



Croatia's Drava dam would contravene EU law

The planned Novo Virje hydropower plant on the Drava River in Croatia threatens unique habitats and species populations qualifying for protection under EU environmental legislation.

WWF in alliance with Euronatur, Drava League and Green Action is requesting the Croatian government to:

- halt any further development of the environmentally damaging project and investigate sustainable alternatives;
- protect the Drava and Mura Rivers in Croatia as part of a transboundary protected UNESCO biosphere reserve, together with Austria, Slovenia, Hungary and Serbia-Montenegro.

Drava and Mura – European natural heritage

Whilst most of Europe's larger rivers have been drastically dammed and regulated during the last century, the lower stretches of the Drava and Mura still form a 380 km long free-flowing river corridor between Austria, Slovenia, Croatia and Hungary.

This large river system covers more than 60,000 ha of floodplain areas and contains an amazing biological diversity which makes the corridor to one of the conservation hotspots in Europe. It also offers multiple benefits from flood protection, water purification, groundwater protection and drinking water supply to socio-economic opportunities such as fisheries and ecotourism. This is particular true for the 30 km long Drava stretch between Botovo and Ferdinandovac in Croatia, which is now threatened by the Novo Virje hydropower project.

Hydropower vs nature protection

The Drava River and its main tributary, the Mura, have been used for hydropower for 100 years. There are 22 hydro plants on the Drava and another 26 on the Mura. These plants have already negatively affected the river ecosystem, for example resulting in a fall in characteristic fish populations and the drying out of floodplain forests. Novo Virje, with its 27 km² reservoir, would be the largest hydropower plant on the river.

Plans to harness the lower Drava for hydropower date back to the 1950s, when former Yugoslavia and Hungary planned to build a chain of four dams along the border up to the confluence with the Danube. In 1989, Hungary abandoned this plan on environmental grounds and designated the area as part of the Danube-Drava national park. Croatia

has so far largely failed to afford protection to the river, despite its National Biodiversity Strategy declaring the protection of the Drava and Mura a high priority. Furthermore, UNESCO has invited Croatia, Austria, Slovenia, Hungary and Serbia-Montenegro to designate the Drava, Mura and Danube corridor as a transboundary biosphere reserve. This would be the largest river and floodplain nature reserve in Europe.

The Novo Virje project and its impacts

The hydropower dam Novo Virje, to be located 120 km northeast of Zagreb close to the Hungarian border, would have an installed capacity of 138 MW, with an annual production of 640 GWh (just over 4% of current Croatian electricity demand). Its estimated costs are about 500 Million Euro.

An Environmental Impact Assessment (EIA) for the project was completed in 1998 and openly discussed with the potentially affected Croatian communities. Their reaction was either complete rejection or severe criticism. An amended EIA addressing some of the criticisms was completed in September 1999. Due to the EIA's failure to cover transboundary impacts on Hungarian territory and on the Danube-Drava National Park, the Hungarian government officially opposed the construction of the dam and requested an EIA conforming with the Espoo Convention on EIA in a transboundary context. The transboundary EIA is still in progress.

Key impacts of the project are as follows:

- flooding of more than 10 km² of floodplain forest and 5 km² of lowland orchid meadows
- loss of river dynamics
- deterioration of groundwater quality
- threat to habitats and species of European importance

- changes in groundwater regime likely to lead to the degradation of about 160 km² of lowland pedunculate oak forest ecosystems
- reduction of fish breeding grounds
- break-up of the ecological integrity of the Drava-Mura river continuum
- drying out of forests in the Hungarian Danube-Drava National Park
- loss of natural areas for recreation and ecotourism

Environmental loss = economic loss

Croatia's lowland oak forests provide multiple benefits through activities such as forestry and hunting, as well as ecological services such as pollution absorption. According to research at the University of Zagreb, the monetary value of the benefits provided by the forests impacted by Novo Virje amounts to more than 20 million Euro per annum, exceeding the value of the electricity to be generated by the plant.

Novo Virje and EU environmental legislation

Croatia formally applied for membership in the European Union on February 21, 2003. In the forthcoming EU accession process, Croatia will be expected to adopt the legal and constitutional framework of the EU (*the aquis communautaire*). The Novo Virje project would almost certainly conflict with the EU Habitats Directive (92/43/EEC), the Birds Directive (79/409/EEC) and the Water Framework Directive (2000/60/EC).

Under the Habitats Directive, member states are expected to designate important habitats as Natura 2000 sites. Austria has already nominated the ecologically important stretches of the Drava and Mura as Natura 2000 sites, while the Slovenian and Hungarian stretches are likely to be nominated when both countries join the EU in 2004. The Croatian stretches are the ecologically best preserved ones and would undoubtedly qualify as Natura 2000 sites.

The impoundment section of the Novo Virje dam includes 10 habitat types covered by Habitats Directive, including two identified as priority natural habitat types (Alluvial forests and semi-natural dry grasslands) which are endangered in Europe. The Novo Virje site is also important for more than 50 bird species including White-tailed eagle, Black stork and Little tern, which are protected under the Birds Directive.

Furthermore, most of the stretch of river to be affected also achieves 'good ecological status' as defined by the Water Framework Directive (2000/60/EC), under which member states are expected to prevent the deterioration of surface waters. The Novo Virje hydropower plant would

transform the Drava into a 'heavily modified' river which is clearly at odds with the Directive's requirements.

Sustainable alternatives

According to the Croatian government, its development strategy is one of sustainable growth without jeopardising ecological systems. Proceeding with Novo Virje will not help Croatia achieve this objective. Instead, Croatia should exploit opportunities for energy efficiency and other renewable energy sources such as geothermal power, where its potential is greater than the European average.

Conclusions

- The Novo Virje hydropower project would destroy one of the last semi-natural river ecosystems in Europe and would have irreversible impacts on the Hungarian Danube-Drava National Park.
- A decision by Croatia to build the Novo Virje dam would go against the requirements of EU legislation. The dam would breach the accession requirement for all new investments in candidate countries to comply with the EU *aquis*.
- The Croatian Government has a unique opportunity to put its environmental record back on the track for EU membership by cancelling the costly and environmental destructive Novo Virje project. It should work with the international community and institutions, NGOs and other relevant actors to implement sustainable and cost-effective alternatives and to protect the Drava and Mura corridor as part of a transboundary biosphere reserve.

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Gravel banks on the Drava to be flooded by the Novo Virje reservoir (A Mohl/WWF A)