

## SUSTAINABLE TOURISM DEVELOPMENT IN PROTECTED AREAS ON THE PATTERN OF STRUNJAN LANDSCAPE PARK

### TRAJNOSTNI RAZVOJ TURIZMA V ZAVAROVANIH OBMOČJIH NA PRIMERU KRAJINSKEGA PARKA STRUNJAN

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**Key words:** nature conservation, protected areas, sustainable tourism, Landscape Park, management plan

**Ključne besede:** varstvo narave, zavarovana območja, trajnostni turizem, krajinski park, upravljavski načrt

#### ABSTRACT

The natural environment in Slovenia is highly threatened owing to its fast growing economy in the last four decades. One of the reasons for this state of affairs is the intensive tourism development. To conserve the most valuable parts of nature from degradation and destruction, we protected them by law. In ecological and biological terms, Strunjan Landscape Park is not doubt a significant area, protected since 1990, but on the other hand it is one of the most popular tourist destinations in Slovenian Istria. Within our research work, we attempted to gain a better insight into our nature conservation system, and analyzed tourism flows in the park. The paper discusses the sustainability of tourism in Strunjan Landscape Park, the impact of tourism on natural environment, and proposes some guidelines for future planning and management.

#### IZVLEČEK

Dinamični gospodarski razvoj v zadnjih štirih desetletjih je povzročil nevarno krčenje naravnega okolja v Sloveniji. Eden izmed vzrokov je tudi intenzivni razvoj turizma. Da bi ohranili najvrednejše dele narave, smo najbolj ranljiva območja zavarovali z zakonom. Med zavarovanimi območji je tudi Krajinski park Strunjan, ki je obenem zelo priljubljena turistična destinacija v Slovenski Istri. Ker je območje pomembno tako z vidika varstva narave kot z vidika razvoja turizma, smo v nalogi pregledali pravne okvire za uresničevanje turistične dejavnosti v parku, napravili analizo turističnega prometa ter določili vsebine, ki so nujne za trajnostni razvoj turizma. Ugotavljali smo, ali se turizem v Krajinskem parku Strunjan razvija v skladu s principi trajnostne rabe prostora in kakšen vpliv ima na naravno okolje, ter glede na rezultate podali nekaj razvojnih predlogov in usmeritev.

#### 1. UVOD

Tourism is one of the fastest growing businesses in the world. In the second half of the 20th century, however, the extremely dynamic and innovative economic development caused a dangerous shrinking and deterioration of living nature. In the last four decades, the Slovenian coast, too, has undergone some exceptional changes that are now reflected in the spatial development's negative trend. Instead of integral spatial planning, i.e. looking for balance

between social, economic and environmental moderation, development has been oriented notably at partial solution of the problems and excessive exploitation of the coastal belt. The awareness that the Mediterranean Sea and its coasts are among the most endangered parts of the Mediterranean owing to its very active economy, forced the state to consider a more rational management of the coast. Since gaining its independence, Slovenia has proclaimed one fifth of its coast a protected area, as it is marked by high biotic and landscape diversity. In contrast to the general belief that these are areas where conservation purposes should exclude all other activities and impede development, the protected areas also present, apart from the implementation of activities in the spheres of conservation, education and scientific research, an opportunity for recreational and tourist activities. One of such areas is Strunjan Landscape Park, which happens to be one of the most popular tourist destinations on the Slovenian coast. As the area is significant both from the aspect of nature conservation and tourism development, we analysed the data on the past development of tourist activities in the area and their impact on nature, studied the legal framework for the implementation of tourism, assessed whether a new approach is needed in tourist development and whether the current tourist development corresponds to the principles of sustainable development.

## 2. SUSTAINABLE TOURISM

Considering that tourism is primarily an economic activity and, apart from it, the fastest growing business in the world, its unsuitable development may be hazardous for nature conservation and protected areas as well as for the local population and economy. In order to preserve nature for our descendants in a fairly good state, it is of utmost importance that during the planning of tourist activities, too, space and other natural resources are managed sustainably. According to the key strategic documents (Uran et. al 2006, Vesenjāk et al. 2006), the development of tourism in Slovenian Istra and Slovenia in general is based on the principles of sustainable development. Sustainable tourism is closely associated with responsible land-use planning, where a special emphasis is given to the care of protected areas (Jurinčič 2004).

### 2.1 DEFINITION OF SUSTAINABLE AND ECOLOGICAL TOURISM DEVELOPMENT

Sustainable tourism was initially referred to in the Strategy for World Conservation from 1980, prepared by the International Union for Conservation of Nature (IUCN), United Nations Environment Programme (UNEP), and World Wildlife Fund (WWF). The strategy underlines that the mankind that exists as part of nature has no future if valuable natural features are not preserved.

As no uniform definition for sustainable development can be found in professional literature, its meaning is often misused, apart from the fact that ecologically-friendly types of tourism are marketed in an utterly incorrect way. In view of the specificity of a concrete

local environment and professional provenance of the researchers, economic, social or natural aspects of sustainable development appear in the foreground (Jurinčič 2004).

To our judgment, the most suitable seems to be the definition acknowledged by the United Nations World Tourism Organization (UNWTO). It is the fruit of prolonged efforts invested by UNWTO in sustainable tourism development: »Sustainable tourism considers the needs of tourists and the host region and at the same time improves the possibilities for future development. This is why it manages the resources by attempting to satisfy the economic, social and aesthetic needs to the greatest possible extent, and thus to preserve the cultural integrity, ecological processes, biodiversity and the systems that are prerequisite for the existence of life.«

Despite the different definitions of sustainable tourism, none of them places in top spot the needs of nature and society, i.e. preservation of ecological processes, biodiversity and systems that are prerequisite for the planning of tourist activities, and sustainable tourism together with it. The nearest to it would be ecological tourism.

Considering that in practice, however, the term tourism is often even equalled with ecological tourism, we can still ascertain, on the basis of conclusions made at world conferences organized during the 2000 International Ecological Tourism Day in Quebec and Johannesburg by UN and UNWTO, that ecological tourism:

- embraces all forms of tourism associated with nature and in which the basic motif of tourist visits is watching and admiring nature and traditional cultures in the natural environment;
- incorporates education and interpretation of the above issues to the visitors;
- is generally, although not always, intended for small organised groups lead by small specialised local companies, as well as by foreign companies of different sizes, although, as a rule, for small groups of tourists;
- provides for, with well planned management of natural areas, economic benefits without jeopardizing the natural and socio-cultural environment.

Consequently, we are dealing with the type of tourism that is most suitable for central parts of nature protected areas, where more rigorous protective regime is in force.

## 2.2 THE CARRYING CAPACITY AND SUSTAINABLE TOURISM INDICATORS

In order to affirm sustainable tourism in practice, the UNWTO and UNEP recommend, apart from integral spatial planning of the regions and adjusted management of tourist destinations, an analysis of the carrying capacity for separate destinations, made on the basis of sustainable tourism indicators analysis. Sustainable tourism denotes growth within the framework of limiting factors, ascertained during the carrying capacity analysis with indicators of the carrying capacity of destination for sustainable tourism. The most important here is the weakest link. The limits of sustainable tourism development, defined with the carrying capacity, are not stipulated once and for all but can be shifted upwards with suitable measures (Jurinčič 2005).

With the carrying capacity for tourism analysis, the maximum number of visitors that can visit a region or tourist destination simultaneously without causing unacceptable consequences for the place as well as ecological and socio-cultural environment is stipulated. Analysis of

this kind is also suitable for the estimation of management plans for nature protected areas (Jurinčič 2003).

The sustainable tourism indicators are a significant tool in the management and planning of the processes unfolding at a certain destination. A systematic monitoring of indicators enables us to compare the data through longer periods of time as well as interpretation and prediction of processes at a certain destination.

The WTO (2004) published a compulsory manual with sustainable development indicators for tourist destinations. The manual is earmarked for the monitoring of sustainable development indicators at tourist destinations and is the result of a very intensive research, in which 64 experts from more than 20 different countries took part, and presents 25 examples on seven continents. It contains guidelines for the monitoring and use of indicators for different areas and their application to individual tourist destinations. But most of all, the guide underlines that the indicators must be adjusted in view of separate destination. There are no uniform or universal indicators that could be used for all destinations, but are to be adjusted in view of destination types (coastal areas, deserts, mountain destinations, wetlands ...).

### 2.3 THE ROLE OF TOURISM IN THE PROTECTED AREAS

The strategy concerning the conservation of biodiversity in Slovenia presents various orientations for key activities (fishery, agriculture, traffic, industry, salt-making ...) of sustainable use of biodiversity and sustainable development components. Tourism is presented as a branch of industry that can substantially contribute to the conservation of nature and biodiversity, as it helps to evaluate it economically as a commodity that has no market price otherwise. But it certainly has its intrinsic value, i.e. actual value (as opposed to market or book value).

The role of tourism in protected areas is:

- to present local specific features and to revive old tradition, although only by considering the needs and wishes of the local population;
- to complete the existing and to add new tourist products in the way that does not burden the environment and the local population;
- a developmental opportunity of the local population, in the way that it co-creates tourist capacities,
- to create an integral picture of the area that gives a recognisable image of a successful professional work.

## 3. STRUNJAN LANDSCAPE PARK

The Park encompasses the greater part of the Strunjan Peninsula and constitutes an integral landscape unit, which is of exceptional significance in terms of plant and animal diversity conservation and the valuable natural features of our sea and its coast. Owing to its special features, great biodiversity and the fact that it is the longest uninterrupted part of natural coast in the entire Gulf of Trieste, it is of exceptional importance from the aspect of

nature conservation and preservation of ecological stability in the entire Gulf. In further text, classification of conservation categories in the Park is presented.

### 3.1 THE AREA OF STRUNJAN LANDSCAPE PARK AND MINOR PROTECTED AREAS

The Law on nature conservation (Official Gazette of the Republic of Slovenia No. 96/2004-UPB2) stipulates protected areas according to their size, distinguishing between major and minor protected areas. Strunjan Landscape Park is a major protected area, within which minor protected areas are situated (nature monuments and reserves). Major protected areas are liable to consider the wishes of the local population, to provide for sustainability and man's spiritual as well as physical relaxation, while the purpose of minor protected areas is merely to protect nature.

#### 3.1.1 The area of Strunjan Landscape Park

The entire area of SLP covers 430 ha. Its land part spreads on cca. 305 ha, while its maritime part embraces some 125 ha of the entire Park. The area stretches from Simon Bay to the outfall of the Roja stream in the west of the Strunjan valley and to the inner part of Strunjan Bay. It also encompasses about 200 m wide sea belt, Strunjan salt-pans, Stjuža lagoon and Pinijev drevored (Stone Pine Avenue).

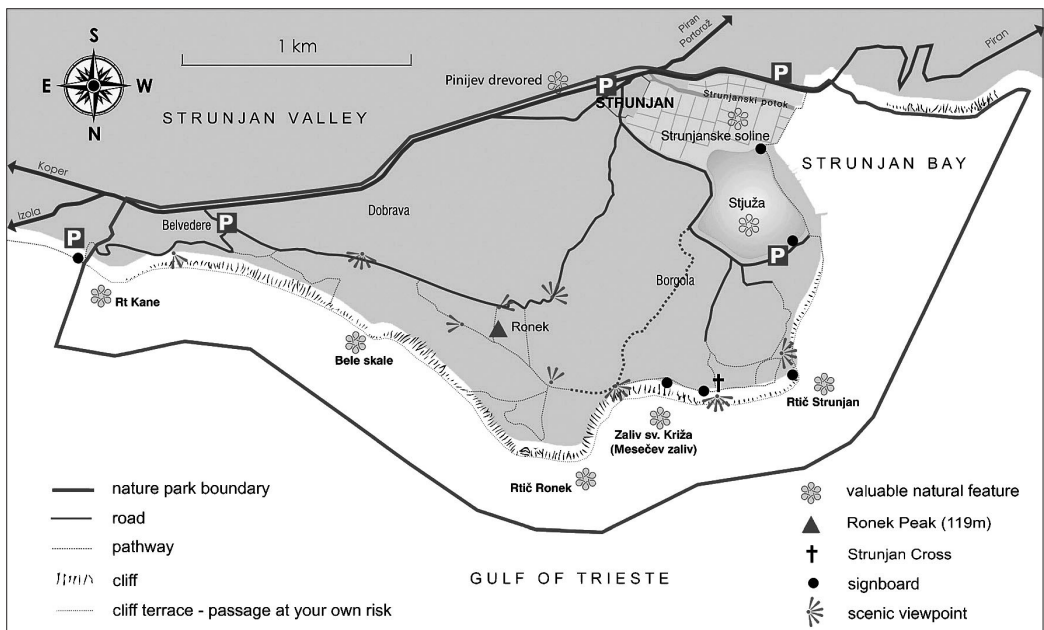


Figure 1: The valuable natural features and cultural heritage in Strunjan Landscape Park (author: Vojko Strahovnik)

Slika 1: Naravne vrednote in kulturna dediščina v Krajinskem parku Strunjan (avtor: Vojko Strahovnik)

Article 5 of the Decree on Strunjan Landscape Park (Official Gazette of the Republic of Slovenia No. 107/2004) lists of the following developmental orientations in the Park:

- stimulation of nature-friendly forms of agriculture;
- ecologically friendly tourism and recreation;
- cultural heritage protection;
- implementation of salt-making activities in traditional manner and use of products associated with them (brine and fango mud);
- use of ecologically friendly technologies in natural resources management, in order to preserve their ecosystemic value and renewable capacity, as well as to conserve plant and animal species habitats, habitat types and valuable natural features.

### 3.1.2 Minor protected areas within the area of Strunjan Landscape Park

The areas stipulated as minor protected areas in Article 3 of the Decree on Strunjan Landscape Park (Official Gazette of the RS No. 107/2004) are the following:

1. The valuable natural feature Strunjan Cliff is defined, with its maritime part and direct hinterland, as »Strunjan Nature Reserve«, comprising ca. 125 ha. Its most characteristic feature is the flysch cliff, which has survived in all its natural forms and processes. Apart from various geological and geomorphologic phenomena, the characteristic sub-Mediterranean bush and tree species, such as Wig Tree and Manna Ash, as well as true Mediterranean plants can be found in the Reserve. The Strawberry Tree, as a representative of Mediterranean plants, has its only autochthonous site in Slovenia at Cape Ronek. Very rich is the maritime part of the Reserve. On the muddy and sandy bottom of Mesečev zaliv (Moon Bay) spreads an extensive underwater meadow composed of Seagrass *Cymodocea nodosa* and Dwarf Eel-grass *Zostera noltii*. The meadow is also a significant habitat of the Pen Shell, Seahorse and Sea Slug *Discodoris atromaculata*.

The Strunjan Nature Reserve is defined as an area with primary conservation function. Within the Reserve, only activities that protect and preserve natural processes and diversity of habitat types as well as habitats of plant and animal species and communities can be carried out. In the central part of the Reserve, the following is prohibited by law: disturbance, killing or appropriation of wild animals and their developmental forms from nature, commercial fishing, and scuba diving, except for the needs of conserving valuable natural features and biodiversity (as per Article 9 of the Decree on Strunjan Landscape Park, Official Gazette of the RS No. 107/2004).

2. The valuable natural feature Strunjan-Stjuža and the potential area of conservation, delineated as Strunjan salt-pans with Stjuža, comprise the »Strunjan-Stjuža Nature Reserve«, which spreads on ca. 30 ha. The area is known for its Strunjan salt-pans, where the traditional salt-making is still taking place. Various sources give evidence that the pans are more than seven hundred years old are supposed to be older than the Sečovlje salt-pans. Along the pans, the only sea lagoon on the Slovenian coast is situated. The Stjuža lagoon is significant from the nature conservation point of view, for it provides shelter and food for several bird and fish species. The entire reserve embraces an exceptional interlacement of habitats that cannot be found in any other part of the Slovenian coast.

In order to protect the valuable natural features and to conserve the favourable conservation status of habitat types as well as habitats of endangered plant and animal species, traditional salt-making is carried out in the Strunjan-Stjuža Nature Reserve, whereas other activities are performed only if they do not impede the protection of habitat types, populations of endangered plant and animal species, and the traditional salt-making. Among other things, fishing and mariculture are prohibited in the Reserve, as well as camping, appropriation of wild plants and animals, changing of the existing structures of the lagoon floor (except for the purposes of conserving valuable natural features, biodiversity, and for ecological and other excusable reasons). Also forbidden is to destruct, damage or to take away the microbial blanket that covers the floor of the salt-pans basins, as well as any facilities and devices intended for the implementation of traditional salt-making (as per Article 8 of the Decree on Strunjan Landscape Park, Official Gazette of the RS, No. 107/2004).

3. The valuable natural feature Strunjan - Stone Pine Avenue is defined as »Stone Pine Avenue Nature Monument (NM)«. It is 600 m long and consists of 117 between 12 and 14 m high trees. It is of great dendrological value and, above all, a typical and significant element of the littoral landscape.

Any activities in the Stone Pine Avenue NM are to be carried in the way that provide for the conservation of the entire avenue and its separate trees. In the NM, the following is prohibited: to break, cut, lop off or damage branches, leaves, trunks, bark and roots (except when regular professional trimming or works connected with eventual healing of the trees are concerned), to hang or fix foreign bodies such as posters, notices, lamps, electric cable carriers, antenna boards and boxes on the trees' trunks, roots or branches (as per Article 10 of the Decree on Strunjan Landscape Park, Official Gazette of the RS, No. 107/2004).

For the minor protected parts of the Park, a stricter protection regime is in force than for the area of the entire Park. In order to be able to establish to what extent tourism can be implemented within the Park, it is necessary to be well acquainted with the above stated classifications for separate areas and with legal regulations in view of their protection and therefore to provide for sustainable tourism development within them. Furthermore, the Strunjan Cliff and the entire Strunjan-Stjuža Nature Reserve belong to the Natura 2000 network. This all-European network of special areas of conservation has been established in order to conserve animal and plant species and habitats that are rare or already threatened in Europe. For any spatial interventions within nature protected areas (Natura 2000), an assessment of their impacts on the environment must be made in advance.

#### **4. ANALYSIS OF TOURIST TRAFFIC IN STRUNJAN LANDSCAPE PARK**

The Decree on Strunjan Landscape Park (Official Gazette of the RS, No. 107/2004) also stipulates the developmental orientations that are implemented by, among other things, environmentally friendly tourism and recreation. The main objective of the Decree is to protect and conserve nature, although landscape parks are considered the least limiting conservation group. This is why sustainable tourism and recreation development is among the major

objectives as far as management of this kind of areas is concerned. And as we shall see in further text, tourism is already one of the main (not sustainable) activities in the Park.

Considering that no less than two thirds of the territory of Strunjan Landscape Park belong to the village of Strunjan, which is part of the Piran Council, the data on tourist traffic in the village of Strunjan were taken into account. The eastern part of the Park, which is situated in the Municipality of Izola, also includes the hotel complex of Belvedere, which is about the size of the hotel complex of Salinera. Namely, the Salinera tourist settlement and AMD Piran Autocamp are located within the area of Strunjan village, but outside of the Park. Thus, the tourist traffic intensity in the village of Strunjan can be equalled with the tourist traffic within the area of the entire Park.

The data on tourist visits (number of tourists) cannot provide for an integral assessment of tourists staying at a certain place, but are implicit if we wish to ascertain the actual impacts on this vulnerable area. This is why data on overnight stays in the 1996-2006 period were analysed (SURS 2007).

Table 1: Number and share of overnight stays by domestic and foreign tourists at Strunjan in the 1996- 2006 period (source: SURS 2007)

*Tabela 1: Število in delež domačih in tujih prenočitev v Strunjanu v obdobju 1996-2006 (vir: SURS 2007)*

YEAR / LETO	No. of overnight stays by domestic guests / Število prenočitev domačih gostov	No. of overnight stays by foreign guests / Število prenočitev tujih gostov	Total / Skupaj	Overnight stays by domestic guests / Prenočitve domačih gostov (%)	Overnight stays by foreign guests / Prenočitve tujih gostov (%)	Total / Skupaj (%)
1996	122,690	24,846	147,536	83.2	16.8	100.0
1997	134,690	27,805	162,495	82.9	17.1	100.0
1998	124,381	28,127	152,508	81.6	18.4	100.0
1999	126,547	26,300	152,847	82.8	17.2	100.0
2000	131,647	36,946	168,593	78.1	21.9	100.0
2001	129,343	42,656	171999	75.2	24.8	100.0
2002	120,558	51,873	172,431	69.9	30.1	100.0
2003	131,369	52,408	183,777	71.5	28.5	100.0
2004	119,601	58,251	177,852	67.3	32.7	100.0
2005	130,660	60,129	190,789	68.5	31.5	100.0
2006	142,172	62,881	205,053	69.3	30.7	100.0

Figure 2 presents the dynamics of overnight stays (domestic, foreign and total number of tourists) at the tourist place of Strunjan for the period of 10 years.



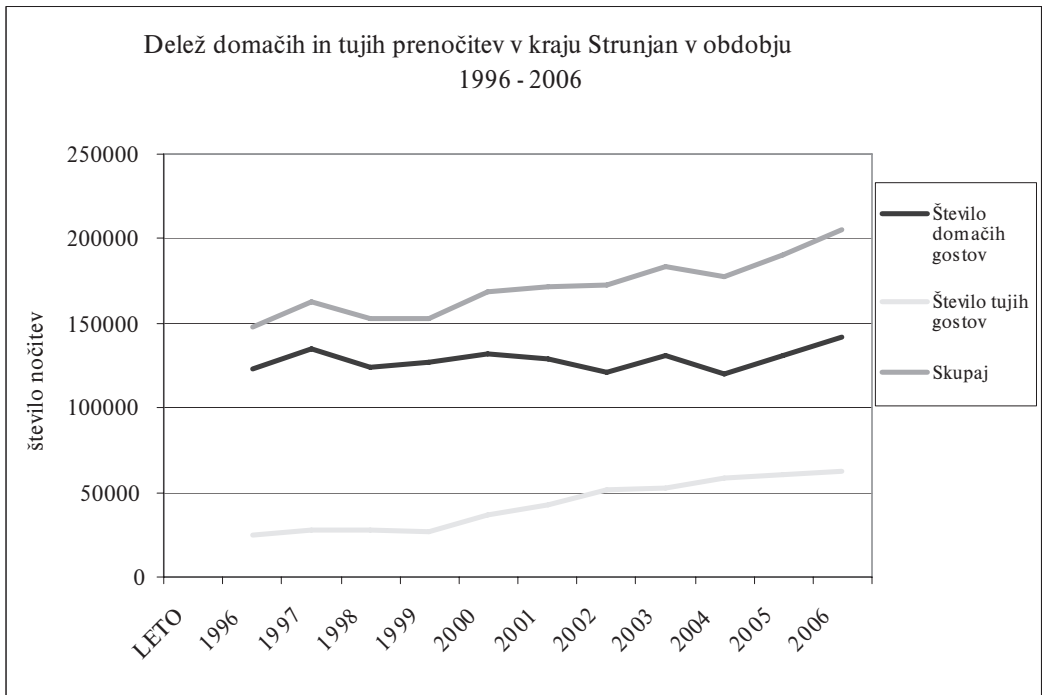


Figure 2: Number of overnight stays at Strunjan in the 1996-2006 period (Source: SURS 2007)

Slika 2: Število prenočitev v kraju Strunjan v obdobju 1996 - 2006 (Vir: SURS 2007)

Table 1 and Figure 2 indicate prevalence of domestic guests in the 1996-2006 period, with their share reaching almost 75% in the 10-year period; the highest was recorded in 1996 (83.2%), the lowest in 2004 (67.3%). The data show that the number of foreign visitors increases from year to year, for while in 1996 24,846 overnight stays by them were recorded, the figure reached no less than 62,881 in 2006. The dynamics of trend regarding the number of all overnight stays shows that except for the year 1998 (owing to the hotel reconstruction) the number of overnight stays increases each year, particularly in the 2004-2006 period, which in turn increases the pressures exerted on the environment. We believe that this is a reason for concern, considering that the village of Strunjan is located within Strunjan Landscape Park and that uncontrolled increased visits can endanger the already highly sensitive environment.

Table 2: Number and share of overnight stays by domestic and foreign guests at Strunjan in 2006 per separate months (Source 2007)

Tabela 2: Število in delež prenočitev domačih in tujih gostov v kraju Strunjan v letu 2006 po mesecih (Vir: SURS 2007)

MONTH / MESEC	No. of overnight stays by domestic guests / Število prenočitev domačih gostov	No. of overnight stays by foreign guests / Število prenočitev tujih gostov	Total / Skupaj	Overnight stays by domestic guests / Prenocitve domačih gostov %	Overnight stays by foreign guests / Prenocitve tujih gostov %	Total / Skupaj %
Januar	5,672	2,483	8,155	69.5	30.5	100
Februar	6,416	2,141	8,557	75	25	100
Marec	7,179	1,780	8,959	80.1	19.9	100
April	7,808	4,144	11,952	65.3	34.7	100
Maj	10,721	5,318	16,039	66.8	33.2	100
Junij	17,123	8,306	25,429	67.3	32.7	100
Julij	26,356	9,576	35,932	73.3	26.7	100
Avgust	19,650	14,346	33,996	57.8	42.2	100
September	14,179	5,870	20,049	70.7	29.3	100
Oktober	8,966	3,610	12,576	71.3	28.7	100
November	9,673	2,012	11,685	82.8	17.2	100
December	8,429	3,295	11,724	71.9	28.1	100

The figure below indicates the of arrivals dynamics by visitors (domestic, foreign, and total) at Strunjan in 2006.

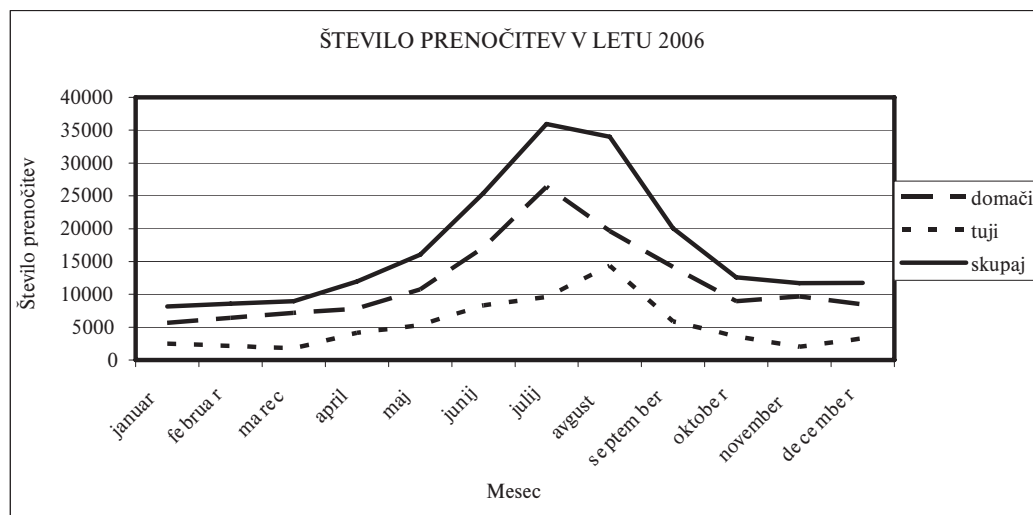


Figure 3: Number of overnight stays per separate months in 2006 (Source: SURS 2007)

Slika 3: Število prenočitev po mesecih v letu 2006 (vir: SURS 2007)

Table 2 and Figure 3 show that the highest concentration of overnight stays is reached in the summer months, i.e. in June, July, August and September. The lowest number of overnight stays at Strunjan is recorded in the months of January, February and March. In 2006, the highest number of overnight stays went to domestic guests, i.e. (26,356 overnight stays). The highest number of overnight stays by foreign guests was recorded in August (14,346). The curve in Graph 3 shows that in mid-September the number of overnight stays by foreign and domestic guests begins to fall rapidly, reaching the lowest value in January.

According to the data, it may be concluded that the greatest pressure on the environment is exerted in the summer months and that the visits should be limited or at least suitable directed and managed. In order to plan tourist activities in compliance with the principles of sustainable use, the carrying capacity of the place must be ascertained prior to making any plans. The carrying capacity of a place is an approach that in the long run provides for solid tourist services on the one hand and for preservation of natural resources on the other. Jurinčič (2003) states that at the peak of the summer season and at weekends that the carrying capacity at Strunjan is already surpassed.

## 5. THE IMPACTS OF TOURISM IN STRUNJAN LANDSCAPE PARK

The biodiversity conservation strategy in Slovenia delineates tourism as a branch of industry that can greatly contribute to the conservation of nature and biodiversity, as it helps to evaluate it economically as a commodity that otherwise has no market value at all. On the other hand, however, tourism brings, apart from benefits, certain dangers and negative impacts on the environment itself. In this chapter we shall focus mainly on the negative impacts of tourist activities in Strunjan Landscape Park and on potential dangers of tourism for the local environment.

Table 3: Negative impacts and potential dangers from tourism in Strunjan Landscape Park (modified from Trampuš 2002)

*Tabela 3: Negativni vplivi ter potencialne nevarnosti turizma v Krajinškem parku Strunjan (prirejeno po Trampuš 2002)*

<b>Negative impacts/Dangers from tourism</b>	
<b>Pressures exerted on the environment</b>	Greater water consumption owing to the increased number of visitors
	Pollution of the sea and other water sources due to rubbish dumping and discharge of oils, fuels and waste water into the sea
	Increased motor traffic and, in turn, increased air pollution and noise
	Excessive trampling of the ground and treading of new paths, which results in loss of habitats and vegetation
	Degradation of the shore and sea owing to the transportation by boats and their anchoring
	Increasing crowds and noise owing to the ever greater number of visitors
	Increased amount of refuse in the entire area
	Parking in the natural environment due to parking lot occupancy
	Surpassed carrying capacity of the area

<b>Financial pressures</b>	General increase in prices and taxes owing to the increased demand and thus increased pressures on the local population (diminishing possibilities for the local population to purchase real property)
	Introduction of entrance fees and other financial contributions, and thus creation of new pressures on the local population
	Increased management costs due to increasing number of visits
	Increased conservation and restoration costs due to the increasing number of visits
<b>Social pressures</b>	Forbidden access to a certain area
	Construction of buildings on market principles without use of traditional architecture principles and thus loss of the area's authenticity
	Loss of the local population's ability to participate in decision making
	Forceful introduction of foreign cultures and customs
	Full occupancy of beaches and parking lots



Figure 4: Bad parking example from the summer season (photo: Alenka Popič)

*Slika 4: Primer parkiranja v poletni sezoni (foto: Alenka Popič)*

## 6. RECOMMENDATIONS FOR SUSTAINABLE TOURIST DEVELOPMENT IN STRUNJAN LANDSCAPE PARK

During the preparation of development plan concerning tourist activities in Strunjan Landscape Park, concrete long-term objectives are recommended to be stipulated, i.e. of the kind that include a concrete delineation of conservation goals and have been accepted on the basis of debates and agreements with key partners.

Any negative impacts of tourism on traffic and infrastructure are to be reduced through arrangement of public and commercial transport to the protected area from the nearby urban

centres with buses, vans and taxis. Traffic in the area can also be relieved by offering transport with boats, (re)constructing cycle tracks and pathways, and building parking lots outside or on the edge of the Park. In the Strunjan Nature Reserve, setting up of quays or bollards is recommended, as well as permanent employment of inspector at sea.

As far as visitors are concerned, we recommend implementation of the following procedures that could contribute to a smaller negative impact of the high number of visits on the natural environment and the local population:

- limitation or reallocation of seasonal visit, particularly in the central part of Strunjan Nature Reserve;
- limitation of the number of bathers and anchoring vessels in the Reserve,
- setting up of info centre in Strunjan Landscape Park,
- providing of guided tourist visits;
- setting up of gates/barriers at places where irregular parking normally occurs, as well as in sensitive/vulnerable areas where regular supervision by nature-conservationist inspectors is taking place;
- supplying more information about the Park via fliers, brochures, websites, radio and other means of promotion; and
- systematic awareness building of the local population and tourists about the significance of the Park for nature conservation and local development.

In view of the fact that some 50 environmental labels and certificates that provide for the supply of products and services in compliance with certain criteria are already known in Europe and that modern tourists increasingly appreciate quality environment in the place in which they spend their holidays, the tourist industry (hotels, camps, tourist agencies, etc.) in Strunjan Landscape Park should do more in terms of acquiring environmental labels and certificates. In this respect, several analyses and initiatives have been made in Slovenia (Terlević 2005, Buček 2007). At the Tourism Directorate within the Ministry of Economic Affairs, a manual has also been prepared for the ecological arrangement and modernisation of Slovenian hotels, whose purpose is to offer to Slovenian tourist companies information on environmental management and its introduction to business (Lebe Sibila 2006).

Considering that the protected areas are very vulnerable entities indeed, the carrying capacity of the Park for tourism should be estimated with an analysis of the key factors and for the planned extent of sustainable tourism. Such an analysis will serve as a suitable professional background for the preparation of the Park's management plan.

When preparing the plan, we recommend the tourist companies to ally with other branches of economy as well. Although the agriculture of Slovenia is currently in a tight spot, the local inhabitants should be acquainted with how agriculture can become an extra source of income. Within Strunjan Landscape Park, several farmers can be found, but no tourist or ecological farms, although the trend of spending holidays in a natural environment is rising rapidly. The future tourist managers and/or planners should stimulate tourism's close association with agriculture, especially with integrated and ecological farming, as for example proposed in the same region in the Dragonja River valley (Jurinčič et Bojnec 2007) and in Karst hinterland (Bojnec et al. 2007). Olive and persimmon picking, for example, could also be introduced for

tourists, or purchase of fruit and vegetables from local farmers stimulated by tourist companies. A traditional Saturday market with local produce could further be introduced, promoted by the Tourist Association Portorož among all tourists and visitors in the Piran Municipality. The same applies to the Tourist Info Centre Izola and the town's fishermen, who could participate in the functioning and promotion of the Park by organising sea journeys and fish picnics, as well as by offering the tourists a share in the fishing and purchase of freshly caught fish.

In Sečovlje Salina Nature Park, tourists are offered to gather salt and to participate at the Summer Work Camp. The same could be introduced at the Strunjan salt-pans by charging for the service, with the obtained money allocated for maintenance of the pans.

During further development of tourism in Strunjan Landscape Park, much thought should be dedicated to new tourist nature-friendly capacities, e.g. visits of distinguished geological and geomorphologic features of the Strunjan Nature Reserve with canoes and kayaks in the company of professionally trained guide, setting up of an educative trail under the leadership of a (professionally trained) guide, and guided tours for all age groups. The number of groups, however, should be limited and adapted to the carrying capacity of the vulnerable natural environment.

With the introduction of new capacities, however, education of the people employed in tourism, tourists and local inhabitants should be closely associated as well. Education and informing of the visitors as well as employees increase understanding of the protected area's values and have an impact on the attitude towards conservation measures. Well known is the case, for example, how a guest in the Talaso Strunjan hotel complex was advised by its personnel to go fishing to the Stjuža lagoon, although fishing had been strictly prohibited by the Decree on Strunjan Landscape Park.

As far as marketing of tourism in the protected area of Strunjan Landscape Park is concerned, let us underline that for the time being the Park itself is not promoted, but merely some of its separate parts within the framework of the existing tourist capacities. An integral image and brand is to be made and the Park included in the wider tourist capacities offered in the Piran Council and Southern Primorska region (Vesenjak et al. 2006) as an independent product of natural history tourism and as part of integral products of this destination. Marketing of Strunjan Landscape Park, however, is to be marketed only when the products are completed and the place fit for additional pressures, considering that certain parts are already overburdened during the high season.

## 7. CONCLUSIONS

Today, Strunjan Landscape Park is not only an exceptional tourist destination with its littoral and health resorts, but also a precious green oasis in the vicinity of well developed Mediterranean towns rich in culture, such as Piran, Izola and Koper, and internationally acknowledged tourist centre Portorož. Owing to its geographical position, exceptionally valuable natural features and cultural heritage, the Park has a great opportunity to develop sustainable tourism within it. On the basis of the carried out research, however, it has been established that tourism is not developing in sustainable direction, for during the summer

season it is currently bringing more negative impacts owing to its surpassed carrying capacity. Prior to any tourism planning in the protected areas, the findings and recommendations for the planning of tourism in protected areas are to be implicitly taken into consideration. Every development in the protected area must be, of course, adapted to the nature conservation measures. We believe that a systematic development of sustainable tourism in combination with ecological and integrated farming is a good decision in terms of nature conservation and a successful development of Strunjan Landscape Park.

## 8. SUMMARY

The basic reason to carry out the research was to gain a better insight into nature conservation, system park tourism and its management. Within our work, we concluded that sustainable tourism plays a major part in the management of protected areas, as it helps to evaluate the valuable natural features as well as to educate the visitors,

In ecological and biological terms, Strunjan Landscape Park is not doubt a significant area, protected by the Governmental degree since 1990, but on the other hand it is one of the most popular tourist destinations on the Slovenian coast. The analysis of the number of visitors in Strunjan Landscape Park during the 1996-2006 period has shown major negative impacts and degradation of natural, social, cultural and economic environment.

For the future planning and management of Strunjan Landscape Park it is therefore important to reduce transportation impact on the protected area. This can be accomplished through schemes that encourage people to leave their cars near the edge or in major cities of the area and use alternative forms of transport, such as buses, bicycles or boats - or to proceed on foot. City dwellers should encourage visitors to take the whole journey by public transport. Tourist visitation can and do have negative impacts on natural resources, but can be managed with appropriate tools for visitor management.

Tourism managers should improve management and marketing with the introduction of eco labels and should link with agriculture and fishing industry in the area. Last but not least, Strunjan Landscape Park needs to organise a suitable surveillance (employ rangers) and adjust its goals to the nature protection measures.

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