

# CEETO - D.T2.2.3

# SUSTAINABLE TOURISM ACTION PLAN

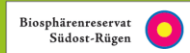
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Public Institution Nature Park Medvednica  
(PP09)

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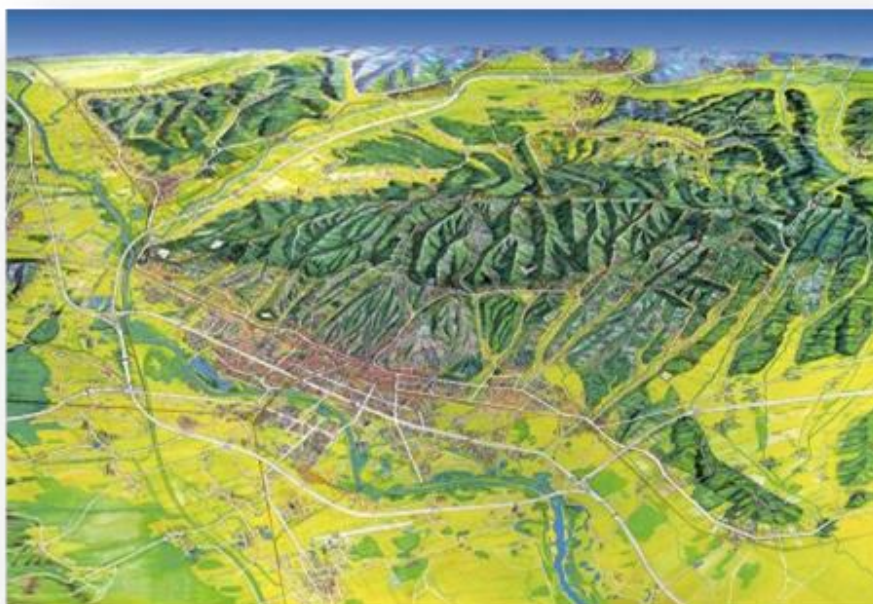


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## 1. Description of the PA

Nature park Medvednica is situated, as a separate mountain massif, immediately above Zagreb (figure 1). Medvednica has exceptional value for the city of Zagreb from the ecological (the protection of soil from erosion, preventing torrents, impact on climate, quality of air and water), aesthetic, recreational, health and touristic point of view. There are two distinct landscape entities: the forest complex and the accessible area with settlements. Forest complex that covers 81% of the Nature Park is mostly continuous, with small sections of meadows. A large number of mountain streams in deeply cut valleys and the areas with karst contribute to diversity of landscape of the forest area. The access area has partly retained the character of foothill landscape in which urban, suburban and rural settlements intersperse with the surrounding agricultural areas and separate groves.



*Figure 1: Medvednica and city of Zagreb*

Because of its exceptional natural beauty and proximity of the capital, it has become a favourite resort of the inhabitants of Zagreb.

Since Medvednica is traditionally exceptionally well visited, in the Park were developed numerous and various facilities for visitors - from educational trails and programs, Info Centres, to major tourist attractions such as the medieval Zrinski mine, cave Veternica, and old medieval fort Medvedgrad.

On Medvednica there are about 70 hiking trails and 9 interconnected circular bike trails. The highest peak of Medvednica, Sljeme is known ski resort, with arranged and well-equipped tourist facilities and manifestations such as the World Cup "Snow Queen Trophy", which includes women's and men's slalom.



The highest peak, Sljeme, is part of the Pilot area of the CEETO project. It is especially attractive during winter because of its ski center (figure 2) for citizens of Zagreb and therefore the area is subjected to many problems. A winter sports center is based on the northern slopes towards Sljeme. The center has hosted several FIS World Cup slalom skiing races, known as the “Snow Queen Trophy”.

The winter sports center consists of one chairlift for three persons and two T-bar lifts. Equipment for producing artificial snow has been added, and because of that, the skiing season has been prolonged to more than four months. Three ways exist to reach the mountain: by road (with a car or a bus) or on foot (numerous mountain paths). In the past, a gondola lift (cable car) was present, which started from the Gračani neighborhood just below Medvednica. The cable car had run from 1963 to 2007 and the gondola had a capacity for four people, with a 23-minute journey time, covering a distance of 4023 m. The new gondola lift will use the existing route extended by 3 km and will help with traffic congestion but it is still in process of building and not operational.

During the winter months, with the increase of visitors, there are problems with traffic congestion and parking places. While the World Cup “Snow Queen Trophy” is held the main road leading to the Sljeme top is closed which leads to traffic jams up to 5 km long. Consequently, neither people nor ambulance nor Croatian Mountain Rescue Service can reach the peak zone.



Figure 2: The pilot area

## 2. Natural values of Nature Park Medvednica

Medvednica's biodiversity is one of its greatest characteristics. It is manifested through the diversity of species, habitats and landscapes. The Park is situated quite nearby the City of Zagreb and is exposed to numerous pressures and threats, however it represents a valuable area that needs to be protected not only for nature components preservice, but also because of many human interests. The number of 1205 plant species, shows not only the good habitat preservice, but also the richness of flora. Forests and forest communities constitute a fundamental phenomenon of Medvednica Nature Park. There are eight special forest reserves in the Park that were declared localities of valuable forest communities in 1963. Medvednica Nature Park has become a member of Ecological Network Natura 2000 in the year 2013. According to the Natura 2000's Ordinance on Ecological Network and Habitats Directive, site HR2000583 Medvednica has listed 20 target species (figures 3-6) and 9 target habitat types (SDF). In the following years researches and monitoring will be centered to the target species and habitats. In spite of the large percentage of forest habitats (more than 80%), other types of habitats (meadows, grasslands, subsoil, orchards, vineyards and rural areas) should not be neglected. Numerous water habitats (80 creeks and 200 wellsprings) and water organisms, subsoil habitats that count around 60 speleological objects (caves) that are mostly closed for public, except for Veternica Cave that is in touristic function, grassland habitats which are mostly endangered by succession and excerpted localities of high biodiversity, etc.

Diverse habitats on Medvednica and altitude layering give home to different fauna. However, expansion of the Zagreb suburbia, urban centres and communication drastically changed those habitats, but numerous animal species, some of them endangered or protected, still live there. Recent rich fauna is a fact that contributes that habitats of animal species are still of good quality with satisfying conditions.



Figure 3: *Lucanus cervus*



Figure 4: *Austropotamobius torrentium*



Figure 5: *Rhinolophus hipposideros*



Figure 6: *Bombina variegata*

Medvednica was formed millions years ago. The oldest rocks are from Devonian period, 440 million years old. There are numerous evidences from geological history like well preserved fossils, minerals and presence of the three different rocks types. Geological history of Medvednica is very complex. Silver mine, Zrinski mine from middle ages shows us a rare minerals from Earth. Zrinski mine is arranged for visits.

### 3. Historical significance of pilot area in Nature Park Medvednica

Natural and cultural-historical significance of Medvednica are mutually caused and interlaced. In the mid-19th century Medvednica received its recognizable recreational-tourist function for the first time. The first wooden pyramid was built on the highest peak of the mountain in 1870 and it represented the first climbings' object in the history of Croatian mountaineering. Numerous trails and climbers' lodgings were founded and in the late 19th century the Sljeme road was built. Between the two World Wars tourist-recreational function of the area intensively developed. The first ski jumping hill was constructed in 1934. The majority of climbers' lodgings were built after the Second World War - Puntijarka, Grafičar, Risnjak, Lipa and others. The first ski slopes Crveni spust or the Red slope were fixed in 1946. Ski chairlift was constructed in Panjevina and a big cable car from the Tunnel was built in 1963.

In that way sport and recreation have become one of the significant characteristics of the Medvednica area, especially in pilot area of CEETO project, which considers the peak area of the Park and the ski area.



## 4. Availability and transport

Medvednica Nature Park is connected with its surroundings in a different way. County road Ž 1049 passes through the Park. It is a one-way road until the peak zone and from the peak zone on the return to Zagreb. The road is two-way towards Krapinsko-zagorska county and in the peak area. There are also numerous macadam roads and 70 hiking trails. The function of the ZET cable car by which the majority of the visitors were transported was stopped in 2007 and the increase in number of vehicles is the consequence.

From 2009. to 2012., car counter was installed at the main entrance at Bliznec.

In the table 1 is a noticeable increase in traffic. The trend of vehicle arrivals to the park is in growth.

Table 1: Number of cars per year

Eco counter	2009	2010	2011	2012
Number of cars	50.000	53.309	64.750	66.823

A bus line from Mihaljevac to the hotel "Tomislavov dom" in the peak zone has been established as a replacement for the cable car. However, the frequency of the bus rides is not sufficient for the needs of the area and the number of visitors.

According to the fact that the Sljeme road is categorized as a county road, the Public Institution cannot regulate or limit the traffic through the Park.

The lack of parking spaces is also among the biggest problem. It is in particular seen during weekends and during ski season when the peak zone is additionally burdened with vehicles of personal use. Problems arise due to inadequately parked vehicles that block the access to the public transport.

The City of Zagreb is managing the cable car project, at the moment the project is in the phase of construction for access roads and making geomechanic research for pilot pillars. It is expected to be finalized and in use by 2020.

Visitors of Medvednica Nature Park have a couple of ways of getting around:

1. Marked hiking and mountaineering trails
2. Public transport (bus)
3. Vehicles of personal use
4. Bicycles.

Pollution in the Park, decreased air quality and satisfaction of the visitors are the consequences of the larger number of vehicles each year (especially during weekends and during ski season).

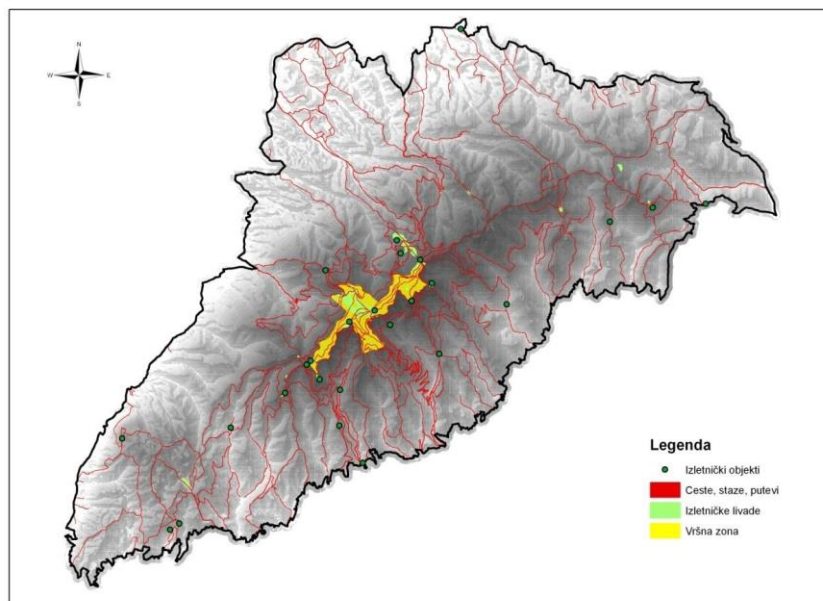
## 5. Visitor infrastructure

By development of the entire range of infrastructure (figure 7) for the visitors and diverse interpretative program, the communication with visitors and general public is carried out both directly and indirectly.

Forest trail Bliznec has been adapted for persons with special needs. Informational centers on main entrances have been arranged. Bliznec information center has been in function since October 2012. Veternica cave, Zrinski mine and Medvedgrad are three main tourist attractions of the Park. Medvedgrad has become the most visited locality on Medvednica (according to the number in table 2).

Medieval town Medvedgrad will become a modern center for the visitors of Medvednica Nature Park in the future.

On Medvednica there is more than 70 hiking trails and 9 interconnected circular bike trails. There is more than 15 objects with good food offer and refreshments. The highest peak of Medvednica, Sljeme is ski resort, with arranged and well-equipped tourist facilities.



**Figure 7: Visitors infrastructure in Medvednica Nature Park**  
 - Green dots: tourist objects  
 - Red lines: roads, paths and trails  
 - Light green areas: tourist meadows  
 - Yellow area: peak zone





Table 2: Number of users of some direct education programs conducted by the Public Institution "Medvednica Nature Park" from 2015 to 2017

Number of the users of the Program, PINPM	2015	2016	2017
Number of visitors, Zrinski mine	4.535	5.591	4.902
Number of visitors, Veternica cave	4.837	7.085	5.330
Number of visitors, Medvedgrad	13.954	18.787	21.111
The number of children participated in educational programs	537	1.146	672
Number of visitors in professional management programs	59	100	100
Free program visits	5.480	4.000	4.500
Corporate volunteering	470	780	400
Individual volunteering	1	9	3
Professional practice	11	11	5
Professional training	4	3	1
<b>Total</b>	<b>29.888</b>	<b>37.512</b>	<b>37.024</b>

## 6. Tourism in Nature Park Medvednica

Tourism in Medvednica Nature Park started to develop in the second half of the 19<sup>th</sup> century with the change of lifestyle (the expansion of Zagreb, industrialization). The visitor infrastructure started to develop, such as mountaneering trails, climbers' lodges, shelters, roads. Different societies were founded. Almost 150 years later that infrastructure has an additional value - a value of cultural, material and intangible heritage. Today Medvednica Nature Park is encountered in surrounding of more than one million of inhabitants - it is near the city of Zagreb, Zagreb County and Krapina-Zagorje County that represent one quarter of total population of the Republic of Croatia.



The assessment of annual visitors' number of Medvednica Nature Park is estimated to 1 000 050 and is taken from the study "Structure and attitudes of visitors of Medvednica Nature Park" (2009). It is impossible to set out an accurate number of visitors because there are around 90 entries in the Park. However, visits of different programs are counted, just as numbers of tickets sold for some of Medvednica's tourist attractions, data got by traffic counting mechanisms (of both road and pedestrian traffic) and data received by the estimations of number of visitors in various events in the Park.

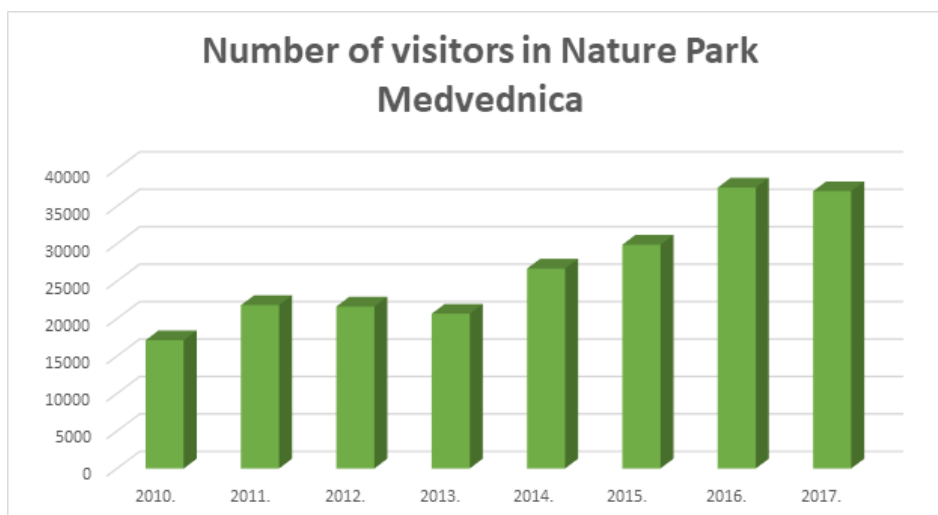


Figure 8: Number of visitors in Nature Park Medvednica

In the last 8 years, there is increasing number of visitors which is evident from the soldout tickets and the number of children in educational programs organized and conducted by Park employees (figure 8). Also, it is recorded that the number of international visitors on Medvedgrad is increasing.

Regular Parks visitors are usually from one of the three surrounding counties.

## 7. Structure and attitude of visitors of Medvednica Nature Park' research from 2009

In 2009 Public Institution Nature Park Medvednica conducted survey questionnaire which included data analysis of the car counters and the information about Park infrastructures. Below are the conclusions:

- Medvednica Nature Park is mostly visited by the domestic visitors - 99,53%
- Inhabitants of the direct surroundings of the Park (the City of Zagreb and Zagreb county) are the largest source of demands for Medvednica Nature Park - 91,72%



- The majority of the visitors of the Park are of younger and middle age - middle-aged (42,9%), have higher education degree (40,52%) and are employed (67%)
- The majority of the visitors come to the Park during weekends (80,5%), a couple of times per year (37,4%). Only 5,3% of the visitors claimed it was their first visit to the Park
- The majority of the visitors come to the Park with friends (50%) and family (34%)
- 42% of the visitors received the information about the Park by informal sources (oral recommendation of friends and relatives) and official sources - the Internet (12,4%), articles in journals and in newspapers (10,5%) and radio and TV (2,7%)
- 74% of the visitors stay in the Park for the half of the day and almost one quarter of the visitors spends the entire day in the Park
- 43% of the visitors come to the Park with their personal vehicles
- 57% of the visitors are satisfied with the general signalization in the Park
- The following motives are primary among the visitors of the Park: being in nature, the company of family and friends, leisure and recreation
- The total number of estimated visitors of the Medvednica Nature Park in one year: 1 005 000.

## 8. SWOT Analysis

Table 3. SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Attractive and preserved natural and cultural heritage</li> <li>• Pleasant climate for visits (fresh during summer, snow in winter, colorful during spring and autumn)</li> <li>• The existence of contents for active vacation in the nature - ski slopes, cycling trails, spa northern of the Park</li> <li>• Loyal visitors - many climbers from Zagreb visit Medvednica on regular basis</li> <li>• Good partnerships - WWF, Europarc, Dinaric Arc Parks</li> </ul>	<ul style="list-style-type: none"> <li>• Many stakeholders who manage infrastructure for visitors (services and facilities)</li> <li>• Inadequate traffic infrastructure (ZET cable car)</li> <li>• Expressed seasonality of visits to the Park</li> <li>• Traffic - too many vehicles on weekends and during ski season, the lack of parking spaces, traffic jams, pollution, noise that endanger security of the visitors</li> <li>• Concentration of the majority of the facilities and visitors in the peak zone</li> </ul>



Opportunities	Threats
<ul style="list-style-type: none"> <li>• Increase of new trends in tourism - visiting protected areas (so-called "green tourism"), health, cultural, adventure and active tourism</li> <li>• Stakeholders Forum - an occasion to grow into the strong body that can solve the active problems in a proactive way - traffic signalization, parking lots, traffic connections</li> <li>• Plans for cable car construction - the possibility of solving many traffic problems</li> </ul>	<ul style="list-style-type: none"> <li>• Increased pressure of the visitors in the peak zone and the decrease of quality of visits as its consequence</li> <li>• Too many actors that do not collaborate sufficiently, two levels of the institutional framework (city and state level) - overlap and vagueness of the authority</li> </ul>

## 9. Nature Park Medvednica Stakeholder’s Forum

Public institution Nature Park Medvednica in 2014. commits itself to following the principles of the European Charter for Sustainable Tourism in Protected Areas and to the implementation of the agreed strategy and action plan. Therefore, Stakeholders Forum was established as one of the needed goals to achieve European Charter for Sustainable Tourism in Protected Area.

Before the Stakeholders Forum was established, the collaboration with the stakeholders had existed but it had been limited to their smaller number and dealing with current business and situations in the Park.

Integral approach to management in the Park is ensured through collaboration with various partners from local community, public institutions and other institutions, all included in the Stakeholders Forum, an important communication tool that has been established during ECST process (2013).

Many workshops with estimated hundred participants took place. Various institutions for nature protection and cultural heritage, tourist sector (tourist boards and the Ministry of Tourism of the Republic of Croatia), firefighters, police, catering and hotel trade sector and local communities were among the participants of those workshops.



In the CEETO project, until now, four stakeholders meetings were held. In the spring 2019, the Final version of the Action plan for pilot area will be presented at the Stakeholder meeting, after the conducted survey on the field and their analysis.

Other key partners in the CEETO project are: City of Zagreb - Traffic Office, Police service, ZET (Zagreb Electric Tram), Croatian Forests Ltd., local communities, tourist boards and tourist agencies.

## 10. Europarc federation

### Vision

Sustainable Tourism in European protected areas provides a meaningful quality experience, safeguards natural and cultural values, supports local livelihoods and quality of life and is economically viable.

### Mission

Through awarding the European Charter for Sustainable Tourism in Protected Areas, EUROPARC seeks to safeguard cultural and natural values by stimulating quality sustainable tourism, engendering partnerships to support local livelihoods, increase awareness of the need for sustainability, and promote international cooperation.

### Charter principles

1. Giving priority to protection
2. Contributing to sustainable development
3. Engaging all stakeholders
4. Planning sustainable tourism effectively

<https://www.europarc.org/sustainable-tourism/charter-principles/>

## 11. Key objectives of Nature Park Medvednica Sustainable Tourism Strategy

1. To define and strengthen the identity of Nature Park Medvednica as a sustainable destination, promote its natural and cultural values, as well as its offer to visitors,



encouraging longer stay and exploration.

2. To improve the system of management of visits to NPM, as well as of visitor flows.
3. To develop and improve a variety of contents and activities to enhance the satisfaction of visitors with their visit, based on recreation and education about natural and cultural values of the Park.
4. To connect, coordinate and cooperate with all internal and external stakeholders of the Park on integrated and sustainable development of tourism in NPM, as well as on its efficient promotion.
5. To increase the awareness and understanding of the function of tourism in the Park, including its impact on the environment and residents of the Park, as well as its economic contribution.

## 12. Activities - Action plan for Pilot area

Activity 1.1. To promote aesthetic, health and spiritual values of NPM for human benefit

Activity 2.1. Reconstruction of the ZET cable car - the City of Zagreb

Activity 2.2. To explore the possibility of road recategorization after the cable car becomes active

Activity 2.3. To explore the carrying capacity of the peak zone

Activity 4.1. To examine the efficiency of web portal establishment for promotion of the entire tourist offer in the Park of all the stakeholders of the Forum

Activity 4.2. To support members of the Forum and others in content development for visitors that preserve and contribute the Park values

Activity 5.1. To continue with the monitoring of ski slopes

Activity 5.2. To make a new integrated protocol for monitoring of ski slopes

Activity 5.3. To carry out the survey of structure and attitudes of visitors of Medvednica Nature Park during the winter season

## 13. Conclusion

Sustainable Tourism Action Plan has been developed in cooperation with stakeholders although the description of the planned activities in detail will be elaborated after a conducted survey in the 2019 winter season in the PA.