CASE Study - FRANCE

Loire

Saint Etienne du Vigan and Maisons Rouges dam removals

The construction of a dam in the village of <u>Saint-Etienne-du-</u><u>Vigan</u> was authorised in 1895 to supply electricity to the town of Langogne (Lozère). Being approximately 14 m high and having no special fish pass for migratory fishes, the dam had sterilised the excellent Upper-Allier salmon spawning sites. At the time of construction, strong protests were uttered, in vain, by the rural people for whom the fishing supplied a considerable additional income.

Under the implementation of the "Plan Loire Grandeur Nature" (the Natural Loire River Plan) in 1994 by the French Government, the removal of existing dams was considered as a necessary measure to recreate free flowing rivers.

The French Government requested EDF to remove the dam at their own expense in order to restore the free running flow. River salmons were coming back the winter after the dam removal and results were encouraging.



| Technical Data | (Source, ERN and ONEMA 2010) |
|-----------------------|--|
| Country | France / Normandie |
| Name of River | Allier and Vienne river, tributaries of Loire River |
| Name of Dam: | St. Etienne-du Vigan (Allier) Maisons-Rouges (Vienne) |
| Year of | 1895 StEtienne-du-Vigan |
| construction | 1923 Maisons-Rouges dam |
| Year of | 1998 StEtienne-du-Vigan |
| removal | 1998 Maisons-Rouges dam |
| Cost of | 1,3 Mio.€ St.Etienne-du-Vigan |
| removal: | 2,6 Mio.€ Maisons-Rouges |
| Type of dam | hydropower |
| Power capacity | 35MW : St.Etienne-du-Vigan no data : Maisons-Rouges |
| Height / Length | 14m : Saint-Etienne du Vigan 4m/200m: Maisons Rouges |
| Volume | No data |
| Freed river km | 44km Allier River, St.Etienne 35km Vienne and Creuse |
| Dam owner: | EDF |



Location: Loire River Basin : Saint-Etienne-du-Vigan Dam at Allier River and Maisons Rouges Dam at Vienne - Creuse River confluence (Source ERN)

An initiative of





CASE Study - FRANCE

Loire

The other major dam removal in the frame of the Natural Loire River Plan, was <u>the Maisons-Rouges</u> dam, on the Vienne river, another tributary of the Loire river.

The Maison rouge dam was located at the confluence of Vienne and Creuse River and is only a view kilometers upstream the confluence to the Loire River. The Maison Rouge dam was dismantled in 1998 and the removal was an undoubted success. From 2004 to 2007 an automatic counting station on the Vienne River, 20 kilometers above the Maisons-Rouges site, registered 3,500 to 9,500 allice shads, 8,300 to 41,600 sea lamprey, 2-12 brown trout and 2 to 11 adult wild salmon, which was not found there since 100 years!

Alone in the Creuse river in 2007 around 9,000 allice shad, 51,000 sea lamprey, 4 brown trout, 60 salmon were sighted in Descartes 12 kilometers upstream Maison Rouge. So dam removal was proven to be an efficient approach for migratory fish restoration and also showed a huge reduction in the sedimentary deficit in the course of the Vienne, with benefits extending even into the Loire main branch.

Source of Information and links:

<u>Saint-Etienne-du-Vigan</u>, Allier River, Haute-Loire, 1998

Maisons-Rouges, Vienne River, Indre-et-Loire, 1998

Further major dam removals in France:

Kernansquillec, 15m, Léguer River, Cotes-d'Armor, removal 1996

Brives-Charensac, 3m high, Loire River, removal 2003

Blois, 1m high/ approx. 300m large, Loire River, removal 2005

Fatou, Beaume River, upper basin of Loire River, 6m high, removal 2007





Saint-Etienne-du-Vigan dam before removal © ERN, Roberto Epple



Saint-Etienne-du-Vigan dam removal works 1998 © ERN, Roberto Epple



Unchained Allier, photo taken at previous St.Etienne du Vigan dam section 19 years after removal © Riverwatch

An initiative of





CASE Study - FRANCE

Loire

REMOVE

Dams planned to be removed in France:

The Poutès -Monistrol dam is the cause of almost the complete loss of the Loire wild salmon in the Allier river. This dam used to be a major drawback for the salmon conservation programme set up by the "Plan Loire Grandeur Nature" where several Mio Euros were invested for salmon reintroduction all in vein due to this dam. After 20 years of heavy protests the partial removal of Poutés Monistrol dam was conceived: from 17m to 4m height. Furthermore the plant will be equipped with a multi-species fish way for upstream and downstream migration. Works are scheduled for 2017 – 2022. Further information on this ongoing dam removal project can be found on the following websites:

http://www.ern.org/en/poutes-barrage/

http://www.nouveau-poutes.fr/fr/vers-le-nouveaupoutes/du-combat-a-la-concertation

https://www.barragescfbr.eu/IMG/pdf/1.04.barrage_de_poutes.pdf

The Roche qui Boit dam and Vezins dam (36m and 15m high) on the Selune River (91km) are currently the largest ongoing dam removal projects in France. The dams of the hydropower plants Roche qui Boit (15m an 1,6 MW) and Vezins (36m and, 12,8 MW) are located about 20km from the confluence of the Selune to the sea. These dams can be called an ecological disaster as the Selune River is the third best Salmon River in France but number of migrating fish went down significantly over the last decades. Thanks to this high ecological value the Selune river was profiting from specific protection and salmon restoration programs, which were the major reasons, besides economic and juridical judgements why the renewals of the hydropower concessions were denied to EDF.

As fish traps were impossible to install, the decommissioning was decided and enacted by the ministry in 2009. Before the go ahead of removal works, in-depth studies of sediment pollution and flood protection were implemented. The former environmental ministry Ms Ségolène Royal tried in 2014 to stop the dam removal but local NGOs and angling associations were mobilizing all their efforts to fight back this decision and succeeded finally. The works are scheduled for 2017/2018. Further reading here: http://www.selunelibre.org

All the French dam removal case studies can be consulted on the <u>European Rivers Network (ERN) website</u>



Allier River, Poutès - Monistrl dam, partial removal from 17m to 4m height is planned 2017 – 2022 © ERN - EDF



Selune River: the Vézins dam (36m, 12,8MW) is blocking fish migration, the dam is located 20km upstream the confluence with the sea © Eaux et Rivières de Bretagne



Maisons-Rouges dam removal works 1998 © ERN, Roberto Epple

An initiative of



