



*European Parliament Forum on Recreational Fisheries and Aquatic Environment*

## REPORT

### How Green is Hydropower?

#### *The impact of hydropower on EU's rivers and the implementation of the Water Framework Directive*

10 November 2015

European Parliament

**MEP Mircea Diaconu** welcomed all the participants on behalf of MEP Norica Nicolai, President of the RecFishing Forum.

**MEP Maria Noichl** stated that hydropower is useful to reach the EU 2020 energy and climate targets but it also has some negative sides. It is crucial to maintain European waters in good state and it is well-known that barriers in rivers have many effects on spawning grounds, temperature and flow speed. It is impossible to say goodbye to hydropower all together but the EU needs to develop a strategy on how to deal with it in the future.

**Ulrich Eichelmann**, Riverwatch, presented the situation in the Balkan Region. Riverwatch conducted a study to assess the hydro-morphology of the Balkan's rivers and found out that 1/3 of them (11.000 km) are still at their natural state or in near natural conditions.

In the Balkans there are 69 endemic fish species, around 28% of all European endangered freshwater fish species and 40% of the endangered freshwater molluscs. At the moment, there are 668 hydropower plants in the Balkan region but other 2 700 are planned and 67 are already under construction. At the global level, 100 billion dollars were invested in new hydropower plants only in 2010.

The Balkan rivers are unique in Europe and they represent an important biodiversity hotspot. That is why it is so important to stop the construction of dams in this region. Riverwatch is active on the field but more actions and support are needed for data collection and network creation in order to establish a masterplan with no go areas for dams.

There is an iconic species in this region, the Danube Salmon (Huchen). Eighty scientists got together to map the area in which the Huchen population still exists and found out that 93 hydropower projects are planned in this exact area. This would decrease the Huchen population by 70 % .

Riverwatch conducted another study concerning dams in protected areas. The study highlights that 49 % of all hydropower plants are planned inside protected areas, which prove to be useless in this regard. Often these hydropower stations are financed by the European Investment Bank and other public instruments.



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Mr. Eichelmann recommended to the European Commission to include hydropower development and the respect of the Water Framework Directive in the accession reports for the Balkan countries as it is proved that these reports are taken into high consideration in the region. At the same time, more assistance to countries to implement the Natura 2000 Directive and the Water Framework Directive is needed.

**Dr. Falko Wagner**, IGF Jena, explained that there are around 23 000 hydropower installations in the European Union, one every 27 km, and that only in Germany we can count around 7 400 plants.

Hydropower installations are generally associated with severe impacts such as lake-like conditions that freshwater fish species do not find convenient. Studies proved that a good backwater proportion is a precondition for the rivers' Good Ecological Status. Backwater influences also downstream regions because it changes the physical and chemical conditions of the water. Another big problem is the diverted reach that causes the river to dry out with dramatic consequences for the fish. Minimum water requirements can be calculated but they are not compatible with energy generation.

Dams provoke long term effects too, such as water level fluctuation, which creates an unstable habitat area that increases the mortality rate of juveniles. Moreover, fish migration is blocked by barriers, turbines and backwater and this decreases the fish possibility of survival. More efficient technological solutions are needed, as current mitigation measures such as fish passages often are not enough.

To conclude, Dr. Wagner stated that hydropower plants reduce the habitat area for the native river organisms, hamper fish migration and increase fish injuries and mortality. Solutions to reduce the negative effects exist but the compensation cannot be complete.

**Magor Csibi**, Director of WWF Romania, said that around 13 000 km of Romanian rivers are in good ecological state and host a rich and healthy biodiversity. This represents an important asset for tourism and rural development and it is important to preserve it.

In Romania, there are over 550 small hydropower plants and the number is increasing. This is caused by the recent push for financial incentives for the development of renewable energies. One of the main driver is the EU Climate Policy that demands to cut greenhouse emissions. Of course, renewable energy sources should be supported but biodiversity should not pay such a high price. EU funds and feed-in tariffs are also important drivers of hydropower development. It is clear that the whole system is not economically sustainable and that, without incentives, hydropower won't be viable.

Many of the problems linked to hydropower depend on legislative gaps, lack of strategic planning, lack of transparency and lack of sanctions. In 2015, the European Commission launched an infringement procedure against Romania thanks to the pressures of local communities and NGOs. The procedure concerned small hydropower plants investments in three Natura 2000 sites. The Commission confirmed that Romanian authorities did not comply with the Water Framework Directive and the Habitats Directive.



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The WWF is now calling for immediate solutions and in particular for the establishment of a pre-planning mechanism, the designation of no-go areas and a better enforcement of environmental legislation.

**Lourdes Alvarellós**, European Commission, DG Environment, recalled that Member States are supposed to adopt the new river basin management plans by the end of this year and hopefully the Commission will present the assessment of the new plans by the end of 2016. Several assessments of the implementation of the Water Framework Directive (WFD) have already been carried out and, in March 2015, there was the latest assessment of the measures that Member States listed in their programmes. Thanks to these assessments, the European Commission was able to draft recommendations for existing and for planned hydropower plans.

For existing hydropower plants, the WFD demands to achieve Good Ecological Status and requires an ecological restoration for existing infrastructures. Member States have drafted measures to reach the WFD objectives but it is still unclear how the planned measures will contribute to restoration. A review of permits could represent a solution, as it could be possible to include mitigation measures such as ecological flow and fish passages.

The recommendations for the new plants include the integration of water planning and energy policy. Moreover, all cases of application of article 4(7) exemptions should include an appropriate and transparent justification of compliance with all conditions. It is not because hydropower is perceived as a clean energy that everything can be done.

This point was made clear also thanks to the European Court of Justice ruling C-461/13, which applies to all the cases of modification of rivers. According to the Court, the WFD objectives are binding for water planning and for projects. Moreover, the ruling clarifies what “deterioration of status” means. In practice, the ruling established that public authorities are bound to follow the conditions established under art. 4(7) when considering to give authorisations for projects. Several elements must be taken into consideration when assessing the deterioration of water quality and if a deterioration is assessed for one of them, the water status as a whole will be considered as deteriorated. If a deterioration of water status is assessed, art. 4(7) for exemptions can only be used under strict criteria.



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### Questions and answers

**Jan Kappel (European Anglers Alliance)** asked why the European Commission published guidelines on hydropower in Natura 2000 areas. He also recalled that there are already many hydropower plants in Europe and it is impossible to bring cases to Court for all the plants that do not comply with the WFD.

**Representative of Bavaria:** In the Alpine regions, there already are many micro and small hydropower installations and more are planned. Could the Commission clearly define what public interest is when comparing hydropower to environment conservation?

**Representative from an Austrian energy provider:** In Austria, the hydropower energy share is very high and it is growing. The energy demand is rising and so is CO<sub>2</sub>. Hydropower is competitive if compared to solar and wind when it comes to costs and duration. Hydropower installations can live side by side with nature. Not counting on hydropower would prove to be difficult.

**WWF:** We demand more water and energy integrated planning, especially for new Member States and for candidate countries. Moreover, the river basin management plans are often partial and do not include all existing dams. This way of planning has proven to be ineffective in many countries.

**Lourdes Alvarelos (European Commission)** replied that hydropower installations are not prohibited by the legislation in Natura 2000 sites. The guidelines do not encourage hydropower in these sites but define the conditions for a better implementation of the legislation.

She also said that a new specific guidance on art. 4(7) exceptions will be published soon.

**Magor Csibi (WWF)** said that at the moment the construction of micro hydropower plants in Natura 2000 sites is blocked in Romania and the EC guidelines are sending the wrong signal.

Moreover, tariffs and any sort of incentives should be removed for hydropower to fairly compete in the energy market.

**Ulrich Eichelmann (Riverwatch)** underlined that the problem is not the legislation *per se* but that the implementation does not work well. It is important that all the actors concerned by the rivers' status work together.

**MEP Ricardo Serrão Santos** concluded the event on behalf of **MEP Ulrike Rodust**. After telling the audience an anecdote about a contribution to small scale hydropower plants proposed by the Portuguese national airline (TAP) to compensate the CO<sub>2</sub> emission of the flights and that he will never pay again after what he learned during this event, he stated that hydropower represents a big share of renewable energies in the EU. Nevertheless, it is important to remember the negative effects of damming and that too much water for hydropower means less water for the rivers.

Human intervention on rivers creates many problems to fish migration. Measures to upgrade large scale hydropower stations are needed to make them more environmentally and fish friendly. Of course, improved and better equipped large hydropower plants make the smaller ones redundant. It should also be considered that the energy output of small hydropower plants is often negligible. The goals of the WFD cannot be met if we do not act to improve the water status of EU Rivers.