



FACTSHEET

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



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SMALL HYDROPOWER DEVELOPMENT ON THE ALAGNON RIVER

FRANCE

The Alagnon River, a tributary of the Allier, is a major migratory river in France and a crucial site for the spawning of Atlantic salmon. Its upstream section has a good ecological status according to the Water Framework Directive (WFD), and the Alagnon valley is located within no less than three Natura 2000 sites. The Alagnon River is also classified for the protection of migratory fish under national law. [1] The basin hosts 13% of the productive areas for young salmon in the Allier basin. [2]

Despite its unique value for salmon conservation and biodiversity, the Alagnon basin is experiencing a development of small hydropower that runs counter to the WFD's objectives of good status and non-deterioration of water bodies, as well as to the goals of the Birds and Habitats Directives. This development is amplified by the national regime of feed-in tariffs and feed-in premiums for hydroelectricity production.

Ten hydropower plants, totalling an installed capacity of 5.8 MW and an annual production of 10.6 GWh [3], are currently in operation in the Alagnon basin, including five plants on the main course of the Alagnon. Two additional projects are currently being considered. [4] This case study focuses on two hydropower plants and their impact: one planned and one existing plant. Although there is no information available specifying that state aid is being allocated to these facilities, as operators have no obligation to disclose information, **local actors believe that these hydroelectric plants receive state aid.**

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.

THE CELLES MILL HYDROPOWER PROJECT:

RECONSTRUCTION OF A RUINED STRUCTURE

The Celles mill benefits from a specific legal regime (“droit fondé en titre”) granted before the French revolution. This legal regime allows mills to be exempted from the environmental authorisation request and the appropriate assessment needed in Natura 2000 sites. Nevertheless, the French administration may still require the minimum instream ecological flow value (10% of the mean flow) to be taken into account and the dam to be equipped with fish passes or other devices in order to ensure minimum continuity for fish and sediment.

The State Council [5] authorised the reconstruction of the almost completely demolished barrier of the old Celles mill - which had been passable for fish - into a 200 kW hydropower plant, without the appropriate assessment usually required in Natura 2000 sites. No evaluation has been conducted so far to assess whether the project will lead to a deterioration of the water status, as required under Art 4.7 of the WFD. The decrease in the water flows due to climate change will not be considered in the project.

The river basin authority (SIGAL) [4] has pointed out that the technical modifications made to the barrier over time should lead to the invalidity of the specific legal regime by the administrative authorities. However, the special regime is still in place. According to the SIGAL, the administrative authorities did not involve all the stakeholders working to implement policies favouring migratory species in the authorisation procedure for the project. In doing so, they ignore the efforts of civil society and local actors to achieve a good ecological status of water bodies and instead facilitate the development of small-scale hydropower.

THE CHAMBEZON HYDROPOWER PLANT:

RENEWAL IS PENDING ON A SITE PRIORITISED

FOR THE RESTORATION OF RIVER CONTINUITY

The 785 kW hydropower plant of Chambezon, on the Alagnon River, is built on a barrier classified among the 16 obstacles prioritised to be removed to restore river continuity in the Migratory Fish Management Plan. [6] Its authorisation was issued for 40 years, from 1988 to 2027. The barrier was initially equipped with a non-functional fish pass and did not ensure the required ecological continuity of the river. Moreover, the river is classified to protect migratory fish under national law (Environmental Code, article L214-17 lists 1 and 2), and the plant is located in a Natura 2000 site.

In spite of all that, the Chambezon hydropower plant could see its authorisation renewed in 2027. The Alagnon local Management Plan (SAGE Alagnon), which aims to reduce the loss of natural gradient due to artificial obstacles in this section of the river, is opposed to the renewal of the authorisation and foresees that the barrier will be removed.

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.

Since 2016, the plants between 1MW and 4,5MW are selected by the French Ministry during national calls for tenders. The first call for tenders was launched in 2016. The second call was divided into periods. The first three periods took place in 2018, 2019 and 2020.

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.

informed of the situation and its impact on migratory fish by the administration. Accurate information could have guided the operator towards a different solution. According to SIGAL, the operator may have been given ambiguous information, suggesting that renovating the fish pass would be sufficient to ensure the renewal of the authorisation.

However, the efficiency of fish passes on the river barriers on the Alagnon River is far too low to preserve highly migratory species, with substantial residual effects identified by the river basin authority (SIGAL) and stakeholders. [7] Although hydropower producers are not obliged to provide information about subsidies and profitability, the fact that the operator has recently invested in a fish pass suggests that the plant is profitable. Given the cost of fish passes, this investment was certainly possible only because of a feed-in premium.

CONCLUSIONS

Those two examples illustrate that further development of hydropower plants on the Alagnon River is completely incompatible with the objectives of restoration of river continuity and salmon conservation. In both cases, it is likely that feed-in tariffs or premiums made the hydropower plants project (Celles) and renewal (Chambezon) economically viable. Were the electricity to be sold on the market without subsidies, neither plant would be profitable.

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

[2] Association LOGRAMI, 2019. PROGRAMME DE RECHERCHES APPLIQUEES EN FAVEUR DES POISSONS MIGRATEURS 2018. Recueil de données biologiques 2018 sur les poissons migrateurs du bassin Loire, 394 p.

[3] Etat initial du SAGE Alagnon, 2011.

[4] Syndicat Interdépartemental de gestion de l'Alagnon et de ses affluents (SIGAL).

[5] Information given by the SIGAL. The State Council (« Conseil d'Etat ») is a law court especially dedicated to decide whether a public decision is compliant or not with the voted law. Thus, administrative authority decisions are constrained by the State Council decisions and statements.

[6] <https://www.migrateurs-loire.fr/ouvrages-prioritaires-du-plagepomi/>

[7] Association Loire Grands Migrateurs (LOGRAMI).

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