

**LANDSCAPE PARK STRUNJAN (SLOVENIA) MARINE PROTECTED  
AREA**

**PRESENTATION REPORT  
FOR INCLUSION IN THE SPAMI LIST**



## **OBJECTIVE**

The objective of this Annotated Format is to guide the Contracting Parties in producing reports of comparable contents, including the information necessary for the adequate evaluation of the conformity of the proposed site with the criteria set out in the Protocol and in its Annex I (Common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI List).

## **CONTENTS**

The presentation report shall include the following main information on: (i) identification of the proposed protected area (ii) site description (iii) its Mediterranean importance (iv) the activities in and around the area and their impacts (v) legal status (vi) management measures (vii) human and financial resources available for the management and the protection of the site.

## **SUBMISSION OF REPORTS**

The reports should be submitted to the RAC/SPA two months before the meeting of National Focal Points for SPA in English or in French.

Dossiers should be compiled on A4 paper (210 mm x 297 mm), with maps and plans annexed on paper with a maximum size of an A3 paper (297 mm x 420 mm). Contracting Parties are also encouraged to submit the full text of the proposal in electronic form.

The requested annexes should be submitted on paper and, if possible, also in electronic form. They are the following:

- Copies of legal texts
- Copies of planning and management documents
- Maps: administrative boundaries, zoning, land tenure, land use, and distribution of habitats and species, as appropriate
- Existing inventories of plant and fauna species
- Photographs, slides, films/videos, CD-ROMs
- List of publications and copies of the main ones concerning the site

**N.B.:** All the following sections have to be in the report submitted, even those sections or elements that do not apply to the proposed area. Where that is the case, please put “not applicable to the proposed area”.

## 1. AREA IDENTIFICATION

### 1.1. COUNTRY/COUNTRIES (in the case of transboundary areas)

Slovenia

### 1.2. ADMINISTRATIVE PROVINCE OR REGION

Obalno Kraška regija

### 1.3. NAME OF THE AREA

Landscape Park Strunjan (English)  
Krajinski park Strunjan (original name)

### 1.4. GEOGRAPHIC LOCATION

Describe its geographical boundaries, e.g. rivers, roads, geographical or administrative boundaries (do not describe the co-ordinates here; please make a separate annex with a map and a description of geographical co-ordinates as stated in the legal declaration of the area).

Landscape Park Strunjan is situated in the south-western part of Slovenia on the Adriatic coast. It comprises the area of the Strunjan peninsula (**Annex 2, Photo 1**), projecting into the Gulf of Trieste, the northernmost part of the Mediterranean; the 200m-long shoreline; and the entire bay of Strunjan. It lies between the towns of Izola and Piran. Towards the south-west, the peninsula slopes gently down into the Strunjan valley – the flat area of the Strunjan river (Roja river), along which the town of Strunjan has developed and where the gently sloping seashore has been transformed by the construction of the salt pans and the lagoon. Along the northern and north-eastern border of the land area, abrasion processes have created fragmented and steep cliffs with the small Capes of Kane, Ronek and Strunjan. Between the last two is the Bay of St. Cross. On the southern border of the Park, on both sides of the road, there is a pine avenue which has been proclaimed a natural monument. The Park has three narrow protected areas: Naravni rezervat Strunjan (Strunjan Nature Reserve), Naravni rezervat Strunjan-Stjuža (Strunjan-Stjuža Nature Reserve), and Naravni spomenik Pinijev drevored (Natural Monument Pine trees avenue).

**Annex 1** - The boundaries of the Park and the narrow protected areas are shown on the annexed map at a 1:20,000 scale, which is an integral part of the Decree on Landscape Park Strunjan (the legal declaration of the area).

Legend:

Krajinski park – Landscape Park

Naravni rezervat Strunjan – Nature Reserve Strunjan

Osrednji del Naravnega rezervata Strunjan - Nature Reserve Strunjan core area

Naravni rezervat Strunjan Stjuža – Nature Reserve Strunjan Stjuža

Naravni spomenik Pinijev drevored – Natural Monument Pine trees avenue

### 1.5. SURFACE OF THE AREA (total)

428,6 ha

### 1.6. LENGTH OF THE MAIN COAST (Km)

6,2 Km

## 2. EXECUTIVE SUMMARY (maximum 3 pages)

Landscape Park Strunjan was established on 2nd February 1990 by the Ordinance on the declaration of Landscape Park Strunjan by the municipalities of Izola and Piran. In 1999, a new basic regulation for the protection of nature in Slovenia was adopted, namely the Nature Conservation Act, on the basis of which the Government of the Republic of Slovenia adopted the Decree on Landscape Park Strunjan.

The primary purpose of the establishment of the Landscape Park Strunjan was the protection of natural values and the preservation of biodiversity and landscape diversity. This is achieved by conserving natural values, biodiversity, populations of endangered and internationally protected wild plant and animal species, and habitat types. The park area preserves the landscape with its mosaic distribution of landscape structures, the ecological characteristics of the salt pans, the lagoon and the seashore, and the natural processes and connections between the splash zone, the intertidal zone and the infralittoral.

In 2008, the amended Decree stated that the Government of the Republic of Slovenia would establish a Public Institute which carries out public services in the field of protection of nature, manages databases related to the Park within the framework of public powers, and carries out direct nature protection supervision in the area of the Park.

The most characteristic part of Landscape Park Strunjan is the up to 80m-high Strunjan Cliff, which, together with the overgrown edge and the 200m-long stretch of sea below it, was designated the Strunjan Nature Reserve. This is the longest stretch of pristine coastline on the entire 130-km coast between Grado in Italy and Savudrija in Croatia, delimited by the Gulf of Trieste. Coastal cliffs with preserved natural shores and preserved vegetation in the hinterland are extremely rare throughout the Mediterranean. On the edge of the nature reserve there is one of the two largest known biogenic formations in Slovenia. The ridge, which comprises a 500m wide shoreline and seabed in front of the Cape Ronek, is formed of dead corallites of Mediterranean stony coral (*Cladocora caespitosa*).

The Strunjan-Stjuža Nature Reserve comprises the northernmost and the smallest salt pans in the Mediterranean, where sea salt has been manually obtained by a traditional method for over 700 years, and the area of Stjuža – the only Slovenian sea lagoon.

The coastal and marine part of the KPS is mainly characterized by rocky coast under Eocene flysch cliffs, an artificial marine lagoon and a small sized salt pans.

The great majority of the rocky coast is still pristine, with supralittoral belt well developed in exposed zones. The mediolittoral belt is mostly made of stones and rocks, whereas the deeper infralittoral is characterized by the presence of sandstone terraces, large rocks and boulders. They are mainly covered with algal vegetation (biocoenosis of photophilic algae), especially brown algae of the genus *Cystoseira*. Extensive seagrass meadows of *Cymodocea nodosa* are present on the sandy bottom. The infralittoral biocoenosis of photophilic algae is in deeper water with decreased light conditions replaced by the (pre)coralligenous biocoenosis, also known to host a great biodiversity.

The spatial heterogeneity is very high and is one of the main reasons explaining the outstanding biodiversity in this area (**Annex 2, Photo 2**).

A particularity of the marine part of the Park is the common bottlenose dolphin (*Tursiops truncatus*). The area of the Park is also important for the loggerhead sea turtle (*Caretta caretta*), because during the warm periods of the year young turtles feed in the broader area of the Park. Eighty-three species of fish have been found within the area of the Park, which corresponds to 45% of all species found in the Slovenian seas. The area of Strunjan Park, compared to other protected areas of the Slovenian coastal sea, is characterized by the great variety of benthic invertebrates.

The characteristic species of birds are the Mediterranean gull (*Larus melanocephalus*), shag (*Phalacrocorax aristotelis desmarestii*) and sandwich tern (*Thalasseus sandvicensis*). The salt pans and the lagoon see the regular appearance of the little and the great egrets (*Egretta garzetta* and *E. alba*), black-winged stilt (*Himantopus himantopus*), shelduck (*Tadorna tadorna*), common kingfisher (*Alcedo atthis*) and numerous species of sandpipers, grebes and seagulls. Stjuža is also the wintering ground of the Eurasian coot (*Fulica atra*).

Most of the terrestrial parts of area are covered by agricultural land, organized in terraces and stone walls, a feature typical for the Slovenian coastal area. On the contrary, the upper edge of the cliffs and the gorges, which are the result of erosion processes are overgrown by the typical deciduous sub-Mediterranean community of *Ostrya quercetum pubescentis*, in which *Spartium junceum* and *Arundo donax* are also abundant. At the warmest sites there are some representatives of typical Mediterranean undergrowth species, whereas in shady sites the structure of the forest changes and the stand consists of a slightly more mesophilic Austrian oak (*Quercus cerris*). Sub-Mediterranean woody species, which are mostly found on the cliffs, are hop-hornbeam (*Ostrya carpinifolia*), flowering ash (*Fraxinus ornus*) and pubescent oak (*Quercus pubescens*).

Floristically most interesting is the part of the cliffs named Cape Ronek, where in spite of its northern position and the prevalent flysch substratum, some typical Mediterranean species also occur, such as *Mirtus communis* and *Arbutus unedo*. In this area, three completely naturally preserved ecosystems meet within a short distance: the sea, the rock faces and the forest, which to date has been preserved in its original form and which in accordance with the Decree on Protective Forests and Forests with a Special Purpose, will be proclaimed a protected forest.

The salt basins and lagoon embankments are sites where numerous species of halophytes on the Red List of Endangered Species are found, such as: shrubby swampfire (*Sarcocornia fruticosa*), common glasswort (*Salicornia europea*), golden samphire (*Inula crithmoides*), swamp sea-lavender (*Limonium angustifolium*), bluish-leaved Wormwood (*Artemisia caerulescens*), and seashore aster (*Aster tripolium*).

Sea grass meadows of *Cymodocea nodosa* are the main habitat type also in the lagoon while on the embankments and in the salt fields halophytic plant assemblages are prevailing. The lagoon that was once a small bay is an example of euryhaline & eurytherm habitat, characterized by extreme ecological conditions as it is the case of the salt pans. Of importance in the Stjuža lagoon is the Mediterranean killifish (*Aphanius fasciatus*)

The most important traditional activities in the Park are agriculture, fishing and salt-making. Agriculture is almost entirely oriented towards the cultivation of agricultural plants on permanent and non-permanent plantations. Agriculture significantly impacts the landscape of the Strunjan peninsula. The most characteristic element of the agrarian landscape of the Strunjan peninsula is the cultivated terraces.

In the area of the Park, an important role is played also by coastal fishing. In the past decade, six fishermen had licences for commercial fishing in the renovated fishing port. Commercial fishing is conducted with small vessels and, most importantly, with bottom-set gillnets and trammel nets – rarely with fish traps. According to the weight, the largest proportion of catches consisted of the following species: common sole (*Solea solea*), common cuttlefish (*Sepia officinalis*), sea bream (*Sparus aurata*), European flounder (*Platichthys flesus*), common pandora (*Pegellus erythrinus*), European bass (*Dicentrarchus labrax*), black scorpionfish (*Scorpaena porcus*) and flathead grey mullet (*Mugil cephalus*). Mariculture activities are carried out by five shellfishermen, to a limited extent within the Strunjan fishing reserve, where part of the area of the nurseries, where edible mussels are grown, extends within the Park boundaries.

Since the 13<sup>th</sup> century at least, the Strunjan salt pans have been an area of traditional salt-making. A special feature of the salt pans is a clay base covered with a layer of petola, which primarily prevents the mixing of salt with sea mud and allows the production of pure, white salt without admixture. Salt has been obtained manually, with tools and by a method of over 700.

Another important activity in the area of the Park is tourism. Each year, the Park is visited by approximately 300,000 visitors, concentrated in the summer season. In July and August, the area is visited by 37% of all annual tourists, and from May to September, as many as 66%. Day visitors who do not spend the night in the Park are not included in these statistics. The most frequent activities of the visitors are swimming, hiking, cycling and seafaring. The area of the Park offers many opportunities for the development of sustainable tourism, which derives from a rich and well-preserved natural and cultural heritage, and the historical legacy of the traditional activities of the inhabitants.

On the basis of the Nature Conservation Act and the Decree on Landscape Park Strunjan, the Government of the Republic of Slovenia adopted the Decree on the Management Plan of Landscape Park Strunjan for the period 2018-2027 on 28<sup>th</sup> February 2019.

The Management Plan of the Landscape Park Strunjan provides for development policies, ways of implementing the protection, use and management of the protected area, and detailed protection regimes. It is a key programme document for the long-term and effective preservation of the values of the protected area, which sets out the objectives and tasks for the management of the Landscape Park over a period of 10 years.

### 3. SITE DESCRIPTION

#### 3.1. TYPOLOGY OF THE SITE

3.1.1. Terrestrial surface, excluding wetlands (ha):	218 ha	
3.1.2. Wetland surface (ha):	34,1 ha	
3.1.3. Marine surface (Sq. Km):	Marine internal waters	17,65 sq. km
	Territorial sea	Not applicable to the
	High sea	Not applicable to the

#### 3.2. MAIN PHYSICAL FEATURES

##### 3.2.1. Geology/Geomorphology

Give a brief description of: (i) geological aspects (lithologic and tectonics); (ii) processes of sedimentation and erosion observable in the area; (iii) coastal geomorphology and (iv) island system. Indicate bibliographical sources.

The entire area of Landscape Park Strunjan belongs to the tectonic unit of the Adriatic foothills, comprising the major part of Istria and extending up to the Kraški Rob ridge. A characteristic of the Adriatic foothills is that they consist of cretaceous and tertiary shallow-water carbonate rocks and Eocene flysch rocks (**Annex 2, Photo 3**). The area of the Landscape Park is entirely formed of middle-Eocene flysch rocks. Flysch is a sequence of clastic sedimentary rocks that originated in the deep sea in the foreland basin environment. Flysch is deposited during the active formation of mountains and for this reason is said to be syn-orogenic (simultaneous with the formation of the mountains). A characteristic of flysch is that these layers repeat in cycles, and the entire sequence can become very thick. Various thick, grainy silicic rocks, predominately marl and sandstone, interchange in this sequence. In some areas of the Park, the marl and sandstone contain particularly well preserved sedimentation cycles, sedimentary textures, trace fossils made by different organisms (ichnofossils), and lithological varieties, an important feature of which is the sandy limestone megabed, which is best seen between the small Cape of Strunjan and Bay of St. Cross. The rocks here show that the flysch was formed in the deep sea (Placer, 2009; Šmuc, 2012). The sea coast of the Park is one of the richest deposits of Eocene ichnofossils in Slovenia, and it is also one of the reasons it is distinguished from the other parts of the shoreline of the Gulf of Trieste (Jurkovšek, 2009). The inclination of the cliffs at the Cape Ronek, where the cliffs are also at their highest, is about 70°, and the total width of the abrasion and submarine terrace is well over 100m, the flattest of the entire Slovenian coast. The shoreline runs transversely to the direction of the flysch layer, which is why it falls within the ria coast. The flysch forms the precipitous cliff walls – a very steep, vertical and sometimes overhanging wall located at the intersection between land and sea.

Between the present hills of Ronek in the north and Lucan in the south, the Roja river in Strunjan cut the Strunjan valley. Its erosive action, and the actions of other minor, mostly torrential, watercourses, of which today only the Borgola watercourse is permanent, created a floodplain in the estuary, on which people made the salt pans.

Jurkovšek, B. (2009, 11). Paleontološke znamenitosti Krajinskega parka Strunjan. Geološki zavod Slovenije.

Placer, L. (2009, 11). Sedimentološke, tektonske in geomorfološke znamenitosti Krajinskega Parka Strunjan. Geološki zavod Slovenije.

Šmuc, A. (2012, 7). Geologija.



The most characteristic part of Landscape Park Strunjan is the up to 80m-high **Strunjan Cliff (Annex 2, Photo 4)**, which, together with the overgrown edge and the 200m-long stretch of sea below it, was designated the Strunjan Nature Reserve (**Annex 2, Photo 5**). This is the longest stretch of pristine coastline on the entire 130-km coast between Grado in Italy and Savudrija in Croatia, delimited by the Gulf of Trieste. Coastal cliffs with preserved natural shores and preserved vegetation in the hinterland are extremely rare throughout the Mediterranean. Since the cliffs and the seashore have been left to natural processes, this stretch of the coast comprises very diverse habitat types. The splash zone and the intertidal zone are natural and pebbly, with exceptional giant blocks of limestone. With depth, the flysch debris becomes smaller and, in some parts sooner than in others, it turns into silty sea floor.

On the edge of the nature reserve there is one of the two largest known biogenic formations in Slovenia. The ridge, which comprises a 500m wide shoreline and seabed in front of the Cape Ronek, is formed of dead corallites of Mediterranean stony coral (*Cladocora caespitosa*).

The Strunjan-Stjuža Nature Reserve (**Annex 2, Photo 6**) comprises the area of the Strunjan salt pans and lagoon. **The Strunjan salt pans** are the northernmost and the smallest salt pans in the Mediterranean, where sea salt has been manually obtained by a traditional method for over 700 years. They were created through the transformation of the tidal flats of Strunjan bay by the construction of embankments, canals and shallow salt basins. Their primary role was originally economic; today the salt pans preserve the cultural heritage and, above all, are landscape conservation areas, since they represent an exceptional living environment where endangered plant and animal species which were able to adapt to extreme salt conditions are found. **Stjuža** is the only Slovenian sea lagoon. Its name derives from the Italian word “chiusa”, which means closed. The tidal flat was created by the Strunjanska river which deposited sediments at the river mouth. After the construction of the embankment, which artificially closed the bay more than 400 years ago, the lagoon remained connected to the sea only by an overflow. There are no water currents or major waves, and the water flow depends exclusively on the low and high tides. Being on average only half a metre deep, water in the lagoon rapidly gets hot or cold. Today, the lagoon area is included in the Natura 2000 network, with the main purpose of conserving biodiversity through the protection of natural habitats of endangered species of flora and fauna.

### 3.2.3. Length of beaches (in Km), including islands:

a) Length of sandy beaches:

Not applicable to

b) Length of pebble or stony beaches:

5,5 km

c) Length, height and depth of active sand-dunes:

Not applicable to

### 3.3. FRESHWATER INPUTS

#### 3.3.1. Mean annual precipitation (in mm)

1042 mm/year (average annual precipitation in the period 1961-1990)

#### 3.3.2. Main water courses (permanent and seasonal)

The area of the Strunjan peninsula is part of the Adriatic river basin, together with the sea. The flysch sediment base is impermeable and provides a well-developed network of surface currents (Kolbezen and Pristov, 1998). The Roja river flows within the boundaries of the Park in the area of the salt pans, and in addition to its floodplain in the Strunjan Valley, it also created tidal flats in the Strunjan Valley by its deposits. The Borgola river runs in the west part of the Park, and flows into the Stjuža lagoon. The rivers of Roja and Borgola have been regulated over the past centuries due to the needs of agriculture and land drainage, and in the case of the Roja river, also because of the construction of salt pans. Abundant precipitation, most often in autumn and the first half of winter, create smaller, temporary torrential watercourses.

#### 3.3.3. Estuarine areas: Existence and brief description

Within the Park there is also a small estuarine area of the Roja river which flows through the salt pans and into Strunjan bay. It is classified as a Natura 2000 habitat of outfalls or estuaries which represent contact between the marine, freshwater and terrestrial ecosystems. They occur on the alluvia deposited by rivers or streams, and are therefore rich in nutrients. The water is murky and its salinity changes with the tides. Due to the great difference in salinity over the day, organisms die rapidly, and this further enriches the water with nutrients. During low ebb tides in winter, part of the estuary (the mud flats) can be entirely dry.

#### 3.3.4. Freshwater springs: Existence and brief description, including marine offsprings

The area of the Park has several wells and some springs which have not been inventoried in detail.

### 3.4. BIOLOGICAL FEATURES (B2, Annex I)

3.4.1. Habitats: A brief description of dominant marine and terrestrial habitats, on the basis of the habitat classifications adopted within the framework of MAP (and their coverage in ha)

#### II.1.1. Biocoenosis of muddy sands and muds

Both habitats, *Association with halophytes* (**Annex 2, Photo 7**) and *Facies of salt pans* cover the central part of the protected area and represent an important cornerstone of the marine and coastal species and habitat diversity. The maintenance of the salt pans infrastructure and the continuation of salt production is defined as one of the most important conservation measures in order to assure the good conservation status of the two habitats.

#### II.4. and III.6. Hard bed and rocks

Hard bed and rocks represent the most dominant habitat type of the strictly marine part of the protected area. They both host many different algal associations, mainly linked to the genus *Cystoseira* (**Annex 2, Photo 8**) as well as some important biogenic formations of stony coral, including the largest reef in the Slovenian sea in front of Cape Ronsek.

#### III.2. Fine sands with more or less mud

The fine sands that follow the hard beds and rocks are hosting seagrass meadows that are reaching their lower limit at a depth between 8 and 10 m, with *Cymodocea nodosa* as the most dominant species (**Annex 2, Photo 9**).

**Annex 3.1** - Map of marine and terrestrial habitat types in both Nature Reserves.

**Annex 3.2** - Map of marine habitat types in Nature Reserve Strunjan

**Annex 3.3** - Legend of marine habitat types in Nature Reserve Strunjan

### 3.4.2. List of regionally important species (flora and fauna) (B-2a, Annex I)

List here ONLY those species protected by international agreements, particularly those marine species included in Annex II of the Protocol, which are present in the area. Any other species may be listed if it is clearly considered of regional importance given its high representation in the area. Display the species list under the headings Marine Plants, Terrestrial Plants, Marine Invertebrates, Fish, Amphibians and Reptiles, Birds, and Mammals. For each species state:

- a) its relative abundance as Common (C), Uncommon (U) or Occasional (O),
- b) Its global status as rare (r), endemic (e) and/or threatened (t), and
- c) its status as an important resident population (R), or important for its breeding (B), feeding (F), wintering (W) or migratory passage (M)

SPECIES	Rel. Abundance (C) (U) (O)	Global STATUS (r) (e) (t)	Local STATUS (R) (B) (F) (W) (M)
In the table below are listed species protected by international agreements, particularly those marine species included in Annex II of the Protocol, which are present in the area. Other species are listed in <b>Annex 4</b> - Inventory of flora and fauna in Strunjan Landscape Park.			
MARINE PLANTS			
<i>Cystoseira adriatica</i>	U	r,t	R
<i>Cystoseira barbata</i>	U	t	R
<i>Cystoseira crinita</i>	O	r,t	R
<i>Cystoseira corniculata</i>	U	r,t	R
<i>Zostera marina</i>	U	r,t	R
<i>Zostera noltii</i>	U	t	
TERRESTRIAL PLANTS			
<i>Myrtus communis</i>	U	r,t	R
<i>Arbutus unedo</i>	U	r,t	R
<i>Centaurium tenuiflorum</i>	C	t	R
<i>Suaeda maritima</i>	C	t	R
<i>Spergularia marina</i>	C	t	R
<i>Ruppia maritima</i>	C	t	R
<i>Puccinellia fasciculata</i>	C	t	R
<i>Puccinellia palustris</i>	C	t	R
<i>Parapholis incurva</i>	C	t	R
<i>Parapholis strigosa</i>	C	t	R
<i>Salicornia herbacea</i>	C	t	R
<i>Arthrocnemum fruticosum</i>	C	t	R
<i>Limonium serotinum</i>	C	t	R
<i>Arthrocnemum glaucum</i>	C	t	R
<i>Salsola soda</i>	C	t	R
<i>Juncus maritimus</i>	C	t	R
<i>Inula crithmoides</i>	C	t	R
MAMMALS			
<i>Tursiops truncatus</i>	C	t	R
BIRDS			
<i>Phalacrocorax aristotelis desmarestii</i>	C	t	F
<i>Pandion haliaetus</i>	O	r,t	F
<i>Larus melanocephalus</i>	C	t	B
<i>Sterna sandvicensis</i>	C	t	R
<i>Egretta garzetta</i>	C	t	R
REPTILES			
<i>Caretta caretta</i>	O	t	F
FISH			
<i>Aphanius fasciatus</i>	C	r,t	R
<i>Hippocampus guttulatus</i>	C	r,t	R
<i>Sciaena umbra</i>	C	r,t	R
MARINE INVERTEBRATES			
<i>Aplysina aerophoba</i>	C	t	R
<i>Tethya aurantium</i>	U	t	R

<i>Tethya citrina</i>	C	t	R
<i>Cladocora caespitosa</i>	C	t	R
<i>Lithophaga lithophaga</i>	C	r,t	R
<i>Pholas dactylus</i>	C	t	R
<i>Pinna nobilis</i>	C	t	R
<i>Hippospongia communis</i>	C	t	R
<i>Spongia officinalis</i>	U	r,t	R
<i>Maja squinado</i>	O	r,t	R
<i>Vertigo angustior</i>			

### 3.4.3. Flora: Describe in a few sentences the main plant assemblages significant in the area.

Most of the area is covered by agricultural land, organized in terraces and stone walls, a feature typical for the Slovenian coastal area. On the contrary, the upper edge of the cliffs and the gorges, which are the result of erosion processes, are overgrown by the typical deciduous sub-Mediterranean community of *Ostrya quercetum pubescentis*, in which *Spartium junceum* and *Arundo donax* are also abundant. At the warmest sites there are some representatives of typical Mediterranean undergrowth species, such as evergreen rose (*Rosa sempervirens*), wild madder (*Rubia peregrine*), wild asparagus (*Asparagus acutifolius*), osyris (*Osyris alba*) and rough bindweed (*Smilax aspera*). In shady sites the structure of the forest changes and the stand consists of a slightly more mesophilic Austrian oak (*Quercus cerris*). Sub-Mediterranean woody species, which are mostly found on the cliffs, are hop-hornbeam (*Ostrya carpinifolia*), flowering ash (*Fraxinus ornus*) and pubescent oak (*Quercus pubescens*).

Floristically most interesting is the part of the cliffs named Cape Ronek, where in spite of its northern position and the prevalent flysch substratum, some typical Mediterranean species also occur, such as *Mirtus communis* and *Arbutus unedo*. In this area, three completely naturally preserved ecosystems meet within a short distance: the sea, the rock faces and the forest, which to date has been preserved in its original form and which in accordance with the Decree on Protective Forests and Forests with a Special Purpose, will be proclaimed a protected forest.

The salt basins and lagoon embankments are sites where numerous species of halophytes on the Red List of Endangered Species are found, such as: shrubby swampfire (*Sarcocornia fruticosa*), common glasswort (*Salicornia europea*), golden samphire (*Inula crithmoides*), sea-lavender (*Limonium angustifolium*), bluish-leaved Wormwood (*Artemisia caerulescens*), and sea aster (*Aster tripolium*).

In the sea two main assemblages are present, the biocoenosis of infralittoral algae, represented mainly by associations with *Cystoseira* species on the rocky bottom and extensive seagrass meadows of *Cymodocea nodosa* on the sandy bottom. Sea grass meadows of *Cymodocea nodosa* are the main habitat type also in the lagoon while on the embankments and in the salt fields halophytic plant assemblages are prevailing.

### 3.4.4. Fauna: Describe in a few sentences, which are the main fauna populations present in the area.

A particularity of the marine part of the Park is the common bottlenose dolphin (*Tursiops truncatus*). The area of the Park is also important for the loggerhead sea turtle (*Caretta caretta*), because during the warm periods of the year young turtles feed in the broader area of the Park. Eighty-three species of fish have been found within the area of the Park, which corresponds to 45% of all species found in the Slovenian seas. Of importance in the Stjuža lagoon is the Mediterranean killifish (*Aphanius fasciatus*). The area of Strunjan Park, compared to other protected areas of the Slovenian coastal sea, is characterized by the great variety of benthic invertebrates. The characteristic species of birds are the Mediterranean gull (*Larus melanocephalus*), shag (*Phalacrocorax aristotelis desmarestii*) and sandwich tern (*Thalasseus sandvicensis*). The salt pans and the lagoon see the regular appearance of the little and the great egrets (*Egretta garzetta* and *E. alba*), black-winged stilt (*Himantopus himantopus*), shelduck (*Tadorna tadorna*), common kingfisher (*Alcedo atthis*) and numerous species of sandpipers, grebes and seagulls. Stjuža is also the wintering ground of the Eurasian coot (*Fulica atra*).

### 3.5. HUMAN POPULATION AND USE OF NATURAL RESOURCES

#### 3.5.1 Human population

a) Inhabitants inside the area:

	Number	Date of data
Permanent	454	2012
Seasonal number (additional to permanent)	278.679	2009

Description of the population

According to the data of the Statistical Office of the Republic of Slovenia (SORS), 454 people lived in the area of the Park in 2012, and in the past decade the number of inhabitants has slightly increased.

According to the data from 2010, a little more than 11% of inhabitants belonged to the age group 0-14 years, 67% to the age group 15-65 years, and 22% of the population were over 65 years of age. The aging index, calculated on the basis of data for the Park area, is 183 and is among the highest in Slovenia (the index for the whole of Slovenia is 117).

The educational structure of the Park's population aged 15 years and over is slightly better than the average educational structure in Slovenia. According to the population census data, in 2011 28% of the Park's population had primary school education or none at all (Slovenian average: 29%); 42% had secondary education (Slovenian average: 53%); and 19% had a degree or diploma (Slovenian average: 17%). Unemployment in the Park area in 2011 was not high, as only 13 of the 191 active inhabitants were unemployed. Due to the large proportion of elderly people in the area of the Park, there were as many as 209 inactive inhabitants.

Main human settlements and their populations

Landscape Park Strunjan consists of two minor settlements – Strunjan and Dobrava. The Park extends into the areas of the municipalities of Izola and Piran.

Settlement in Landscape Park Strunjan is uneven. The population density ranges from 112 to 336 inh./km<sup>2</sup>. Landscape Park Strunjan is one of the most populated protected areas in Slovenia, although the mosaic or scattered type of settlement (**Annex 2, Photo 10**) is preserved within it, and population density is higher than that of Slovenia in general (101 inhabitants/km<sup>2</sup>).

### 3.5.2 Current human use and development

- a) Briefly describe the current use of the area by subsistence, artisan, commercial and recreational fishing, hunting, tourism, agriculture and other economic sectors.

The favourable natural conditions of the Strunjan peninsula, especially the marine climate and the leeward aspect, allowed humans to settle and develop traditional economic activities in harmony with nature. The scattered settlement, terraced farming, coastal fishing and artisanal salt-making have co-shaped the cultural landscape characterized by the diversity of living and cultural environments.

The most important traditional activities in the Park are agriculture, fishing and salt-making. **Agriculture (Annex 2, Photo 11)** is almost entirely oriented towards the cultivation of agricultural plants on permanent and non-permanent plantations. Despite a reduction in the volume of agricultural land in the past decades, areas with organic farming have increased substantially; these are mostly areas with permanent olive and persimmon groves. Agriculture significantly impacts the landscape of the Strunjan peninsula. The most characteristic element of the agrarian landscape of the Strunjan peninsula is the cultivated terraces, i.e. vineyard and agricultural, fruit-growing and horticultural, and, above all, purely horticultural terraces. They are the most suitable for growing early vegetables, including the native types of artichoke.

In the area of the Park, an important role is played also by **coastal fishing (Annex 2, Photo 12)**. In the past decade, six fishermen had licences for commercial fishing in the renovated fishing port. Commercial fishing is conducted with small vessels and, most importantly, with bottom-set gillnets and trammel nets – rarely with fish traps. According to the weight, the largest proportion of catches consisted of the following species: common sole (*Solea solea*), common cuttlefish (*Sepia officinalis*), sea bream (*Sparus aurata*), European flounder (*Platichthys flesus*), common pandora (*Pegellus erythrinus*), European bass (*Dicentrarchus labrax*), black scorpionfish (*Scorpaena porcus*) and flathead grey mullet (*Mugil cephalus*). Mariculture activities are carried out by five shellfishermen, to a limited extent within the Strunjan fishing reserve, where part of the area of the nurseries, where edible mussels are grown, extends within the Park boundaries.

Since the 13th century at least, the **Strunjan salt pans** have been an area of traditional salt-making (**Annex 2, Photo 13**). During the Venetian Republic, the extremely pure white salt was an important merchandise, which made the city of Piran, it is said, “grow on salt”. The basis for the salt is the recent sediment which was mostly washed ashore in Strunjan by the Roja river. This sediment is the basic material for the construction of the infrastructure of the salt pans, such as embankments and canals. The crystallization beds have a clay base covered with a layer of petola, which primarily prevents the mixing of salt with sea mud and allows the production of pure, white salt without admixture.

The area of the Park is covered by 29 ha of woods excluded from management, or their management is completely subordinated to their emphasized protective function, so interventions and deforestation are not permitted. The area of the Park belongs to the hunting management area of the Primorska region. The planning and implementation of hunting activities is adapted to the prescribed protection regimes of the Park area.

Another important activity in the area of the Park is **tourism**. Each year, the Park is visited by approximately 300,000 visitors, concentrated in the summer season. In July and August, the area is visited by 37% of all annual tourists, and from May to September, as many as 66%. Day visitors who do not spend the night in the Park are not included in these statistics. The most frequent activities of the visitors are swimming, hiking, cycling and seafaring. The area of the Park offers many opportunities for the development of sustainable tourism, which derives from a rich and well-preserved natural and cultural heritage, and the historical legacy of the traditional activities of the inhabitants.

b) Enter how many of the users depend on these resources, seasonality, and assessment of the social and economic importance of their use and of the perceived impact on the conservation of the area, in a score of 0-1-2-3 (meaning null, low, medium, high).

ACTIVITY AND CATEGORY	ASSESS IMPORTANCE OF								Estimated No. of Users	Seasonality
	Socio-economic				Conserv. Impact					
<b>FISHING</b>										
Subsistence	0	1	2	3	0	1	2	3		
Commercial, local	0	1	2	3	0	1	2	3		
Commercial, non-local	0	1	2	3	0	1	2	3		
Controlled recreational	0	1	2	3	0	1	2	3		
Un-controlled recreational	0	1	2	3	0	1	2	3		
Other										
<b>TOURISM</b>										
Regulated	0	1	2	3	0	1	2	3		
Unregulated	0	1	2	3	0	1	2	3		
Indicate the type of tourism										
- nautical tourism	0	1	2	3	0	1	2	3		
- hotels and second houses	0	1	2	3	0	1	2	3		
- recreation	0	1	2	3	0	1	2	3		
Tourism facilities	0	1	2	3	0	1	2	3		
<b>FOREST PRODUCTS</b>										
Subsistence	0	1	2	3	0	1	2	3		
Non-timber commercial, local	0	1	2	3	0	1	2	3		
Non-timber commercial, non-local	0	1	2	3	0	1	2	3		
Timber commercial, local	0	1	2	3	0	1	2	3		
Timber commercial, non-local	0	1	2	3	0	1	2	3		
<b>AGRICULTURE</b>										
Agriculture	0	1	2	3	0	1	2	3		
Stockbreeding	0	1	2	3	0	1	2	3		
Aquaculture	0	1	2	3	0	1	2	3		
<b>EXTENSIVE STOCK GRAZING</b>										
Subsistence	0	1	2	3	0	1	2	3		
Commercial, local	0	1	2	3	0	1	2	3		
Commercial, non-local	0	1	2	3	0	1	2	3		

### 3.5.3. Traditional economic or subsistence uses

Name any environmentally sound traditional activities integrated with nature, which support the well being of the local population. E.g. land, water use, target species, if closed seasons or closed zones are used as management techniques.

Economically, tourism and agriculture are by far the most important activities. They are both integrated with the natural environment, the agricultural activities focused on local products and practices. Economically less important but key activities in terms of cultural heritage conservation as well as in terms of land use adapted to the local environment are salt production, small scale fishery and aquaculture.

A detailed description of traditional economic uses is provided in the chapter 3.5.2



#### 4. MEDITERRANEAN IMPORTANCE OF THE SITE

This Section aims at stressing the importance of the site for conservation at the regional or global scales, as set in Art. 8 para. 2 of the Protocol and B2-a, B2-b and B2-c in Annex I.

##### 4.1. PRESENCE OF ECOSYSTEMS/HABITATS SPECIFIC TO THE MEDITERRANEAN REGION

Name the type of habitats considered of Mediterranean specificity, on the basis of the habitat classifications adopted within the framework of MAP, and their estimated cover (Ha).

- II.1.1. Biocoenosis of muddy sands and muds;
  - II.1.1.1. Association with halophytes
  - II.1.1.2. Facies of salt pans
- II.4.2. Biocoenosis of the lower mediolittoral rock
  - II.4.2.1. Association with *Fucus virsoides* (missing from 9/2015)
- III.1.1. Euryhaline and eurytherm biocoenosis
  - III.1.1.1. Association with *Ruppia cirrhosa*
- III.2.2. Biocoenosis of superficial muddy sands in sheltered waters
  - III.2.3.3. Facies with *Loripes lacteus*
- III.6.1. Biocoenosis of infralittoral algae
  - III.6.1.16 Association with *Cystoseira crinita*
  - III.6.1.14 Facies with *Cladocora caespitosa*

##### 4.2. PRESENCE OF HABITATS THAT ARE CRITICAL TO ENDANGERED, THREATENED OR ENDEMIC SPECIES

A critical habitat is an area essential to the conservation of the species concerned. These species should be those included in Annex II of the Protocol. E.g. Islets and sea stacks, as small islands in the sea or in large bodies of water, mostly important for water-bird colonies; caves appropriate for monk seals; undisturbed sand beaches where marine turtle nesting occurs; coastal lagoons where threatened fish or bird species feed or breed; tidal flats, coastal or benthic substrates important for marine invertebrates, etc.

Name the habitat types and the species linked to it.

- **Coastal lagoons & Biocenosis of muddy sands and muds** (*Egretta garzetta*, *Larus melanocephalus*, *Phalacrocorax aristotelis desmarestii*, *Sterna sandvicensis*)
- **Salt pans** (*Aphanius fasciatus*)
- **Seagrass meadows** (*Pinna nobilis*, *Hippocampus guttulatus*)
- **Sandstone terraces** (*Lithophaga lithophaga*, *Pholas dactylus*)
- **Infralittoral hard beds and rocks** (*Cladocora caespitosa*, *Sciaena umbra*)

## **OTHER RELEVANT FEATURES (Art. 8 paragraph 2 in the Protocol)**

### **4.3.1. Educational Interest (B-3 in Annex I)**

E.g. particular values for activities of environmental education or awareness

The Public Institute Landscape Park Strunjan, as the site manager, carries out tours guided by experts in the entire area of the Park for primary and secondary school pupils, faculty students, and other groups, and also for individual visitors to the Park during the season. It promotes the offer of guided tours, which includes a tour of the exhibition at the Visitor Centre at the Strunjan salt pans, and 3 thematic trails, i.e. botanical, geological and geographical. Each year thematic lectures and workshops for primary schools are organized.

The Visitor Centre in the salt pan house (**Annex 2, Photo 14**) hosts an exhibition about Landscape Park Strunjan entitled "Par of the Sea". The trilingual exhibition outlines all the important characteristics of the Park and explains their inseparable connection with the sea. A film about Landscape Park Strunjan is also broadcast in the Centre.

In 2015, a 5.5 km circular learning trail, "Strunjan: A Portrait by the Sea" (**Annex 2, Photo 15**), was created in the Park, and it is equipped with information boards and rest stops with benches. In 2016, the trail was awarded the Best Thematic Trail of Slovenia.

### **4.3.2. Scientific Interest (B-3 in Annex I)**

Explain if the site represents a particular value for research in the field of natural or heritage sciences.

For decades, due to the complexity and diversity of its living environments, Landscape Park Strunjan has been the subject of scientific research relating to the lagoon (communities, processes, eutrophication), salt pans (development and distribution of halophytic communities), and the marine part of the area. The seagrass meadows of *Cymodocea nodosa* are still a reference point for assessing the status of seagrass meadows on the Slovenian coast; this also applies to the brown algae *Cystoseira* communities in front of the Cape Ronek. In the area of the nature reserve, research has been carried out on the population density of the noble pen shell (*Pinna nobilis*), date shell (*Lithophaga lithophaga*) and cushion coral (*Cladocora caespitosa*). The shoreline of the Park is one of the richest deposits of Eocene ichnofossils in Slovenia, and of the whole shoreline of the Gulf of Trieste.

The offshore profile of the flysch layers is a special feature in Slovenia from the viewpoint of structural geology because, due to the relatively small deformations, it is possible to see very beautiful, practically textbook examples of different structures. The cliffs end in faults in front of Strunjan bay, whereas in front of the Cape Kane they end in an underwater landslide with a clearly visible thrust duplex structure. These are the largest geological sights of the Park. The flysch in front of Bay of St. Cross reveals an exceptionally beautiful section of the St. Cross thrust fault. The approximately one metre wide fault zone consists of rocks that were tectonically completely transformed, with numerous deformation structures indicating that the thrust fault was active at a time when rocks were at a greater depth than today. Erosion formations in the surface relief are visible as more or less pronounced indentations in the upper edge of the cliff. Under the sandy limestone megabed there are also some shallow rock shelters.

Finally, from the viewpoint of research, the biological diversity of old varieties in agriculture is also important because of the genetic analyses of indigenous and traditional varieties of agricultural plants in the area of Strunjan, and the preservation of seed material which is threatened by genetic erosion.

#### 4.3.3. Aesthetic Interest (B-3 in Annex I)

Name and briefly describe any outstanding natural features, landscapes or seascapes.

Within the Slovenian coastline, the Strunjan peninsula represents a unit that has remained preserved from intensive urbanization and industrialization. The Strunjan peninsula and the bay which opens at the end of the Strunjan Valley represent a complete unit, with elements of primordial and cultivated nature (stone walls, terraces) characterized by their natural features and the testimony of human influence.

An important geomorphological and picturesque feature is the Strunjan cliff, which is up to 80m high and has many typical geomorphologic phenomena, such as rock shelters and faults.

The Strunjan salt pans together with the Stjuža lagoon are particularly special and picturesque, formed by the transformation of the deposits of the Roja river into a system of embankments, canals and shallow salt basins. They are the northernmost and smallest salt pans in the Mediterranean, where salt has been manually produced by a traditional method for over 700 years.

On the southern border of the Park, on both sides of the road, there is a pine avenue which was planted after 1935 and consists of 110 pine trees. The pine avenue is the longest and best preserved in Slovenia, and in 2014 it was designated a Natural Monument.

#### 4.3.4. Main cultural features

Indicate if the area has a high representative value with respect to the cultural heritage, due to the existence of environmentally sound traditional activities integrated with nature which support the well-being of local populations.

The area of Landscape Park Strunjan includes a total of 23 units of immovable cultural assets:

Type of cultural heritage	Number of units of local significance
Archaeological heritage	2
Cultural landscape	1
Memorial heritage	1
Settlement heritage	1
Garden and architectural heritage	2
Secular building heritage	12
Sacred building heritage	2
Sacred and secular building heritage	1
Technical heritage	1
<b>TOTAL</b>	<b>23</b>

The typical settlement pattern in the area of the Landscape Park is scattered, which is expressed in the area of the Strunjan-Naselje settlement monument (EŠD\* 14156). A scattered settlement is a type characterized by hilly, rolling landscapes where agriculture is present. Farmhouses or farm homesteads are spread over a large area, including agricultural land. Homes are mostly located on top of the ridges, valley edges or on slopes.

The area of the Strunjan salt pans (EŠD\* 8077), which according to the rules on the protection of cultural heritage is protected both as an area of cultural landscape and as a technical monument, preserves the traditional processes and methods for the production of salt. The most important movable cultural assets related to the traditional production of salt are the tools for the production of salt (*badil* – metal spade, *taperini* – wooden clogs, *gavero* – wooden scraper, *butasso* – container, small net, *paloto* – wooden spade) and salt-pan infrastructure (cavedin – crystallization bed, *bochela* – sluice paddle, water pump).

Some of the movable assets which are not well documented are connected to traditional fishing (fishing nets made of thread, wooden fishing vessels).

The most important movable cultural assets include a drawing of an estate in Strunjan kept at the Tartini House in Piran, and the Villa Tartini furniture, which is held by the Maritime Museum in Piran.

\* EŠD - heritage registration number

## 5. IMPACTS AND ACTIVITIES AFFECTING THE AREA

### 5.1. IMPACTS AND ACTIVITIES WITHIN THE SITE

#### 5.1.1. Exploitation of natural resources

Assess if the current rates of exploitation of natural resources within the area (sand, water and mineral exploitation, wood gathering, fishing, grazing...) are deemed unsustainable in quality or quantity, and try to quantify these threats, e.g. the percentage of the area under threat, or any known increase in extraction rates.

The main activity in terms of natural resources exploitation is small scale fishing, which is regulated (banned in the Strunjan-Stjuža Nature Reserve and in the core area of the Strunjan Nature Reserve and with time closures in the rest of the area). Salt gathering in the salt pans is regulated so to maintain the good conservation status of the habitat types and species. No other relevant exploitation of natural resources is taking place in the area.

#### 5.1.2. Threats to habitats and species

Mention any serious threats to marine or coastal habitats (e.g. modification, desiccation, disturbance, pollution) or to species (e.g. disturbance, poaching, introduced alien species...) within the area.

Anchoring of leisure boats is probably the most serious threat to marine habitats and species. It is banned from the core area but still allowed in the rest of the park. Flooding on the one hand and penetrating of the sea water through the main embankments on the other represent an important threat to the habitat types of the salt pans.

#### 5.1.3. Demand by an increased population and infrastructures

Assess whether the current human presence or an expected increase in frequentation (tourism, passage of vehicles and boats) and any human immigration into the area, or plans to build infrastructures, are considered a threat.

No major increase of the local population and/or tourism infrastructure is expected in the near future. Elevated human presence during the summer season (including traffic) represents a certain threat to the processes in the narrow coastal area (bathing, boating) and on the terrestrial part of the park.

#### 5.1.4. Historic and current conflicts

Make a brief statement of any historic or current conflicts between users or user groups.

As a consequence of the very limited marine area there is some competition for space between small scale fishermen while there are no major conflicts between fishermen and tourists thanks to the fact that the summer season does not overlap with the main fishing activities. There are some conflicts in the summer season between local inhabitants and tourists due mainly to the high number of visitors (car parking outside parking lots, entering private property, etc.).

## 5.2. IMPACTS AND ACTIVITIES AROUND THE SITE

In Art.7.2-e the Protocol calls for the regulation of activities compatible with the objectives for which a SPA was declared, such as those likely to harm or disturb species or ecosystems (Art.6.h), while Section B4 in Annex I asks to consider “the existence of threats likely to impair the ecological, biological, aesthetic or cultural value of the area” (B4-a in Annex I), recommending the existence, in the area and its surroundings, of opportunities for sustainable development (B4-d) and of an integrated coastal management plan (B4-e).

### 5.2.1. Pollution

Name any point and non-point sources of external pollution in nearby areas, including solid waste, and especially those affecting waters up-current.

The oceanographic specificities of the northern part of the Adriatic Sea and also the Slovenian sea (shallow, semi-enclosed area, slow water exchange) coupled with the riverine inputs from cross-border drainage basins (i.e. Pad, Adiža, Livenza and Soča) result occasionally in increased litter densities. Human activities that have a significant impact on the release of marine litter in the coastal and marine environment are mainly tourism and recreation, sewage treatment plants discharges, and also maritime transport, fisheries and mariculture.

### 5.2.2. Other external threats, natural and/or anthropogenic

Briefly describe any other external threat to the ecological, biological, aesthetic or cultural values of the area (such as unregulated exploitation of natural resources, serious threats on habitats or species, increase of human presence, significant impacts on landscapes and cultural values, pollution problems, any sectorial development plans and proposed projects, etc.), likely to influence the area in question.

Apart of the increase of human presence, the external threats are limited almost entirely to the overall ecological status of the waters in the Gulf of Trieste and the future development of the maritime transport sector as well as tourism, especially leisure boating. There could be negative impacts linked to the development plans of the two municipalities and the tourist companies, however, due to the fact that they have to adapt their plans to the conservation goals and measures of the protected area, the possible negative impacts can be evaluated as very limited.

In the past few decades, the Slovenian part of the Adriatic Sea has been subject to some processes that are in one way or another related to global warming. In 2011 and 2012 certain phenomena for this environment that can be associated with the consequences of climate change have been observed in the marine area of the Strunjan Nature Reserve. The findings relate to the appearance of some species of fish that are associated with the process of tropicalization. Due to increased temperatures over the past few years, there are warm-water species in the southern parts of the Adriatic and even more so in the Mediterranean Sea. In addition to these newcomers, three non-native species of marine organism were confirmed in the area of the Nature Reserve.

A new phenomenon in 2013 was the emergence of coral bleaching. This is due to overly high temperatures and causes the loss of the endosymbiotic algae zooxanthellae, and is closely related to global warming. In the colonies of the Mediterranean stony coral numerous examples of small, pronounced and complete coral bleaching were observed. Also, winter, summer and annual increments of corallites in Mediterranean stony coral are indicators of higher temperatures. Both phenomena, increased annual growth and coral bleaching, coincided with high temperatures during the summer period, which stood out compared to previous years.

### 5.2.3. Sustainable development measures

Comment whether the area is covered by an integrated coastal management plan, or bordering upon a zone under such a plan. Are there other opportunities for sustainable development provided for in the neighbouring areas?

The Slovenian coastal area is not yet covered by a specific integrated coastal management plan, the goals and conservation measures of the protected area are however mandatory in the physical planning process, including the maritime spatial plan that is under preparation. Strunjan was however taken on board as case study in a project devoted to integrated coastal management.

## 6. EXPECTED DEVELOPMENT AND TRENDS<sup>1</sup>

The foreseeable development and trends of the site do not appear in the list of common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI list, as established in the Protocol and its Annex I. Moreover, this is not always easy to assess and it is necessary to have knowledge about the site, which is not always available to all managers of protected areas; Thus, it is not obligatory to fill in the boxes in this Section 6.

On the other hand, the assessment of this foreseeable evolution and trends constitutes a dynamic supplement to the static knowledge of the site, as it appears in Sections 3, 4 and 5 above. Moreover, it is of significant importance for the definition of the objectives and the management plan of the site.

It thus appears desirable to bringing out the main outlines at least in respect to the following points:

### 6.1. EXPECTED DEVELOPMENT AND TRENDS OF THREATS TO AND PRESSURES UPON THE AREA

Deal briefly in succession with:

- The demographic development in and around the site
- The development of economic activities (other than tourism and recreation) within the area
- The development of local demand on tourism and recreation
- The development of tourism pressure on the area

Threats to nature in Landscape Park Strunjan can be seen as a result of insufficient support to traditional usage as well as insufficient investment in infrastructure to direct visitors:

- Insufficient investment in the conservation of traditional usages:
  - The threat to the salt pans due to flood risks arising from the lack of maintenance of the front and other coastal embankments, which is a basic condition for ensuring an adequate hydrological regime and the implementation of the salt production industry;
  - Abandoning traditional agricultural use (non-stimulating agricultural policy, conversion to other activities, changing the purpose of housing to holiday homes), which impacts the change in the population and the use of the respective land;
  - Inadequate management of the fishing effort.
- Mass tourism in the Park:
  - Disturbance of animals and harvest crops;
  - Abandonment of waste;
  - Noise;
  - Mass anchoring of vessels daily in parts of the Strunjan Nature Reserve, where allowed,
  - Camping and picnics using open fireplaces and stacking stones on the shoreline;
- Inappropriate traffic system, especially with regard to stationary traffic and signalling;
- Disposal of waste;
- Spread of non-native invasive species.

<sup>1</sup> By expected development and trends are meant the development, which is thought most likely to occur in the absence of any deliberate intervention to protect and manage the site.



## **6.2. POTENTIAL CONFLICTS IN THE AREA**

Make a brief statement of potential use conflicts between the users or group of users of the site.

Potential conflicts between users of the site could result from limiting encroachments and carrying out activities that guarantee the conservation aims of the Park or harmlessly impact on natural values. The new limitations relate to the activities of commercial fishing and tourism within the Nature Reserve and Natura 2000 sites. Such measures are, for example, aimed at more sustainable management of fishery resources and the prevention of anchoring by providing moorings for daily vessel mooring in the 200-metre coastal belt.

## **6.3. EXPECTED DEVELOPMENT AND TRENDS OF THE NATURAL LAND ENVIRONMENT AND LANDSCAPES OF THE AREA:** as expected arising from the evolution of the pressures

No major changes are foreseen in the terrestrial area of the park and its surroundings in terms of further evolution of pressures. The physical planning process (including tourist facilities and infrastructure) must take into account the conservation goals set in the legal text and in the management plan.

## **6.4. EXPECTED DEVELOPMENT AND TRENDS OF THE MARINE ENVIRONMENT AND SEASCAPES OF THE AREA:** as expected arising from the evolution of the pressures

No major changes are foreseen in terms of increasing pressures on the marine environment. As a direct consequence of the implementation of the management plan of the protected area, the Natura 2000 management plan as well as the Management plan for the marine Environment, further management of the small scale fisheries is foreseen as well as the installation of mooring systems that would reduce the impact of leisure boating on the benthic structures, habitat types and species.

## 7. PROTECTION REGIME

### 7.1. LEGAL STATUS (General Principles “e” and Section C-2 both in Annex I)

#### 7.1.1. Historical background of the protection of the site

The northern shore, with the sea and the inner part of Strunjan bay as well as the Stjuža lagoon and the salt pans, was included in the inventory of the most important natural heritage in Slovenia as early as 1976. In the 1980s, the whole peninsula was included in the planning documents of the municipalities of Izola and Piran as an important area of protection of natural and cultural heritage, which was followed by the adoption of a Decree proclaiming the Landscape Park in 1990. Cultural heritage, geological and geomorphological features as well as pristine coastal and marine environment and rare and protected species were at the heart of the establishment. In 2004 the legal protection was upgraded with a governmental decree that took into account the new national legislation concerning nature conservation as well as the provisions of the bird and habitat directive, and granted proper management to the protected area.

#### 7.1.2. Legal texts currently ruling the protection on the site

Enter the national conservation category, the dates and the present enforcement status of the legal instrument declaring the protection of the area. Consider both the land and the marine areas of the site. Include the full text(s) as an annex.

According to the national legislation the protected area is declared as a Landscape Park that includes also two Nature Reserves (NR Strunjan - coastal and marine; NR Strunjan-Stjuža – salt pans and lagoon) and a natural monument (a *Pinus pinea* avenue). It was established with the governmental Decree on the Landscape Park Strunjan (Official Journal of the Republic of Slovenia No. 107/04, 114/04 – popr., 83/06, 71/08, 77/10 and 46/14 – ZON-C). The Park has 13 natural values. According to the IUCN, the protected area belongs to categories IV and V. The protected area is managed by a public body, the Public Institute Landscape Park Strunjan.

**Annex 5** – The Decree on Landscape Park Strunjan is annexed to this document.

#### 7.1.3. Objectives (General Principles “a” and D-1 in Annex I)

Name in order of importance the objectives of the area as stated in its legal declaration.

The objectives of the protected area as stated in the legal act are as follows:

- the protection of natural values
- the conservation of biodiversity
- the conservation of the populations of rare, threatened, nationally and internationally protected species,
- assuring the good conservation status of the Natura 2000 habitat types and species,
- the conservation of the landscape diversity of the area and the ecological characteristics of the salt pans, the coastal lagoon and the coastline, as well as the natural processes between the supra-, - medio and infralittoral.

The vision of the Park, in accordance with the 10-year Management plan of the Landscape Park Strunjan 2018-2027, reads as follows: Landscape Park Strunjan is maintained as a unique marine protected area. Priority must be given to the preservation of the natural areas of the seashore; in the secondary habitats of the sea lagoons and salt pans, appropriate living conditions for typical plant and animal species are preserved by management measures. The use of natural resources in the Park is carried out in such a way as to preserve the mosaic landscape which is typical of the Park. A modern park infrastructure has been developed to guide visitors to the less vulnerable parts of the Park and to support sustainable tourism.

7.1.4. Indicate whether the national protection regime arises from international treaties enforced or from implementation measures of treaties (Art. 6.a in the Protocol).

Not applicable to the proposed area.

## 7.2. INTERNATIONAL STATUS

### 7.2.1. Transboundary or high seas areas

Complete this section only if the area is transboundary, totally or partially in the high sea, or within areas where the limits of national sovereignty or jurisdiction have not yet been defined. In this case, mention the modalities of the consultation (Art. 9 para. 3A in the Protocol and General Principles “d” in Annex I).

Not applicable to the proposed area.

### 7.2.2. International category

Mention if the area, or part of it, has been designated and on what date, with an international conservation category (e.g. Specially Protected Area, Biosphere Reserve, Ramsar Site, World Heritage Site, European Diploma, Natura 2000, Emerald network, etc.).

There are four special protected areas within Landscape Park Strunjan – the areas of Natura 2000, managed by the Institute in accordance with the provisions of the Natura 2000 Management programme (2015-2020). Three of these are Special Areas of Conservation (SAC), designated under the Habitats Directive, and one Special Protection Area (SPA) designated under the European Council Birds Directive. In total they comprise 48.5% of the entire Park territory. Based on the Decree on special protection areas - Natura 2000 areas (Official Journal of the Republic of Slovenia, No. 49/04, 110/04, 59/07, 43/08, 8/12, 33/13, 35/13 – amended, 39/13 – decision of the Const. C., 3/14, 21/16 and 47/18) the protected area includes the following areas: SPA SI5000031 - Strunjan, SAC SI3000238 - Strunjan salt pans and Stjuža, SAC SI3000249 - between Izola and Strunjan – cliff, SAC SI3000307 - Between Strunjan and Fiesa (partly).

## 7.3. PREVIOUS LEGAL BACKGROUND AND LAND TENURE ISSUES

Briefly mention if the area or part of it is subject to any legal claim, or to any file open in that connection within the framework of an international body. Describe the land tenure regimes within the area, and append a map if existing.

Not applicable to the proposed area.

## 7.4. LEGAL PROVISIONS FOR MANAGEMENT (Section D-1 in Annex I)

### 7.4.1. Zoning

Briefly state if the legal text protecting the area provides for different zones to allocate different management objectives of the area (e.g. core and scientific zones in both land and sea, fishing zones, visitation, gathering, restoration zones etc) and in this case the surface area in ha of these zones. Include a map as an annex

Landscape Park Strunjan is a broader protected area, which also includes a sea zone. It also comprises a two-hundred-metre sea belt and the entire area of Strunjan bay up to Pacug. There are three narrower protected areas in the Park: the Strunjan Nature Reserve, the Strunjan-Stjuža Nature Reserve and the Natural Monument Pine trees avenue.

Table: The area of Landscape Park Strunjan and the narrower protected areas within the Park.

Landscape Park Area	Area [ha]	Proportion of total area [%]
Terrestrial part of the landscape park	252.1	58.8
Marine part of the landscape park	176.5	41.2
Total area of the landscape park	428.6	100.0
<b>Narrower protected area</b>		
Strunjan Nature Reserve	124.4	29.0
- Land	29,4	-
- Marine area	95,0	-
Strunjan-Stjuža Nature Reserve	34.1	7.9
Natural Monument Pine trees avenue	1.3	0.3
Area of narrower PA	159.8	37.3
Area outside narrower PA	268.8	62.8

The central part of the Strunjan Nature Reserve includes the sea enclosed by the Bay of St. Cross, and in front of the Cape Ronek, where more strict protection arrangements apply (no-take zone). The Slovenian sea has two fishery reserves aimed at protecting fishing sources: the Portorož fishery reserve and the Strunjan fishery reserve with the salt pans. The latter is in part within the boundaries of Landscape Park Strunjan. On the basis of the Marine Fisheries Act, commercial and non-commercial fishing is prohibited in the area of the fishery reserves. However, notwithstanding the prohibition in the reserves, the harvest of winter schools of mullet is allowed, on the basis of a special permit for commercial fishing issued by the Minister competent for fishing matters.

Landscape Park Strunjan has four special protection areas of Natura 2000 (OG RS, No. 49/04, 110/04, 59/07, 43/08, 8/12, 33/13 (25/13 – amended.), 39/2013 – Decision of the Const. C.: U-I-37/10-16). Table: List of Natura 2000 areas in Landscape Park Strunjan.

Name of the Natura 2000 area	Type of protection area	Code	Total area [ha]	Area within the park [ha]	Proportion of territory within the park [%]	Proportion of total park area [%]
Strunjan	SPA	SI5000031	187.99	187.99	100	43.86
Strunjan salt pans and Stjuža	SAC	SI3000238	35.22	35.22	100	8.22
Between Izola and Strunjan, cliffs	SAC	SI3000249	55.58	29.46	53.00	6.87
Between Strunjan and Fiesa	SAC	SI3000307	14.99	5.79	38.63	1.35
<b>Total</b>			<b>243.22</b>	<b>207.90</b>	<b>85.48</b>	<b>48.51</b>

**Annex 1** - Map of the Park.

#### 7.4.2. Basic regulations

Mention the provisions, which apply to the area concerning the implementation of Article 6 of the Protocol (paragraphs a to i), Section D5 (a to d) in the Annex I and Article 17 of the Protocol.

The provisions concerning the implementation of Article 6 as well as those referring to Section D5 and Article 17 are in force in the Landscape Park either through the conservation measures defined in the legal act on the establishment of the area (e.g. scientific research activity, boating, fishing, hunting, harvesting plants, impact on cultural characteristics) either through the national legislation concerning environmental protection and nature conservation as it is the case with impact assessments and the physical planning process. Every intervention in the protected area is being assessed within an impact assessment process carried out by the responsible national authorities (e.g. Institute of the Republic of Slovenia for Nature Conservation). To be pointed out that the physical plans of the two municipalities as well as those on national level have to take into account the conservation measures and goals defined in the constitutional act.

### 7.4.3. Legal competencies

Section D4 in Annex I states that the competence and responsibility with regard to administration and implementation of conservation measures for areas proposed for inclusion in the SPAMI List must be clearly defined in the texts governing each area. Additionally Art.7.4. of the Protocol calls for the provision of clear competencies and co-ordination between national land and sea authorities, with a view to ensuring the appropriate administration and management of the protected area as a whole. Mention in which way do the legal provisions clearly establish the institutional competencies and responsibilities for the administration and conservation of the area, and if being the case, their co-ordination means, including those between land and sea authorities.

Landscape Park Strunjan was established on 2<sup>nd</sup> February 1990 by the Ordinance on the declaration of Landscape Park Strunjan (Official publication of the municipalities of Ilirska Bistrica, Izola, Koper, Piran, Postojna and Sežana, No. 3/90, 5/90, 26/90 and 16/92). It was established by the municipalities of Izola and Piran on the basis of the then applicable Natural and Cultural Heritage Act (Official Gazette of the SRS, No. 1/81 and 42/86, Official Gazette RS, No. 26/92, 75/94 – ZUJIPK and 7/99 – ZVKD). In 1999, a new basic regulation for the protection of nature in Slovenia was adopted, namely the Nature Conservation Act (Official Gazette RS, No. 96/04 – official consolidated text, 61/06 – ZDru-1, 32/08 – decision of the Const. C. and 8/10 – ZSKZ-B). On the basis of this law, the Government of the Republic of Slovenia adopted the Decree on Landscape Park Strunjan (Official Gazette RS, No. 107/04, 114/04 – amended, No. 83/06, 71/08 and 77/10).

The Decree defines the area of the Park, the territory of narrower protected areas within the Park, the rules of conduct and protection regimes, the manner of managing the Park, control in the Park and other practices related to the purpose of the Decree. The Decree also sets out development guidelines in the Park, which respect the principles of sustainable development.

On the basis of the Decree, the conservation aims for the Park are: preservation of natural values; preservation of great biodiversity; preservation of populations of endangered and internationally protected wild plant and animal species (hereinafter the “plant and animal species”); preservation of the existing volume of habitat types at the very least; preservation of the landscape with the mosaic distribution of landscape structures; preservation of the ecological characteristics of the salt pans, the lagoon and the seashore; and the natural processes and connections between the splash zone, intertidal zone and the infralittoral.

In 2008, the amended Decree (Official Gazette RS, No. 71/08) stated that the Government of the Republic of Slovenia would establish a Public Institute for the management of the Park. The Public Institute Landscape Park Strunjan was established at the end of 2008 by a Resolution Establishing the Public Institute Landscape Park Strunjan (Official Gazette RS, No. 76/08 and 100/08) which began to operate on 1<sup>st</sup> January 2009. In the area of the Park the Public Institute carries out public services in the field of protection of nature, manages databases related to the Park within the framework of public powers, and carries out direct nature protection supervision in the area of the Park.

**Annex 5** - The Decree on Landscape Park Strunjan is annexed to this document.

Other institutions also have jurisdiction in the area of the Park:

- Warden Services of the Municipality of Izola and the Municipality of Piran;
- Police of the Municipality of Piran and the Municipality of Izola;
- Agricultural, construction, environmental, and forestry inspections;
- Slovenian Maritime Administration.

#### 7.4.4. Other legal provisions

Describe any other relevant legal provisions, such as those requiring a management plan, the establishment of a local participation body, binding measures for other institutions or economic sectors present in the area, allocation of financial resources and tools, or any other significant measures concerning the protection and management of the area or its surrounding zones.

The Nature Conservation Act and the Decree on Landscape Park Strunjan are the legal basis for adopting the Management Plan of Landscape Park Strunjan. The Management Plan is the fundamental legal basis for the development of the protected area, which is taken into account in special planning for the municipalities of Piran and Izola and the use of environmental resources. It also regulates other activities in the area of the Park, which relate to tourism, events, cultural heritage, and so on, for which the Public Institute Landscape Park Strunjan issues opinions and guidelines.

The Decree on Landscape Park Strunjan stipulates that the Government of the Republic of Slovenia establishes a Public Institute for its management, which must consist of the Institute's council, a scientific council and a director. The organization of the Institute is specified in more detail in the Government's Resolution Establishing the Public Institute Landscape Park Strunjan (Official Gazette RS, No. 76/08 and 100/08).

The Resolution Establishing the Public Institute Landscape Park Strunjan stipulates that the founder provides to the Institute the funds for carrying out public services and implementing public powers on the basis of an annual contract concluded between the competent Ministry and the Institute. For this purpose, each year the Institute prepares a work programme, a financial plan, an investment plan and the Institute's Annual Report; after adopting them at the Institute's council, they are submitted for confirmation to the competent Ministry – the Ministry of the Environment and Spatial Planning.

## 8. MANAGEMENT

Through the General Principles, para. (e) in the Annex I, the Parties agree that the sites included in the SPAMI List are intended to have a value as examples and models for the protection of the natural heritage of the region. To this end, the Parties ensure that sites included in the List are provided with adequate legal status, protection measures and management methods and means.

### 8.1. INSTITUTIONAL LEVEL

#### 8.1.1. Authority/Authorities responsible for the area

For the management of Landscape Park Strunjan the Government of the Republic of Slovenia established a Public Institute consisting of the Institute's council, a scientific council and a director. The organisation of the Institute is specified in more detail in the Government's Resolution Establishing the Public Institute Landscape Park Strunjan (Official Gazette RS, No. 76/08 and 100/08), which began to operate on 1st January 2009, and in the Statute of the Public Institute Landscape Park Strunjan.

The Statute provides for the Institute's organization, the manner of work, the Institute's bodies, their competences, the decision-making method in the individual bodies of the Institute, and other issues important to the performance of activities and the operation of the Institute in accordance with the law and the Resolution Establishing the Public Institute Landscape Park Strunjan.

The founder of the Institute is the Republic of Slovenia, represented by the Government of the Republic of Slovenia.

Institute's name: Javni zavod Krajinski park Strunjan / Public Institute Landscape Park Strunjan

Headquarters: Strunjan 152, 6320 Portorož.

The Institute is a non-profit legal entity.

The Institute's bodies are:

- the Institute's Council,
- the Scientific Council, and
- the Director.



### 8.1.2. Other participants in the management body

Such as other national or local institutions, as stated in Section D6 in Annex I.

The Institute's Council is the highest management body.

The Council of the Institute consists of nine members, namely:

- Five representatives of the founder, of which the founder appoints two at the nomination of the Ministry responsible for nature conservation, and one each at the nomination of the Ministry responsible for culture, the Ministry responsible for agriculture and forestry, and the government office responsible for structural policies and regional development;
- One representative of the Institute's employees, elected by the employees from all the people employed at the Institute;
- Three representatives of the Park's local communities, of which the municipality of Izola appoints one and the municipality of Piran two, one of whom is at the nomination of the local community in Strunjan.

The term of the members of the Institute's Council is four years. After the expiration of the term, a member of the Council may be reappointed or re-elected.

The Director directs and organizes the work and operations of the Public Institute, presents and represents the Public Institute, and is responsible for the legality and excellence of the Institute's work.

### 8.1.3. Participants in other committees or bodies

Such as a scientific committee, or a body of representatives from the local stakeholders, the public, the professional and non-governmental sectors, as in Sections B4-b and B4-c in Annex I.

The scientific authority of the Institute is the Scientific Council.

The Institute's Scientific Council consists of the Director, two experts from the Institute's employees, and two external experts. The two experts from the Institute's employees and the two external experts are appointed onto the Institute's Scientific Council, where one external expert is appointed at the nomination of the Institute of the Republic of Slovenia for Nature Conservation.

The term of the members of the Scientific Council is four years.

### 8.1.4. Effectiveness

As stated in Section B4 of Annex I, assess as very low, low, moderate, satisfactory, very satisfactory, and comment as needed on the following aspects:

#### a) Effectiveness of the co-ordination, where existing:

The coordination between the different bodies involved in the management of the area as well as the coordination and collaboration of the management body with the Ministry of Environment is efficient and can be evaluated as satisfactory.

#### b) Quality of involvement by the public, local communities, economic sectors, scientific community:

It is certainly satisfactory the involvement of the public, the local the scientific community. More involvement would be needed from the economic sectors, more precisely from tourism.

## **8.2. MANAGEMENT PLAN** (as set out in D7 of Annex I)

### **8.2.1. Management Plan**

State if there is a management plan (MP) and in this case include the document as an annex. In the absence of a MP, mention if the main provisions governing the area and the main regulations for its protection are already in place and how (D7 in Annex I) and if the area will have a detailed management plan within three years (D7 in Annex I).

On the basis of the Nature Conservation Act and the Decree on Landscape Park Strunjan, the Government of the Republic of Slovenia adopted the Decree on the Management Plan of Landscape Park Strunjan for the period 2018-2027 on 28th February 2019.

**Annex 6** - The summary of the Management Plan of Landscape Park Strunjan for the period 2018-2027 is annexed to this document.

### **8.2.2. Formulation and approval of the Management Plan**

Mention how the MP was formulated, e.g. by an expert team and/or under consultation and/or participation with other institutions or stakeholders. State the legal status of the MP, whether it is officialized, and how, and if it is binding for other institutions and sectors involved in the area.

In accordance with the Decree, the Public Institute prepared a proposal for the Management Plan in collaboration with an external consultant, the Institute of the Republic of Slovenia for Nature Conservation, the Institute for the Protection of Cultural Heritage of Slovenia, local communities and other stakeholders.

The Public Institute obtained the position of the Park's local communities with regard to the Management Plan, carried out a public hearing, and took adequate consideration of the opinions, positions and remarks of the process.

The harmonized proposal of the Management Plan was confirmed by the Institute of the Republic of Slovenia for Nature Conservation with a final expert opinion on the acceptability of the Management Plan, and then it was confirmed by the Institute's Council. The Public Institute then sent it to the Ministry of the Environment and Spatial Planning which, after intersectoral coordination, sent it to the Government of the Republic of Slovenia for adoption.

The adopted annual Management Plan of Landscape Park Strunjan is the fundamental legal basis for the development of the protected area, which is taken into consideration in special planning and the use of natural resources. In order to implement the objectives set out in the Management Plan, intersectoral cooperation is defined, for example, with the following institutions: the Institute of the Republic of Slovenia for Nature Conservation, the Institute for the Protection of Cultural Heritage of Slovenia, the Inspectorates of the Republic of Slovenia, the Agency of the Republic of Slovenia for the Environment, the Slovenian Water Agency, the Slovenia Forest Service, the Ministry of Agriculture, Forestry and Food, and the Slovenian Maritime Administration.

### 8.2.3. Contents and application of the Management Plan

State the degree of detail in the MP by entering YES or NO in the following list of potential contents, and assess the degree of implementation of the MP by using the 0-1-2-3 score on the right hand side:

	Existing in MP		Degree of application			
	YES	NO	0	1	2	3
Detailed management objectives	<b>YES</b>	NO	0	1	2	<b>3</b>
Zoning	<b>YES</b>	NO	0	1	2	<b>3</b>
Regulations for each zone	<b>YES</b>	NO	0	1	<b>2</b>	3
Governing body(ies)	<b>YES</b>	NO	0	1	2	<b>3</b>
Management programmes as:						
Administration	<b>YES</b>	NO	0	1	2	<b>3</b>
Protection	<b>YES</b>	NO	0	1	2	<b>3</b>
Natural resource management	<b>YES</b>	NO	0	1	2	<b>3</b>
Tourism and Visitation	<b>YES</b>	NO	0	1	2	<b>3</b>
Education and Training	<b>YES</b>	NO	0	1	2	<b>3</b>
Research and Monitoring	<b>YES</b>	NO	0	1	2	<b>3</b>
Services and Concessions	<b>YES</b>	NO	0	<b>1</b>	2	3
Fund raising activities	<b>YES</b>	NO	0	<b>1</b>	2	3
Periodic revisions of the MP	<b>YES</b>	NO	0	1	2	<b>3</b>

### 8.3. PROTECTION MEASURES

By Art. 6 of the Protocol the Parties agree to take all the necessary protection measures required for the conservation of the area, particularly the strengthening the application of the other Protocols to the Convention, and through the regulation of any other activity likely to harm the natural or cultural value of the area, such as economic, recreation or research activities. As per Section D2 in Annex I, the protection measures must be adequate to the site objectives in the short and long term, and take in particular into account the threats upon it.

#### 8.3.1. Boundaries and signing

Briefly, state if the boundaries of the area and its zones are adequately marked in the field, both on land, in the sea, and at the principal points of access.

In the field, the area of the Park is marked in accordance with the Rules on the marking of protected areas of valuable natural features (Official Gazette RS, No. 117/02 and 53/05). The boundaries of the Park in the sea are marked by 11 yellow buoys. The Park boundaries on land are marked in two ways:

- The park boundaries in the area of public and unclassified roads used for public road transport are marked by four roadside entry signs – information signs which comply with the Rules on traffic signs and equipment on roads;
- The boundaries of the Park in the area of the nature reserves are marked at all major entry points by information and guidance boards.

### 8.3.2. Institutional Collaboration

Name the different national and local institutions or organisations with legal responsibilities or involved in the protection and surveillance of land and sea zones, and any measures or mechanisms through which their co-ordination is pursued.

Two national institutions are mainly involved in the protection and surveillance over the implementation of the conservation measures – the Institute of the Republic of Slovenia for Nature Conservation and the Institute for the Protection of Cultural Heritage of Slovenia. Both are empowered to issue legally binding opinions and permits concerning interventions and activities in the protected area.

### 8.3.3. Surveillance

Consider the adequacy of the existing protection means (human and material), and your present ability to survey land and sea uses and accesses

The Public Institute Landscape Park Strunjan has established a nature conservation surveillance service, which has an annual work plan of 1000 hours of direct surveillance in the field. The Institute has one vessel in order to carry out surveillance at sea, and an electric scooter for land surveillance.

Due to its coastal position, and in particular during summer, Landscape Park Strunjan is subject to several stresses. All outstanding factors endangering natural values are of anthropogenic origin, i.e. dumping of waste, noise, walking outside authorized trails, stacking of stones, camping and making fires, poaching, and the introduction of invasive non-native species. This suggests that surveillance of nature conservation must be carried out even more consistently in the field, since only an active presence can help to raise people's awareness and prosecute violations.

### 8.3.4. Enforcement

Briefly, consider the adequacy of existing penalties and powers for effective enforcement of regulations, whether the existing sanctions can be considered sufficient to dissuade infractions, and if the field staff is empowered to impose sanctions.

Direct surveillance in the field involves control over compliance with the prohibitions provided by the Nature Conservation Act (Official Gazette RS, No. 96/04 – official consolidated text) and the provisions from the area of nature protection. It is carried out by nature protection supervisors employed by the Institute, who are specially trained for this and have the powers of the Minister competent for nature conservation. For this purpose, the supervisors have passed an exam for environmental supervisors and an exam for conducting and decision-making in the minor offences procedure.

Tasks of direct surveillance include: monitoring of the situation, control over the implementation of protection regimes, establishing the facts in violations of the prohibition from the Nature Conservation Act and the rules adopted on the basis thereof, taking into account the rules of conduct and the protection regimes set out in the Decree on Landscape Park Strunjan.

## 9. AVAILABLE RESOURCES

### 9.1. HUMAN RESOURCES (Art. 7.2.f in the Protocol)

#### 9.1.1. Available staff

Assess the adequacy of the human resources available to the management body, in number of employees and training level, both in central headquarters and in the field. Indicate if there are staff training programmes.

The management body (headquarters & field) accomplishes its mission with 6 employees (5 fulltime and 1 part-time), two with master degrees and the other four with university degrees from different fields: law, human resources, geology, ecology, biochemistry, tourism.

Employment situation at the Public Institute Landscape Park as of 1<sup>st</sup> January 2019:

Post Title	No. of employees as of 1 Jan 2019	Type of contract	Source of financing
Director	1	Fixed-term	State budget
Senior Environmental Protection Consultant	1	Indefinite duration	State budget
Environmental Protection Supervisor I	1	Indefinite duration	State budget
Environmental Protection Supervisor II	0.2	Indefinite duration	State budget
Environmental Protection Supervisor II	1	Indefinite duration	Own resources (95%), State budget (5%)
Environmental Protection Supervisor III	0.5	Fixed-term	Project resources (85 %), own resources (15 %)
Environmental Protection Supervisor	0.5	Fixed-term	Project resources (85 %), own resources (15 %)
TOTAL EMPLOYEES:	5.2		

Employees are trained at expert consultations, seminars, workshops, excursions, and so on. For many years, Landscape Park Strunjan has been collaborating with the international organization MedPAN (a network of marine protected area managers in the Mediterranean) for the exchange of good practice in the management of marine protected areas, where annual training courses are organized (regular and within the framework of projects).

In addition to the regular employees, the Institute has on average 1-3 workers with lesser skills through special employment programmes, who take care of the arrangement and maintenance of equipment, and the cleanliness of the trails and the natural seashore.

### 9.1.2. Permanent field staff

Answer YES or NO on the current existence of the following FIELD staff categories. If YES, enter the number of staff either permanent or part-time in that category, and evaluate on a 0-1-2-3 score (0 is low, 3 is high) the adequacy of their training level.

	YES/NO	NUMBER Permanent/Part-time	ADEQUACY OF TRAINING LEVEL
Field Administrator	<b>YES 1</b> NO	<b>Permanent/Part-time</b>	0 1 <b>2</b> 3
Field Experts (scientific monitoring)	<b>YES 1</b> NO	<b>Permanent/Part-time</b>	0 1 <b>2</b> 3
Field Technicians (maintenance, etc)	<b>YES 2</b> NO	Permanent/ <b>Part-time</b>	0 <b>1</b> 2 3
Wardens	<b>YES 1</b> NO	Permanent/ <b>Part-time</b>	0 1 2 <b>3</b>
Of which marine wardens	<b>YES 1</b> NO	<b>Permanent/Part-time</b>	0 1 2 <b>3</b>
Guides	<b>YES 1</b> NO	<b>Permanent/Part-time</b>	0 1 <b>2</b> 3
Director			

### 9.1.3. Additional Support

Briefly, describe if the area currently has the advantage of other external human resources in support of its objectives, either from other national or local institutions, volunteer programmes, non-governmental organisations, academic or international organisations. Mention if there are any significant changes in prospect for the near future.

In order to carry out its tasks, the Public Institute connects with various educational institutions and other professional institutions, in particular the University of Ljubljana and the University of Primorska, the National Institute of Biology and Piran Marine Biology Station, the Agricultural Institute of Slovenia, the Institute for Water of the Republic of Slovenia, the Society for Bird Watching and Surveying, and the Slovenian Marine Mammal Society – Morigenos. In organizing clean-up operations, the Institute cooperates with local associations and other non-profit organizations.

## 9.2. FINANCIAL RESOURCES AND EQUIPMENT

By Art. 7 in the Protocol, the Parties agree to adopt measures or mechanisms to ensure the financing of the specially protected areas (Art.7.2.d), and the development of an appropriate infrastructure (Art.7.2.f). The General Principles para. "e" in the Annex I call upon the Parties to provide the areas with adequate management means.

### 9.2.1. Present financial means

Note if the basic financing is ensured: a core funding for basic staff, protection and information measures. Who provides this core funding? Briefly assess the degree of adequacy of the present financial means for the area, either low, moderate, satisfactory; e.g. the implementation of the management plan, including protection, information, education, training and research.

Financial resources for the implementation of activities of the Public Institute Landscape Park Strunjan come from the following sources of funding:

1. Public Service Funds – means for performing a public service from the budget line of the Republic of Slovenia for public services from the Ministry of the Environment and Spatial Planning;
2. Project Funds – means for implementing projects directly from the EU and other sources;
3. Own Resources – the Institute's own revenue from guided tours and marketing of traditional mooring places for vessels.

The financial resources are specified in the annual programmes of the Public Institute's work, based on the annual starting points of the Ministry of the Environment and Spatial Planning. Regardless of the source of funding, it is stipulated that the allocation of funds for salaries from the public service follows the instructions of the Ministry of the Environment and Spatial Planning, so that 70% of funds are dedicated to nature conservation and administration and common management tasks, 20-25% for visits, and 5-10% for sustainable development.

From its establishment until the present day, the Institute has expanded its staff; the operating budget, with the exception of satisfactory project funds, is rather moderate. In general, it is considered that funds for salaries are covered from all three sources of finance, and regular material costs are from public service funds. The project funds are used for research, education, information activities, purchase of equipment and other infrastructure. The Institute's own funds are sufficient to cover the salary of one employee, its own contribution to project funding, and the maintenance of mooring places.

### 9.2.2. Expected or additional financial sources

Briefly describe any alternative sources of funding in use or planned, and the perspectives for long-term funding from national or other sources.

No alternative sources of funding planned at the moment with the already existing services (guiding, moorings) and no major changes foreseen concerning the long-term funding from national sources.

### 9.2.3. Basic infrastructure and equipment

Answer YES or NO to the following questions, and if YES, assess with a score of 1-2-3 (1 is low, 3 is high) the adequacy of the basic infrastructure and equipment.

	YES/NO	ADEQUACY			
Office and/or laboratory in the field	YES	0	1	2	3
Signs on the main accesses	YES	0	1	2	3
Guard posts on the main accesses	NO	0	1	2	3
Visitors information centre	YES	0	1	2	3
Self guided trails with signs	YES	0	1	2	3
Terrestrial vehicles	YES	0	1	2	3
Marine vehicles	YES	0	1	2	3
Radio and communications	NO	0	1	2	3
Environmental awareness materials	YES	0	1	2	3
Capacity to respond to emergencies	YES	0	1	2	3
The premises of the Park, located in the area of the salt pans, include a tiny visitor centre and the offices with due equipment (computer, mail etc.). The other equipment includes electric scooter, boat, diving equipment, camera, telescope, binoculars, moorings, self-guided thematic trail, publications, information boards.					

### 9.3. INFORMATION AND KNOWLEDGE

By Section D3 of Annex I, the Parties agree that the planning, protection and management of a SPAMI must be based on an adequate knowledge of the elements of the natural environment and of socio-economic and cultural factors that characterize each area. In case of shortcomings in basic knowledge, an area proposed for inclusion in the SPAMI List must have a programme for the collection on the unavailable data and information.

#### 9.3.1. State of knowledge

a) Assess the general state of knowledge of the area.

0	1	2	3
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b) Briefly describe the extent of knowledge of the area, considering at least specific maps, main ecological processes, habitat distribution, inventories of species and socio-economic factors, such as artisan fishing.

Due to the exceptional natural conditions, the northern seashore, with the inner part of Strunjan bay and the Stjuža lagoon and the salt pans, was included in the Inventory of the most important natural heritage in Slovenia as early as 1976.

In 2004, a comprehensive research study was carried out on the habitat types of the salt pans and the fauna in the area of the Strunjan salt pans and lagoon, where an exact inventory of the epifauna and infauna was carried out.

In 2007, the mapping of marine habitat types and an inventory of species in the area of the Strunjan Nature Reserve was carried out. The inventory of habitat types was carried out on the basis of the defined criteria from the Draft Reference List of habitat types for the selection of sites to be included in the national inventories of natural sites of conservation interest (Barcelona Convention).

In 2008, an environmental protection assessment of Strunjan Cliffs was carried out on the basis of the latest ecological research, mapping of habitat types and historical sources.

**Annex 7** - List of publications concerning the site. In **Annex 7.1 - 7.5** are five most important research studies contributing to knowledge of this area.



### 9.3.2. Data collection

Describe and assess the adequacy of any programme and activities to collect data in the area.

So far, the Public Institute has requested the production of two extensive studies under the project funds. In the Climate Change and Management of Protected Areas (Climaparks) project, indicators were established for assessing the impact of climate change on marine habitats, flora and fauna, the study of the phenomenon of tropicalization and bioinvasion, and the presentation of the possible effects of climate change on marine biodiversity. In the framework of the project Sustainable Management of Artisanal Fisheries in the Strunjan Nature Reserve, a research study was carried out on fish communities in the seawater of Landscape Park Strunjan.

A research programme, which provides for additional ecological and other research that is important for improving the quality of the management of the area, is planned within the Management Plan for the next decade (2018-2027). The planned key research is, for example: research into the accidental catch of seabirds and sea turtles; an exploration of the woods on the Cape Ronek; a study of the erosion of the flysch rocks of the Strunjan cliffs; research on the preservation of dry meadows; research into biodiversity in agriculture; the determination of the carrying capacity of the Park; and research into landscape diversity. In addition, further research into biodiversity in the area of the Strunjan salt pans and the lagoon is planned, including an inventory and comparison of the situation with previous research data.

The data that the Institute obtains within the framework of monitoring of the situation in the Park can be divided into:

- General monitoring of biodiversity (land and marine flora and fauna, and non-native invasive species);
- Detailed monitoring of Natura 2000 qualification species (6) and habitat types (8);
- Monitoring visits (stationary traffic, number of visitors).

### 9.3.3. Monitoring programme

Section D8 in Annex I states that to be included in the SPAMI List, an area will have to be endowed with a monitoring programme having a certain number of significant parameters, in order to allow the assessment of the state and trends of the area, as well as the effectiveness and protection and management measures, so that they may be adapted if need be (indicators may, for instance, supply information about species status, condition of the ecosystem, land-use changes, extraction of natural resources -sand, water, game, fish-, visiting, adherence to the provisions of the management plan, etc.).

a) Is there a monitoring programme?

<b>YES</b>	<b>NO</b>
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b) If NO, are there plans to start one, and when?

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c) If YES, assess as low, medium, satisfactory, its adequacy and present level of development.

Medium
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d) If YES, who is/are carrying out the monitoring programme?

The Public Institute Landscape Park Strunjan and external contractors.
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d) If YES, briefly describe how the monitoring programme will be used in reviewing the management plan.

The Public Institute regularly monitors progress in the implementation of the Management Plan and reports on this:

- Every year to the competent Ministry within the framework of reporting on the implementation of the annual work programme;
- In 2023 and 2028, to the competent Ministry in a comprehensive report on the implementation of the Management Plan.

The Management Plan lists indicators and target values (in 2022 and 2027) for assessing the effectiveness of the implementation of the Management Plan, which are obtained from the research programme data and the situation monitoring programme described in 9.3.2.

Landscape Park Strunjan is involved in the Marine Environmental Monitoring Program within the national Management Plan with the Marine environment 2017 – 2021. There are several objectives that the Park management is following for achieving or maintaining a good status of the marine environment from Marine Directive 2008/56/ES, taking into account the intended targets for individual marine quality descriptors.

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**10. SIGNATURE(S) ON BEHALF OF THE STATE(S) PARTY/PARTIES MAKING THE PROPOSAL**



Robert Turk  
Slovenian SPA&BD Focal Point

**11. DATE**

15. 4. 2019