

IDÉNERGIE'S RIVER TURBINE AND FRESHWATER FISH: A HARMLESS COHABITATION

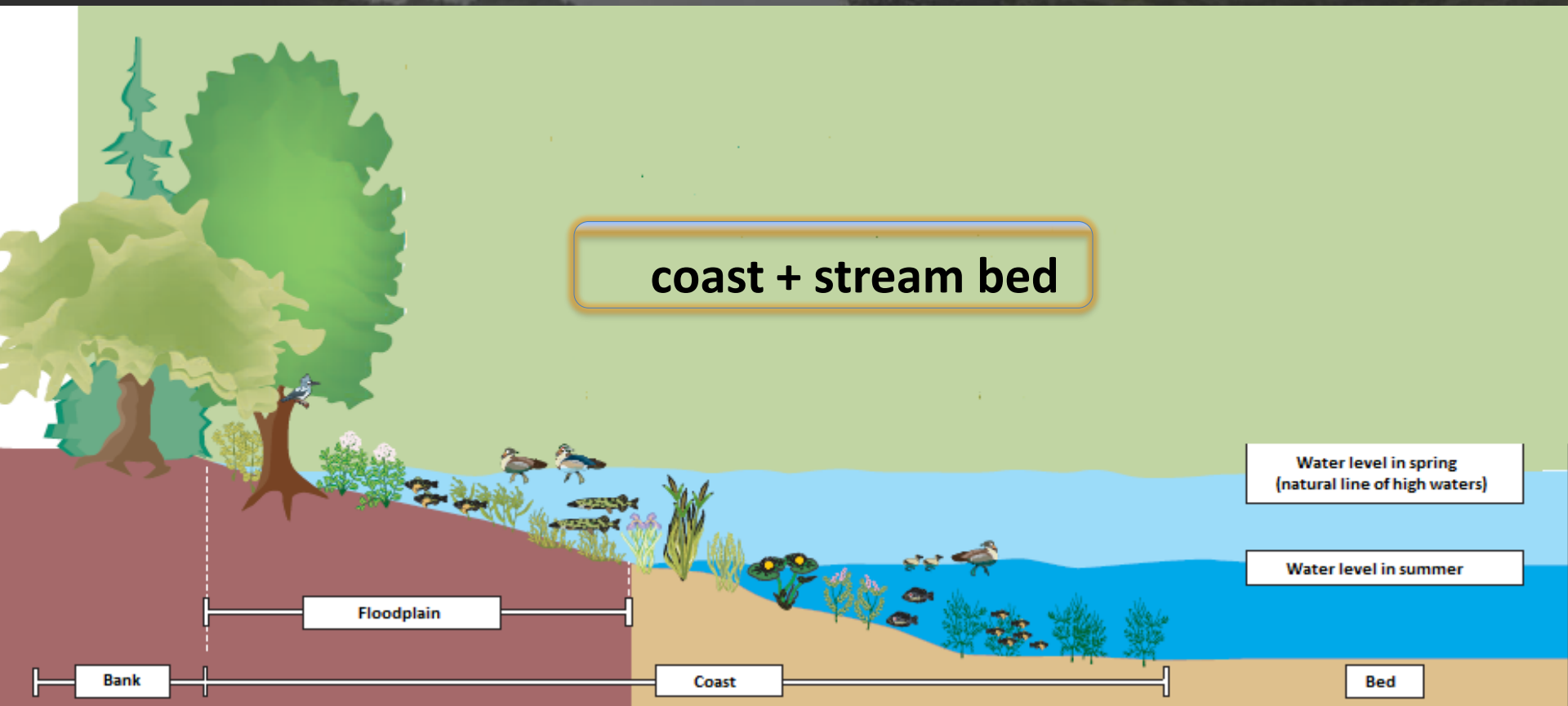


STUDY OVERVIEW

THE RIVERS'S ECOSYSTEM

OVERVIEW

In freshwater, the housing environment of fish is the part of the stretch of water located under the natural line of high waters.



STUDIES OVERVIEW

STUDIED FACTORS

1. Tears and turbulences to fishes going through a turbine.
2. Potential of pressure and cavitation which can hurt fishes going through a turbine.
3. Collision, suction, abrasion for fishes going through a turbine.

OVERVIEW OF THE STUDIES

RESULTS

1. There is a very low risk of injury and death for all studied factors and in some cases, no risk at all.
2. The behavioral tests indicate that most of the fishes avoid the turbine.
3. For some fishes going through a turbine, the survival rate is more than 98 %.
4. The other 2% is due to the manipulation of fishes for the needs for the studies.

FISHERIES AND OCEANS CANADA'S APPROVAL

Extract of a letter from the Fisheries Protection Program of Fisheries and Oceans Canada:



Pêches et Océans
Canada

Fisheries and Oceans
Canada

«[...] in a general way, your proposals of river turbines for domestic use, are projects for which an **authorization by virtue of the Fisheries Act is not necessary** ».

Fisheries and Oceans Canada considers that Idénergie river turbine, under its current characteristics, can be used in streams without danger*.

* Official letter available on demand



FOR FURTHER INFORMATION

SELECTIVE BIBLIOGRAPHY

- EPRI – *Environmental Effects of Hydrokinetic Turbines on Fish: desktop and laboratory flume studies*, Paul T. Jacobson et al (2011).
- USGS – *Present and future USGS Research: Effects of Hydrokinetic Turbines on fish behavior, injury and mortality*, Alex Haro (2012).
- ALDEN RESEARCH LABORATORY – *Laboratory Evaluation of Fish Survival and Behavior Associated with Hydrokinetic Turbines*, Steve Amaral et al (2011).

PRE-QUALIFY YOUR SITE by making a request of wildlife information!

- Le Centre de données sur le patrimoine naturel du Québec: <http://www.cdpnq.gouv.qc.ca/>
- Ministère de la Faune, des Forêts et des Parcs: <http://www.mffp.gouv.qc.ca/accueil.jsp>
- Directions générales régionales du ministère: <https://www.mffp.gouv.qc.ca/regions/index.jsp>