Tourism in Protected Areas of Croatia and monitoring its impact
Case study Nature Park Medvednica

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Institutional framework of nature protection in Croatia

Ministry of Environmental Protection and Energetics
Nature protection department + Nature protection inspectorate

State Institute for Environment and Nature Protection

State level MA for management of national and nature parks (8/11)

Public institutions for management of protected areas on county level (21)

Competent authority – supervision and control

Public institutions – technical assistance and support, quality control

Administrative department of counties (spatial planning and environmental protection)
NP/NP Protected Areas in Croatia

8.48% of state territory
Natura 2000: 36.73% of land territory, 15.45% of marine territory)

International designation:
UNESCO – World Natural Heritage List
NP Plitvička jezera
UNESCO Man and the Biosphere (MAB)
PP Velebit
Ramsar site
PP Kopački rit
PP Lonjsko polje
PR Crna mlaka
Delta Neretve
UNESCO Geopark
PP Papuk
Tourism in protected areas in Croatia

- one of the richest EU countries in aspects of biodiversity (well preserved natural heritage)

- NP/NP with high natural and cultural values
  
  **Primary task of Public Institutions:**
  - protection and preservation, valorisation
  **Secondary task of Public Institutions:**
  - education, interpretation - tourism

Overall in tourism sector recognized are:
1) high demand for sustainable tourist products
2) attractive and preserved nature as the main competitive advantage of Croatian tourism (along with safeness)
3) more than one third of tourists prefer green tourist products and are willing to pay up to 40% higher price for it
4) switch from mass tourism „3S“ („Sea, Sand, Sun”) to „3E“ tourism („Entertainment, Excitement, Education“) or „4L“ tourism („Landscape, Leisure, Learning and Limit“)
5) tourist utilization varies in protected areas (in some not full potential)

*Average annual growth of visitors to Croatian PAs, primarily NP & NP, is 13% in the period 1997-2006 (2006).*
Tourism in protected areas in Croatia

Tourist offer in PAs in Croatia focused on:
- Outdoor tourism (eg. cyclotourism, adventure);
- Nature related tourism (eg. birdwatching, speleotourism)
- Educational tourism (school related; visitor centers)
- Cultural tourism (cultural manifestations)
- Nautical tourism
- Rural and ethno tourism

Products in Tourism (defined in Cro Tourism Strategy 2020):
- products with a clear perspective of development:
  - health tourism,
  - cyclotourism,
  - gastronomy and enology,
  - rural and mountain tourism,
  - golf tourism,
  - adventure and sports,
  - ecotourism
Case study
Nature Park Medvednica
Nature Park Medvednica - introduction

<table>
<thead>
<tr>
<th>Nature Park Medvednica ID-current state</th>
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<tbody>
<tr>
<td><strong>Surface of the Park</strong></td>
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<td><strong>Height above mean sea level:</strong></td>
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<td><strong>Highest point:</strong></td>
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<td><strong>Direction:</strong></td>
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<td><strong>Territorial boundaries:</strong></td>
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<td><strong>Number of inhabitants in the Nature Park, 2001, estimate:</strong></td>
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<td><strong>Accessibility:</strong></td>
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<td><strong>Specific landscape macro-units:</strong></td>
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<td><strong>a) forests:</strong></td>
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<td><strong>b) non-forest area:</strong></td>
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Nature Park Medvednica

- 1.2 mil. people from Zagreb and its surroundings in the near vicinity of the Park
- about 1 mil. visitors per year
- 99% of visitors are domestic, except to Medvedgrad
- no entrance fee in Park, only services (3 tourist attractions)

-of great importance to Zagreb from an ecological, recreational, tourist and health point of view

-high number of stakeholders
Natural and cultural heritage in tourism
Tourism in the Park

NP Medvednica Visitation system:
(infrastructures)
- 3 major tourist attractions – cave, mine, med city-
- 7 educational paths,
- 9 mountain bike trails + 1 enduro bike trail,
- about 70 hiking trails,
- 11 mountain huts, 2 hotels and 8 restaurants
(accommodation capacity 500 beds)
- ski slopes, ski lift, cable car (in progress)

(Services)
- educational programs, interpretative walks
  for a wide range of visitors etc.,
- Guided tours:
  "E bike guided tours," (4 tours)
  „Medvednica Underground”

Various events ("Parks of Croatia Week", Fantastic Zagreb Film Festival, Medvedgrad Music Evenings, International Bat Night, Medieval Days in Medvednica, ecological actions like afforestation actions, cleaning up actions, etc.) (experience industry)

EUROPARC; Charter for Sustainable Tourism, 2015.-2019. (initiated by WWF Adria, Dinaric Arc Parcs)
Charter recommendations for the Park

- Certificate awarded in 2014

Recommendations of Charter evaluation team for the next 5 years:
- **educate** employees and stakeholders on sustainable tourism, technical achievements in tourism, communication skills for tourism and others;
- **develop Visitor Management Plan** (alone or with other stakeholders)
- **networking** with other protected areas in the country and abroad
- **develop sustainable tourism**, through activities of the Strategy with a range of stakeholders, **monitoring implementation and regularly reporting**
Monitoring in the NP Medvednica

Most popular ever Bikčevićeva hiking trail (traditional)
1. Veternica cave monitoring

Habitat to 18 bat species in the near vicinity of the capital (hibernation colony- *Rhinolophus ferrumequinum*, *Rh. Euryale*; -maternity colony - *Rhinolophus euryale*, *Miniopterus schreibersii*)

Specific underground wildlife site, paleontological and archeological site, hydrogeological values (15 water flows)

Mandatory monitoring (from 2005)
A) Monitoring Bat population size
B) 4 key species of land and water invertebrates
C) „Lampenflora” (since 2014.)
D) Microclimate and physic-chemical analysis of water
E) Physical state of habitats and infrastructure (eg. Vandalism and littering)

In the „tourist” part of the cave (400m) - impact of visitor on the cave temperature monitored (0,4°C)
Survey included following characteristics of tourist demand:

- estimated number of visitors
- visit characteristics (the *length of the stay*, type of accommodation, etc.);
- *motives to visit* the Park
- *visitor activities* during stay in the Park
- *satisfaction of visitors*, including infrastructure and services used by tourists
- amount of spending in the Park
- social-economic structure of visitors (characteristic of stay in the nature, escorting on the trip, sources of information about the Park before visit, frequency of visits etc.)

- mostly domestic visitors (inhabitants of the direct surroundings of the Park) - 99,53%
- mostly visitors of younger and middle age, with higher education degree
- majority of the visits during weekends, a couple of times per year, for half of the day
- motives for visit: being in nature, company to family and friends, leisure and recreation
- first information about the Park gained mostly through informal sources (friends and relatives)
- 43% of the visitors come to the Park with their personal vehicles
- majority of visitors satisfied with the offer in the Park (signalisation, services offered by the Park management)
- estimated yearly number of visitors: 1 000 000
- average daily consumption: 48,76 kn
- 34% of the examinees are ready to pay hypothetical entrance fee of the calculated middle value of 11,86 kunas
- Growing and diversifying tourist, recreational and sport demands
- Cornerstone of conservation
- Greater emphasis on tourism as an economic development strategy
- World of complexity, uncertainty and change
- Tourism as a means of providing funding for management
- Decline in organizational capacity and funds
**Key Question:** Do you monitor conditions, impacts or interpretations?

- **Conditions**
  - Visitor use levels, trends, behavior

- **Impacts**
  - Effects of visitor use on the field – litter, erosion, soil compaction—spending, or other visitors impacts

- **Interpretation**
  - Visitor assessments of what they saw and how they responded to it
A process for identifying and establishing what social and biophysical conditions are acceptable; and determining the appropriate management actions to achieve those conditions.

-Fundamental question moved from: How many is too many? .......to What are the acceptable conditions?

Shannon-Wiener habitat diversity index (M 1:25000) in MTB/64 kvadrantima PPM
Central Europe Eco-Tourism: tools for nature protection (CEETO Project)

AIM:
• innovative governance system for tourism, based on a participatory planning
• improve the managing capacities of PAs managers on sustainable use of nature and its assets
• 8 pilot sites - AT, DE, HR, HU, IT, SI
• (PA, species, habitats) - identify and test innovative management and monitoring tools for tourism impacts on biodiversity

Expected Results:
• Comprehensive analysis of legislation and tools for monitoring tourism impacts on Biodiversity;
• 8 pilot actions – impact on species, habitats, area
• Guidelines for sustainable tourism governance for decision-makers;
• Practical handbook for PA practitioners,
• CEETO partners Network (knowledge hub)
Central Europe Eco-Tourism: tools for nature protection (CEETO Project)

Medvedica NP - the pilot site covers Ski resort (approximately 120 ha)

Top of the mountain:

- highest pressure from tourism/visitors
- winter tourist facilities in function since 1960
- an existing ski resort – only 2 ski slopes

The new physical plan:

- to extend the ski slopes (up to 5) and to provide a new snowmaking system
- new summer tourist facilities in 3-5 yrs (downhill cycling, bob, adrenalin parks, etc.)
Central Europe Eco-Tourism: tools for nature protection (CEETO Project)

- Nature Park Medvednica & WWF Adria - sharing its experience and expertise on improving nature conservation and enhance the economic and social wellbeing of local communities.

- Design monitoring program for the ski resort - to determine whether the development of tourist activities is carried out in a sustainable manner and to provide assessments of the impacts on mountain forests and grasslands and related species.
Thank you for your attention!

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