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**Eco-physiological characterization of Quebec anadromous Brook Charr populations using otoliths**

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Anadromous Brook Charr (ABC; *Salvelinus fontinalis*) are a common fish species found in many tributaries of the Saint Lawrence River (Fig. 1) and are considered popular for recreational fisheries. However, many populations are in decline since the early 2000's due to habitat fragmentation, overfishing, and competition with non-native species such as Rainbow Trout (*Oncorhynchus mykiss*). ABC inhabit freshwater and estuarian habitats and have been shown to be susceptible to environmental conditions brought on by climate change. With this in mind, a better understanding of the different factors affecting ABC's life cycle is necessary to ensure the sustainability of this species. In this innovative project, it is proposed to use the physical and chemical attributes of ABC otoliths to infer their energetic requirements in changing ecosystems. A broad scale sampling program of the different ABC populations is planned in collaboration with Quebec's ministry of environment, climate change, wildlife and parks. It will also be possible to develop experiments in controlled environments at Pointe-au-Père's aquaculture station (https://www.ismer.ca/equipements/station-aquicole) with ABCs originating from the Laval River on the North shore of the Saint Lawrence River. With this information, it will be conceivable to develop a generalized bioenergetics model for ABC that considers observed phenotypic plasticity in order to facilitate management and conservation measures for this emblematic species. Students with experience in eco-physiological modelling and/or sclerochemistry/sclerochronology analyses are encouraged to apply for this three-year PhD project (22 000$/year stipend). The start of the project is anticipated for September 2023. Please contact David Deslauriers (david_deslauriers@uqar.ca) to obtain further details on this project.

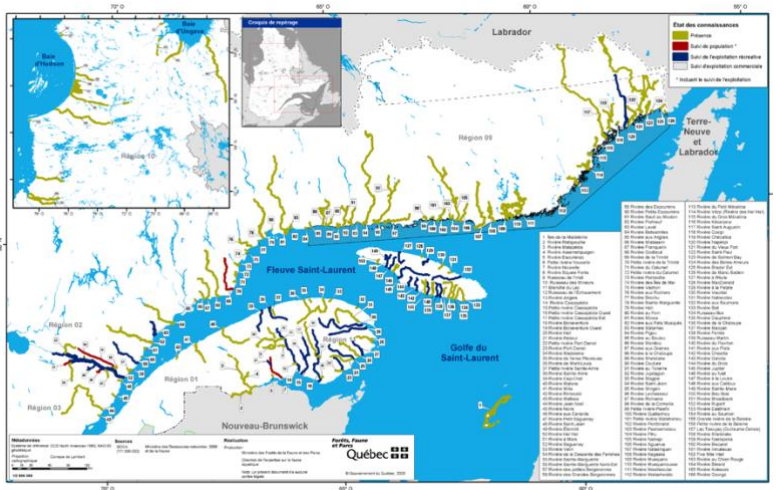

*Figure 1: ABC distribution in the province of Quebec (MFFP 2020)*

**Reference**

Ministère des forêts, de la faune et des parcs (2020). Plan d'action de l'omble de fontaine anadrome (*Salvelinus fontinalis*) 2019-2023, Québec, 20p.