



FACTSHEET

GIVING A DAM: HOW HYDROPOWER IS DESTROYING EUROPE'S RIVERS



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SMALL HYDROPOWER PLANT ON THE DESGES RIVER

 FRANCE

The Desges River, a tributary to the Allier, is a crucial site for the spawning of Atlantic salmon. It supplies the National Conservatory of Wild Salmon, inaugurated in 2001, with high-quality water. However, a micro hydropower plant project that is eligible to receive feed-in tariffs is threatening this critical river. The hydropower plant, whose construction is currently suspended, would have a capacity of 76 kW - 39 times less than a single average on-shore wind turbine. The project is currently under review by the Chanteuge association for the preservation of the heritage. [1]

A UNIQUE RIVER FOR SALMON CONSERVATION IN FRANCE

The Desges River hosts protected migratory fish and is classified as a conservation area for such fish under national law. [2] It is located in a biological reservoir and flows within two Natura 2000 sites. It has a very good status according to the Water Framework Directive (WFD).

The National Wild Salmon Conservatory of Chanteuges has been operating on the Desges River since 2000. In 2017, the river was identified to be restocked with salmon by civil society and the local administration. The Conservatory releases into the wild two million young wild salmon at various stages of development each year. However, despite the efforts of the Conservatory to reinforce a population on the verge of extinction, only a few hundred of these salmon reach the upper Allier, compared to tens of thousands in the past.

THE LOIRE-ALLIER BASIN, A MIGRATORY AXIS OF EUROPEAN IMPORTANCE

The Allier River is the main tributary of the Loire River. The Allier basin includes some of the last wild rivers in Europe, which are home to several species of protected migratory fish, such as the Atlantic salmon, Sea lamprey and European eel. In France, 82 to 86% of the potential spawning Atlantic salmon of the entire Loire basin can be found on the Allier migration axis. Many rivers in the basin are classified under national law (Environmental Code, article L214-17) for the protection of migratory fish and are specifically targeted by several management plans:

- The Loire River Basin Management Plan, targeting the good status of the water bodies according to the Water Framework Directive,
- The Plan Loire Grandeur Nature, since 1994, which led to the removal of a few main dams on the basin,
- The Management Plan for Migratory Fish (PLAGEPOMI), which includes 16 priority barriers for continuity in the Loire basin,
- The Climate Change Adaptation Plan of the Water Agency.

For several decades now, ambitious plans have been put into place to remove or, at least, equip and manage dams across the Loire basin, including the Allier River and its tributaries. However, despite positive steps to mitigate harm to freshwater ecosystems, the development of small hydropower plants in the basin is booming.

SALMON CONSERVATION THREATENED

BY A SMALL HYDROPOWER PROJECT

Despite the unique biodiversity of the stream, a group of municipalities is planning to construct a 75 kW micro hydropower plant on a former mill site. It would be operated by Cegelec, a subsidiary of the construction company Vinci. The mill benefits from a specific legal regime ("droit fondé en titre") which allows the developer to build a hydropower plant without an environmental authorisation. According to estimates by the National Wild Salmon Conservatory, the hydropower plant will cause sudden variations in water flow, which are likely to happen about once a month. These will impact the breeding environment at the salmon farm. The project does not include any discharge mechanism to limit these sudden variations.

Moreover, the project does not take into account the impact of climate change on hydrology. This will undoubtedly also affect the electricity production of the plant. The mean flow of the Desges River has already fallen by a quarter since 1970 and is expected to fall by a further 20% by mid-century (2046 - 2065). [1] Thanks to the efforts of local NGOs and residents, the project was suspended in 2021, even though construction work had already started. Nevertheless, it still has not been entirely abandoned and, sadly, the site has not been restored to its original condition.

FEED-IN TARIFFS, ARTIFICIAL PROFITS

At a public meeting in October 2016, the operator explained that the feed-in tariff would allow the company to earn between €70,000 and €78,000 per year. [3] After deducting charges, the profit would be €24,000 per year, i.e. €2000 per month. Without the feed-in tariff, therefore, the plant would most probably not be profitable.

CONCLUSIONS

The National Wild Salmon Conservatory is an essential tool to save the last population of long migrating salmon in Western Europe. The construction of a micro hydropower plant upstream of the Conservatory illustrates the inconsistencies between the development of micro hydropower and biodiversity protection. By making such micro hydropower plants profitable, feed-in tariffs directly contribute to the degradation of precious ecosystems.

[1] More information: <https://www.ern.org/fr/chanteuges/>.

[2] Environmental Code, article L214-17, list 1.

[3] Le dossier de la microcentrale sur la Desges à Chanteuges : un projet contestable et destructeur sur une rivière à saumons et dans un site classé. Robert Jourard, Association Chanteuges Préservation du Patrimoine, 15 janvier 2021.

[4] Based on a feed-in tariff of 182€/MWh in winter and 96€/MWh in summer (2016 H16 decision).

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HYDROPOWER DEVELOPMENT IN FRANCE

In 2018, the overall French hydropower infrastructure consisted of approximately 2 500 plants, totalling an installed capacity of 25.5 GW. It includes about 400 hydropower concessions representing 90% of the overall power and 2,100 small plants (installed capacity < 4.5 MW) representing 10% of the overall installed capacity.

Since 2016, the small plants can benefit from one of two types of financial support: the feed-in tariffs (plants < 500kW) or the premium on electricity sales, notably granted to the plants between 0.5 and 4.5 MW.

The Auvergne Rhône-Alpes region is the leading French region for hydropower, with 11.6 GW of electric power, which represented 45% of national production in 2019. This region is home to rivers with high biodiversity value, including the last wild rivers in Europe, which are home to migratory fish. Despite their unique value, producers continue to invest in small hydropower plants on these high-stake rivers as they receive financial support.

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