

SUSTAINABLE TOURISM IN PROTECTED AREAS

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Abstract: *Throughout history, various geological changes occurred, after which natural beauty was created. Unfortunately, due to human activity, much of the uniqueness and richness of nature has diminished over time. Part of the priceless natural wealth was thus lost, and it was realized that the irrational use of natural resources can cause irreversible changes and hence irreparable damage to man. We are becoming aware that nature conservation and tourism must not be rivals, but our primary goal must be global awareness of nature conservation. Due to their exceptional beauty and uniqueness, certain areas of nature must be protected and preserved. However, suppose we want to protect them and at the same time enable long-term management of tourism in these areas. In that case, it is necessary to implement sustainable tourism that will fully consider its current and future economic, social and environmental impact and meet the needs of visitors, industry, the environment and host communities. The concept of sustainable development is emerging as a response to the extremely rapid growth of the world's population. It is defined as a form of development that meets the needs of present generations without endangering the equal opportunities of future generations. We can reduce the negative impacts of tourism on natural beauty by developing sustainable and socially responsible tourism. For the quality implementation of sustainable tourism in protected areas, it is necessary to strategically plan and implement various activities and a visitor management model.*

Keywords: *sustainable tourism, protected areas, visitor management*

1. INTRODUCTION

If we want to protect individual areas of nature because of their exceptional natural beauty and phenomena, and at the same time enable long-term management of tourism in these areas, it is necessary to create a comprehensive strategic plan, legally protect protected areas, protect

natural beauty, preserve natural beauty and build tourist facilities in these areas, gradually implement a series of measures, procedures and activities of nature protection and visitor management and evaluate all planned processes (Maksin et al., 2018). Nowadays, we are slowly realizing that tourism and nature conservation should not be on opposite sides, but it is necessary to develop global awareness of humanity about nature conservation, and at the same time promote the importance of tourism as a branch of learning about nature. Due to its mass forms, tourism posed a great danger to nature itself, disrupting ecosystems and endangering its beauty and richness. Therefore, there is a need to protect nature from mass forms of tourism, and thus an incentive for conservation movements to take their place in the everyday education and lifestyle of modern man (Provalova et al., 2019).

The purpose of the article was to create a model for directing visits to the protected areas with sustainable development and a socially responsible approach on the example of the Special Botanical Reserve Dubravica. The goal is to analyze the possibilities of integrating sustainable tourism and tourist functions in protected areas in a way that, on the one hand, does not threaten nature and its protected areas, and on the other hand, promotes sustainable economic development based on the involvement of the public and enables the most suitable user experience for the target groups, which leads to excellent recognition of the destination.

2. METHODS

The methods of description and interpretation are used in the theoretical part. Secondary data were found in the scientific literature on protected areas, sustainable and socially responsible tourism, and visitor management models. To achieve the goal, one semi-structured interview (analytical approach) with an expert in the field of nature protection and tourism is used. Qualitative research requires intensive or long-term contact with everyday situations that reflect the everyday lives of individuals, groups, societies and organizations. In general, it studies how people in certain situations understand and interpret everyday events and how they react to them (Manoilov, 2010). That's why a participant is chosen who daily encounters the subject, which is researched. Following the findings, instruments of nature protection and sustainable development in Special Botanical Reserve Dubravica are developed.

3. THEORETICAL BASES

There are different definitions of sustainable tourism, but they mostly emphasize the ecological, social and economic elements of tourism to achieve a "balanced" or "smart" use of natural resources. However, the definition of what exactly constitutes a wise use of resources may depend largely on the values held by stakeholders (Hall, 1998). According to Saarinen (2001), sustainable tourism is more of an aspect than a precise operational definition. Nevertheless, Saarinen defines sustainable tourism as tourism that results in development that can maintain the ecological quality of the destinations, the quality of the tourist experience, and the social and cultural systems of the local population.

The sustainable development of tourism consists of four components (Lešnik Štuhec, 2011):

1. *the environmental component*, which dictates that we must reduce negative impacts on the environment, reduce the amount of waste, reduce air, soil and water pollution and, on the other hand, preserve and protect nature;
2. *economic component*, which includes the competitiveness of tourist destinations and their ability to do business during development;
3. *the climate component*, which refers to the reduction of the carbon footprint, or the general reduction of the negative impacts of tourism on the climate, on the other hand, to the adaptation of tourism to climate change;
4. *socio-cultural components*, which includes preserving and ensuring a higher quality of life for local communities and respecting and preserving cultural heritage and tradition.

At the World Conservation Congress in Barcelona in 2008, the IUCN Assembly adopted the definition of a protected area: "A clearly defined area that is managed to permanently conserve the whole of nature, the ecosystem services it provides, and with associated cultural values in a legal or other effective manner." Protected areas provide a fundamental strategy for nature conservation at national and international levels (Dudley, 2008). Konte (2021) explains that visitors visit protected areas to see, experience, understand and appreciate the value of the established area, gain new knowledge and further enrich their adventure ventures.

According to the latest edition of the UN List of protected areas from 2018, there are currently 238,563 protected areas in the world, covering 46,414,431 km². In total, 14.87 % of the land and 7.27 % of the sea surface of the Earth are protected (UNEP – WCMP, 2018). Figure 1 shows all the protected areas in the world. Land areas are marked in green and sea areas in blue.

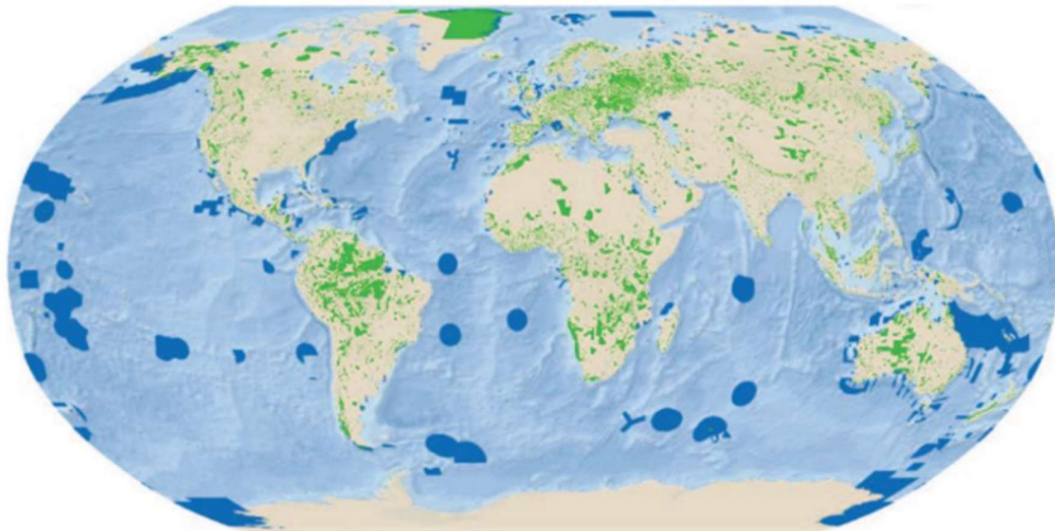


Figure 1. All the protected areas in the world

Source: UNEP – WCMP, 2018.

Konte (2021) explains that the protection of some areas and cultural heritage in connection with tourism has a positive and strong impact on nature conservation. Proceeds from the sale of tickets, parking fees, taxes, local taxes and many other direct payments or reimbursements for the costs of conservation and education of employees have a key impact on the valorization of nature. Tourism can also help protect or restore cultural heritage, as it contains many important historical, architectural and archaeological sites and values for the protected area, which can attract tourists looking for authentic experiences.

Education, interpretation and information, as a wide range of tools, can help managers of protected areas when planning a visit, especially when they want to influence a change in the behavior of visitors or try to raise the level of awareness. Another, more direct and one-way communication is to simply inform visitors about risks associated with activities, operating hours, events, rules, regulations, etc. Finally, the communication skills of employees in the protected area must be increased to ensure increased collaboration with various stakeholders. Managers of protected areas must develop a clear communication strategy to support sustainable tourism. To ensure the sustainable development of tourism and to avoid the problems of overtourism, different stakeholder groups in a local destination must be included. Accordingly, the sustainable development of tourism must include a carrying capacity study; it is an estimate of the maximum number of people who can use the destination without a

noticeable change in the physical environment and without an unacceptable decline in the quality of experience for visitors and residents (CEETO, 2020).

Lešnik Štuhec (2011), expert in the field of sustainable tourism development in Slovenia, designed a model for managing the influence of insured users. This kind of model has proven to be a good example of practice when it comes to protected areas and the development of sustainable tourism. The model comes from a coordinated global environment. The global environment therefore includes factors such as:

1. economic (economic conditions, economic development, per capita income, market);
2. political-legal (political instability, political risks, upheaval in politics, terrorism, crime, legal restrictions);
3. sociocultural (demography, class differences, religion, attitudes, education and culture, individualism and collectivism, uncertainty avoidance, etc.);
4. technological trends (development of information and communication technology);
5. environmental (pollution, climate change, natural disasters, etc.).

The establishment of protected areas and the management of existing ones should consider multidisciplinary factors in the area, which include (Lešnik Štuhec, 2011):

1. physical planning;
2. nature and biodiversity;
3. cultural heritage;
4. social development;
5. structure of stakeholders;
6. state of ecosystem services;
7. economic sectors from the point of view of sustainable use of natural resources in the insurance area.

Administrative zoning is the result of a zoning procedure that divides the protected area into limited spatial entities (zones). We know zones I, II and III. I Zone of strict protection includes areas of natural ecosystems that are not under human influence or are planned to be excluded from human influence in the future. As they are complete ecosystems, they do not require the implementation of activities for their conservation. Only exceptionally, interventions are allowed in emergency situations. II The targeted protection zone includes pre-natural ecosystems, geolocalities and isolated cultural heritage sites that, for the purpose of long-term preservation, require the implementation of active management measures for maintenance or

restoration. III Zone of use includes smaller parts of the area within the protected area in which the nature has been significantly changed by the presence of a certain level of use or parts of the area that have been set aside as the most suitable localities for different permitted forms of use (Ministarstvo za, 2021).

4. DUBRAVICA SPECIAL BOTANICAL RESERVE

The area of the Dubravica Special Botanical Reserve with the surrounding forests was placed under special protection in 1966. The reserve is in the territory of the municipality of Dubravica. The importance of the Dubravica Special Reserve lies in the fact that it is one of the last remaining peatlands in Croatia. Peatlands are special wetlands. Despite the small number of species and the small area, specific vegetation grows in them, which is quite different from the rest of the vegetation in Croatia. One of the last habitats of the sundew (carnivorous plant) in Croatia is the peat bog in Dubravica. In Figure 2 you can see an endangered carnivorous plant – sundew. Various types of plants grow in it, among which three critically endangered and 4 endangered types of mushrooms are particularly important (Bioportal, 2022).



Figure 2. Endangered carnivorous plant - sundew

Source: Šafarek, n.d.

Administratively, the area belongs to the municipality of Dubravica in Zagreb County, the larger part to the settlement of Lugaški Breg, and only the southeastern edge of the Special Botanical Reserve Dubravica to the settlement of Bobovec Rozganski. The municipality of Dubravica is in the northwestern part of the county, which stretches between the rivers Sutla

and Krapina. It is about 30 kilometers from Zagreb, the administrative center of the county (Bioportal, 2022). In Figure 3, the area of the Dubravica Special Botanical Reserve is marked in blue, and the conservation area important for species and habitat types is marked in yellow.

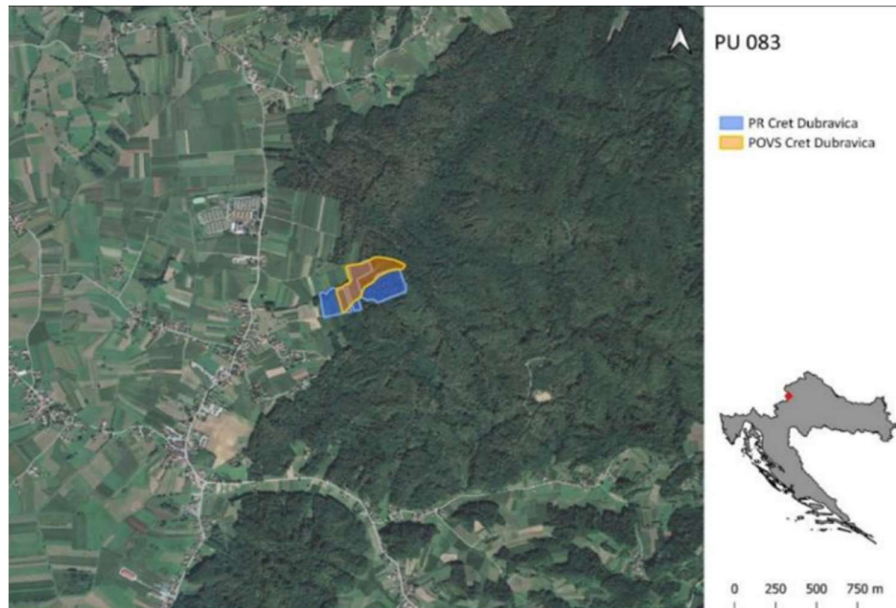


Figure 3. The area of the Dubravica Special Botanical Reserve

Source: Bioportal, 2022.

5. SUSTAINABLE TOURISM IN PROTECTED AREAS – EXAMPLE OF DUBRAVICA SPECIAL BOTANICAL RESERVE

The paper examines the Special Botanical Reserve Dubravica according to a model based on two key conditions, namely the involvement of the public and a multidisciplinary group of experts, and on seven steps:

1. Harmonized social, political, legal, ecological, cultural, economic and technological environment.
2. Multidisciplinary elements of environmental evaluation (inventory and analysis of cultural heritage, biotic diversity, spatial development, etc.).
3. Interdisciplinary approach for setting limit values (nature protection instruments, interactive networks, marketing, etc.).
4. Problem analysis and design of possible management actions.
5. Complete monitoring approach.
6. Activities for maintaining the threshold values of acceptable changes in the protected area.

7. Checking the effectiveness of the management of the protected area.

The interview was conducted with an expert in the field of nature protection and tourism. The interviewee said that, despite the climate crisis, Zagreb County is one of the most advanced in the field of sustainable development. He believes that without the connection of sustainable and socially responsible tourism development with the model of directing visits, there is a great danger that protected areas and their values will be permanently lost. Unsustainability leads to the destruction of the potential for tourism, which we all want to avoid. The special botanical reserve Dubravica is a very small and endangered area, so all tourist activities should be carried out with caution. In the future, the offer of this space must be developed in such a way as to ensure a high-quality interpretation of values and to limit the negative impacts of visitors. Here, one of the keys is the choice of target groups that we will bring to the protected area. Therefore, it is first necessary to ensure the survival of the habitat and increase the protected area. In the coming years, the public institute plans to establish a better hydrological regime, optimize mowing, fence the road and restrict vehicle access (Basrek, L. personal communication, April 22, 2024).

Based on interview and literature research, determination of instruments of nature protection and sustainable development in Special Botanical Reserve Dubravica:

1. preserve 8.49 ha of the existing area of the target habitat type;
2. to increase the area of the target habitat type by 10% through restoration;
3. preserve rare and related endangered species on the existing surface of the protected area.

Actions that need to be taken to develop sustainable tourism in protected areas - Example of the Dubravica Special Botanical Reserve:

- development of a management plan,
- developing a network of partner relations (Public institute, municipality, Tourist Board, local community),
- reduce uncontrolled entrances to the protected area by installing fences and prohibition signs,
- restoration of information boards,
- design an educational program for the visits of pupils and students,
- design a program of guided visits for groups.

Zoning of the area: divided into zones of targeted protection (Zone II) only research, monitoring, control and the implementation of active measures for the preservation, improvement and restoration of habitats and species are permitted and zone of use (Zone III) consisting of an observatory and a forest road. Zoning is shown in Figure 4.

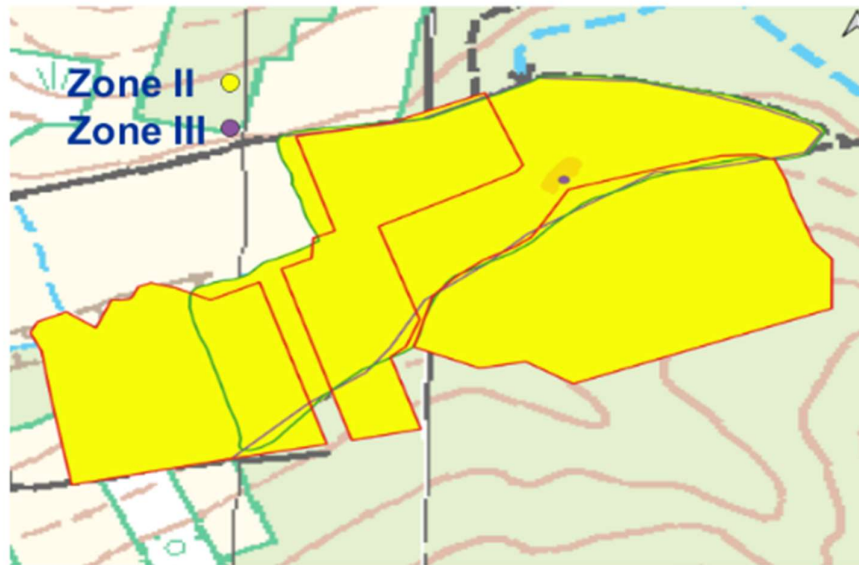


Figure 4. Zoning of the Special Botanical Reserve Dubravica

Source: Public Administration Green Ring of Zagreb County, 2023.

6. CONCLUSION

After all the research, the conclusion is that protected areas, as well as Special Botanical Reserve Dubravica should have management plans that ensure that they are managed transparently, systematically and in the interest of nature. This is necessary for the conservation of species and habitats and contributes to the purpose of the protected areas themselves. The conclusion is also that it is very important to spread awareness about the importance of protecting and preserving nature and protected areas. It is necessary to involve the public in the processes of planning, implementation and analysis of management, to inform and educate visitors through interpretation, marketing activities and education, to monitor the state of habitats and species and to carry out zoning. When establishing tourism in the Dubravica Special Botanical Reserve, it is necessary to include guidelines for the sustainable and socially responsible development of the environment and cultural heritage, as well as a suitable model for directing visits, to preserve nature and the traditional cultural environment for future generations. In the protection plan of the Dubravica Special Botanical Reserve, a visit guidance

model should be introduced, which will be based on the appropriate zoning of the area, the established green infrastructure and offer, and will strengthen the information of all stakeholders and the recognition of the values of the protected area through marketing activities. With systematic zoning, protected areas can establish effective regimes of nature protection, sustainable development and tourism activities and monitor them with the help of indicators of sustainable development of protected areas for the benefit of all users and stakeholders. Following the characteristics of the area and management needs, two zones are defined within the Dubravica Special Botanical Reserve - a zone of targeted protection (Zone II) and a use zone (Zone III).

REFERENCES

- Basrek, L. personal communication, April 22, 2024.
- Bioportal. (2022). Bioportal – web portal informacijskog sustava zaštite prirode, Ministarstvo gospodarstva i održivog razvoja, Zavod za zaštitu okoliša i prirode. Retrieved from <https://www.bioportal.hr/gis/>
- CEETO. (2020). CEETO priručnik upravljanja trajnostnega turizma v zavarovanih območjih. Retrieved from <https://www.interreg-central.eu/Content.Node/CEETO-Manual-Slovenian.pdf>
- Hall, C. M. (1998). Historical antecedents of sustainable development and ecotourism: new labels on old bottles. V Hall C. M. in Lew A. A. (Ed). Sustainable tourism: a geographical perspective, (pp. 13-24). Harlow: Longman.
- Konte, D. (2021). Turizam nacionalnih parkova i zaštićenih područja. (Doctoral dissertation). University of Pula. Faculty of economics and tourism "Dr. Mijo Mirković", Pula.
- Lešnik Štuhec, T. (2011). Vizija trajnostnega razvoja zelene ponudbe turističnega (projektne) območja Pohorje 2030. Maribor: Zavod Republike Slovenije za varstvo narave.
- Maksin, M., Ristić, V., Nenković - Riznić, M., & Mičić, S. (2018). The role of zoning in the strategic planning of protected areas: Lessons learned from EU countries and Serbia. *European Planning Studies*, 26(4), 838–872.
- Manoilov, M. (2010). *Osnove metodologije in statistike*. Nova Gorica: Zavod Novo znanje.

- Ministarstvo zaštite okoliša. (2021). Upravljačka zonacija. Retrieved from <https://www.haop.hr/hr/tematska-podrucja/zasticena-podrucja/upravljanje-zasticenim-podrucjima/upravljacka-zonacija>
- Provalova, E. V., Lukyanova, M. N., Skrobotova, O. V., & Ivanova, R. M. (2019). Prospects for the development of ecological tourism in specially protected natural areas of the Ulyanovsk Region. *Journal of Environmental Management & Tourism*, 4(36), 809–818.
- Public Administration Green Ring of Zagreb County. (2023). Uvodni dio plana upravljanja posebnim botaničkim rezervatom Cret Dubravica i pridruženim područjem ekološke mreže (PU 083) s pregledom informacija o vrijednostima područja i evaluacijom stanja. Internal material. Samobor: Public Administration Green Ring of Zagreb County.
- Saarinen, J. (2004). Tourism and touristic representations of nature. *A companion to tourism*, 438-449.
- Šafarek, G. (n. d.). Cretovi. Retrieved from <https://prirodahrvatske.com/cretovi/>
- UNEP – WCMC. (2018). 2018 United Nations List of Protected Areas. Supplement on protected area management effectiveness. Cambridge: UNEP-WCMC.