

Education

*PhD Environmental Biology
& Ecology, University of
Alberta, Edmonton, AB,
2005*

*MSc Biology, University of
New Brunswick,
Fredericton, NB, 2000*

*BSc Zoology, University of
Guelph, Guelph, ON, 1996*

Languages

English – Fluent

Golder Associates Ltd. – Edmonton

Aquatic Biologist

Dr. Cam Stevens is an aquatic biologist with 14+ years of consulting experience in western and northern Canada. He is an authority in species life history, habitat, and population biology in boreal and Arctic ecosystems, and as a practitioner, leads environmental impact assessments, offsetting solutions, baseline studies, permitting applications, and compliance monitoring for major mining and infrastructure projects. Cam's commitment to technical excellence is demonstrated by a number of published articles and awards received during his career. He remains an active reviewer for a number of scientific journals.

Cam has also played a key role in addressing the unique challenges of permitting new developments in the North where offsetting (i.e., compensation) measures may be required under the Fisheries Act. Meeting the requirements of the Act can be a challenge because of the remote, pristine environment of North where there is a paucity of opportunities to restore or enhance fish habitat. Recognition and integration of available Traditional Knowledge combined with partnerships with Indigenous communities have been key solutions. Cam recently presented this work to the Yellowknife Geoscience Forum, Nunavut Mining Symposium, and Canadian Conference for Fisheries Research.

SELECTED PROJECT EXPERIENCE

Athabasca Bridge Replacement Project Alberta, Canada

Discipline lead for the environmental assessment and permit applications required for the replacement of the Athabasca River Bridge that carries Highway 813:02 near the town of Athabasca (2017 to present). Main task was to develop a plan to offset the residual serious harm to fish as per DFO's policy for a Section 35 Fisheries Act Authorization application.

Tlicho-All Season Road NWT, Canada

Discipline lead for the environmental assessment for the proposed all-season road (multiple bridge and culvert crossings) connecting Hwy 3 south of Great Slave Lake to Whati (2017 to 2018). On behalf of the GNWT and Tlicho Government, Cam responded to information requests from expert reviewers and stakeholders, presented materials to government representatives, and provided regulatory support related to provisions under Section 35 of the Fisheries Act. Fish habitat monitoring and erosion and sediment control plans were developed.

Wataynikaneyap Power Transmission Line Ontario, Canada

Provided technical support as the fish and fish habitat senior reviewer for the Wataynikaneyap Power Transmission Line Project in Northwestern Ontario (1800 km long new transmission line). Cam was responsible for the fish and fish habitat studies and related permitting applications for water body crossings (culverts and bridges) submitted to MNRF and DFO (2018 to current).

Lynx Project NWT, Canada

Technical lead for the development of the fish offsetting plan for a Dominion Diamond mine expansion (2014 to present). The work was completed for a Section 35 Fisheries Act Authorization. The assessment of losses was based on a hydroacoustic survey of Lynx Lake. A community-based offsetting option was selected through engagement with local Indigenous communities. The work was a novel partnership with the community of Lutsel K'e.

Back River Project Nunavut, Canada

Senior technical lead for a fisheries offsetting plan for a Sabina Gold & Silver gold mine (2014 to present). The work was directed by the Fisheries Act for an Authorization under Section 35 (and Schedule 2 Amendment under Section 36). The offsetting plan was based on Golder's "Bernard Harbour Arctic Char Study", which was submitted with the Environmental Impact Assessment (see www.nirb.ca). The work is summarized in the Mining Journal Sept. 2014 issue.

Jay Project NWT, Canada

Developed a fish habitat offsetting plan for Dominion Diamond's Ekati mine expansion development for a Fisheries Act Authorization under Section 35 (2014 to present). The plan was submitted with the Developer's Assessment Report in fall 2015 (www.reviewboard.ca). The assessment of losses was based on multiple years of baseline data collection. A community-based offsetting option was selected through engagement with Great Slave Lake Indigenous communities. The offsetting plan is currently under review by DFO.

NICO Project NWT, Canada

Technical lead for the fish chapter of the Developer's Assessment Report for the NICO Project, a new gold mine and all-season access road (multiple bridge and culvert crossings) near Whati, NWT (2010-2012). Cam prepared the assessment of cumulative impacts to aquatic resources in accordance with the terms of the Mackenzie Valley Review Board. Cam responded to information requests from government and non-government experts and participated in a successful hearing in summer 2012. The EIS can be downloaded at www.reviewboard.ca.

Whale Tail Project Nunavut, Canada

Environmental assessment lead for fish and fish habitat for the Whale Tail Project, an extension of the Agnico Eagle Meadowbank Mine, which included all season road with multiple bridge and culvert crossings (2016-2017). Design features, mitigation, and best management practices were summarized. Serious harm to fish was screened and impacts to the productivity of the local fishery were discussed. The successful application can be viewed at www.nirb.ca.

Bluefish Project NWT, Canada

Technical lead for fisheries research and monitoring at the NTPC hydroelectric facility on the Yellowknife River (2016 to present). Research and monitoring were performed as per an existing Fisheries Act Authorization and Water Licence. The work included mercury monitoring, spawning fish surveys, the construction of an artificial spawning bed and monitoring of the performance of the spawning bed in providing egg incubation habitat for spawning Lake Trout, and Lake Whitefish.

Izok Corridor Project Nunavut, Canada

Technical lead for a baseline assessment of fish and fish habitat in preparation of MMG's environmental impact statement for the Izok Corridor Project. The project included a multi-year (2011 and 2012) inventory of fish and fish habitat, including a hydroacoustic study of Izok Lake. Baseline studies were designed to provide an accounting of fish production losses to be incurred by proposed mining activities and road infrastructure, as per the requirements of DFO's policy.

Meliadine Project Nunavut, Canada

Technical lead for the Environmental Impact Statement (EIS) for Agnico Eagle's new mine and all-season access road (multiple bridge /culvert crossings) near Rankin Inlet (2010-2014). The work assessed incremental and cumulative impacts as per the terms of the Nunavut Impact Review Board and included responses to information requests from government and non-government reviewers. The final EIS was submitted in February 2014; the Project received its approval in fall 2014. The final EIS can be downloaded at www.nirb.ca.

Bilberry Creek Project Ottawa, Ontario	Technical advisor for a Fisheries Act Emergency Authorization Application for the Bilberry Creek Slope Failure (2017-2018). The offsetting plan, developed for the City of Ottawa, included habitat enhancements and wetland creation upstream of the Ottawa River. Offsetting criteria and contingency measures were provided.
Sub-Basin B Diversion - Jay Project NWT, Canada	As part of Dominion Diamond's Jay Project water licence application, Cam provided a technical memorandum on an evaluation of the suitability of hydraulic flows of a proposed diversion channel for maintaining fish access to upstream spawning habitats. The project included multiple years (2015 to 2016) of trap data on the spring migration run. The suitability of design flows was evaluated using available fatigue curves for migration types of Arctic Grayling and Burbot. Recommendations on where to deploy mitigation were provided.
Eastern Ontario Model Forest Ontario, Canada	Cam was the lead scientist for a conservation assessment of surrogate species representing biodiversity and ecosystem values in the Eastern Ontario Model Forest (as part of the National Agri-Environmental Standards Initiative). GIS-based habitat suitability models were used to quantify the amount and configuration of habitats for various management scenarios, examined using population viability analyses. Minimum habitat requirements that sustain populations above critical thresholds were determined.
Horizon Lake Study Alberta, Canada	Component lead for a hydroacoustic assessment of fisheries in Horizon Lake, Alberta (2014 to 2015). Biosonics echosounders were deployed along transects. Data were evaluated in Echoview using a Fish Tracking module to estimate fisheries productivity. The work was part of a habitat compensation plan for the CNRL Horizon Project, an oil sands mine in northern Alberta.
Kennady Lake Study NWT, Canada	Component lead for a hydroacoustic assessment of fisheries in Kennady Lake (2013 to 2014). Echosounders were deployed along transects, representing a pre-determined level of coverage to meet variability targets. Data were evaluated using integration methods, target strength equations were applied, and results were linked to catch data to estimate fisheries productivity. The work was part of a baseline study for a new mine development, see www.reviewboard.ca .
Tuck Inlet Study BC, Canada	Senior scientist for a hydroacoustic baseline study of Tuck Inlet (2014 to 2016) in support of permitting requirements for a new terminal development (WCC LNG Project). Seasonal and diel trends in the abundance and distribution of fish were analysed in Echoview. Statistics included a geospatial analysis of transect data. Results were interpreted using fish data collected during the same survey period.
Battle River Study Alberta, Canada	Cam was the lead investigator for the development and testing of a fish-based Index of Biological Integrity (IBI) for the Battle River, AB. The goal was to develop a bio-monitoring tool and then quantify the health of the Battle River. Data for this project was collected by the Alberta Conservation Association, and was part of provincial efforts for developing monitoring standards. This work was published in the Water Quality Research Journal of Canada.
Marian River Watershed Program NWT, Canada	Project manager and technical lead for a community-based fishery monitoring program for the Tlicho Government (2016 to 2018). Working with community youth and elders, fish collections were conducted on lakes and rivers each year. Fish health and demographic information were collected and combined with Traditional Knowledge as citizen science monitoring of the Marian River.