

ONTARIO WATERPOWER ASSOCIATION REQUEST FOR QUALIFICATIONS

Species Expertise – Regulation 242/08 – *Endangered Species Act*

1) Jean Therrien, biologist with 32 years of experience, including 25 years as a consultant.

2) Currently working for GENIVAR Inc., member of the OWA.

3) I designed the eel ladder for upstream migration and fine mesh screen to prevent downstream migration in hydroelectric power plants at two sites (Rimouski and Magpie rivers), and monitored them for several years. I also completed three studies of eel entrainment in hydroelectric power plants (Rimouski, St.-Hyacinthe and Magpie rivers), and a mortality study of eel injected in the turbine at St.-Lambert hydroelectric power plant. I have written the “Best Management Practices Guide for American Eel and Waterpower in Ontario” for the Ontario Waterpower Association.

4) I participated in the negotiations of agreements under the Endangered Species Act in Ontario and conducted the baseline study on eel presence and best location for an eel ladder for two hydroelectric producers (St. Catharines and Ottawa rivers). I have developed the mitigation plan and monitored the effectiveness of the eel migrating devices at power plants on the Rimouski and Magpie rivers. I am leading a 40-year monitoring of mercury in fish flesh in the La Grande hydroelectric complex and a 30-year monitoring of salmon in the Romaine River in regards of the Romaine hydroelectric complex.

5) I participated in the baseline studies on eel in the Romaine River watershed as part of an Environmental and Social Impact Assessment (ESIA) for a hydroelectric complex (4 power plants). I participated in various ESIAs, monitoring and production of development installations for 19 hydroelectric projects. I participated in the design of salmon upstream/downstream migration devices at hydroelectric projects, monitored these devices and evaluated the mortality and entrainment of fish in turbines.

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JEAN THERRIEN, Biologist

Education

Bachelor's degree in Marine Biology from Laval University 1981

Career

Senior Biologist, GENIVAR 1987 - Present

Professional experience

- Monitoring of fish communities, mercury or Omega-3 fatty acids in fish or parasitism (La Grande Complex, Robertson reservoir, Sainte-Marguerite Complex, Toulmoustouc reservoir, other reservoirs and natural lakes of Quebec, as well as Newfoundland and Labrador).
- Assessment of impacts for hydroelectric projects and determination of adequate mitigation/enhancement measures (Romaine, Eastmain-1A/Rupert diversion, Churchill-Romaine, Port-Cartier, Outardes, Trois-Pistoles, Donnacona, Rimouski and Mont-Rolland).
- Monitoring of salmon population (Romaine Complex).
- Integration of mitigation measures or wildlife enhancement (upstream/downstream devices for salmon and eel, salmon egg incubators in the powerhouse) in the design of hydroelectric installations (Rimouski).
- Monitoring of entrainment and mortality of migrating (eel and salmon) or resident species (rainbow trout and smallmouth bass), as well as upstream/downstream devices or fish ladders (multispecific, salmon and eel) at hydroelectric powerhouses (Quebec, Manitoba and France).
- Elaboration of concepts and certificate of authorization requests for certain components of hydroelectric projects such as the addition of an eel ladder (Montmagny, Magpie), a downstream bypass for eel (fine mesh screen and basins at Magpie), a rubber dam (Sainte-Brigitte-des-Saults), sills or a spawning ground (Forestville).
- Impacts for Romaine, Eastmain-1A/Rupert diversion hydroelectric projects and Pikauba reservoir for the management of flood for the Kénogami lake-reservoir: mercury in the flesh of fish.
- Collaboration in the studies for the Tabaret and Ashuapmushuan hydroelectric installation projects and the St. Lawrence River crossing via the Radisson-Nicolet-Des Cantons line.
- Monitoring of fish communities, as well as mercury and Omega-3 fatty acids in fish at several lakes and reservoir: Quebec, Newfoundland and Labrador.
- Monitoring fish migration at hydroelectric powerhouse sites (9 projects): capture, marking, underwater camera and telemetry.
- Monitoring rainbow trout and smallmouth bass mortality (chute Bell on the Rouge River), smolts (Millau on the Tarn River, France) and adult eel (Saint-Lambert) at hydroelectric powerhouses.
- Monitoring of and eel ladder and of downstream migration devices at Magpie River.
- Monitoring fish migration in multispecific fish ladders and eel fish ladders of the Saint-Ours dam on the Richelieu River.
- Inventory of eel population in Magpie River.
- Production of a best management practice guide for waterpower facilities regarding American eel (2010).
- Production of a guide on fish migration (downstream and upstream migration) in relation to small hydroelectric powerhouses (2000).