Don MacDonell
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Expertise and experience for Lake Sturgeon

I have been involved in senior project management of Lake Sturgeon studies in natural and regulated environments for 30 years. I have worked on populations in the Winnipeg, Red, Saskatchewan and Nelson rivers and participated in DFO's recovery potential assessments for three Designated Units in Manitoba. I lead development of two ten-year management plans for the Saskatchewan River Sturgeon Management Board, a Lake Sturgeon Stewardship and Enhancement Plan for Manitoba Hydro, and the Kischi Sipi (Nelson River) Namao (Lake Sturgeon) Stewardship Plan. My Masters practicum documented the management history and aboriginal traditional knowledge of the failure of the Nelson River sturgeon population in northern Manitoba.

Expertise and experience in the development and implementation of mitigation, effects monitoring, and effectiveness monitoring for Lake Sturgeon

I have recently managed a study to construct and monitor Lake Sturgeon spawning shoals below the Pointe du Bois Generating Station on the Winnipeg River in eastern Manitoba. I was responsible for assessing the general arrangement of the Pointe du Bois spillway replacement project to protect Lake Sturgeon spawning habitat, and for developing adaptive management strategies such as flow manipulation and substrate placement. As part of managing the aquatic assessment for the Conawapa Generation Project in northern Manitoba, I worked with engineers to develop mitigation, such as spawning shoal creation and fish passage, to protect Lake Sturgeon populations in the Nelson River. Currently, I am managing a study to investigate the implications to Lake Sturgeon of long term options for upgrading or decommissioning the Pointe du Bois Generating Station. I also participated in examining mitigation options for operation of the Caribou Generating Station for Ontario Power Generation.

Expertise and experience in the hydroelectric sector

I have 30 years of experience assessing the effects of hydroelectric development on aquatic ecosystems. I managed all aquatic studies for the Conawapa Generation Project in northern Manitoba and the Pointe du Bois Spillway Replacement Project on the Winnipeg River for Manitoba Hydro. I also managed a 15 year monitoring program to document effects of the Limestone GS on the aquatic ecosystem of the Nelson River. I am currently managing implementation of the 14 year Aquatic Effects Monitoring Plan for the Pointe du Bois Spillway Replacement Project. Studies have examined: impacts of reservoir creation and downstream flow regulation; fish movements and population dynamics; bioaccumulation of methyl mercury concentrations in fish; fish habitat quantification and utilization; and resource use.

EDUCATION

1997 **Master of Natural Resources Management (M.N.R.M.), University of Manitoba**

Practicum title - The Nelson River Lake Sturgeon Fishery from the perspective of the Bayline Communities of Pikwitonei, Thicket Portage, and Wabowden.

1983 **B.Sc., Department of Zoology, University of Manitoba**

AREAS OF EXPERTISE

- Aquatic impact assessment, habitat assessment and enhancement, and monitoring
- Interpretation of environmental legislation relating to the aquatic environment, offsetting serious harm to fisheries
- Resource use and traditional knowledge

RELATED EXPERIENCE

- **SaskPower**: Managed several studies to understand how fish habitat and Lake Sturgeon are affected by hydroelectric generation on the Saskatchewan River. Coordinated Lake Sturgeon subsistence harvest surveys on the Saskatchewan River.
- **Manitoba Hydro**: Managed and supervised aquatic studies for the environmental impact assessment of the proposed 1300 MW Conawapa Generating Station on the Nelson River in northern MB from 1988-1992 and 2004-2015. Managed all aquatic studies pertaining to the environmental impact assessment and monitoring of the Pointe du Bois Generating Station Spillway Replacement Project on the Winnipeg River in eastern Manitoba (2006-present). Designed and conducted all fisheries studies related to the Limestone Generating Station Environmental Monitoring Program on the Nelson River in northern Manitoba (1989-2003). Studies focusing on Lake Sturgeon included: impacts of reservoir creation and downstream flow regulation; movements and population dynamics; habitat quantification and utilization; and HSI model development and application for assessing and protecting habitat. Developed a Lake Sturgeon Stewardship and Enhancement Program and managed studies to construct spawning reefs below the Pointe du Bois GS and to assess habitat on the Saskatchewan River.
- **KGS Group**: Provided a review of potential issues related to Lake Sturgeon for a hydroelectric optimization study for the Saskatchewan River.
- **Kischi Sipi Namao Committee (KSNC)**: Developed a Lake Sturgeon Stewardship Plan for implementation by the KSNC on the Nelson River and Hayes River systems in Northern Manitoba.
- **Saskatchewan River Sturgeon Management Board**: Developed two 10-Year management plans (2003-2012, 2013-2022) for Lake Sturgeon in the Saskatchewan River between Tobin Lake, SK and Grand Rapids, MB.

LAKE STURGEON WORKSHOPS/CONFERENCES/EXPERT TESTIMONY

MacDonell, D.S., P. Nelson, and P. Cooley. 2013. Sampling Lake Sturgeon egg deposition to understandspawning site selection below the Pointe du Bois Generating Station located on the Winnipeg River, Manitoba. Oral Presentation at the International Sturgeon Symposium, Nanaimo, BC Canada July 21-26, 2013.

Participated in DFO's advisory process for the recovery potential of Lake Sturgeon for DUs 1-5 DFO. 2010. Proceedings of the Central and Arctic Regional Science Advisory Process on the Recovery Potential Assessment of Lake Sturgeon for Designatable Units 1-5; October 20-22, December 3 and 17, 2010. DFO Can. Sci. Advis. Sec. Proceed. Ser. **2010**/047.