

CROATIA

Plitvice Lakes National Park

Brief Description

The waters flowing over the limestone and chalk have, over thousands of years, deposited travertine barriers, creating natural dams which in turn have created a series of beautiful lakes, caves and waterfalls. These geological processes continue today. The forests in the park are home to bears, wolves and many rare bird species.

1. Introduction

Year(s) of Inscription 1979, 2000

Year(s) of Inscription on List in Danger
1992 (removed 1998)

Agencies responsible for site management

- The Ministry of Culture of Republic Croatia – Nature Conservation Division.
Runjaninova 2, 10 000 Zagreb, Croatia.
Email: mirna.bojic@min-kulture.hr
Website: www.min-kulture.hr

Public Institution National Park Plitvice Lakes
53 231Plitvička Jezera, Croatia
Email: natalija.pavlus@np-plitvicka-jezera.hr
Website: www.np-plitvicka-jezera.hr

2. Statement of Significance

Inscription Criteria N (ii), (iii)

Justification provided by the State Party

The Plitvice Lakes owe their formation and existence to the travertine dams which grow transversally across an open river valley, and produce reservoirs upstream.

Travertine location, growth rate and formation primarily depend on the biological and ecological properties of the aquatic vegetation (moss in particular) which grows on the dam walls. The deposit on this vegetation of calcium carbonate precipitated in water produces a biolith called travertine. The principal agents for this process are algae and aquatic bacteria. "Travertinisation" is observed in all karstic water courses throughout the world, but the phenomenon is as yet insufficiently explored and explained. A more in-depth knowledge of travertinisation laws, both in respect of the biological and biochemical mechanics of the

process and the geological history of the formations would be of benefit to basic science as well as for direct application in the preservation of Nature. As the Plitvice Lakes owe their formation to the limnetic organisms that people their waters, they do not fit into present-day limnological typology. Their classification is therefore of considerable interest from the scientific point of view. They represent a special limnetic type called "Lakes with travertine dams", a case of natural dams formed by the growth of travertine barrages. As geographical phenomena of bio-genetic origin, the Plitvice Lakes with their dams, waterfalls and caves are the most beautiful and best preserved representative examples of their kind. They attract millions of visitors from all over the world, and as instructive evidence of the laws of natural processes, they also have an educational function.

The protected Plitvice Lakes area includes, as a national park, a wide belt of very well preserved woodland, covering a complete ecosystem, essential for the continual existence and perpetuation of its constituent material factors. It mainly consists of alpine beech groves (*Fagetum croaticum montanum* Horvatic) and fir and beech forests (*Fagetum croaticum abietetosum* Horvatic). Within this national park woodland is an 80-hectare virgin forest of beech, fir and juniper trees. It is one of the few of its kind remaining in Europe, the vestige of those forests which, in the post-Diluvian Age, covered the whole of our continent. For several decades now, it has been the object of scientific research at national and international levels.

The Plitvice Lakes National Park is also a vast wild-life reserve, where some rare species are represented, such as the brown bear (*Ursus arctos*), extinct in most parts of Europe, the wolf (*Canis lupus*), the lynx (*Lynx lynx*), the capercaillie (*Tetrao urogallus*) and the eagle or owl (*Bubo bubo*).

The Plitvice Lakes area is of out-standing universal value not only from the scientific but also from the historical and cultural points of view. Within it are places that were the former scenes of ancient and recent historical events, as well as pre-historic, classical and mediaeval archaeological sites and monuments of popular traditional architecture.

As provided in ICOMOS recommendation

(2000): Plitvice Lakes National Park was inscribed on the World Heritage List in 1979, under natural criteria (ii) and (iii). Criterion (ii) then identified outstanding examples of on-going ecological, biological and geological processes; and the continuing formation of travertine, which creates the

barriers and thus forms the lakes at Plitvice were cited as outstanding examples of such processes. Criterion (iii) speaks of superlative natural phenomena or areas of exceptional natural beauty and the Plitvice Lakes was also seen as meeting this criterion.

The proposed extension strengthens the existing site by preventing deleterious developments in the surrounding catchments area. The proposed extension would not meet any natural criteria on its own but it would enhance the integrity of the site by extending catchments protection crucial to water quality and brings in forested areas including unlogged forest.¹

Committee Decision

(1979): The Committee made no Statement.

(2000): The Committee approved the extension of Plitvice Lakes National Park site by the nominated area of 10,020 ha as this would contribute to the integrity of the site.

- Statement of significance adequately defines the outstanding universal value of the site
- Statement of significance did not exist at time of inscription
- No change required, however the State Party suggests a change to the Brief Description

Boundaries and Buffer Zone

- Status of boundaries of the site: adequate
- No buffer zone has been defined
- Buffer zones will be defined within the zoning system of the management plan, and will be incorporated into both the physical plan and the management plan that are under development

Status of Authenticity/Integrity

- World Heritage site values have been maintained

3. Protection

Legislative and Administrative Arrangements

- Agreements: Statute of Public Institution (2000); Book of Rules on Internal Order (1996)
- Law on Proclaiming National park; Law on Adoption of Physical Plan (1986)
- The protection arrangements are considered highly effective

¹ This case raises the implications of the 1992 change in natural criteria when criterion (ii) which previously covered ongoing ecological, biological and geological processes was amended and "on-going geological processes" were transferred to the revised criterion (i).

4. Management

Use of site/property

- National park

Management /Administrative Body

- Steering group, legally constituted
- Site manager: the site is under the management of the State Party and protective legislation
- Levels of public authority who are primarily involved with the management of the site: national, regional
- The current management system is considered highly effective

5. Management Plan

- Management plan will be implemented in the future
- Implementation will commence: 12.2006
- Body responsible for implementation of management plan: Public Institution 'National Park Plitvice Lakes'

6. Financial Resources

Financial situation

- State Budget; park's proceeds; expert studies and projects
- WHF : 30,000 (US \$)
- Bi-lateral cooperation and regional projects: UNDP, World Bank and other agencies
- Funding is considered sufficient

7. Staffing Levels

- number of staff: 143

Rate of access to adequate professional staff across the following disciplines:

- Good: conservation, management, promotion
- Average: interpretation, education, visitor management

8. Sources of Expertise and Training in Conservation and Management Techniques

- Training on site management: expert visits to other national parks, GIS education for site managers under KEC Project, and within the framework of the Balcani Project for development of site administration

9. Visitor Management

- visitor statistics: 855,000 tickets sold at park entrances (2005)
- trend: moderate increase
- Visitor facilities: craft shops, various trail networks, park transport for tours, catering features such as hotels, campsites, restaurants and private accommodation

10. Scientific Studies

- Risk assessment, studies relating to the value of the site, monitoring exercises, condition surveys, forest management surveys
- Studies used for management of site: the results of studies and research programs will be used in making the physical plan and management plan, and also in introducing continuing monitoring based on the results and methods used in the projects. The studies and research programs are adjusted to the needs of the protected area and of finding a model of management which will ensure maximum stability of forest ecosystems and also the stability of the phenomenon of the Park itself. In defining the subjects of the projects, the recommendations of the UNESCO Committee 1996 Reactive Monitoring reports were used

11. Education, Information and Awareness Building

- Adequate awareness of World Heritage: visitors, businesses
- Need for awareness raising: within local communities and local authorities
- Events include: the national exhibition of Croatian sites on the World Heritage List, and an additional film and exhibition marking the 25th anniversary of the World Heritage Listing of the park
- Web site: available, managed by national park staff (www.np-plitvicka-jezera.hr)
- Local participation: The local population has a representative in the Steering Committee of the Park. the National Park is also a main economic force in the area, because it employs the local inhabitants and awards scholarships to the local students

12. Factors affecting the Property (State of Conservation)

Reactive monitoring reports

- World Heritage Bureau sessions: 16th (1992); 17th (1993); 19th (1995); 20th (1996); 21st (1997); 22nd (1998)

- World Heritage Committee sessions: 16th (1992); 17th (1993); 18th (1994); 19th (1995); 20th (1996); 21st (1997); 22nd (1998)

Conservation interventions

- Prohibition of forestry or agricultural activities in the Park; introducing the network of tracks raised above the ground (on foot-bridges); the use of boats with electric propulsion; moving the state freeway outside the Park's territory; building a system of waste water treatment; extending the borders of the Park in order to protect the basin of the lake
- Present state of conservation: very good

Threats and Risks to site

- Visitor and tourism pressures
- The pressure from visitors may lead to potential damage of the travertine barriers caused by an inadequate trail network. One reason for the increase in numbers is possibly the World Heritage status of the park
- Emergency measures taken: addressed within the future management plan

13. Monitoring

- No formal monitoring programme exists
- Measures planned: formal monitoring plans for the lakes, local forests, and flora and fauna. A hydro-geologist will be trained in monitoring methods following the 2005 international hydro-geological project

14. Conclusions and Recommended Actions

- Main benefits of WH status: conservation, social awareness of the importance of the Park and prestige for the Park
- Strengths of management: advanced expertise in protection, full awareness of ecological fragility and stability is factored into management decision-making, working with the local community
- Weaknesses of management: visitor pressures to the Park need urgent planning and attention

Future actions:

- For the purpose of relieving the pressure in the central zone of the Park, a study was made by J. Movčan and associates, 'Organized system of visitation of Velebit-Plitvice area', which explores the possibility of a different system of visitations for the entire region. Particular segments of the study should be further developed, especially the ones concerning Plitvice Lakes, under the guidance of the Ministry of Culture