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## WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

### PLITVICE LAKES EXTENSION (CROATIA)

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#### 1. DOCUMENTATION

- i) **IUCN/WCMC Data Sheet:**
- ii) **Literature consulted:** S. Bozicevic. (undated) **The Plitvice Lakes**, Plitvice Lakes National Park, 96 pp; I. Pevalak. 1968. **The biodynamics of the Lakes of Plitvice and their protection**; S. Bozicevic (ed). 1998. **The Plitvice Lakes National Park – Natural History, Guide, Photomonography** 96pp, Plitvice Lakes National Park; M. Schneider-Jacoby. 1996. A view from abroad: Nature Preservation in Croatia – An investment in the future of the country, **Turizam** Vol 44, No 11/12; B. Stilinovic and S. Bozicevic. 1988. The Plitvice Lakes – A natural phenomenon in the middle of the Dinaric Karst in Croatia, **European Water Management**, Vol 1, No 1.
- iii) **Consultations:** three external reviewers; Ministry of Environmental Protection and Physical Planning, Zagreb; Plitvice Lakes National Park, Plitvicka Jezero.
- iv) **Field Visit:** Michael Smart, March, 2000.

#### 2. SUMMARY OF NATURAL VALUES

The area inscribed on the World Heritage List in 1979 as Plitvice Lakes National Park (PLNP) covered 19,462ha. In 1997, the area of the National Park was extended by the Croatian Parliament to 29,482ha. The Croatian authorities have now proposed that the World Heritage site be extended to include this enlargement of the park by 10,020ha.

PLNP is situated in the karst area of Croatia. It consists of a series of lakes in the valley of the Bijela rijeka (White River) and Crna rijeka (Black River), which join to become the Korana River, which flows into the River Kupa and eventually into the River Sava. The lakes are formed by barriers of travertine (or tufa) across the valley which create deep highly oligotrophic lakes. The travertine barriers are not static and are constantly being both dissolved and eroded away and regenerated by new growth and deposition. A series of spectacular waterfalls cascade down the sides of the valley, these and the lakes depend on high water quality. Maintenance of water quality is aided by the fact that the surrounding catchment is forested. The forests are mostly secondary, having been felled for timber in the past, but regeneration is natural and there is now no timber production.

The proposed extension almost encircles the existing World Heritage site and its key value is that it extends the boundaries to include most of the karstic basin. The new boundaries generally follow natural boundaries rather than, as before in some areas, roads running through the valley floors.

The main importance of the extension is that it is designed to give much greater protection to the catchment of the lakes. This is of vital importance, because any pollution or impurity in the water entering the system disrupts the delicate process of travertine formation in this karstic system.

The extension also includes an 84 hectare area of forest which has never been cut (the only one in the park), with spruce and beech trees estimated to be 400 and 700 years old respectively. This is in a prime area for the large mammals of the site, including European brown bear, wolf and European lynx.

#### 3. COMPARISON WITH OTHER AREAS

Plitvice Lakes National Park has already been accepted as being of “outstanding universal value” by its inscription on the World Heritage list. The proposed extension, while not itself containing features of such value, is of significant importance to the existing site since it forms part of the catchment and thus helps guarantee that

the on-going process of travertine formation may continue by minimising pollution or enrichment.

#### **4. INTEGRITY**

The proposed extension adds significantly to the integrity of the site, by giving greater security to the water supply and quality to the lakes, and by extending the area of protected forest. Croatian law does not permit exploitation of the forests in the national park while regulations provide that tourist facilities, which might have impaired water quality, cannot be constructed in the immediate catchment area.

The proposed extension to the World Heritage site does include part of the Borje-Vrhovine national highway but the IUCN mission reports that a new regulation prohibits heavy traffic use of the section of road passing through the park. Instead, heavy traffic must use an alternative route, thus reducing disturbance and pollution threats from this source.

The current “management plan” for the existing site dates from 1986 and obviously does not take into account either the impact of war on the site, subsequent restoration work or the extension to the National Park. It is important that a new management plan be prepared to take account of the changes. The plan should include provisions for the monitoring of water quality as well as covering action to enhance it.

#### **5. ADDITIONAL COMMENTS**

The nomination document (and IUCN reviewers) expresses concern about deteriorating water quality in the lakes. The nomination states that “the biggest problem is in the existing effluent disposal system, which is far from satisfactory. Preparations for the construction of a new system are under way and, in the meantime, there is ongoing monitoring”. This is, of course, a problem within the existing site and not in the proposed extension.

Water quality and other aspects affecting the existing site are addressed separately in the State of Conservation section of the agenda for the Bureau.

It is also noted that PLNP is not on the List of Wetlands of International Importance and the Croatian authorities may wish to propose the site under the Ramsar Convention.

#### **6. APPLICATION OF WORLD HERITAGE NATURAL CRITERIA**

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

**Note:** 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).

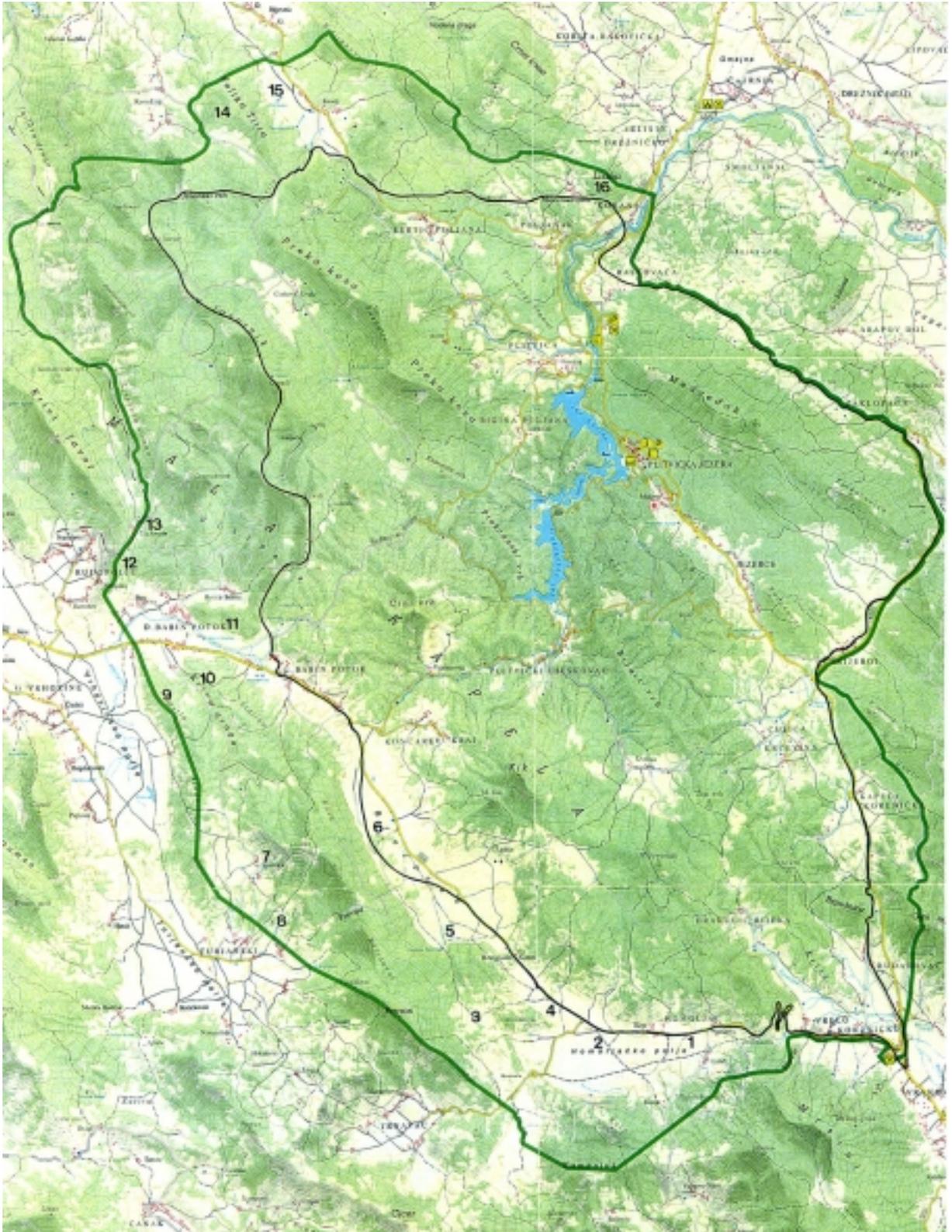
#### **7. RECOMMENDATION**

The Bureau recommend the Committee approve the extension of Plitvice Lakes National Park by the nominated 10,020ha as this would contribute to the integrity of the site.

The Bureau encouraged the State Party to prepare a new management plan for the enlarged site.



**Map 1: Location Map – Plitvice Lakes Extension**



**Map 2: Site Map – Plitvice Lakes Extension**