



**Convention on Protection and Use of Transboundary Watercourses and  
International Lakes**

**SEMINAR ON THE ROLE OF ECOSYSTEMS  
AS WATER SUPPLIERS  
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# **SERBIA AND MONTENEGRO NATIONAL REPORT**



# NATIONAL REPORT ON THE ROLE OF ECOSYSTEMS AS WATER SUPPLIERS

## SERBIA AND MONTENEGRO

### Introduction

Generally, in Serbia and Montenegro, as in many other countries, until recent years, it was considered that “ecosystem” and “water management” are conflicting terms.

For example, in the Law on Ministries there is clear distinction between responsibility over wetland and ecosystem protection, that is under the Ministry for Science and Environment Protection, and for water management, that is under the Ministry for Agriculture, Forestry and Water Resources Management.

At best, during the preparation of water management plans, wetlands are considered as areas that had to be taken into account during the preparation of river basin management plans. On the other hand, ecologists considered wetlands as areas that had to be strictly protected, and that every human activity in wetlands must be eliminated.

National Master Water Plan in Serbia, for example, recognizes importance of water management in protected areas, and states that for every protected area separate water management plans should be done. It also states that for Ramsar sites it is necessary to establish required water regime, and adequate water quality by preventing inflow of water of quality that is not adequate for those ecosystems. In practice, very few things are done, mostly because of the lack of money, but also because of the lack of mechanisms for implementation of such ambitious tasks.

In recent time, situation is gradually improving, mostly due to the activities connected with the implementation of Danube River Protection Convention, and implementation of WFD on the territory of Serbia and Montenegro.

### National and International Legal Framework

Existing legal instruments in Serbia and Montenegro, generally follow approach that the wetlands are generally considered as protected areas, under different levels of protection: National Parks, Special Nature Reserves, etc.

Existing national laws, related to wetlands are as follows:

- Environmental protection Law (adopted 1991);
- National parks Law (adopted 1993).

For each protected area there is regulation, which regulates integrated protected areas management.

Aside of national legislation, Serbia and Montenegro (or former FR Yugoslavia) signed several international conventions closely connected with those topics:

1. Serbia and Montenegro, as a contracting party for the **Ramsar Convention** obliged for the promotion of the conservation and wise use of wetlands through appropriate land-use planning policies; the promotion of training in wetland management; and consultation with neighbouring countries on management of transboundary wetlands and coordination of wetland policies and regulations.

2. Serbia and Montenegro also signed **UN Convention on Biodiversity** which stipulates that contracting parties should conserve biological diversity, use its components sustainably and ensure fair and equitable sharing of resources.
3. Serbia and Montenegro is among the seven Danube countries (Slovakia, Czech Republic, Poland, Hungary, Romania and Ukraine) that are signatories to the **Carpathian Convention**. Article 6 of this Convention sets out requirements on sustainable and integrated water and river basin management, including conservation of wetland ecosystems.
4. **The Danube River Protection Convention (DRPC)** is the regional implementation of the UN-ECE Convention for Transboundary Water Courses and International Lakes in the Danube basin. Wetlands are referred to at several points in the DRPC, e.g. Article 2(3), Article 2(5), Article 3(2)(d), Article 6 (e), Article 9(1). All EU and all Danube countries except Bosnia & Herzegovina are contracting parties to the DRPC. Serbia and Montenegro ratified this convention in January 2003 and from August 2003 is full member of International Community for the Protection for Danube River (ICPDR).

There are some other conventions that are still to be signed and ratified by Serbia and Montenegro, that are very important for sustainable management of water related ecosystems

1. **Bern Convention**, which established, in parallel to the Natura 2000 network, the Emerald Network of protected areas in non-EU-countries.
2. **Bonn Convention**, which requires contracting parties to work together to conserve migratory species and their habitats
3. **Espoo Convention**, which deals with activities causing a significant adverse transboundary impact. Article 2.5 in Appendix III general criteria makes particular reference to areas of special environmental sensitivity or importance (Ramsar sites, national parks, nature reserves and other protected sites).

Most important act in the field of water management in the EU is **Water Framework Directive** (2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy). One of the purposes of WFD, as it is stated in Article 1, clearly includes the protection, restoration and enhancement of wetlands:

*The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:*

- a) *prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems.*

Moreover, protection, restoration and enhancement of wetlands might in turn contribute to the protection, restoration and enhancement of surface water and groundwater bodies, i.e. to the objectives of the WFD as set out in Article 4.

Serbia and Montenegro, as a non-EU country, directly is not obliged to implement WFD. However, all contracting parties to the Danube River Protection Convention, including EU Member States, Accession Countries and non-Member States have agreed to work together under the aegis of the ICPDR to implement the WFD for those parts of their territories falling within the Danube River Basin.

### **Management of the Wetlands in Danube River Basin**

Danube wetlands play a crucial role in sustaining biodiversity in the whole river basin. Their diverse habitats support a wide variety of species. However, wetland habitats in the Danube river basin have been drastically altered in past. The main cause of wetland destruction has been the flood protection works, and expansion of agriculture uses. Drainage and irrigation are partly

responsible for the drop in water levels and the removal of wetland and floodplain forests leaving only a few natural forests remained.

Despite the fact that nearly 80% of the floodplains has been lost during the last 100 years the Danube River Basin still incorporates a large variety of wetlands, among them more than 70 sites designated by national governments for inclusion in the Ramsar Convention List of Wetlands of International Importance.

The 2001-2005 Joint Action Plan (JAP) of the ICPDR is directed towards improvement of the ecological and chemical status of water, prevention of accidental pollution events and minimisation of the impacts of floods. Secondary objectives include improving the living standard of the Danube River Basin population, contributing to the process of accession to the European Union and restoring the region's biodiversity.

It is clear that wetland restoration, protection and management can contribute to all of these objectives. It is notable that the LIFE Programme of the EU may finance up to 50% of the cost of restoration projects on actual or potential Natura 2000 sites.

Chapter 3.3 of the JAP refers to practical river and wetland restoration and rehabilitation projects. ICPDR supports the implementation of the JAP for restoration/rehabilitation and management of wetlands and floodplains. Annex III of the JAP lists the projects nominated by the Contracting Parties of the DRPC to implement all the projects nominated in the JAP by the end of 2005. The status of the nominated projects is regularly reviewed.

At present, river restoration/rehabilitation projects are ongoing in 79 project sites covering 257,262 ha of areas along rivers listed in the Annex 3.3 of the JAP. The total project budget is some € 137.85 million. This represents significant progress in JAP implementation. The JAP acknowledges that wetlands could serve as potential elimination areas for nitrogen and phosphorous but highlights a problem in knowledge of their long-term efficiency in nutrient removal. The JAP also acknowledges that wetlands can mitigate flood peaks under certain conditions.

As yet the majority of projects in Annex 3.3 are primarily included because of their biodiversity benefits. Follow-up actions on wetland restoration and management could be designed specifically to contribute to the attainment of the WFD objectives.

In Serbia and Montenegro several projects are nominated for JAP:

#### 1. Restoration of the water regime within the Koviljsko-Petrovaradinski Rit Special Nature Reserve

**The Koviljsko-Petrovaradinski Rit Special Nature Reserve is a floodplain area between 1230 and 1250 km of the Danube River course, covering 4,841 ha. along both the right and left banks, and characterized by the well-preserved original ecosystems, diversity of the species and their communities with significant number of threatened, rare endemic and relic species, as well as the landscapes of exceptional beauty.**

Changed regime of underground and surface waters is one of the main threats to the flora and fauna of the area. Thick layers of mud and sand, accumulated wood debris and dams (bridges made of timbers and soil) in the by-canals and canals connecting the floodplain with the Danube River disable water influx from the Danube, particularly during dry seasons, as well as free water flow within the area.

Cleaning of main canals and by-canals, in order to provide good connection with the Danube and free water flow within the area, as well as migration routes and spawning areas restoration have been planned and started in 2003.

Project area: 4,841 ha

Project costs: 300,000 EUR

## 2. Restoration of the water regime within the Zasavica Special Nature Reserve

**The Zasavica Special Nature Reserve**, covering 671 ha with the buffer zone of 1150 ha, is located in the western part of Serbia. The name of reserve is farer the Zasavica River that makes the main part of the reserve. The aquatic ecosystem is closely connected with the terrestrial ones. Ecological importance of the reserve is in providing conditions for development of the different vegetation types and biocoenoses, such as aquatic, marshy, meadow, forest and agricultural ones. The area is inhabited with the rare, endemic and relic species, being threatened not only in Serbia, but also in whole Europe, as well as with the species important in food chains and maintenance of ecological balance. The Zasavica River is only habitat of *Umbra krameri* – European mudminnow (fish) in Serbia.

Lack of the water, particularly during the dry seasons, is one of the main threats to the biodiversity of the area. Private ownership, particularly within the buffer zone, is additional problem. In order to provide appropriate water regime within the protected area and its buffer zone, the supplying with the water from the Sava River has been planned. The project has been worked out, but still waiting for funding.

Project area: 1,821 ha

Project costs: 780,000 EUR



**Zasavica**

## 3. Restoration of the wetlands within the Obedska Bara Special Nature Reserve

**The Obedska Bara Special Nature Reserve**, of the total surface of 9,820 ha and buffer zone covering another 19,611 ha, is located along the Sava River. One of principal characteristics of the area is a variety of biotopes which provide habitats for a lot of plant and animal species. Besides a

lot of widespread species, the area is inhabited with significant number of threatened, rare, endemic and relic species. The Obedska Bara is one of the oldest legally protected areas in the World – 1874. Forestry, intending to reduce autochthonous forests, hygrophilous meadows and pastures and enlarge plantations of Euro-American poplar, changed water regime, eutrophication, succession of ecosystems, sediments accumulation are the main threats to the area.

In order to improve management of the reserve, eliminate and reduce degradation processes, stop biodiversity loss and its improvement, a project that includes water regime and connection with the Sava improvements, as well as restoration of the hygrophilous meadows has been started in 2001.

Total project area: 9,820 ha

Total project costs: 1,560,000 EUR

#### 4. Restoration of the water regime within the Begecka Jama Nature Park

The Begecka Jama is an oxbow lake on the inundation flat along the left bank of the Danube River, at 1276 km of its course. Being an area with the mainly preserved original nature and healthy environment, the Begecka Jama and its narrow surroundings is protected as the **Begecka Jama Nature Park** covering surface of 380 ha.

In order to provide appropriate water regime within the protected area, preparation of a project has been started.

Project area: 380 ha

Costs of the project preparation are 12,000 EUR, and finale version will defines funds necessary for the project implementation.

### **Selected Important Wetlands in Serbia and Montenegro and Measures Taken**

*Name:* **Gornje Podunavlje :**

*Status:* Special Nature Reserve (Habitat and Species Management Area)

*Description:* A 19,648 ha wetland on the other side of the Danube to Kopacki rit, of which approximately 10,000 ha is floodplain between 1347 and 1433 km of the Danube River course. This spatially and ecologically unique complex, with the mosaic distributed water, marsh, swamp, meadow, bush and forest ecosystems, is characterized by the high biodiversity and significant number of threatened, rare endemic and relic species.

*Pressures:* Forestry, including clear cutting and Euro-American poplar plantations, hunting, presence of the alien species, illegally built cottages as well as unsuitable water regime are the main threats. The part called Monostorski Rit was cut-off from the main stream of the Danube by dike. Works on re-connection of the main canals and side-arm system with the Danube have been started within the Monostorski Rit and area.

*Name:* **Koviljsko-Petrovaradinski Rit:**

*Status:* Special Nature Reserve (Habitat and Species Management Area)

*Description:* A floodplain area between 1230 and 1250 km of the Danube River course, covering 4,841 ha. along both the right and left banks, and characterized by the well-preserved original ecosystems, diversity of the species and their communities with significant number of threatened, rare endemic and relic species, as well as the landscapes of exceptional beauty.



### **Koviljsko-Petrovaradinski Rit**

*Pressures:* Forestry, with Cutting off autochthonous trees and establishing of Euro-American poplar plantations, water pollution, as well as presence of the alien species, overfishing and illegal fishing with the forbidden tools are the main threats to the flora and fauna of the area. Thick layers of mud and sand, accumulated wood debris and dams (bridges made of timbers and soil) in the by-canals and canals connecting the floodplain with the Danube River disable water influx from the Danube, as well as free water flow within the area. Cleaning of main canals and side-arms in order to provide good connection with the Danube and migration routes restoration, as well as spawning areas restoration have been planned.

*Name:* **Obedska Bara :**

*Status:* Special Nature Reserve (Habitat and Species Management Area)

*Description:* Very well preserved floodplain of 29,431 ha. One of principal characteristics of the area is a variety of biotops which provide habitats for a lot of plant and animal species. Besides a lot of widespread species, the area is inhabited with significant number of threatened, rare, endemic and relic species

*Pressures:* Water pollution. Plans for flood protection and navigation schemes. Forestry, intending to reduce autochthonous forests and enlarge plantations of Euro-American poplar, and unsuitable water regime resulting in very fast eutrophication are the main threats to the area. In order to provide good connection with the Sava, improvement of water exchange and retaining more water, a Water Regime Restoration Project has been started.



**Obedska Bara**

*Name: **Zasavica***

*Status: Special Nature Reserve (Habitat and Species Management Area)*

*Description: Floodplain on the right bank of Sava River, rich in biodiversity.*

*Pressures: River regulation and flood protection works, water pollution, tourism.*

*Name: **Stari Begej-Carska Bara.***

*Description: Network of channels, soft-and hardwood floodplain forests, oxbows, sand banks, cliffs and meadows in- and outside of the flood dikes. It has a rich biodiversity - fishes, macro-invertebrates, etc.*

*Pressures: River regulation and flood protection works, water pollution, fisheries, forestry, tourism.*

### **The Integrated Approach as a Development Opportunity**

In this moment a new legislation both in water and environment sector is in preparation.

New Law on Water in Serbia that is in final stage of preparation follows aims and goals of Water Framework Directive of EU, and incorporate all instruments (programm of measures) for fullfilment of those tasks.

In new Law on Water it is proposed to form interministerial body for coordination of activities related to water of various ministries, including Ministry of Agriculture, Forestry and Water Management, Ministry of Science and Environment Protection, Ministry of Health, Ministry of Capital Investments, Ministry of Finance, etc.

It also introduce much better mechanisms for public and stakeholder participation in the process of preparation of River Basin Management Plans, as well as financial instruments for its impementation.

One of the most important tasks that is infront water sector is introduction of economic price of water. Price of water at this moment is very low and it is not possible even to maintain existing water systems. It is necessary gradually to raise price of water and related services, and to provide enough money for all activities in water sector, including the better use of wetlands and other water related ecosystems.

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