This fact sheet summarises the results of the Water and Wetland Index for Croatia. Information about the project and the different issues presented in this fact sheet, as well as the pan-European results can be found in the WWF Report “Water and Wetland Index - Critical issues in water policy across Europe” (2003).

**Water Resources in Croatia**

Croatia is among the most water rich countries in Europe, with an average annual surface water discharge of about 5,900 m³ per inhabitant. Municipal wastewater, agriculture and industry are the main sources of water pollution, although industrial decline has resulted in reduced discharges. The rivers of the central lowlands of Croatia, draining into the Danube River, have a high discharge and relatively good water quality, although Zagreb’s urban area does cause pollution of the Sava River. The rivers of the coastal strip of karstic highlands, discharging into the Adriatic Sea – notably the Neretva and the Zrmanja – have smaller discharges but are generally of excellent quality as there are few settlements and industries in the mountains. Both types of rivers are used for electricity generation.

**Application of Integrated River Basin Management principles**

**Public participation in water management**

Public participation is still at a very early stage, probably for historical reasons, as Croatia is a very young country. The legal and policy framework, and the practical tools for public participation are still to be developed in Croatia. Public awareness and interest in environmental issues is relatively low, especially in areas where people face serious social problems, which leads to low motivation for participation in water management. NGOs outside of the capital are generally weak, and water management decision-making is very centralised – a very narrow range of national sectors are normally consulted. There are prospects for improvement, with the authorities expressing their willingness to strengthen public participation as required by the EU Water Framework Directive, and NGOs building their capacity.

**Integrated management of water resources**

At present there is little cooperation between the relevant authorities. Water management planning and implementation is carried out by the Croatian State Waters Directorate and the Croatian Waters Enterprise, which employ mostly expert engineers, and very few environmental specialists. This problem is recognized by the State Waters Directorate, and a process has started for the employment of ecology experts. The Ministry of Environmental Protection and Physical Planning has little actual power or involvement in water management. Integration of the needs of certain sectors, in particular nature protection, into water management policies, is yet to be achieved. The Water Management Master Plan of Croatia - still under development and currently not accessible to the public – should represent an improvement in this field. A positive aspect is that Croatia has signed cooperation agreements with Hungary, Slovenia, and Bosnia and Herzegovina for the management of shared river basins, and is making the first steps toward the development of integrated river basin management plans in particular in the Danube Basin, and with a view of implementing the Water Framework Directive. A proposal for a bilateral cooperation agreement on water management with Serbia and Montenegro is currently under discussion.
Wetland management

Wetlands outside of protected areas are poorly integrated into water management and there is not sufficient understanding of their functions and values. Large areas of wetlands have been drained in the last century, and a perception still prevails among the public and some decision makers that wetlands are wastelands, which should be drained for other uses. Only a small part of the outstanding wetland heritage of Croatia is under effective protection, such as the beautiful Kopacki Rit Nature Park and the largest floodplain forest in Europe, Lonjsko Polje Nature Park. Water management and infrastructure projects outside of protected areas are threatening Croatia’s wetlands with damage and destruction. There are no restoration activities under way, although some activities are being considered in the framework of the Danube Basin Convention.

Response to key pressures and impacts on freshwater ecosystems

Water quantity problems (agriculture)

Croatia is one of the most water-rich countries in Europe, and water quantity problems are less acute especially in the northern parts of the country. Nevertheless, problems do occur both due to municipal and agricultural use during droughts, or due to the five-fold increase of people during the summer tourist season along the Adriatic coast and on the islands. Some Dalmatian streams have been diverted to increase water availability for tourism, leading to the loss of coastal brackish-water habitats. While some regulatory mechanisms exist (mainly concerning the measurement of used water quantities), at present there are little to no financial or voluntary instruments encouraging water saving. The fact that farmers are charged for irrigated area and not for consumed volumes represents little incentive to make wise use of water.

Water quality problems (household)

There are a number of large settlements in Croatia without municipal wastewater treatment plants. The regulatory framework is generally good, but its real enforcement is often problematic (e.g. connecting to the wastewater collection system, which is under the management of local municipalities, is claimed to be too expensive for many households). Financial or voluntary instruments to reduce pollution at the source are not sufficient.

River fragmentation due to infrastructure

There are about 30 large dams in Croatia. Some of the main Croatian rivers, including the Sava, are free of dams. The existing three dams on the Drava create unnatural hydrological regimes, which have negative effects on fish, wildlife, groundwater, associated vegetation and local communities. Several new hydropower dams are planned by the authorities. The Croatian National Plan for Flood Protection puts emphasis on the construction of engineering infrastructures such as dykes and retention reservoirs, which can be very damaging to highly valuable, bio-diverse river ecosystems. There are some successful examples of using wetlands for flood protection, e.g. the large floodplain of Lonjsko Polje Natural Park is a natural floodwater retention reservoir protecting important settlements including Zagreb. This approach, which proved successful during last year’s floods, should be further expanded where possible, in order to prevent both flooding and serious damage to freshwater ecosystems from flood protection schemes. Ongoing regulation works for flood protection on the Croatian Upper Drava are designed to maximise profits from allied gravel extraction. These works are currently expanding and encroaching on natural stretches of the river, and progressively destroying large areas of valuable riverine habitats, home to over 50 Red List Species.

Legend:

- Very good
- Good
- Fair
- Poor
- Very poor

Further information:

The WWI for Croatia was completed by ZEUS, Green Action and WWF.

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