



A Development Plan for Lonjsko Polje Nature Park – Ways Towards Integrated River Basin Management

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ABSTRACT: Flood protection of the Sava River is planned as an overall flood control system, and has been under construction for more than 30 years. The lowland flood storages of Lonjsko Polje Nature Park represent the key flood control facilities in the Central Sava basin. LPNP is part of the largest alluvial wetlands in the Danube Basin. The recent Nature Conservation Bill provides for a development of a management plan that is binding for all land users. According to the WFD 2000/60/EU, the Ramsar Convention and national nature conservation provisions, there is a growing demand to link up Lonjsko Polje Nature Park on a basin scale, with a focus on water quality, water quantity, ecology and socio-economics. The presented initiative offers an opportunity to start integrated river basin management in Croatia.

KEYWORDS: flood control, Sava basin, nature park, ecology

1 Background

In the area between Zagreb and Nova Gradiška, along the greater part of the Sava River, a landscape typical of many Central European regions (see POTT & HUPPE, 1991) until the second half of the 19th century has managed to survive. Today, the Central Posavina, with its periodically inundated pasturing areas and lowland riparian forests can be termed the last, unique example of this manner of land management (GUGIĆ, 1996). Extending over 112,000 ha, it is the largest floodplain ecosystem in the entire Danube River Basin (DPRP, 1999). It contains two Important Bird Areas: HR009 Turopolje and HR012 Alluvial Wetlands of the River Sava. The part of Posavina between Sisak and Nova Gradiška was in 1990 placed under a conservation order (Official Gazette No. 11/1990 of March 20, 1990). The Lonjsko Polje Nature Park covers about 380 km² of lowland riparian forest and about 120 km² of common pastureland. It contains the Krapje Đol and Rakita ornithological reserves and is part of the IBA HR012. The Krapje Đol OR was proclaimed in 1963 the first bird sanctuary of Croatia. Its spoonbill colony is important for the entire European spoonbill population. But it is not only the great forest area, left in its almost natural state (according to HORVAT et al., 1974, together with the forests in Pokuplje and the Spačva basin, one of the biggest still preserved complexes of lowland riparian forests in Europe) and fauna present here that are of international importance. The traditional grazing land, with its indigenous breeds of cows, horses and pigs, and the *čardaks*, the wooden houses so typical of Posavina, is also of great cultural and historical value. Lonjsko Polje Nature Park became a Wetland of International Importance (Ramsar-site) on February 03, 1993.

The lowland flood storage areas of Lonjsko Polje Nature Park, with its high-ranked wetland habitats, play a key role in controlling and transforming flood waves of the Sava river within the flood control system (ĆOSIĆ-FLAJSIG et.al., 19; BRAUN, 1999).

Recently, the tourist potentials of the area have been recognized (GUGIĆ, 2000; DEG, 2000). “The images of the original riparian and cultural landscape, full of scenes from an almost obliterated country way of life with the old customs and manners, could have for the population of the rest of Europe a picturesque and well high exotic charm” (DEG, 2000, p. 25).

2 Conservation planning within Lonjsko Polje Nature Park

Nature conservation planning and management within the borders of Lonjsko Polje Nature Park is based on the legal definition of Article 154 (Nature Conservation Bill, 2003) by which a nature park is a vast natural or partly cultivated mainland and/or sea area with ecological features of international and national importance, with marked landscape, educational, cultural, historical, tourist and recreational values. Those actions and activities are permitted that do not pose any threat to its essential features and roles. The method of performing economic activities and using natural resources in a nature park shall be laid down by nature conservation conditions (given by the Ministry).

Lonjsko Polje NP is of considerable complexity (GUGIĆ, 1999) because of:

- the size of the protected area
- the conflict of interests occasioned by the presence of a number of major land users, such as Croatian Water, Croatian Forests, the local government, livestock breeders, arable farmers, hunters, anglers, fisheries and tourists,
- the riverine ecosystem that embraces an area considerably larger than the protected area itself, the external factors that affect the park being accordingly of major importance,
- the shape of the park that, because of the Lonja and Strug rivers, is divided into two parts.

Therefore, the Lonjsko Polje Nature Park Public Service organised several round tables with all major land users right after the Service started managing the park in 1998. These activities marked a new policy in conservation planning in Croatia.

2.1 National legal provisions

The Nature Conservation Bill in force (Official Gazette No. 162/2003 of October 15, 2003) presents the national legal framework of nature conservation planning in protected areas. For those areas, it basically provides three sub-legal regulations:

- The physical plan for the arrangement of areas of special features
- The rulebook on internal order and
- The management plan.

The physical plan and the rulebook on internal order present sub-legal planning instruments, which have been already established by the previous Nature Conservation Bill (Official Gazette No. 30 and 72/1994), whereas the sub-legal instrument of a management plan has been established by the NCB in force.

2.1.1 Physical plan

By Article 180 of the NCB in force the spatial organization and the way of land use, arrangement and protection of the nature park area shall be determined by a physical

plan for the arrangement of areas of special features. A national park and nature park physical plan shall be adopted by the Croatian Parliament.

The official proposal of the physical plan for the arrangement of Lonjsko Polje Nature Park area of special features (MEPPP, 2002) has passed the public debate on February 7, 2003. It is currently in preparation to be passed by the Parliament.

2.1.2 Rulebook on internal order

Article 184 of the NCB in force determines that the rulebook on internal order shall define in detail issues and lay down measures for the protection, conservation, enhancement and use of a nature park, and shall impose administrative measures for non-compliance with the provisions of this rulebook and the present NCB. The rulebook shall be enacted by the Minister at the proposal of the board of the nature park public service, after previously obtaining the opinion of the State Institute for Nature Conservation. In addition to these provisions, the Lonjsko Polje Nature Park Public Service involved all major land users in the elaboration of the already existing draft rulebook of internal order.

2.1.3 Management Plan

The management of the nature park is based on a management plan which defines objectives related to development, land use, nature conservation and management of the protected area, and shall be adopted for the period of ten years. It shall lay down development guidelines, ways of implementation of conservation, land use and nature park management, including detailed guidelines for the protection and conservation of LPNP's natural values, respecting the needs of local people. The managing plan shall be binding for all physical and legal entities involved in activities in the nature park area.

Article 182 of the NCB determines the content of a management plan:

1. Protected area management **objectives** and policies including the following components:
 - protected area overall goals, functions and objectives and
 - protected area management policy;
2. Protected area conservation **guidelines** including the following components:
 - assessment of the state of the protected and affected area;
 - protection concept relating to the entire area and its individual parts (zones);
 - monitoring of the state of the protected area and its values;
 - conservation and management of natural and cultural values, including protected area resources (conservation programmes, etc.);
 - development of activities authorized in the protected area;
 - visitor management in the protected area;
 - guidelines for the appearance of buildings in protected areas;
 - linking the protected area with neighbouring areas and
 - impacts on the environment and the socio-economic impacts;
3. **Implementation** of the plan including the following components:
 - guidelines for linking sectoral plans;
 - action plan;
 - plan implementation supervision;

- plan implementation costs;
- methods and sources of finance and
- institutional set-up and persons responsible for activities in protected area management.

Prior to defining the draft management plan, the public institution shall provide public access to documents by applying correspondingly the provisions of Article 166 of the present Bill.

3 The Lelystad initiative: link up Lonjsko Polje Nature Park on a basin scale

Although the above explanations show that in Croatia the protected area category of Nature Park offers a number of excellent legal tools for conservation planning and management within the park borders, there is a need to link-up the park area into broader planning and management processes at a basin scale.

Experts of Croatian Waters and the Lonjsko Polje Nature Park Public Service, under the mediation and with the know-how transfer of RIZA's experts, worked on this issue during a study stay in Lelystad (The Netherlands) in June 2003.

A draft strategic objective has been elaborated. It stresses the demand of integrated and collaborative management: *ensure effective and appropriate use of Lonjsko Polje Nature Park within the entire Sava river basin flood control system by reducing nutrient impact from the upstream parts and by maintaining the cultural landscape, the natural geomorphology and the mosaic of wetland habitats to improve the benefit for local people on the base of Ramsar's approach of wise use of natural, cultural and tourist resources.*

IUCN (1995) emphasized the importance of a vision for Lonjsko Polje Nature Park and the importance of building consensus about the conservation of the area between different agencies, particularly those which have a management role. These recommendations should be applied to the link-up planning and management processes related to the entire Sava river basin outside the protected area. For lack of current appropriate legal planning tools on a basin scale, it is essential to work collaboratively on a vision and to set up mechanisms of regional and institutional co-operation. Thus, a development plan for Lonjsko Polje Nature Park that takes into consideration the upstream and downstream river parts should be elaborated on the base of the strategic objective mentioned above, focusing on water quality, water quantity, ecology and socio-economics. In contrast with a management plan or physical plan, the development plan has no legal power. Thus, it represents an informal tool to facilitate the set up of integrated river basin and nature management.

The Lelystad group recommended to establish a project team with

- steering committee,
- advisory board,
- expert team,
- working group and
- communication group.

The group elaborated a working plan, incl. planned activities and expected results (Table 1).

Table 1: Towards a development plan

Activities	Results
Establish a project team	Working plan
Stakeholder analysis	1 st meeting: final project team
Describe and analyse	2 nd meeting: description with maps and gaps
Design a draft vision	Maps and clarification of draft vision / strategic objective
Project evaluation	3 rd meeting: updated vision
Imagine options and scenarios	Operational objectives
Scenario analysis	Best option and action plan

4 Conclusion

For lack of appropriate national legal provisions related to integrated river basin and conservation planning and management, it is necessary to think about and to develop tools for its establishment. BRUNDIĆ et.al. (2001) stress LPNP as a first example of an integrated management approach in the Central Sava Basin. The NCB in force provided recently a management plan as a sub-legal instrument in conservation planning of protected areas. Since the management plan for LPNP will be binding for all physical and legal entities involved in activities in the nature park area – and therefore for the Croatian Water Management Authority, too – and since the WFD 2000/60/EC will be binding for national water legislation, it is recommendable for both water management and conservation management to gather experience on these issues. LPNP has all pre-conditions to get a showcase:

- there is already an institutional co-operation between the Water Management Authority and the Park Service
- the physical plan and the rulebook of internal order of LPNP have been elaborated under stakeholder involvement; they are available as official proposals or draft versions and
- the Park Service is working on the establishment of a stakeholders committee as an informal forum for major land users.

The Lelystad initiative offers an opportunity to start integrated river basin management in Croatia.

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