

CEETO - D.T2.4.1

MONITORING WORK PLAN

Public Institution Nature Park Medvednica
(PP09)

Version 1
11 2018





Contents

1. INTRODUCTION	2
2. SURVEY.....	2
3. RELEVANT STAKEHOLDER.....	3
4. INSTALLING CAR COUNTERS AND CAMERAS	3
5. TIMELINE	8
6. MONITORING WORKPLAN - ANNOTATION.....	8



1. INTRODUCTION

Nature Park Medvednica is located in proximity of city of Zagreb. Besides abundant biodiversity of flora and fauna and cultural heritage sites, Park is favourite among citizens of Zagreb for its recreational and health benefits. Park has many hiking and cycling paths and is ideal for skiing during winter season.

Taking all written above in consideration, Park also faces many problems, strong visitor presence being one of them. During the CEETO project, Public Institution “Nature Park Medvednica” will try to improve the existing visitor problem based on traffic flow management which will be established and tested on Pilot area.

Pilot area includes both the peak and ski area of the Park. Both locations in the Pilot area are spatially and functionally linked and are located near the highest point of Medvednica mountain. During winter (ski season) all of the area is overburdened with visitors. Lack of infrastructure and not enough public transportation drives people to use their own vehicles to reach the peak. Lack of parking spaces and a large amount of traffic causes clogging of the road leading to the Pilot area causing problems in wider area of the Nature Park. An excessive number of vehicles represents a problem because of ecological, aesthetic and safety reasons, and has a negative impact on the experience of staying in the Park.

The goal to manage visitor presence is a system of reception and management of traffic flows. Through defining mobility management plan, experience and safety of the guests is planned to be improved.

Existing traffic problem Public Institution “Nature Park Medvednica” will try to improve through conducting surveys, installing car counters and cameras, and especially involving all the relevant stakeholders.

2. SURVEY

During the winter months, especially during the ski season, Public Institution “Nature Park Medvednica” together with stakeholders will be conducting surveys to gather qualitative and quantitative data of the visitors. Survey will gather data on behaviour, opinion and type of visitors also with constant monitoring of tourism flow as project progresses.

Survey will be distributed all around Nature Park Medvednica but focused on Pilot area.



3. RELEVANT STAKEHOLDER

During the development of monitoring workplan for the PA, all the relevant stakeholders were included in Forum meeting and discussions about traffic flow management. Based on workshops held with stakeholders, some of their suggestions and ideas were inserted as a part of monitoring workplan/pilot action plan.

Stakeholders are therefore indirectly involved in current monitoring workplan, and after the implementation period is over and data collected, there will be another stakeholders Forum meeting where collected data and documents will be shared. In order to assure better future cooperation and project sustainability.

During the monitoring workplan stakeholders will provide Public institution “Nature Park Medvednica” with relevant data such as: overnight stays and number of skiers.

4. INSTALLING CAR COUNTERS AND CAMERAS

Installing car counters and cameras within Nature Park Medvednica will provide quantitative data about visitors, help to develop a communication system coming from cameras to traffic order officers, ensure constant surveillance of the Park’s parking areas, improve stakeholder’s knowledge about availability of parking spaces in parking zones which will help to regulate and respond to traffic jams better.

Nature Park Medvednica will install two car counters and three cameras.

Car counters will be on two separate locations.

First car counter will be installed at the headquarters of Public Institution “Nature Park Medvednica”. The main reason for choosing this location is that the car counter is set at the main Park’s entrance on the main road leading to the Nature Park’s peak area (Pilot area). This road is one-way only so data collected on incoming vehicles will be exact.

Second car counter location is in the Pilot area, near the skiing slopes, and also on the main road which leads to the Krapinsko-zagorska county on the other side of the mountain. On this location car counter will be installed on the two-way road since there is no possibility of one-way exit. But still the data provided will be very helpful for monitoring traffic flow.

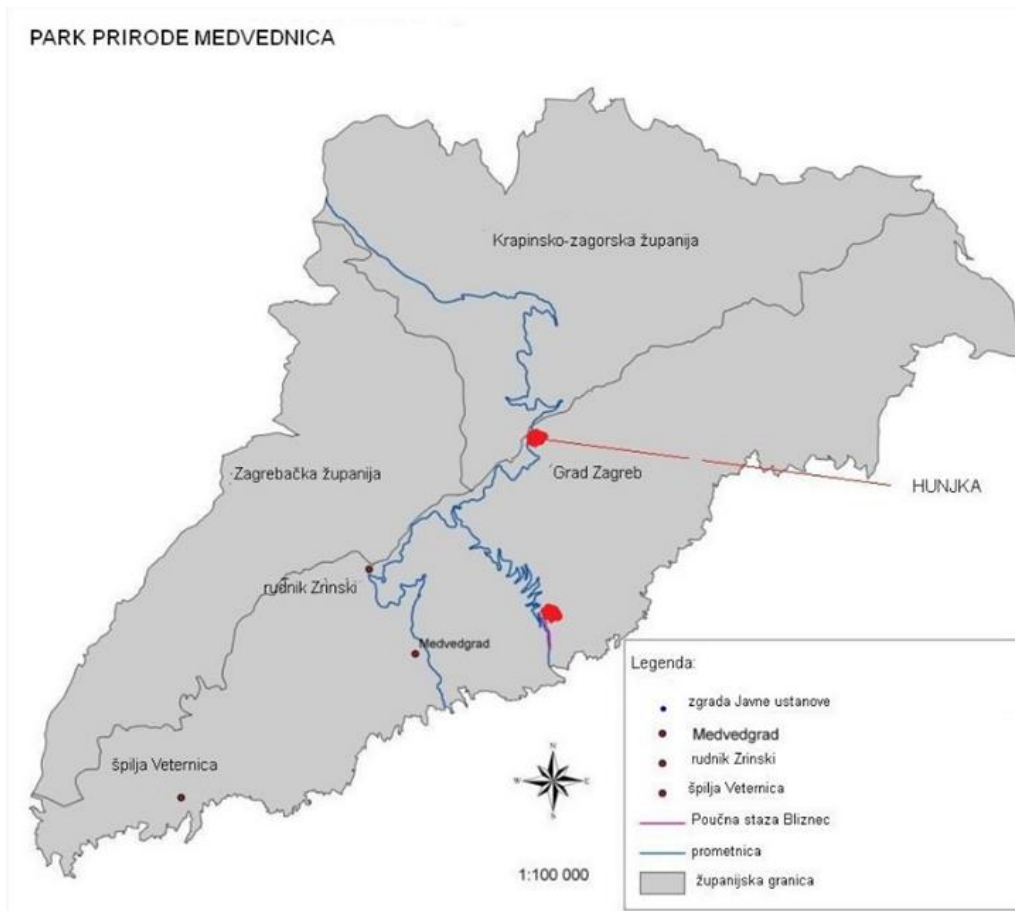


Figure 1. Locations of the car counters (red dots)

Public Institution “Nature Park Medvednica” will also install three cameras on three different locations. Cameras will have live transmission and two of them will monitor parking areas (first at the main entrance to the Park near Info center “Bliznec” and second near hotel Tomislavov dom in Pilot area). Goal is to be able to detect when all the parking spaces are occupied so that stakeholders can intervene and try to prevent car jams. In this way visitors could get information on time to maybe plan different route to the Park or type of transportation (from 2021 cable car is planned to operate from the main entrance to the peak zone).

Last camera will be placed on the road intersection in the Pilot area, since that is the busiest intersection leading to three different directions and also people use those roads to park their cars which can lead to traffic jams. That single camera will provide information both on traffic congestion and parking.

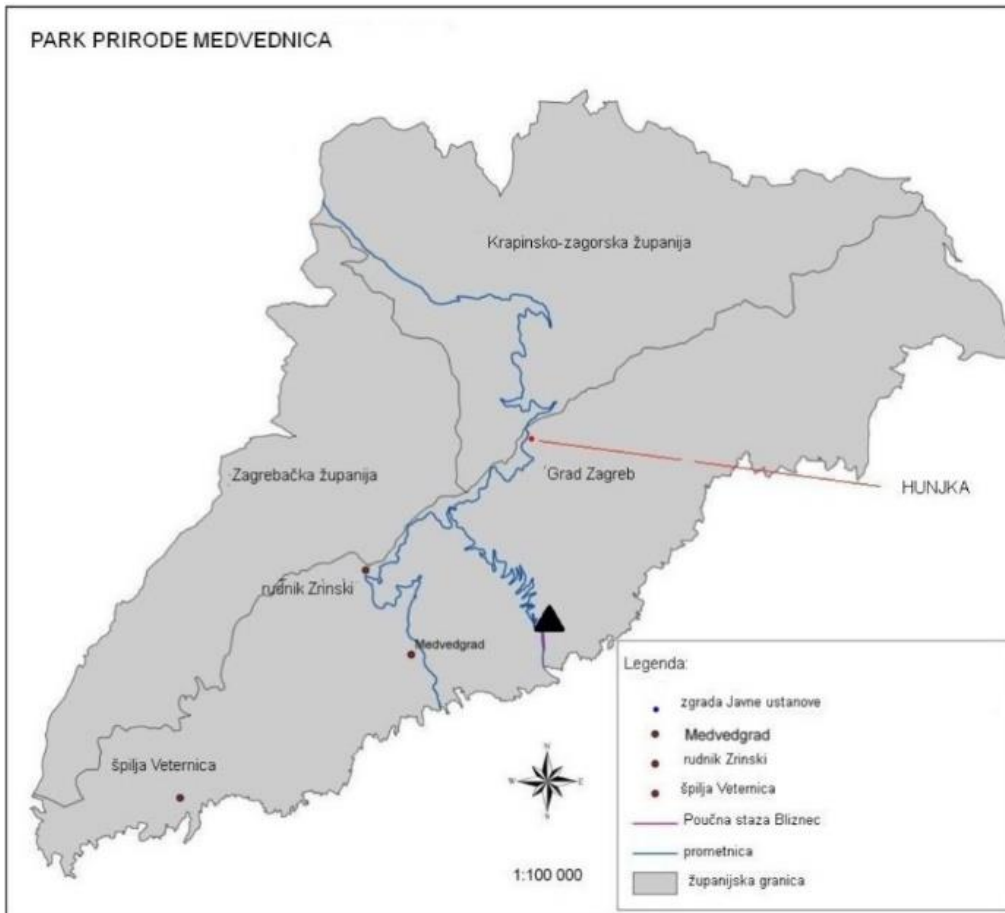


Figure 2. Location of the first camera (Info center “Bliznec”)

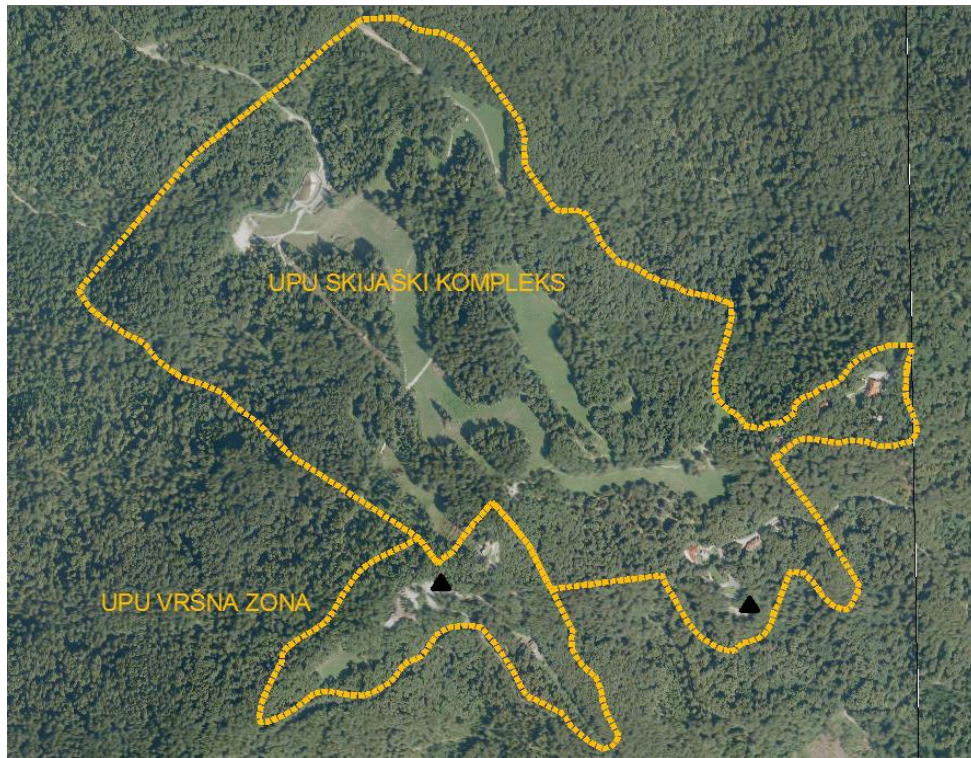


Figure 3. Location of the cameras situated at the peak of the Nature Park “Medvednica”

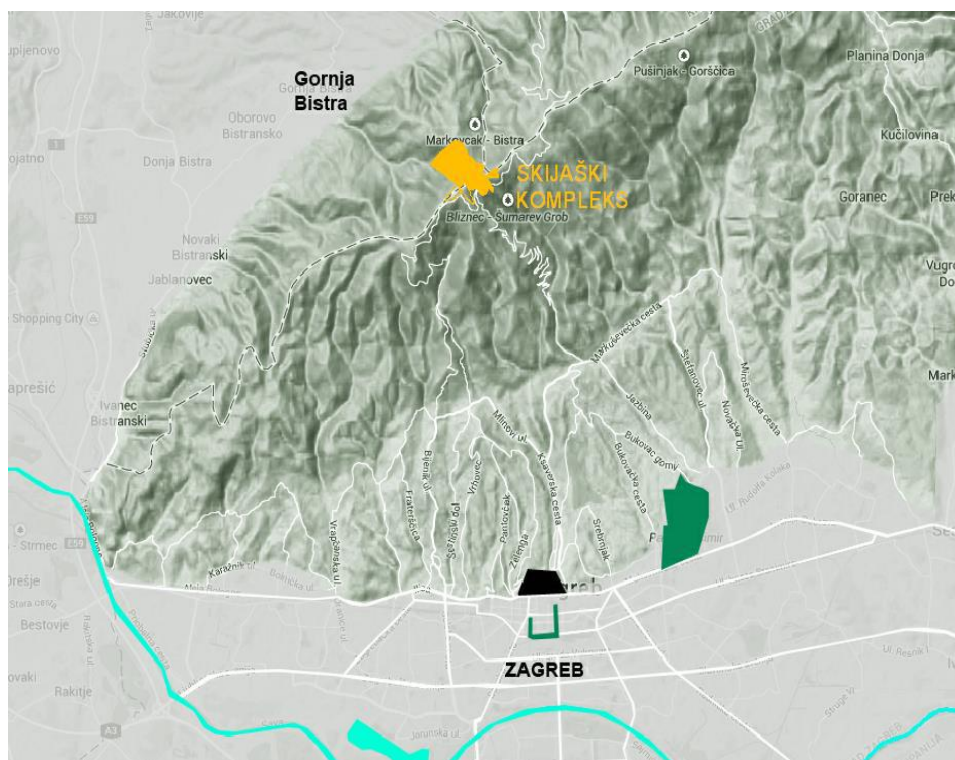


Figure 3. Location of the two Pilot area cameras on wider scope (located in orange coloured patch - Pilot area)

Two car counters work on radar sensors and are equipped with GSM/GPRS modem so data will be easily collected through mobile phone application.

Cameras are in colour, for external assemblage and with remote control (both horizontal and vertical usage) and with live transmission.

All the collected data, from car counters and cameras, will be used to regulate access to Pilot area. Public Institution “Nature Park Medvednica” is data collector and will provide and communicate data to all other stakeholders. In cooperation with stakeholders, data on traffic congestion and filled parking spaces will be distributed to visitors via media for timely information.

Public Institution “Nature Park Medvednica” and stakeholders, with daily collected data, will be able to regulate access to the peak area when traffic reaches level of high congestion and all the parking spaces are filled. Regulations will be made with re-scheduling the timetable of the bus (public transportation) driving visitors, i.e. with increase number and frequency of the buses.



5. TIMELINE

November 2018 - Installation of the thematic equipment

December 2018-April 2019 - Monitoring activities

January-March 2019 - Test of the draft of the mobility management plan

April 2019 - Working table with local stakeholders

6. MONITORING WORKPLAN - ANNOTATION

D.T2.4.1. Monitoring workplan for each PA - Starting from the Action Plan, PA sets up a system to monitor the implemented management tools, the Monitoring Workplan identifies: monitoring locations, specific tools, time frequency, Data collection/elaboration methodologies & responsible subjects.

In relation to deliverables D.T2.4.3 and D.T2.5.1

Deliverable D.T2.4.3 - Reports on Monitoring Workplan implementation - Each PA drafts a report on Monitoring Workplan implementation, providing data on pressure baseline and its actual reduction and on socio-economic benefits thanks to new management tools; when possible, it provides data on environmental impacts reduction.

Deliverable D.T2.5.1 - Pilot Action Final Report - Final Report describes the implemented governance model and the results (reduction of tourism-based pressures and environmental impacts and increased socio-economic benefits) of the implementation of management and monitoring tools in each pilot area.

In course of 4th and 5th period of the CEETO project, Public Institution “Nature Park Medvednica” will be conducting monitoring scheme proposal for environment and nature for Pilot area (skiing slopes and its buffer zone).

LAC methodology is planned to be used for determining indicators for environment and nature. After baseline research, next year standards for selected indicators will be determined. Set of environment and nature indicators will be determined before monitoring according to following list:



1. Environment indicators:
 - hydrological indicators
 - soil and edaphic indicators
 - climatological indicators

2. Nature indicators:
 - vegetation record
 - stream and wells fauna
 - meadows and lichens biodiversity
 - invertebrates' indicators

Monitoring results are not to be included in Report on Monitoring workplan implementation (D.T2.4.3), since they will be conducted after winter months and after ski season is over (from April until September 2019). To be able to collect correct and exact data, monitoring needs to be conducted in those specific months and will be carried out in Pilot area, some specifically on ski slopes and its buffer zone.

Results will be put in the study being made in 4th and 5th period and thus included in deliverable D.T2.5.1 - Pilot Action Final Report.