, Kanomlja**

A solitary homestead of a well-to-do farmer comprised of eight buildings. Clustered around a large residential house are auxiliary buildings, including a guesthouse, barn, linked hayrack, drying-house, stone granary. A house with a remarkably preserved interior and wall paintings dating from 1802.

31. **CHURCH OF ST. FLORIAN, Krnice**

In 2001 a new, modernly designed church of the popular patron saint Florian was built at Krnice. The church is decorated with beautiful mosaics by Mark Rupnik.
<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td><strong>SLOVENIA\nPARTISAN PRINTING SHOP, Vojsko</strong>&lt;br&gt; An assemblage of wooden cabins serving as a kitchen, engine room, composing room and bindery. Built in 1944. The printing shop has its own power station. During the eight months of its operation in wartime, the Slovenia Printing Shop printed 313 various prints in more than 1.3 million copies. The Partisan Daily was the only daily newspaper to be printed by a resistance movement in Europe.</td>
</tr>
<tr>
<td>33</td>
<td><strong>PARTISAN CEMETERY AT VOJŠČICA</strong>&lt;br&gt; The cemetery is enclosed by a low wall and has tombstones shaped like lead bullets. The names of those buried are inscribed on the bullets. In front of the cemetery is a stone obelisk with an engraved dedication.</td>
</tr>
<tr>
<td>34</td>
<td><strong>ŠKRATOVŠE HOMESTEAD, Vojsko</strong>&lt;br&gt; A large, solitary homestead dating from the 19th century, with the years 1859 and 1874 inscribed on its stone portals. A house with a well-preserved interior, two storeys in the gable and a typical steep roof that was originally covered with shingles. Alongside the house is a spacious arched barn with arches on two rows of stone pillars.</td>
</tr>
<tr>
<td>35</td>
<td><strong>FORTIFICATIONS AND SHELTERS AT THE ŠEBALJK POND, Godovič</strong>&lt;br&gt; Traces of the Italian occupation after World War I, when Italian soldiers fortified the Rapal border by constructing caverns and shelters serving as a defense in clashes with the Yugoslav army. They never served their purpose, as no clashes occurred. The Polish railway route Logatec-Idrija-Trebuša (Feldbahn) has been preserved.</td>
</tr>
<tr>
<td>36</td>
<td><strong>JELENŠEK FORT, Godovič</strong>&lt;br&gt; Prehistoric settlement, on the northern side of the fort an investigated burial ground from the Late Iron Age.</td>
</tr>
<tr>
<td>37</td>
<td><strong>LEDINE</strong>&lt;br&gt; One of the most beautiful villages in the Idrija region, which in the Middle Ages began to develop on plateaus through planned colonisation from the 13th century onward, is undoubtedly the ancient village of Ledine. The first written mention of Ledine was recorded in the far-off year of 1063. Ledine is a clustered village surrounded by unspoilt nature, cultivated fields, and meadows with numerous double hayracks.</td>
</tr>
<tr>
<td>38</td>
<td><strong>GRANARY at the Pri Možinotu homestead, Zavratec</strong>&lt;br&gt; A homestead of the building type typically used by well-to-do farmers of the Škofja Loka-Cerkno regions, dating from the 18th and 19th centuries. It comprises a monumental, storeyed barn, a double hayrack, large water tank, and a house with an impressively preserved interior.</td>
</tr>
<tr>
<td>39</td>
<td><strong>HOMESTEAD Gorenji Vrsnik 21</strong>&lt;br&gt; A homestead of the building type typically used by well-to-do farmers of the Škofja Loka-Cerkno regions, dating from the 18th and 19th centuries. It comprises a monumental, storeyed barn, a double hayrack, large water tank, and a house with an impressively preserved interior.</td>
</tr>
<tr>
<td>40</td>
<td><strong>HOUSE at Ledine 20 (pri Jurec) and MUSEUM COLLECTION OF FARM TOOLS AND EQUIPMENT</strong>&lt;br&gt; A large, single-storeyed house with a steep gable roof and a square ground floor. Traces of wall paintings on the south and west facades. A preserved interior with a traditionally designed arched basement, vestibule, and a black kitchen. On the north facade is a painted niche with wooden plastic. Arranged on the barn alongside the old house is a precious collection of around 300 small and large antique objects of high ethnological value.</td>
</tr>
<tr>
<td>41</td>
<td><strong>PEČNIŠKI MALNI MILLS in the Peklenska grape gorge</strong>&lt;br&gt; A steep path leads downward from Pečnik to several abandoned mills, the partly demolished »Pečniški malni« in the Peklenska grape gorge, which were first mentioned in the Loka land register in 1318. Several buildings have been restored.</td>
</tr>
</tbody>
</table>

*Idrija together with Almaden in Spain, has been nominated for inscription in UNESCO’s List of World Heritage for its exceptional mercury heritage.*

The Municipality of Idrija has 14 cultural monuments of national importance (NM), while the remainder are cultural monuments of local importance (LM), and two locations have a status of cultural heritage (CH). (Source: Register of immovable cultural heritage)
ECONOMIC ACTIVITY IN THE PROPOSED GEOPARK

Idrija’s past history was closely connected to five centuries of mining. Due to the lack of rich ore, high production costs, and the prohibition of mercury use, the 1980’s saw the gradual closing down of the mine, which changed the way of life in this valley. At the same time, the electrical, metalworking and wood industries, together with construction, began to develop.

Nowadays, the prevailing activity in the economic sector is industry which employs more than three quarters of the working population. Other activities fall short of 4% of employees. The rate of registered unemployment in the Idrija Municipality for the year 2010 is 5.5%, which is well below Slovenia’s average of 10.5%.

Idrija’s specific geographic position has always presented difficulties in the construction of municipal, road and other economic infrastructure. Less developed traffic infrastructure (there being no railroad in the area) is still a strong factor that restricts further economic and social development in the area.

Varied terrain and big differences in altitude make the conditions for agriculture unfavourable. Nevertheless, the unspoilt nature provides opportunities for nature-friendly and ecological farming. On the plateaus lying higher than 600m above sea level, the inhabitants are more interested in cattle breeding and pasturing. Idrija’s rural area is strongly oriented towards preserving traditional knowledge and skills, typical local products and produce.

One of the greatest development opportunities lies in tourism. The development plan of the tourism marketing strategy for the 2009–2015 period specifies several advantages, such as rich cultural, historical and technical heritage, remarkable geological and natural heritage, a rich cultural tradition, and well-developed economic, social and intellectual milieus.

FINANCIAL INFORMATION

For several years, the Idrija Municipality, the initiator and authority responsible for implementing procedures related to the establishment of the Idrija Geopark, has been funding the establishment of the Idrija Geopark. The project is indirectly supported by the Idrija Mercury Mine through the financing of skilled workers. Besides financing the establishment of the Idrija Geopark, the Municipality allocates program funds for projects and development tasks in accordance with or supporting the Geopark’s development. These are mainly projects in the area of integral sustained development of rural areas, and tourist projects. The municipal budget features an item called “Geopark Project”, which ensures funds for activities linked to the establishment and functioning of the Geopark. In the period from 2009 to 2011, the Idrija Municipality earmarked €73.000 to finance expert groundwork, procedures and expert work on the project. In 2011, the Municipality was granted European funds to finance the Geopark project – planning and establishment of a geopark of regional importance – in the amount of €150.000. The goal of the project is to prepare program, expert and development groundwork, develop infrastructure and thematic paths, as well as instruments for the interpretation of geological heritage. The individual responsible authorities (Idrija Municipality, Idrija Mercury Mine and ICRA) are also receivers of funds from the European program for countryside development – LEADER.

In the past three-year period, €368.072 was allocated to the establishment and start of operation of the Geopark, of which €78.600 were allocated to infrastructure. An additional €289.472 were allocated for the development of countryside projects.

In the 2012–2015 period, an increase of funds is planned, particularly for financing the programs of the Idrija Geopark. The construction of visitor infrastructure that is not covered by the financial plan is also foreseen in this period, whose costs are estimated at € 1.500.000.
## Table 5 – Financial plan

<table>
<thead>
<tr>
<th>YEAR</th>
<th>BEARER AND ACTIVITY</th>
<th>SOURCES OF FUNDING €</th>
<th>LEADER</th>
<th>EU</th>
<th>OTHER (NPM, IMM, private,...)</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IDRIJA MUNICIPALITY</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>LEADER</td>
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<td>2009</td>
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<td>25.000</td>
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<td></td>
<td>16.000</td>
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<td></td>
<td>IDRIJA MERCURY MINE: expert work</td>
<td>52.000</td>
<td></td>
<td></td>
<td>16.000</td>
<td>118.000</td>
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<tr>
<td></td>
<td>Project inventory of geological heritage presentation of Geopark</td>
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<tr>
<td></td>
<td>geopark establishment, employment</td>
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<td>26.000</td>
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<td></td>
<td>16.000</td>
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<tr>
<td></td>
<td>IDRIJA MERCURY MINE: expert work</td>
<td>53.000</td>
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<td></td>
<td>16.000</td>
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<td>International exchange</td>
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<tr>
<td></td>
<td>Geopark establishment, employment</td>
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<tr>
<td></td>
<td>IDRIJA MERCURY MINE: expert work</td>
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<td>Geopark project</td>
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<td>IDRIJA MUNICIPALITY</td>
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<tr>
<td></td>
<td>LP infrastructure maintenance</td>
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<td>2012</td>
<td>IHC: Geopark activities, employment, expert work, TIC</td>
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<td></td>
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<td>12.000</td>
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<td>PROJECTS: In cooperation with ICRA, Cerkno Municipality and LAS, the Idrija Municipality obtained projects in support of the Idrija Geopark and activities that respect nature and promote typical local products: The Geopark – an opportunity to develop the Idrija countryside, Developing Idrija lace and the Idrija lace trademark, the Countryside conceals much more, Nature and tourist-recreational activities, GRAPE – good home-grown food, Encouraging farming, craftsmanship and cottage industry along the Emerald trail, Supporting event in the LAS region. During 2012-2013, the cross border area SLO-I in the scope of the Local Initiative program, will host the Lanatura project where Idrija partakes as a partner and supports countryside activities connected to nature.</td>
<td>4.000</td>
<td>22.700</td>
<td>29.300</td>
<td>8250</td>
<td>25.000</td>
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<td>5.700</td>
<td>1.750</td>
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<td></td>
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<td>22.700</td>
<td>29.300</td>
<td>8250</td>
<td>25.000</td>
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<td>TOTAL</td>
<td>332.142</td>
<td>220.250</td>
<td>158.972</td>
<td>113.000</td>
</tr>
</tbody>
</table>

TOTAL
The Idrija Geopark features a great many locations where visitors can be informed and educated, as well as observe and experience the typical features, monuments and heritage of the region. The starting point of the tour is the Idrija Tourist Office, based in the Inzaghi Shaft engine room, a cultural heritage site. The Office provides information on events, various programs suitable for different interest groups, and other tourist and public services. It also offers promotional materials, a souvenir shop, and the possibility of hiring a local tourist guide.

MUSEUMS AND COLLECTIONS

**Anthony’s Main Road** – the oldest part of the mine was renovated and opened to the public in 1994. The museum “in situ” collection is important, as it preserves the technical heritage of the mercury mine and represents a live connection with the mining tradition in Idrija. Small expert groups are permitted to visit the deeper parts of the mine in the company of a mine geologist and observe the preserved geological sections of extreme importance.

The Idrija Mercury Mine’s administrative building houses the Mine geological collection. Over 800 specimens of rock and cinnabar ore are displayed, including several unique pieces as well as a description of the formation of the ore deposit. Francis’ Shaft is one of the most important shafts once used by the mine to export ore. Today, part of the shaft is still used by the Mine, and another part has been arranged as a museum.

**Gewerkenegg Castle**, the official seat of the Idrija Municipal Museum, houses the permanent exhibition entitled Five Centuries of the Mercury Mine and the Town of Idrija. The documents, maps, photos of Idrija and authentic objects on display present mining activities through the centuries, the development of forestry and timber floating. The geological collection features fossils, rocks, mercury ores and minerals, and is one of the most important collections of its kind in Slovenia.

The museum manages and maintains several technical and cultural monuments in Idrija, including: the building of Francis’ Shaft exhibiting restored mine machinery, the Kamšt water wheel – the largest preserved device of its kind in the world, and the Miner’s house in Bazoviška ulica, which presents the lives of miners’ families in the past. Tourists may also wish to visit the authentically preserved Slovenia Partisan Printing Shop at Vojsko.

The Idrija Lace School is a public lace school functioning within the Jurij Vega Secondary School in Idrija. The primary activity of the Idrija Lace School was and continues to be the education of children and youth in lacemaking according to the school’s study program for children and youth, as well as various target groups of adults.

The Idrija Municipal Museum keeps a collection of lace articles and lacemaking patterns, ranging from the oldest and traditional lace pieces to modernly designed lace items and lacemaking patterns.

The International Centre of Idrija Lace encourages and is responsible for Idrija’s cooperation with young textile designers, as well as for protecting the designation of origin of Idrija lace.

The Idrija War Museum displays the region’s war history in the period between 1900 and 1991. The periods of the two world wars and the Slovenian war for independence are presented in original exhibits of soldiers’ equipment, uniforms, weapons, hats, helmets, and decorations.

The aquarium features several biotopes from around the world, the most important being the Idrijca River biotope.

On display in the former mine first-aid building is an exhibition entitled Flora Carniolica – a pictorial collection of plants in the Idrija and Cerkno regions, accompanied by a video projection and expert guidance (leaflets, herbarium, copies of documents, and study material), as well as an exhibition entitled Lichens in the Idrija Region.
The protected Šturmajce homestead in Kanomlja is a preferred place of the Kanomlja Tourist Association for the organisation of various activities, workshops and lectures aimed at preserving rural knowledge and skills, customs and traditions.

**FACILITIES OPEN TO THE PUBLIC IN THE PROPOSED GEOPARK AREA**

Along the Rake water channel runs a natural educational trail named Along the Path of Idrija’s Natural Scientists. The trail reveals a highly variegated rock structure, plants and botanical particularities. Near the entrance is Scopoli’s Memorial Garden.

Through the Zgornja Idrijca Landscape Park runs a natural trail that leads to the only museum in nature – Wild Lake, where visitors may read the informative pannels featuring geological and botanical descriptions. In the heart of the landscape park, the trail runs past the Idrija Lauf – the first forest railway in Europe, and the klavže – monumental water barriers in the Idrijca and Belca river basins. All of the mentioned technical monuments are restored and accompanied by informative panels. The park is a recreational centre of the Idrija region and a true paradise for mountain biking. In summer, it attracts visitors to the Lajšt natural bathing ground. We take pride in the new informative panels installed in the park.

The nature trail along the Vojsko plateau, above the steep banks of the Idrija and Kanomljica rivers, offers amazing views, geological and morphological particularities. It is a true paradise for botanists, and features several preserved magnificent homesteads and monuments of the liberation movement.

The Matuckar trail in Zadlog takes visitors on a walk through the village heritage, featuring preserved homesteads, specimens of ethnological heritage, and several nature monuments.

Footprints of Upper Triassic reptiles: six animal footprints that are over 220 million years old have been found in a preserved state. An informational panel is set up in their vicinity.

**SPORT FACILITIES AND RECREATION SERVICES**

Hiking trails: the Idrija and Cerkno hiking trail, Via Alpina, Slovenian hiking trail, and the Slovenian geological trail. The diverse and picturesque landscape is perfectly suitable for all kinds of short or longer walks and excursions, easy to more demanding mountaineering tours, and orientation marches.
Cycling routes:

The **Smugglers' Route on the Ledine plateau**. Its name is derived from smuggling activities between the Kingdom of Italy and Yugoslavia.

**Route on the Vojsko plateau.** Cycling along this route offers a great many views from the plateau itself and views of the surroundings.

**Route along the Bloudek trail on Črni Vrh plateau**, featuring numerous karst phenomena.

The **Javornik Mountainbike Park** is situated at the Javornik Ski Centre in the village of Lome.

**Skiing:** Javornik ski pistes, Vojsko.

**Nordic walking paths:** Črni Vrh, Vojsko Cross-country Skiing Centre.

**Natural Climbing Centre:** Villages of Gore, Strug, Marof.

**Bela Natural Baths:** At the confluence of the Idrijca River and Belca Stream.

**Fishing** in Idrija's waters offers visitors a genuine experience in unspoilt natural surroundings. The waters are home to several salmonid fish - primarily brown trout, rainbow trout, grayling and, more recently, the precious marble trout, an autochthonous fish species of the Soča River basin.

The region is ideal for **hunting**. There are three hunting associations in the area (LD Idrija, LD Krekovše LD, Javornik)

**Accommodation.** The Geopark area offers 424 beds in inns, lodging houses, a youth hostel, tourist farms, private apartments and hotels. More than half of the lodgings are in Idrija, whereas the other half is distributed over the entire Idrija Geopark area.

**Some local culinary dishes** that carry the national and European label of a "guaranteed traditional specialty" are žlikrofi (dumplings) and bakalca (lamb and goulash) cabbage, smukavc (thick cabbage and potato soup), zelévka (potica with herb filling) made of "šnitalbë" (chives) from the home garden, and "geruš, an old miner’s drink". A rich variety of local dishes are also served in the surroundings – from Spodnja Idrija to Ledine, Vojsko, and Črni Vrh.

MAJOR EVENTS

**Lace Festival:** The annual Idrija Lace Festival is Idrija’s main tourist event devoted to the presentation and promotion of lace. The festival is also a large cultural and social event in the town.

**Castle Evenings in Idrija** – cultural events in the castle courtyard – in summer.

**Feast of the Assumption (Veliki Šmaren)** – traditional local celebration of the holiday in Špudnja Idrija – 15 August

“From Grain to Bread” (**Od zrna do kruha**) – an ethnological event (farm work) in Ledine – August.

**Charcoal makers’ Sunday** – an ethnological event on the theme of charcoal making in Idrijske Krnike – first Sunday in September.

PLANNED FACILITIES FOR THE PROPOSED GEOPARK

**Smelting Plant** (Idrija Mercury Mine): The smelting plant is being rearranged so as to provide a detailed presentation of ore processing. In future, the official seat of the Information and Research Centre for Mercury.

**The Information and Interpretation Centre of Idrija Natural Science Heritage** – the starting point of the Geopark, where visitors will receive a comprehensive overview of Idrija’s natural science (geological, botanical, etc.) heritage.

**Krekovše in the Landscape Park** – a forestry centre.

**Šturmajce Homestead in Kanomlja** – now setting up a centre for the preservation of old traditions, stories, knowledge, and skills.

The **Mine geological collection** will be enlarged with a video presentation of the origin of the ore deposit.

**Arrangement and marking of nature trails** connecting natural and cultural monuments. In upcoming years, we shall continue presenting and marking the **thematic paths** in the Idrija Geopark area.
D3 ANALYSIS OF GEOTOURISM POTENTIAL OF THE PROPOSED GEOPARK

In past years, Idrija has been working on increasing its reputation through participation in internationally focused projects, where it has received the title of “City of Alps 2011”. Idrija is also a “European Destination of Excellence 2011” and a candidate for inclusion in the Unesco World Heritage List.

The Idrija Geopark has great potential for geotourism: a rich cultural and technical heritage – 500 years of mining and a long tradition in bobbin lacemaking, unspoilt nature, remarkable geological phenomena, geomorphologically varied surface, numerous botanical curiosities, and a rich cultural heritage.

One of the main goals of the Idrija Geopark is to encourage sustainable activities together with the protection and development of geological and other heritage, rendering the area’s development possible, especially in tourism.

D4 OVERVIEW AND POLICIES FOR THE SUSTAINABLE DEVELOPMENT OF:

On the national level, the starting points and foundations of sustainable development as one of the key elements of Slovenia’s development are described in the Slovenian Development Strategy 2013. The orientations of the sustainable development policy are described in the Development Plan and the orientations of Slovenian tourism. The policy of rural sustainable development is specified in the Slovenian Rural Development Program for the 2007–2013 program period, and is focused on helping rural areas to live to their potential as attractive regions for investments, work and life in the rhythm of the environment and natural sources.

At the regional level, one of three aims of carrying sustainable development principles into action is described in the Regional Development Program of Severna Primorska (Goriško Statistical Region) for the 2007-2013 period.

Within the scope of approving the Implementation Plan of the Regional Development Program for Northern Primorska at its meeting held on 24 Jan 2011, the Regional Council expressed its support for the activities related to the establishment of the Idrija Geopark.

At the local level, sustainable policies are described in the strategic and sector spatial and development documents. The Idrija Geopark program follows the bases of the Development plan and strategy of tourism marketing up to 2015, which is the central document for directing the development of tourist economy and services in upcoming years in the region of the Municipality of Idrija, and the Local development strategy for the highland regions of Severna Primorska.

Sustainable development is defined in two key documents: Innovative strategy of sustainable development of the Idrija Municipality and the Idrija Municipality Spatial Plan. The Idrija Geopark is also an important initiator and supporter of sustainable development in the region.

4.1 GEO-TOURISM AND ECONOMY

Idrija’s unspoilt nature offers active ways of spending one’s free time: cycling, running, horse-back riding, fishing, Nordic walking.

In recent years, numerous efforts have been devoted to encouraging local farmers to produce typical local produce and products, ensuring promotion, and helping sales to go up. Twice a week, the farmers united under the “Grape” trademark are provided with a covered area in which to sell their produce and products.

4.2 GEO-EDUCATION

An important activity of the Idrija Geopark is educating youth (kindergarten, primary school, secondary school and university students) and including some of its programs into the regular school curriculum in the fields of ecology and environmental protection.

The Idrija Mercury Mine carries out natural science programs and educates students from the primary school to the university level (organisation of theme days, geological cave mapping for geology students,…).
4.3 GEO-HERITAGE

Geo-heritage is integrated in thematic nature science trails, and is seen “in situ”, in geological collections, occasional exhibitions, etc.

Geosites:

Arrangement of description panels and trails along Wild Lake. We have set up information signs and provided for appropriate presentation of the sites, and are improving the existing access paths. This will ensure adequate protection of nature as well as the safety of visitors.

Setting up a geo-point entitled Footprints of Upper Triassic reptiles at Medvedje Brdo.

Presentation of sedimentary ores and the ore deposit in the Mine geological collection.

Thematic paths

The most important geological heritage sites have been connected by thematic educational paths, and the existing cycling and hiking trails have been improved and rendered even more attractive. Publications entitled: A Nature Guide to the Landscape Park, Vojsko plateau, A nature educational path along Rake, Scopoli’s Memorial Garden, etc., have been issued.

Occasional exhibitions connected with geological heritage

The »Anno Domini 1511« exhibition was set up on the 500th anniversary of the strongest earthquake in Slovenia. The exhibition responds to questions related to earthquakes and tectonic movements on our planet. Organized concurrently with the exhibition are various workshops, thematic lectures, and tours of the exhibition.

Another interesting exhibition was set up this year, entitled »Threads of Nature«, in which threads of lace are interwoven into images of the rock world. Students made lace pieces following the contours of typical rocks of Idrija. Cooperation between the Idrija Lace School and the Idrija Geopark offers a great variety of possibilities for combining natural sciences and art, as well as other learning and teaching techniques.

Fig. DII – Workshops at the Anno Domini 1511 exhibition.
The establishment of the Idrija Heritage Centre has, through the Idrija Geopark, connected the managers of Idrija’s natural and cultural heritage (public institutions, associations, etc.) with the aim of managing, preserving and promoting Idrija’s heritage.

One of the forms of social connectivity are associations, which organise activities aimed at educating and qualifying their members and inhabitants.

An example of successful cooperation with the local community is the “Fenix – the Pulse of Kanomija” project that aims to liven up social life and renew old rural practices and customs of Kanomija.

An important Geopark activity is the integral presentation of natural, cultural and technical heritage to the local inhabitants and the general public, raising awareness, and encouraging inhabitants to contribute to the importance of heritage conservation.

The Idrija Geopark has been presented to local communities and experts on several occasions. During the preparatory years, contacts were established with other European geoparks, i.e. the French Digne les Bains Geopark, Aroucha Park in Portugal, and the Magma Geopark in Norway, all of which were presented to Idrija’s local inhabitants as examples of good practices.

With the help of LEADER funds in the LAS program, two programs have been carried out: Geological heritage inclusion into countryside tourism in the Idrija River area, and Geological trails – An interpretation of natural heritage. An important activity of both projects was the presentation of natural and cultural heritage of the chosen three thematic paths to local inhabitants.
The Idrija Geopark covers the entire area of the Idrija Municipality, its main particularity being its mercury ore deposit, whose extraordinary geological formation makes its unique in the world.

The first individual to come up with the idea of establishing the Idrija Geopark was Bojan Režun, a geologist of the Idrija Mercury Mine, who presented the idea at the 7th European Geopark Association conference in Scotland in 2007. The progress made each year was regularly reported at conferences in Germany in 2008, Portugal in 2009, Greece in 2010 and Norway in 2011. A team of geologists and employees of the Municipality formed a working body, and managed to establish constructive cooperation with the Aroucha Geopark from Portugal and the Magma Geopark from Norway. During the Best Practices for the creation and promotion of Geoparks project, we participated at a consultation in the Haute Provence Geopark in France. The year 2010 represented a turning point: by passing a municipal act, the Idrija Municipality founded a public institution, the Idrija Heritage Centre, under the direction of which the Idrija Geopark was formally founded.

The Idrija Municipality has been conscious of the value of mining heritage for several years, and has been devoting extensive efforts into its preservation, may this be by formal protection or by preserving and renovating objects of technical heritage. The remarkable value of this heritage has pressed Idrija from 2008 onward to apply for inclusion on the UNESCO List of World Heritage together with the biggest mercury mine in the world, Almadén in Spain. In 2009, at a session in Seville, UNESCO proclaimed mercury mining to be an activity of “Outstanding Universal Value”.

The Idrija Municipality is engaged in sustainable development efforts and realises these efforts through various projects. Within this period, the Innovative Strategy of Sustainable Development of the Idrija Municipality was prepared, and also includes the Idrija Geopark. This year, Idrija bears the flattering title “European Destination of Excellence 2011”, given by the European Commission, and the title “Alpine City of 2011”, which stands as evidence of the fulfilment of the Alpine Convention.

Through the establishment of the Idrija Geopark, our goal is to function as a link between different actors striving for sustainable development. The Geopark as a way of life must become a need that will contribute to better connectivity among participators in the countryside, cooperation with educational institutions, educational programs, motivation of individuals to form new and supplementary activities in the countryside, and increasing the reputation of the Idrija region within the country and abroad. By encouraging young Slovenian researchers, we wish to contribute to directed research of the Idrija area, improving our knowledge of the home environment. We hope to encourage the existing synergy and preserve the natural and cultural particularities of the region by joining EGN and GGN. The new development possibilities provided by the Geopark coincide perfectly with the existing development strategies of the Idrija Municipality, the goal of which is to ensure nature and environment protection, but also keep the countryside populated, enable the development of new jobs and, last but not least, keep people content. All of these goals may be achieved within the framework of EGN and GGN with the support of and cooperation with other geoparks.

Fig. D16 – Upper Idrija
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