

Comparative analysis of sampling methods to develop habitat use models to estimate and predict fish production in the littoral zone of reservoirs

Nathan A. Satre | M.Sc. Candidate

Université de Montréal

Supervisor: Dr. Daniel Boisclair | Co-Supervisor: Dr. Pierre Legendre

Participants: Guillaume Bourque (M.Sc.)

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Rationale: *The purpose of this project is to analyze relationships between metrics of production and environmental conditions in the littoral zone of reservoirs. Using several sampling methods, this study will help determine which method gives way to the best models of fisheries production. In addition, this study seeks to assess habitat at multiples scales, with the purpose of determining at which scale habitat greatly influences production.*

Description: *In the span of two years, we plan to develop models that explain the use of habitat by fish in the littoral zone of reservoirs. Three sampling gears (seine, gill net and boat electrofishing) will be utilized to measure fish abundance and size structure in littoral habitats. At the same time, assessments of habitat and environmental conditions will be made in order to determine if these variables can be linked to habitat use. Our project site is located approximately 100 km northeast of Winnipeg, Manitoba. Lac du Bonnet, a reservoir of the Winnipeg River, is an important source of hydropower in addition to being a recreational centre for the residents of eastern Manitoba.*

Outcomes: *We look to define the sampling strategy that maximizes the explanatory power of models aimed at describing and eventually predicting fish habitat use in the littoral zones of reservoirs.*

Benefits from this research: *In an effort to better understand fish habitat use, we can use these models to predict and mitigate the environmental impacts associated with hydroelectric generation.*



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