

SALTWORKS PROJECT

REPORT OF
THE ENVIRONMENT AND TOURISM ANALYSIS
OF SEČOVLJE SALINA NATURE PARK



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ENVIRONMENT & TOURISM ANALYSIS REPORT

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1. TERRITORY FRAMEWORK



Photo by: Tomi Matkovič

At Sečovlje Salina Nature Park, the past and present still walk hand in hand. The ancient method of salt-making, learnt ages ago by the Piran salt-workers from their teachers, the salters from Island of Pag in Croatia, is still something special, even in the entire Mediterranean.

Not only that the traditional manual gathering of salt is a special feature of the cultural heritage of the Mediterranean Slovenia, but it also provides conditions that enable conservation of the most significant natural heritage of the Sečovlje Salina. According to the available written records, the Sečovlje salt-pans are more than 700 years old.

From 2001, Sečovlje salt-pans have been protected as a Nature Park (Decree issued by the Government of the Republic of Slovenia).

1.1 LOCATION OF THE SALT PAN

Sečovlje Salina Nature Park covers 7.5 km² in the extreme south-west part of Slovenia, next to the border with the Republic of Croatia in the southern part of the Piran Municipality and consists of two parts. Its northern part, where salt is still being actively produced and harvested, is known as Lera. From the Park's southern part, called Fontanigge, it is separated by the Grande - Drnica channel.

The area of Sečovlje Salina is bounded to the north by the Jernej Channel and separated from the towns of Lucija and Portorož by the Seča peninsula. To the east it borders a former narrow-gauge railway and opens out towards the Dragonja River valley adjacent to the village of Sečovlje itself. It is bordered by the Dragonja River to the south and sheltered by the sea wall of the Bay of Piran to the west.

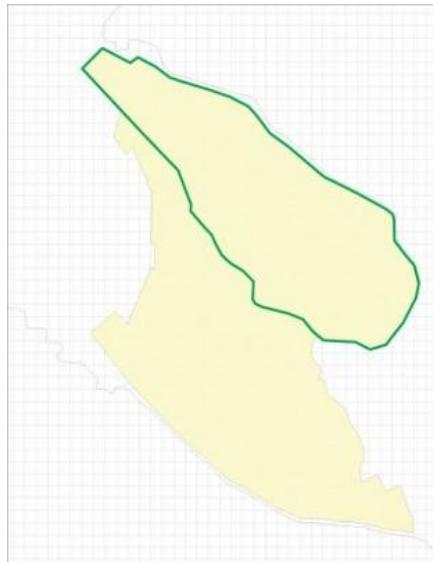




Photo by: Padalska šola Paranoia in Jorik Zalar

The Sečovlje Saltworks, together with the nearby Strunjan Saltworks, are the most northerly saltworks still in operation in the Mediterranean. It is among the few saltworks where salt is still produced using centuries-old methods. The mild sub-Mediterranean climate favors salt-harvesting and attracts distinctive flora and fauna, including birdlife.

1.1.1 Lera



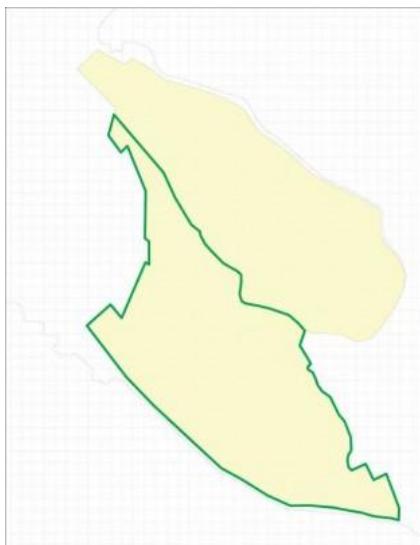
Source: KPSS archive

At Lera (279 ha), salt is produced in accordance with the mediaeval tradition; the production procedure was only slightly modernized by the Austrians in 1904.

Salt is being made on the ground layer, called “petola”; this is a special bio-sediment layer that prevents sea mud turning into salt and undesired ions building up in salt crystals. Petola is a special feature in the salt-making procedure, as it has been preserved only at the Sečovlje and Strunjan Salina.

The Lera salt-pans are not only an exceptional technical heritage, but at the same time co-create this unique cultural landscape at the junction of land and sea. The different life environments of the Sečovlje Salina are closely-knit in the interchanging worlds of sea, brackish water, fresh water and land. At Lera, the habitats of plant and animal species are limited to diversely saline salt-fields, channels and levees.

1.1.2 Fontanigge



Source: KPSS archive

At Fontanigge (314 ha), salt-harvesting was abandoned in the 1960s. The tradition of salt-making, which originates from the 14th century, is depicted by the Museum of Salt-making situated by the Giassi channel and along Cavana 131.

With the ruins of houses once used by the salters, traces of salt-fields, levees and channels, the Fontanigge does not only speak of once highly practiced salt-making activities on the northeastern coast of the Adriatic Sea, but is part of exceptional cultural landscape at the junction of land and sea. The Fontanigge is distinguished for its great diversity of habitats. These are reeds, dry, bare or partially overgrown basins and islets in the salt-fields, mudflats and grasslands with thriving salt-loving plants.

1.2 SITE AND ORGANISATION

The Sečovlje Salina Nature Park is the first state-designated protected area in Slovenia where the concession for its management has been given to a business company (SOLINE Pridelava soli d.o.o.), which is owned by the national biggest phone company (Telekom Slovenije d.d.).

The company SOLINE d.o.o. has a specific status in terms of management of the state protected area – Secovlje Salina Nature Park. The company has been given a concession, issued by the Government of the Republic of Slovenia, by which the company is responsible for the management of the state designated Nature Park and use of its natural resources. The company also has a specific duty in provision of public services in terms of protection of nature in the state owned property of the Secovlje Salina Nature Park. In return, the Republic of Slovenia provides funding for the management of the protected area which is reflected in a yearly program and financial plan of the Secovlje Salina Nature Park; however the rate of this contribution comprises only approximately 8% of the overall budget of the Park. The rest of the budget is generated by the Park itself. In addition, the concession contract says that all the assets and investments in the Nature Park's infrastructure remain the property of the Republic of Slovenia, even after the time when the concession contract will expire (in the year 2023).

Legislation

National legislation

Key legal provisions for management of the area, principles zoning etc. are described in the Decree on Nature Park (2001), which is attached to this report. In recognition of the area's exceptionally rich natural and cultural heritage Sečovlje Salina Nature Park was designated as a regional landscape park by Piran Council in 1990 and in 1993. Three years later the Slovene Government assumed responsibility for nature conservation in the area and in 2001 it was officially designated as a State Nature Park.

In Sečovlje Salina Nature Park, the following three basic aspects of land use interact: nature-conservation, protection of cultural heritage and economic development, the latter embracing salt-making, tourism, recreation and other supplemental activities. Economic activities and use of natural resources are only allowed in the sector of Lera and the third management zone. The Government of the Republic of Slovenia has adopted the Decree on Sečovlje Salina Nature Park with the intention of protecting the natural area and biodiversity of this typical saline ecosystem.

International and European context

Ramsar Convention

The Convention on protection of wetlands of international concern, particularly as habitat of aquatic birds (Ramsar Convention), was the first global agreement on protection and reasonable use of natural resources. The Convention serves as a framework for international cooperation in the sphere of protection and reasonable use of wetlands. The Ramsar Convention, or the Convention on wetlands of international concern, especially as habitat of aquatic birds, was adopted on January 2nd 1971 in the Persian town of Ramsar, its intention being »to preserve and reasonably use wetlands at the national level and to implement, through international cooperation, the principles of sustainable development«. Slovenia joined the Ramsar family in 1992, with the Sečovlje Salina inscribed on the List of wetlands of international importance.

EU Birds and Habitats Directives and Natura 2000 network

The European Commission's guidelines have imposed on EU member states some severe legal obligations, including the one which stipulates that populations of wild birds are to be preserved within special protected areas. According to the Birds directive, the Sečovlje Salina has been proposed to be included in NATURA 2000, the network of special protected areas of European concern.

The purpose of the European Commission's directives is to conserve biodiversity through protection of natural habitats of wild fauna species. In accordance with the Habitats directive, the entire area of Sečovlje Salina (Lera and Fontanigge) has been proposed to be included in Natura 2000, the network of special protected areas of European concern.

In comparison with the majority of other Natura 2000 area in Slovenia, the special feature of Sečovlje Salina lies in the fact that this territory (with the exception of few plots of land) is wholly owned by the state. For this reason, too, the area of Sečovlje Salina could be well exploited for the promotion of certain issues of the Natura 2000 concept, which are in other areas burdened with various limitations deriving from land ownership or understanding of the sustainable use concept.

The Sečovlje Salina plays an important role in the mosaic of other coastal wetlands scattered between the Venetian Lagoons in the west and the eastern Adriatic coast in the east, with some of them already included, or are still to be, in the Natura 2000 network (e.g. the Soča Estuary, Škocjan Inlet, Stjuža Lagoon, etc.).

Barcelona Convention

The main objective of special protected areas, designated under the framework of the Barcelona Convention is to preserve:

- The characteristic types of suitably large coastal and marine ecosystems, in order to provide for their long-term capabilities for living and to preserve their biodiversity;
- Habitats that are threatened to become extinct in their natural Mediterranean environments, or the areas of which have been reduced owing to their regression or substantially limited size;
- Habitats with critical degree of survival for the particularly endangered or endemic animal and plant species;
- Localities of special concern owing to their scientific, aesthetic, cultural or educational values.

Secovlje Salina is part of the network of Special protected areas in the Mediterranean based on the provisions of the Barcelona Convention.

Management plan

On the basis of the third paragraph of Article 60 of the Nature Conservation Law (Official Gazette of the Republic of Slovenia, No. 96/04 – officially consolidated text, 61/06 – ZDru-1 and 8/10 – ZSKZ-B) and with reference to the second paragraph of Article 19 of the Decree on Sečovlje Salina Nature Park (Official Gazette of the RS, No. 29/01), the Government of Slovenia issued the decree on the management plan of Sečovlje Salina Nature Park for the 2011–2021 period. It includes an analysis and assessment of the existing situation and stipulates the vision of protection and development of Sečovlje Salina Nature Park, the long-term and operative objectives of the Park's management, the manner of their implementation and ascertainment of their effectiveness. The management plan also includes the plan of the investment maintenance and investments in real property owned by the state in the Park for the purpose of the Park's management. Investment maintenance and investments are carried out on the grounds of the confirmed annual plan of the Park's management by the ministry competent for nature conservation and by consent of the ministry competent for finances.

1.3 HISTORICAL, CULTURAL AND NATURAL HERITAGE

Historical overview

Salt production is one of the oldest industries known to man and of the thousands of traditional Salinas once numerous throughout the Mediterranean region, few have survived.

Located at the southern extremity of Slovenia's short 40 km Adriatic coastline, the Secovlje Salina near Piran, the most northerly salt works still functioning in the Mediterranean region, has been a salt-making centre since the 12th century and its unique "petola" based process of salt production has remained unchanged throughout the centuries.

At its peak, the Salina gave employment to strong community of salters and their families but as competition from cheaper mined salt from North Africa and Eastern Europe grew, production was reduced, investment in maintaining the salt pans was halted and in 1967 the large salt pan complex in the southern part of the Salina was abandoned.

This area is an extremely important landscape, in terms of both cultural and natural biodiversity. It is only as a result of it being a man-made and managed ecosystem that it supports such a rich diversity of flora and fauna and continuing human interaction is necessary to preserve this area.

The saltworks were declared an area nature park in 2001 as well as a cultural heritage site of national importance. The oldest remnants are preserved at the Fontanigge pool, where the history of the old Piran saltworks, which operated up until the 1960s, is preserved in salt workers' dwellings and the remains of salt pans, embankments and channels. Objects and artifacts from the salt working heritage are conserved and displayed at the Saltworks Museum located by the Giassi channel at Fontanigge.

Over the last 30 years there has been very little investment in the Salina infrastructure and the management company has undertaken to invest money in the park for at least some years.

Natural values

The Sečovlje Saltworks are the habitat of rare, threatened and characteristic plant and animal life where prolonged human activity has created a typical saltpan ecosystem.

For the Salinas are important wetland sites containing a unique variety of habitats with shallow ponds offering bird feeding areas and nesting and resting sites on dykes and islands which are safe from predators, and they host a very special biodiversity due to the hyper saline character of the salt basins that are maintained at constant water levels which are ecologically invaluable during dry Mediterranean summers.

The combination of micro-climatic conditions found at Secovlje, and the fact that the shallow salt water in the southern part of the park which forms its core nature conservation zone does not freeze in winter, attracts large numbers of migrating waders and has made it one of the most important bird breeding sites in Slovenia.

Of over 290 bird species observed at this site (70 % of all bird species ever recorded in Slovenia), 90 breed in and around the park of which 25 are strictly “salina breeding species”. Among these are some 60 pairs of Kentish Plover; 60 pairs of Common Tern; 55 pairs of Little Tern; 19 pairs of Avocets and over 60 pairs of Black-winged Stilt. Mediterranean Gulls have here one of the most important staging areas in this part of Europe.

Other notable passage and wintering birds that attract visiting birdwatchers include Great White and Little White Egret, various duck species (including Widgeon, Teal, Mergansers etc.), Divers and Grebes and many songbirds. Over 15.000 Yellow-legged Gulls find the shallow water in the old Salinas a safe haven during their moulting phase.

Other distinctive fauna of the Sečovlje Saltworks include Brine Shrimp *Artemia salina*, a bright red species of Brine Shrimp only a centimeter or so in length that inhabits the most saline areas of the saltworks, and Tooth carp *Cyprinodont fasciatus*, which can be seen in the channels and along the edges of the saltpans.

The soil of the saltworks supports salt-loving plants, or halophytes, which can tolerate or exploit the high salinity.

Natura sites that have been declared within the Secovlje Salina Nature Park are as follows:

Specially Protected Area

Identification number	Name of Natura 2000 site	Birds Directive species
SI5000018	Sečoveljske soline	<i>Charadrius alexandrinus, Larus melanocephalus, Podiceps nigricollis, Sterna sandvicensis, Egretta garzetta (Sterna albifrons), Sterna hirundo, Gavia arctica, Himantopus himantopus, Phalacrocorax pygmeus, Gavia stellata, Anthus campestris, Larus cachinnans/michahelis, Calidris alpina, Philomachus pugnax, Egretta alba), Alcedo atthis, Anas penelope</i>

Special Area of Conservation: Fontanigge & Channel Sv. Jerneja

Identification number	Name of Natura 2000 site	Habitat Directive species and habitats
SI3000239	Channel Sv. Jerneja	Species: <i>Emys orbicularis, Aphanianus fasciatus</i> Habitat types: 1310, 1320, 1140
SI3000240	Sečoveljske soline in estuarij Dragonje	Species: <i>Emys orbicularis, Aphanianus fasciatus</i> Habitat types: 1310, 1320, 1140, 1420, 1410, 1130

Culture and cultural heritage

The cultural heritage of the Sečovlje Saltworks is a residue of the life and labor of salt workers of the northeast coast of the Adriatic over centuries. The traditional salt making process has to be maintained to ensure the survival of this special wildlife habitat. Without it the area would return to natural succession and would quickly become overgrown and subject to flood which would result in biodiversity loss and habitat deterioration.

The cultural heritage of Piran salt-pans embraces the centuries-old life and work of the salters on the NE coast of the Adriatic Sea. Of the once numerous salt-pans in the Gulf of Trieste, only those at Sečovlje and Strunjan have been preserved, due to which their testimonial value has become even greater, placing them to the level of ethnological, technical, historical, settlement and landscape heritage of exceptional concern.

The salt-pans' immovable cultural heritage encloses their salt-fields, channels and banks with stone walls, steps and sluices, salt-pan houses with their immediate surroundings, paths, bridges, pumps, etc.

The Strunjan and Sečovlje salt-pans are the only pans along the eastern coast of the Adriatic Sea, where salt is made, with traditional methods in the entire process, through daily gathering in brine on the biosediment – “petola”.

For centuries, the Northern Adriatic salt-pans exerted a great impact on the economy of states and city-states of this region. They were often the subject of political disputes and wars, for due to its applicability salt were a valuable raw material and a strategic commodity, important for the canning of food and for the production of gunpowder.

In the Gulf of Trieste and Istria, there used to be, apart from the Old Piran salt-pans at Sečovlje, Lucija and Strunjan, several smaller and larger pans (such as at Muggia, Koper and Izola). They were marked not only by political and economic interests, but also by the whimsicality of nature, which at times totally prevented salt-making for longer periods of time, or endowed it with superabundance at some other time.

The Sečovlje and Strunjan salt-pans are the only pans in this part of the Adriatic, where salt is still produced and where the traditional method of salt-making with its daily gathering has been preserved. Today, the economic role of the pans is subjected to the nature conservationist and cultural roles: the salt made here is a delicacy for gourmets; the preservation of salt-pan customs is sustaining the conscience of cultural heritage; the salt-pan area is giving a shelter to the rare or special animal and plant species and is at the same time a reserve of ecologically precious residential environment and a reminiscence of once rich Mediterranean cultural heritage and the rapidly disappearing landscape.

1.4 PRESENT ACTIVITIES IN THE SALT PAN

Short socio-economic description

There are no permanent human settlements within the park. Only fragments of agricultural and aquacultural activities are undertaken in the outside borders of the park and they don't have major impact on the socio-economic and environmental conditions in the area. There are only two main socio-economic activities in the park; traditional salt-making (where harvesting process only takes place in Lera while water gathering for salt making also takes place on Fontanigge) and park management which includes visitor management.

SALT-MAKING

Following the restoration of a number of salt-making pans, a total of 18 men were employed in 2002 and they produced 100 tons of salt. Today over 90 employees produce up to 4.000 tons of salt per year, maintain water management infrastructure and take care of the management of the natural habitats and visitor facilities.

TOURISM - VISITOR MANAGEMENT

The park is visited by 30,000 to 45,000 visitors a year and these are largely concentrated into the summer tourist season. Income generated from visitors is seen as an important source of funding for the maintenance of the salina ecosystem.

Park is open for visitors throughout the year. There are two entrances to the park also by boat. Organized groups with guides can come by boat from Piran (and other coastal towns upon prior agreements) to the pears along the Giassi or Grande – Drnica channels.

There are no accommodation facilities within the park; there are plenty of hotels and rooms and restaurants in the vicinity of the park (Piran-Portorož, private rooms)

The wider area of Sečovlje Saltworks is embedded into the typical cultural landscape of Istra peninsula. The area is bounded to the Dragonja River valley with mosaic landscape composed of arable land, vineyards and grasslands and with interesting villages (Krkavče, Koštabona...). Local touristic events are common in these settlements and the network of walking and cycling paths and »wine-roads« is established. The particularity of this part of Slovenia are »osmice«. At some days in the year, some farmhouses open their doors for visitors and offer them traditional food and excellent wines.

Celebration of the arrival of salters to the saltworks (last weekend in April), is celebrated as The Festa of Salters. Local community and the town of Piran organize special cultural and folklore events for these days.

Description of the salt production process

For centuries, the Northern Adriatic salt-pans exerted a great impact on the economy of states and city-states of this region. They were often the subject of political disputes and wars; due to its applicability salt was a valuable raw material and a strategic commodity, important for the canning of food and for the production of gunpowder.

The Sečovlje and Strunjan salt-pans are the only pans in this part of the Adriatic, where salt is still produced and where the traditional method of salt-making with its daily gathering has been preserved. Today, the economic role of the pans is subjected to the nature conservationist and cultural roles: the salt made here is a delicacy for gourmets; the preservation of salt-pan customs is sustaining the conscience of cultural heritage; the salt-pan area is giving a shelter to the rare or special animal and plant species and is at the same time a reserve of ecologically precious residential environment and a reminiscence of once rich Mediterranean cultural heritage and the rapidly disappearing landscape.

Salt is made in salt-fields, consisting of evaporation and crystallisation basins. Seawater is led from evaporation to crystallisation basins according to the principle of gravitation, or is aided by pumps. At Fontanigge, they used to be driven by wind wheels, while at Lera the Austrians introduced, about a hundred years ago, a modernised procedure with the use of motor pumps. About one fifth of all basins are crystallisation basins, in which salt is finally made, once seawater has travelled there through evaporation basins, evaporating gradually. In crystallisation basins, the petola is cultivated (a few mm thick layer of algae, gypsum and minerals). During salt-making, the salters use some very traditional tools. Salt is raked with special scrapers in large heaps. The strained salt is stored in special warehouses.

Sečovlje Salina is a technological facility, which must be constantly maintained in a suitable state. The protective Salina's levees are at the same time protective levees for the Salina's hinterland with its agricultural land, important thoroughfare, airport and other economic activities.

Salt is produced in the area covering ca. 593 ha, 435 ha of which are used for traditional salt-making in the Fontanigge and Lera areas. Fontanigge is used for the preparation of brine, while Lera serves for the preparation of brine and crystallization of salt. Salt is made exclusively from seawater reaching the pans from Piran Bay during high tides. Inflow of outside waters is not possible owing to the marginal channels and levees. The water transport system is made of network of inflow and outflow channels, pumping station, sluice for the regulation of discharges and main sluice with return flaps for the filling or emptying of basins directly into the sea or channels connected with it.

Channels for the transport of waters are made of sediments of the former alluvial deposits by the Dragonja River and are subjected to erosion. Erosion is particularly fast during heavy rains and at times when basins are inundated and when strong winds cause strong wave motion.

The sediments at Sečovlje salt-pans were mostly deposited there by the Dragonja River. It cut its wide bed along the contact area between flysch layers and Šavrni Hillocks that surround the pans in the north and cretaceous limestone of Savudrija Peninsula in the south. In the lower part, the layers of sandy clay and argillaceous gravel alternate, while in the upper part the alluvial sediments and sea mud are alternating in the upper part. Well perceptible are individual changes in the sediment (seashells and snails) and dark organic matter sediments (leaves, stems, roots), which indicates that the mouth of Dragonja River was periodically boggy for shorter periods of time. The fossil remains of sea mud show that the marine environment of sedimentation alternated several times with the semi-salty environment in the Sečovlje dale. Through depositing of alluvial sediments, the bottom at the Dragonja outfall rose, thus creating the conditions suitable for the construction of salt fields.

Sediment is the basic material for the building of salt-pan structures such as levees and channels. The levees are partially protected with wood or stone to reduce the effects of erosion, which is to a certain extent also mitigated by the larger levees being overgrown here and there with rare halophilous and other vegetation. The bottoms of the basins in which brine is made are lined with clay, whereas the crystallization beds' clayey bottoms are covered with a layer of "petola".

"Salt is produced in winter" said old salters, indicating the importance of all year round maintenance works in the salina. The period after the salt harvesting (somewhere in October until April) is used to repair the dykes, reconstruct wooden embankments and dykes and prepare for the spring growing of "petola". May to September is the period of salt harvesting and transportation of the freshly harvested salt to the deposition and storage areas.

Description of the tourism activities in the Park

The main tourism activity in the Secovlje Salina Nature Park is enjoyment of nature, cultural heritage and landscapes. This is mainly done by walking or cycling on the marked paths; all together there are some 8 km of such paths in the park. Visitors are in general not allowed to enter the park area by motor vehicles.

Carbon Savings – public transport for employees and visitors in Secovlje Salina Nature Park

Visitors provide an important source of Park's incomes (one has to note that the maintenance costs of the man-made and maintained habitats are reasonably high!). However, due to specific geographic and other fact (relatively long distances for walking, no walking routes in "circles"), and especially in order to encourage visitors to leave their vehicles outside the park boundaries (and therefore also contribute to reduction of carbon reduction and "noise pollution") "game watching vehicles" for visitors is planned to be used at Fontanigge sector.

Transportation of employees (mainly salt-workers) is even more problematic. There is no organised «public» transport in the park for workers. Taking into account long walking distances to the salt-fields, the salters are coming to the work using their own motor vehicles (mainly cars). The amount of carbon excessing into the air deriving from the employee's cars is very high and in addition ongoing rides of the employees to and from the work is also very disturbing both for wildlife and visitors of the park. In addition, those drives make a bad example for raising visitor's awareness about the sustainable use of resources and means in the park. Electric vehicle has been introduced to tran sport employees from entrance of the Park to their working areas at Lera.

Direct carbon savings as predicted from introduction two forms of public transport for visitors and employees in the Park can be calculated as follows:

- transportation of employees: 50 cars, each spending 8 km/day in the Park, 320 days/year:
- 128.000 km/year (cars)
- Transportation of visitors: 30.000 visitors/year (or equivalent of 600 buses) each spending 10 km/drive: 6.000 km/year (buses)
-

Average values:

- car: 220 g/CO2/km
 $128.000 \text{ km/year} \times 0,220 \text{ kg/CO2/km} = 28.160 \text{ kg/CO2/year}$
- bus: 290 g/CO2/km
- $6.000 \text{ km/year} \times 0,290 \text{ kg/CO2/KM} = 1.740 \text{ kg/CO2/year}$

Total level of expected carbon savings by introducing public and environmentally friendly transport for organisation of local transport for employees and visitors of the Park is therefore a minimum of **29.900 kg/CO2/year**.

Ways of public transport have been introduced to the area, both for tourists as well as for employees. A small electric vehicle and electric bicycles and bringing those who are not able or don't want top walk at Lera. At Fontanigge a tourist "train" will soon be introduced to bring tourists to the Museum of Salt-making.

Leaflet with basic information and code of conduct in the park is delivered to every visitor of the park at the entrance points where they pay the entrance fee. The Museum of salt-making at Fontanigge is presenting the mediaeval process of salt making. A new multi-media visitor centre and projection room is located at Lera. There is a gift-shop (selling products of salt and other typical products from the region) and art gallery. Toilets and refreshment sites are also set in the park. Walking and cycling in the park is limited to marked paths only.

Groups that have to be agreed in advance are supported by the guided tour, which (according to the season) can offer also the presentation of salt harvesting and bird watching. Salt and related products (cosmetics and food programme) as well as »park-products« (publications, CD, didactic toys, souvenirs etc.) are also available.

Museum of Salt making

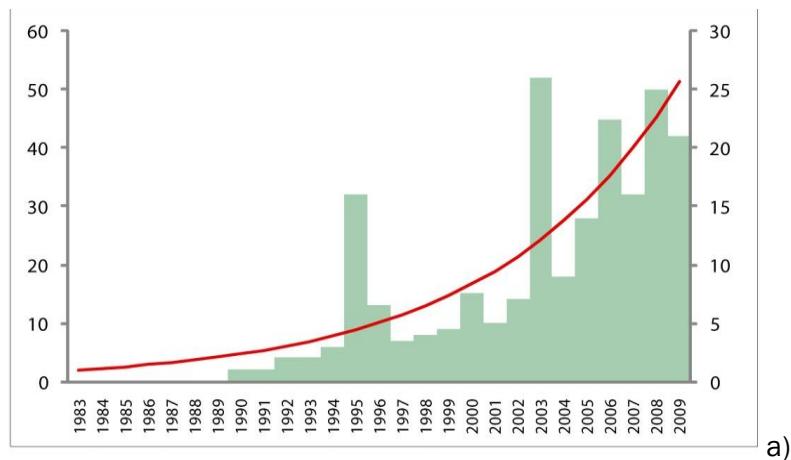
The Museum of Salt-making is situated at Fontanigge along the Giassi channel. It encloses 3 renewed buildings, one of which has been reconstructed into a salt-pan house with a museal collection and salt-pool with its appertaining seawater conduit channel (Giassi).

The salt-pan house consists of a two-store building, which once served as a residence of the salter's family and for the storage of salt, the former ground floor warehouse in which salt was kept, and in compliance with the old pattern reconstructed baker's oven, a special feature of the Sečovlje salt-pans.

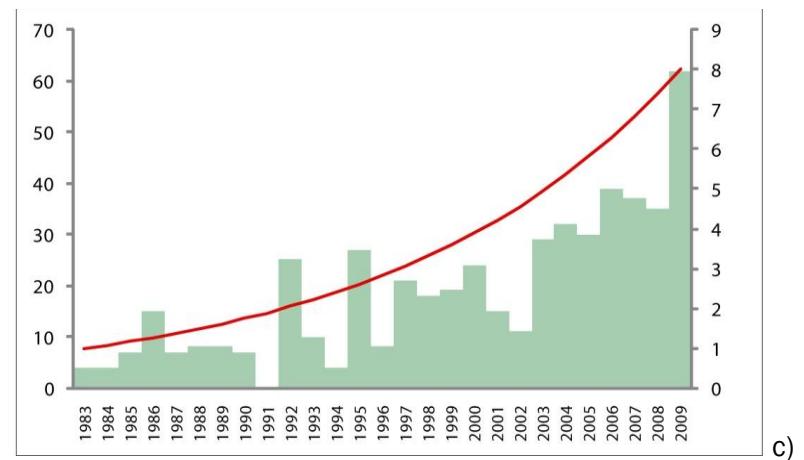
The visitors find the part called Fontanigge most attractive, for truly some unique scenes, unmatched in the entire Slovenia, can be seen there: numerous birds, extensive meadows of salt-loving plants, and over 100 abandoned and demolished salt-pan houses, which have jointly given the Sečovlje salt-pans a very special character. Those who mostly enjoy in scenic and landscape values and history and enjoy being watched by typical saline birds mostly choose Fontanigge as their destination. Visitors who would like to learn more about traditional salt-making and on-going processes go to explore Lera. Even here they are surrounded by typical white birds and can get many information about the area in the center for visitors.

It is important to note that despite tourism development and salt-making revival, diagrams of breeding populations of the indicator bird species are still increasing as seen from the diagrams below:

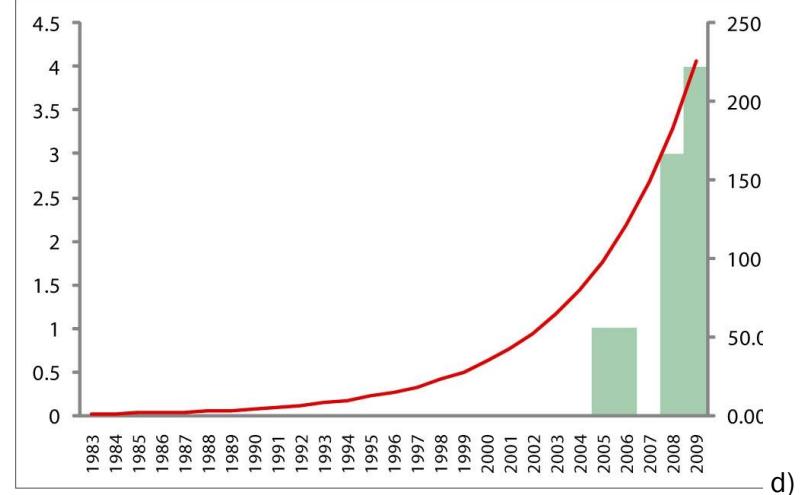
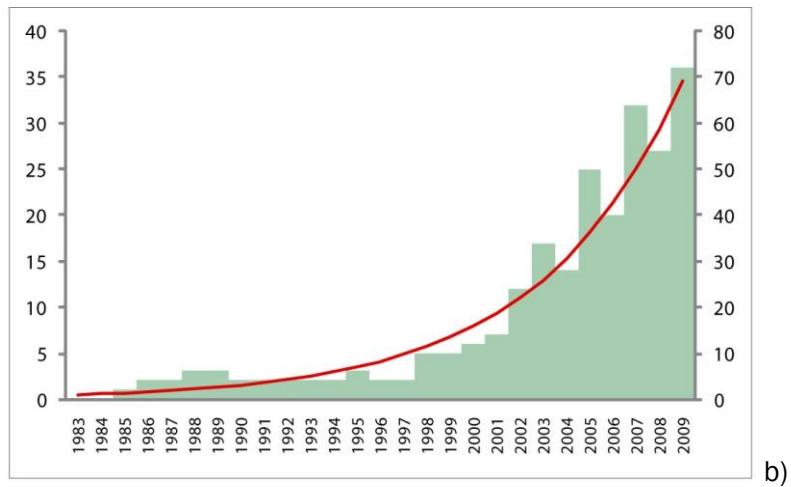
Figure XYXY: Trends of indicator bird species (number of nesting pairs) in the Secovlje Salina Nature park in the years 1983-2009. a) Black-winged Stilt; b) Little Tern; c) Kentish Plover; d) Avocet.



a)



c)



ENVIRONMENT REVIEW

ENVIRONMENTAL ASPECTS OF SALT PRODUCTION

Energy consumption for water pumps last three years (or at least 2011)

Yearly consumption of electricity for the use of water pumps in the SSNP is calculated as follows: pumps are working some 5.000 to 6.000 hours per year. Every hour of the pumping work requires 11 kW. Yearly consumption is therefore reaching up to approx. 70.000 kWh.

One has to note that the above numbers embrace both pumping of waters for salt production (between the channels and salt fields etc) but also pumping needed to divert precipitation waters as the whole salina is in a depression area, that is lies below the level of the sea and thus waters are not able to leave the area only using gravity. Very rough approximation would say that some 60% of the 70.000 kWh are spent for salt making process.

Energy consumption for salt harvesting is very low and not significant, as all the process of salt making is based on traditional, hand-made approach. No electricity is used to stimulate any kind of chemical or mechanical processes in salt making.

Results of the analysis on entering waters or on salt

Despite being located in the part of the Piran bay, which is furthermore part of Trieste bay, regular chemical and biological analyses of water samples in Secovlje salt-pans never discovered any significant traces of pollution. In other words – water quality has never been found below the standards needed to secure production of salt in the last 10 years.

Types of means of transportation for salt to the salt factory

There is no salt factory in Secovlje Salina as the salt is produced manually. Even first phases of transport of freshly harvested salt are done by hand, using wooden vehicles and manpower. Only from the deposition area salt is transported with trolley tractors to the storage area 8also located within the Park, no more than 500 m from the harvesting and salt deposition areas.

Type of salt packaging

The majority of salt in Secovlje Salina was packaged by hands until very recently. A new packaging area is still under construction and will be operating by the end of the year.

ENVIRONMENTAL ASPECTS OF TOURISM ACTIVITIES

The characteristics of yearly cycles in visitation of the Secovlje Salina Nature Park are shown below in the diagram. The main parameters in the visitation patterns have not changed much in the last 5 to 8 years; most visitors come to the park in May and June and again in September, early October. The spring visitation peaks greatly coincide with the vegetational and breeding seasons, but due to strict prohibition of human dispersion outside marked path, the direct impacts of visitors to biodiversity are relatively insignificant.

Means of transport used inside the salt pans

As described above: visitors in principle are not allowed to enter the park using motorized vehicles, with the only exception being the area of Fontanigge where buses can enter the area. Also this will change greatly after introduction of the “tourist vehicle”, while at Lera electric vehicle is already in use. In general, visitors are encouraged to enter the park by foot or by bicycles, but also with boats for groups of visitors.

Employees are also encouraged to use public transport to get to and from their working places in the park.

Waste production and management

Separation of waste is introduced at all points of the park. The main waste production sources in the park are visitors, department on salt-packaging and maintenance works and sea water, bringing floating rubbish to the shores. Even by saying the above, waste and rubbish is not one of the biggest environmental problems in the park, with the exception of the channel Sv. Jernej where illegal pears are located.

“Carrying capacity assessment” for the salt pan

No carrying capacity study was undertaken for the specific area of Secovlje Salina Nature Park. However, based on long-term observations and results of monitoring of the indicator species and populations in the park, limitations of the visitation have been agreed and also made obligatory as part of the management plan. As part of this, only up to 4 group visits per day/per sub-area (Lera, Fontanigge) including no more than a maximum of 100 people can visit a park.

Use of recycled paper for brochures

Printed materials produced by the park lately are printed on recycled paper.

Use of ecolabel products inside the salt pan: visitors centre, offices, etc.

Key product of the park – traditional salt and its side products – are all labeled with the signs of geographic origin which includes components of eco-labelling. The same could be said for two other brands, developed in the area; the cosmetics line and Park products.



Photo: Trade mark programmes and products of the park.

Use of local food products in snack bars inside the salt pan

There is only one area inside the park where food is offered for visitors and in this small restaurant predominately local food products and beverages are offered to visitors. At some other places snack and refreshments are offered. In the gift-shop several local products, including food, drinks, pottery, wooden products are exposed and offered to visitors.

TOURISM REVIEW

Analysis of main characteristics of salt pan tourists

YEAR	LERA	FONTANIGGE	TOTAL
2011	23717	7707	31424
2010	18374	10108	28482
2009	27101	13686	40787
2008	21459	13942	35401
2007	31378	13314	44692

Table: Visitors 2007-2011

The table above shows an overview of visitors in SSNP during the period 2007-2011 including both, individuals and guided groups.

The number of guided tours increases drastically in the period March-June and September-October. This fact may be linked to the fact that many Slovenian primary and secondary schools visit the Park as part of their final/initial year excursion.

Statically speaking the most numerous visitors are in the age range 31-45 followed by children until 15 years, at third place we find the 45-60 age range then the under 30 and at last the over 60.

Identifying the visitors by nationality abundance the picture is as follows: Slovenians, Austrians/Germans, Italians, Eastern Europe nationalities, other Balkan nationalities. There is an obvious correlation between the outstanding visiting nationalities in the SSNP and the nationalities of tourists visiting the Coastal region.

Identification of all tourism and leisure services

It is essential to note that all the accommodation facilities are located outside the park. Apart from one small restaurant and some “snacks points” the major food facilities are also located outside the park. This is a contribution of the park to the local development and a policy of park management to continue in this way.

More conventional forms of tourism (sunbathing, beaches, swimming etc.) are not allowed inside the park. The same is true for all environmentally “aggressive” forms of tourism (for example, prohibition of use of motorized vehicles etc).

An outdoor spa activity area for limited number of visitors and with limited access (mainly by the sea) will be put in operation for the next year.

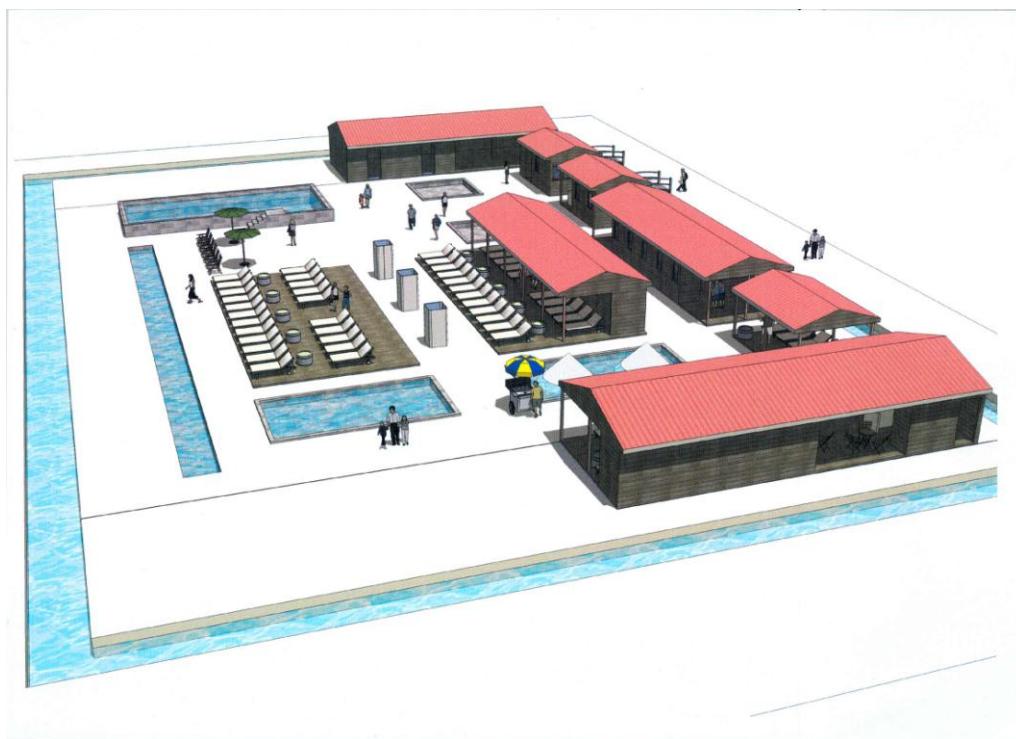


Photo: Outdoor spa activities

Visitors can also benefit from taking part in a programme “Become a Salter for a day” where they can harvest salt under the guidance of experienced salters. Some of the programmes for tourists are presented on the photographs below:

Foto XY: Tourism attractions and activities in the Park: a) Become a salter for a day; b) Exploring the park with canoe; c) spiritual activities; d) workshops and social events; e) organized bird-watching; f) Naturalistic photography courses (foto: A. Sovinc).



a)



d)



b)



e)



c)



f)



There are some common disadvantages for planning even better visitation facilities. These include:

- the paths are not circular,
- some of the attractions (like the Salt-Museum) are too distant from the entrances to the park (up to 4 km one way),
- in summer, the nearby custom office station with long lines of waiting cars with tourist to Croatia prevents several tourist to go and visit the Fontanigge area.

Also, there is no regular public transport facility from the nearby main tourism resort (Portorož) to the park area, while walking distance (more than 5 km) is too big for the majority of potential visitors.

Review of all the infrastructures/facilities, signals system, promotional material (traditional or multimedia), etc

A well-established system of landmarks, signs and other information points is developed. In addition there is a multi-media centre for visitors who can also obtain information about the park at the entrance points. Web side is regularly refreshed and is available in Slovenian, English and Italian language. Several publications, from leaflets to books are produced every year. Visitors are also invited to watch special films on the biodiversity and salt-making in the area.

Connection with other local initiatives and tourists sites, Possible cooperation with local operators and citizens

There is very good cooperation between the park and local tourism association in Secovlje, as well as with the tourism association of Portoroz and national tourism organisation. In addition, cooperation is developed also with some of the hotels in the region.

Joint promotion of natural sites is organized with the nearby Nature Park of Strunjan and Skocjan Bay Nature reserve as well as with some similar sites along the Adriatic coasts (Delta del Po Regional Park, Isonzo/Isola del Cona Reserve etc).

Cooperation is well established with tour operators in the country and also with local providers of food and accommodation facilities.